

A614 / A6097 Major Road Network Improvement Scheme

Traffic & Economics Assessment Report - Addendum

Project reference: A614 / A6097 Major Road Network Improvement Scheme
Project number: 60625845

April 2023

Quality information

<u>Prepared by</u>	<u>Checked by</u>	<u>Verified by</u>	<u>Approved by</u>
Philip Jones Consultant	Adam Hall Associate Director	David Elliott Associate Director	Adam Hall Associate Director

Revision History

<u>Revision</u>	<u>Revision date</u>	<u>Details</u>	<u>Authorized</u>	<u>Name</u>	<u>Position</u>
1	April 2023	For review	ANH	Adam Hall	Associate Director

Distribution List

<u># Hard Copies</u>	<u>PDF Required</u>	<u>Association / Company Name</u>
0	Yes	Nottinghamshire County Council

Prepared for:

Nottinghamshire County Council

Prepared by:

AECOM Infrastructure & Environment Limited
Royal Court, Basil Close
Chesterfield
Derbyshire S41 7SL
United Kingdom

T: +44 (1246) 209221
aecom.com

© 2023 AECOM Limited. All Rights Reserved.

This document has been prepared by AECOM Infrastructure & Environment Ltd ("AECOM") for sole use of our client (the "Client") in accordance with generally accepted consultancy principles, the budget for fees and the terms of reference agreed between AECOM and the Client. Any information provided by third parties and referred to herein has not been checked or verified by AECOM, unless otherwise expressly stated in the document. No third party may rely upon this document without the prior and express written agreement of AECOM.

Table of Contents

1.	Introduction.....	9
1.1	Overview	9
2.	Changes to Dependent Development.....	13
2.1	Summary of Changes.....	13
3.	Traffic Demand and Junction Modelling.....	14
3.1	Traffic Demand.....	14
3.2	Capacity Models	15
3.3	Delays during Construction.....	16
4.	Economic Appraisal Methodology.....	17
4.1	Estimation of Costs	17
4.2	Investment Costs: Construction and Preparation	17
4.3	QRA Adjusted Cost Estimate	19
4.4	OB Adjusted Cost Estimate.....	20
4.5	Reconciling QRA and OB adjusted cost estimates.....	22
4.6	Investment Costs: Operation and Maintenance	22
4.7	Present Value Costs.....	22
5.	Travel Time Benefits.....	27
5.1	Overview	27
6.	Road Safety.....	32
7.	Economic Appraisal	34
7.1	Introduction.....	34
7.2	Transport Economic Efficiency.....	34
8.	Analysis of Monetised Costs and Benefits.....	35
8.1	Overview	35
9.	Induced Investment	40
9.1	Introduction.....	40
9.2	Land Value Uplift.....	40
9.3	Transport External Costs.....	40
9.4	Land Amenity Value (LAV)	41
9.5	Summary	42
10.	Analysis of Monetised Costs and Benefits – Induced Investment.....	43
11.	QRA Sensitivity Test	44
12.	Summary and Conclusions.....	45
12.1	Summary	45
12.2	Conclusions	45
	Appendix A Revised ARCADY Flows	47
	Appendix B Ollerton ARCADY Results.....	48
	Appendix C Lowdham ARCADY Results.....	49
	Appendix D Kirk Hill LINSIG Results.....	50
	Appendix E Maintenance Profiles.....	51
	Appendix F Ollerton TUBA – OB	56
	Appendix G White Post TUBA – OB.....	57
	Appendix H Warren Hill TUBA – OB.....	58
	Appendix I Lowdham TUBA – OB	59
	Appendix J Kirk Hill TUBA – OB.....	60
	Appendix K COBALT	61

Appendix L Wider Economic Impacts Report	62
Appendix M Ollerton TUBA TEC	63
Appendix N Ollerton TUBA - QRA	64
Appendix O White Post TUBA – QRA	65
Appendix P Warren Hill TUBA – QRA	66
Appendix Q Lowdham TUBA – QRA	67
Appendix R Kirk Hill TUBA – QRA.....	68

Figures

Figure 1-1: Location of the Scheme	10
Figure 8-1: DfT Value for Money Guidance	39

Tables

Table 1-1 Economic Appraisal elements assessed in OBC submission and updates.....	12
Table 2-1 Thoresby Site Changes.....	13
Table 3-1 Ollerton Roundabout Flow Changes – Do Minimum	14
Table 3-2 Ollerton Roundabout Flow Changes – Do Something.....	14
Table 3-3 Junction Layouts and Software Used to Assess Delay.....	15
Table 3-4 ARCADY Outputs – Ollerton Roundabout	15
Table 3-5 Comparison of construction durations.....	16
Table 3-6 Analysis of Monetised Cost and Benefits (AMCB) of delays during construction - (£'000s 2010 Market Prices, discounted to a 2010 present value year)	16
Table 4-1 Ollerton Expenditure Profile for Works Costs (2023 Q1 prices, excluding risk and Optimism Bias)	18
Table 4-2 White Post Expenditure Profile for Works Costs (2023 Q1 prices, excluding risk and Optimism Bias)	18
Table 4-3 Warren Hil Expenditure Profile for Works Costs (2023 Q1 prices, excluding risk and Optimism Bias)	18
Table 4-4 Lowdham Expenditure Profile for Works Costs (2023 Q1 prices, excluding risk and Optimism Bias)	18
Table 4-5 Kirk Hill Expenditure Profile for Works Costs (2023 Q1 prices, excluding risk and Optimism Bias)	18
Table 4-6 Summary of Expenditure Profile for Works Costs (2023 Q1 prices, excluding risk and Optimism Bias)	19
Table 4-7 Ollerton Expenditure Profile for Works Costs (2023 Q1 prices, including QRA risk)	19
Table 4-8 White Post Expenditure Profile for Works Costs (2023 Q1 prices, including QRA risk)	19
Table 4-9 Warren Hil Expenditure Profile for Works Costs (2023 Q1 prices, including QRA risk)	19
Table 4-10 Lowdham Expenditure Profile for Works Costs (2023 Q1 prices, including QRA risk).....	19
Table 4-11 Kirk Hill Expenditure Profile for Works Costs (2023 Q1 prices, including QRA risk)	20
Table 4-12 Summary of Expenditure Profile for Works Costs (2023 Q1 prices, including QRA risk)	20
Table 4-13 Ollerton Expenditure Profile for Works Costs (2022 Q2 prices, including 20% Optimism Bias)	20
Table 4-14 White Post Expenditure Profile for Works Costs (2022 Q2 prices, including 20% Optimism Bias)	21
Table 4-15 Warren Hil Expenditure Profile for Works Costs (2022 Q2 prices, including 20% Optimism Bias)	21
Table 4-16 Lowdham Expenditure Profile for Works Costs (2022 Q2 prices, including 20% Optimism Bias)	21
Table 4-17 Kirk Hill Expenditure Profile for Works Costs (2022 Q2 prices, including 20% Optimism Bias).....	21
Table 4-18 Summary of Expenditure Profile for Works Costs (2022 Q2 prices, including 20% Optimism Bias)	21
Table 4-19 Maintenance Estimates (2020 prices)	22
Table 4-20 Ollerton - Public Accounts Table	23
Table 4-21 White Post - Public Accounts Table.....	24
Table 4-22 Warren Hill - Public Accounts Table.....	24
Table 4-23 Lowdham - Public Accounts Table.....	25
Table 4-24 Kirk Hill - Public Accounts Table.....	25
Table 4-25 Summary of Public Accounts Table.....	26
Table 5-1 Ollerton TEE Table –Core Growth Forecast (2010 values, £000s).....	28
Table 5-2 Lowdham TEE Table –Core Growth Forecast (2010 values, £000s).....	29
Table 5-3 Kirk Hill TEE Table –Core Growth Forecast (2010 values, £000s)	30
Table 5-4 Combined TEE Table –Core Growth Forecast (2010 values, £000s)	31
Table 6-1: Junction Numbers Used in the COBALT Assessment.....	32
Table 6-2: Collision Risk and Valuation of Collisions (60–Year Appraisal Period)	32
Table 6-3: Total Accidents Across the 60-year Appraisal by Junction	33
Table 6-4: Total Cost Across the 60–Year Appraisal Period by Junction.....	33
Table 7-1 Combined TEE Table –Core Growth Forecast (2010 values, £000s)	34
Table 8-1: Ollerton – Core Scenario - AMCB (OB Adjusted Cost)	36
Table 8-2: White Post – Core Scenario - AMCB (OB Adjusted Cost)	36
Table 8-3: Warren Hill – Core Scenario - AMCB (OB Adjusted Cost)	37
Table 8-4: Lowdham – Core Scenario - AMCB (OB Adjusted Cost)	37
Table 8-5: Kirk Hill – Core Scenario- AMCB (OB Adjusted Cost)	38
Table 8-6: Combined package – Core Scenario - AMCB (OB Adjusted Cost).....	38
Table 9-1: Affordability Benefits by Income Groups (in £ million)	40

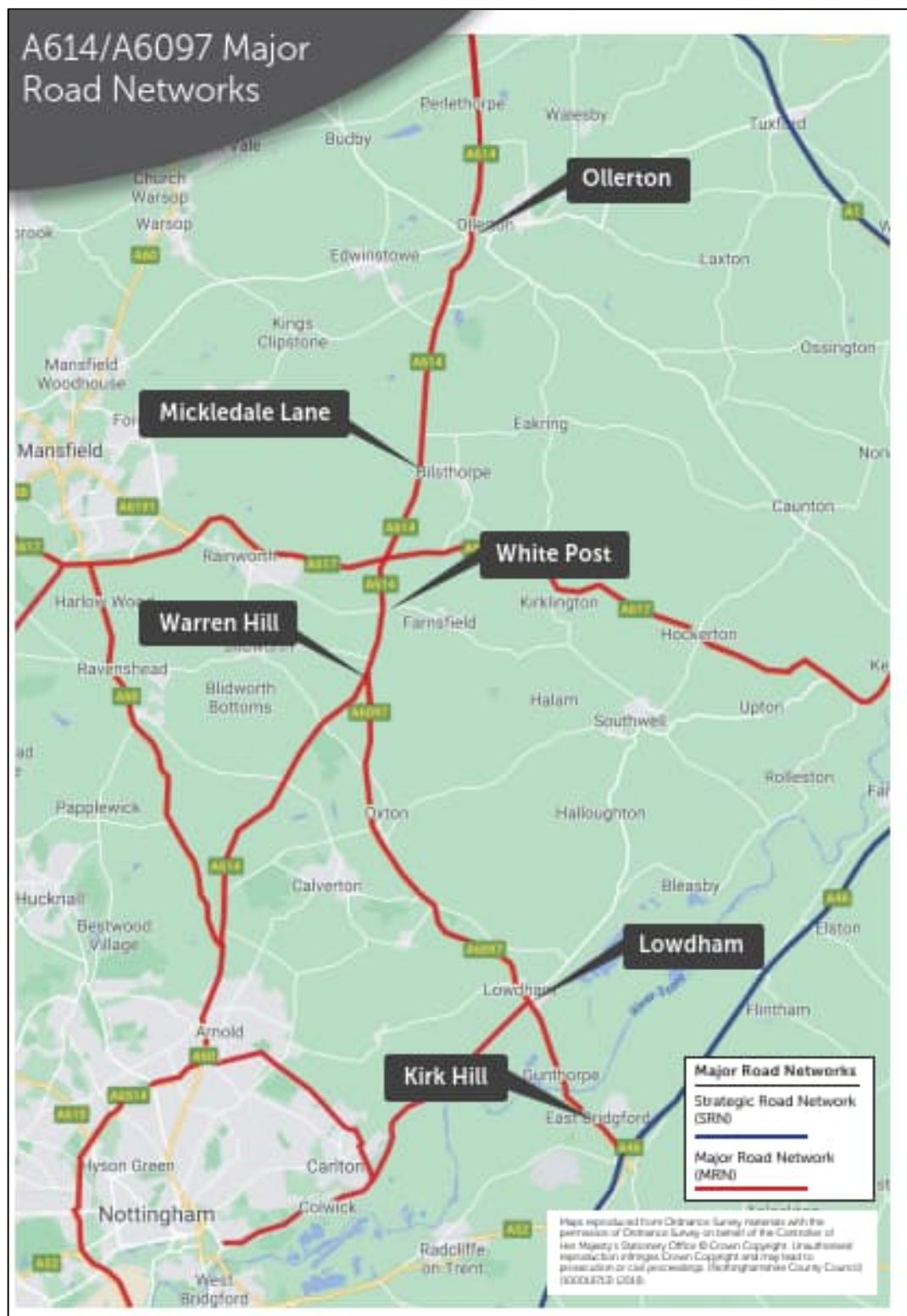
Table 9-2: Affordability Benefits by Income Groups (in £ million)	41
Table 9-3: A614 Induced Investment Benefits (£millions)	42
Table 10-1: Core Scenario AMCB with Induced Investment – Analysis of Monetised Cost and Benefits (AMCB) – Combined Package	43
Table 11-1: Core Scenario AMCB – Sensitivity Test (QRA Adjusted Cost).....	44

1. Introduction

1.1 Overview

- 1.1.1 Nottinghamshire County Council (NCC) is promoting junction improvements at a series of locations on the A614 – A6097 corridor as a single scheme package.
- 1.1.2 NCC submitted an Outline Business Case (OBC) for the scheme to the Department for Transport in December 2020. In June 2021, the scheme received OBC stage approval and was allocated a maximum of £24.3 million towards a full scheme cost of £28.6 million.
- 1.1.3 The A614 / A6097 package delivers improvements at the following six junctions:
- A614 / A616 / A6075 roundabout (hereafter referred to as the Ollerton roundabout);
 - A614 / Mickeldale Lane junction (hereafter referred to as Mickledale Lane).
 - A614 / Mansfield Road roundabout (hereafter referred to as the White Post roundabout);
 - A614 / A6097 junction priority junction (hereafter referred to as the Warren Hill junction);
 - A6097 / A612 Nottingham Road / Southwell Road roundabout (hereafter referred to as the Lowdham Roundabout); and
 - A6097 / Kirk Hill // East Bridgford Road (hereafter referred to as Kirk Hill Junction).
- 1.1.4 Figure 1-1 shows the location of the scheme junctions.

Figure 1-1: Location of the Scheme



- 1.1.5 The economic appraisal of the scheme is presented in the Traffic & Economic Assessment Report (TEAR) Version 4, issued 6/04/21.
- 1.1.6 Following the submission of the OBC, work has progressed to develop the scheme including a comprehensive cost review.
- 1.1.7 Nottinghamshire County Council commissioned a cost validation exercise for the works package in September 2022. The current inflationary pressures within the construction sector resulted in a

revised cost estimate that was higher than the estimate used in the Outline Business Case submission in 2020. The package outturn cost increased from £28.6 million to £36.2 million (October 2022)..

- 1.1.8 As Nottinghamshire County Council are required to pay for any shortfall in funding, NCC and their delivery partner, VIA East Midlands have undertaken a value engineering exercise and, as a result, have rationalised the package of schemes removing the Mickledale Lane improvement from the package. The County Council considered a number of different package options in light of the price increases. The main driver for this exercise was to ensure that the scheme remained financially viable whilst still delivering all the desired scheme objectives as set out in the OBC.
- 1.1.9 The revised A614 / A6097 package of junctions is as follows:
- Ollerton roundabout;
 - White Post roundabout;
 - Warren Hill junction;
 - Lowdham Roundabout; and
 - Kirk Hill Junction.
- 1.1.10 Joined to the A6075, between Edwinstowe and Ollerton, Thoresby Colliery site is now undergoing redevelopments into a multifaceted residential area and community, rebranded as 'Thoresby Vale'. Besides new housing, Thoresby Vale's planning comprises a new primary school, a 350-acre country park, a local centre, and 20 acres of employment space.
- 1.1.11 The regeneration is expected to increase traffic from the A6075, onto Ollerton roundabout.
- 1.1.12 It was previously permitted that 150 housing units could be delivered without making improvements to Ollerton roundabout. Since the A614/A6097 Outline Business Case was developed, the threshold of permitted development was increased to 655 houses permitted prior to any Ollerton Roundabout improvements.
- 1.1.13 The purpose of this TEAR Addendum is to inform NCC whether, given the changes in the scheme costs, scheme package and change in planning conditions at Thoresby Vale, the scheme still provides value for money. This work provides an update to the value for money assessment and is intended as an interim review of the scheme. Further analysis and updates will be required to support the scheme's Full Business Case (FBC).
- 1.1.14 Table 1-1 below sets out the elements of the economic appraisal detailed in the TEAR and details the assessments updates presented in this TEAR Addendum. Expected further work, required to present a robust Full Business Case is also detailed.

Table 1-1 Economic Appraisal elements assessed in OBC submission and updates

	TEAR Reference	Addendum Update	Further work
Cost Estimate	Sections 3.7 to 3.18	Updated Cost estimates for all junctions.	
Traffic Demand	Sections 2.112 to 2.115	Ollerton flows updated. Other 4 junctions unchanged.	
Vehicle operating cost	Sections 3.36 to 3.41	Approach unchanged.	
Greenhouse Gases	Sections 3.42 to 3.43	Approach unchanged.	Analysis to be updated to reflect final package
Indirect Taxes	Sections 3.42 to 3.43	Approach unchanged.	
Delays during Construction (DDC)	Sections 3.44 to 3.46	DDC updated based on previous approach.	Analysis to be updated to reflect further refinement of buildability plans (VIA EM).
Maintenance	Sections 3.47 to 3.51	Approach unchanged.	Analysis to be updated to reflect final package
Noise	Section 8.6	Approach unchanged.	Analysis to be updated to reflect final package
Transport Economic Efficiency	Section 4.1 to 4.3	Results updated to reflect updated scheme costs, removal of Mickledale from package and change in Traffic forecast at Ollerton.	
Road Safety	Section 7.1 to 7.24	Previous modelling and approach used, removing Mickeldale, adding Kirk Hill results.	
Induced Investment	Section 10.1 to 10.21	Wider Economic Technical note updated to reflect Dependent Development changes. TEC assessment updated to reflect change in forecast at Ollerton	

2. Changes to Dependent Development

2.1 Summary of Changes

- 2.1.1 The Thoresby Colliery development (Newark and Sherwood) and the Teal Close (Gedling) are considered to be dependent on the A614/ A6097 MRN Improvement scheme.
- 2.1.2 As noted in TAG Unit A2.1, Wider Economic Impacts Appraisal, the assessment of transport user benefits excludes Dependent Development from the traffic forecasts. As such, the 'Non-dependent' traffic forecasts exclude the impacts of dependent development and were used to assess the transport user benefits of the scheme. Additional Induced Investment benefits associated with the change in land value result from the associated change in land use accrued as part of the scheme in relation to the Thoresby Colliery and Teal Close sites
- 2.1.3 Since the A614/A6097 Outline Business Case was developed, the threshold of permitted development was increased to 655 houses permitted prior to any Ollerton Roundabout improvements. There has been no change in the permitted development at Teal Close.
- 2.1.4 As set out in Table 2-1, the amount of dependent development residential has been decreased, while the dependent employment has been increased.

Table 2-1 Thoresby Site Changes

Site	Grand total homes	Dependent Development	Employment Total	Dependent Employment
Thoresby Colliery - 2020	800	650	32,375m ²	24,281 m ² (75%)
Thoresby Colliery – 2023	800	192	32,375m ²	29,947 m ² (92.5%)

- 2.1.5 The original approval had the following breakdown:
800 houses; a strategic employment site comprising up to 4,855 square metres of Class B1a (offices), up to 13,760 square metres of Class B1c (industrial processes) and up to 13,760 square metres of Class B2 (general industrial);
- 2.1.6 The latest agreement allows:
608 dwellings and up to 7.5% of the employment land. The dependent employment value should therefore be 75% (24,281 m²) for OBC which increases to 92.5% with latest agreement (29,947 m²).
- 2.1.7 This has changed the non-dependent Core forecasts used to determine the transport user benefits of the scheme. Revised Ollerton traffic flows have been modelled as part of this TEAR addendum to reflect changes to the Core Scenario. For this analysis it is assumed that the change in demand at Ollerton does not impact the demand at the other scheme junctions.
- 2.1.8 Revised core forecasts and junction modelling is presented in Section 3 of this Addendum. A revised assessment of induced investment is set out in section 9.

3. Traffic Demand and Junction Modelling

3.1 Traffic Demand

- 3.1.1 Revised 'non-dependent' traffic demand at Ollerton roundabout was updated to reflect the change in permitted developed at Thoresby Colliery
- 3.1.2 A summary of the revised Ollerton junction inflows are presented in Table 3-1 and Table 3-2. The tables compare the 2020 and 2023 Do Minimum (DM) and Do Something (DS) flows. Revised junction turning movements are presented in Appendix A.
- 3.1.3 Table 3-1 shows that the DM 2023 scenario remains unchanged. The DM 2037 flows have increased reflecting the increased traffic flows as a result of an increased amount of permitted housing (non-dependent) at Thoresby Colliery.
- 3.1.4 Table 3-2 presents an increase in DS 2023 demand. This is due to the inclusion of additional demand to account for localised reassignment from Station Road, Ollerton. It is likely that Station Road will be closed to 'through' traffic in the DS scenario, with trips instead using Ollerton Roundabout. The inclusion of the additional trips in the Do Something scenario represents a robust economic assessment. The DS 2037 flows have increased reflecting the increased traffic flows as a result of an increased amount of permitted housing (non-dependent) at Thoresby Colliery and station road reassignment.

Table 3-1 Ollerton Roundabout Flow Changes – Do Minimum

	Time Period	Total Junction Inflow (pcu/hr) 2020 model	Total Junction Inflow (pcu/hr) 2023 model
Opening Year (2023)	AM	3,138	3,138
	IP	2,372	2,372
	PM	3,210	3,210
	OP	231	231
Design Year (2037)	AM	3,223	3,361
	IP	2,421	2,585
	PM	3,253	3,415
	OP	236	264

Table 3-2 Ollerton Roundabout Flow Changes – Do Something

	Time Period	Total Junction Inflow (pcu/hr) 2020 model	Total Junction Inflow (pcu/hr) 2023 model
Opening Year (2023)	AM	3,138	3,303
	IP	2,372	2,389
	PM	3,210	3,482
	OP	231	231
Design Year (2037)	AM	3,223	3,526
	IP	2,421	2,602
	PM	3,253	3,533
	OP	236	264

3.2 Capacity Models

- 3.2.1 Junction capacity models of the existing junction layouts and proposed schemes have been prepared by Nottinghamshire County Council's delivery partner, VIA East Midlands Ltd. ARCADY has been used to assess the capacity of roundabout junctions; PICADY has been used to assess the capacity of priority junctions (T-junctions and crossroads); and LINSIG has been used to assess the highway capacity of signalised junctions.
- 3.2.2 In the base models, the geometry required by the J9 models (ARCADY for roundabouts and PICADY for priority junctions) was measured from OS survey base drawings.
- 3.2.3 Mickeldale Lane has been removed from the assessment. The remaining scheme junctions are listed within Table 3-3.
- 3.2.4 An unchanged methodology is set out in the TEAR (2020).

Table 3-3 Junction Layouts and Software Used to Assess Delay

Junction	Existing Layout	Proposed Layout	Appendix
Ollerton	Roundabout (ARCADY)	Roundabout (ARCADY)	Appendix B
White Post	Not Assessed	Not Assessed	N/A
Warren Hill	Not Assessed	Not Assessed	N/A
Lowdham	Roundabout (ARCADY)	Roundabout (ARCADY)	Appendix C
Kirk Hill	Signals (LINSIG)	Signals (LINSIG)	Appendix D

- 3.2.5 Only the Ollerton ARCADY junction model has been updated, to reflect the revised permissions at the Thoresby Colliery redevelopment site. Do Minimum and Do Something models were updated with the revised demands.
- 3.2.6 Table 3-4 presents the revised Ollerton ARCADY results as an impact of the above flow changes. Geometries remain unchanged from previous modelling.

Table 3-4 ARCADY Outputs – Ollerton Roundabout

	2023						2037					
	Do Minimum			Do Something			Do Minimum			Do Something		
	Max Queue (PCU)	RFC	Junction Delay (s)	Max Queue (PCU)	RFC	Junction Delay (s)	Max Queue (PCU)	RFC	Junction Delay (s)	Max Queue (PCU)	RFC	Junction Delay (s)
AM	67.5	1.13	85.92	3.4	0.78	6.90	94.1	1.20	142.32	4.2	0.81	8.18
PM	69.2	1.17	73.19	5.1	0.84	9.24	139.2	1.36	165.08	4.2	0.81	8.65
IP	3.9	0.81	9.82	0.9	0.49	3.66	39.55	0.91	16.45	1.2	0.55	4.05
OP	0.1	0.06	2.60	0.0	0.04	1.88	0.1	0.7	2.64	0.0	0.4	1.90

- 3.2.7 RFC values above 0.85 are likely to produce queues which increase slowly. Above an RFC value of 1.0, a junction is more than likely to be at capacity (with resulting larger increases in queue length). Ollerton roundabout is noted to be overcapacity (with a Ratio to Flow Capacity (RFC) value of over 1.0) in the AM and PM Peak periods in the Do Minimum scenario. The scheme provides improved capacity with the RFC of Ollerton below 0.85 in all time periods in the Do Something scenario.

3.3 Delays during Construction

- 3.3.1 An economic assessment of delays under construction was presented as part of the 2020 OBC submission. The cost to road users of delays caused by the scheme construction was assessed at each junction undergoing construction activities. The full methodology can be found within the previous TEAR (2020).
- 3.3.2 As part of the on-going development of the scheme following the OBC submission, VIA East Midlands has reviewed the buildability analysis of the scheme. In all cases, the duration of the construction periods have increased from those used in the OBC.
- 3.3.3 For this to present a robust position, the delays during construction presented in this Addendum, have been derived by factoring the previously calculated economic efficiencies values to reflect the increased time taken for each junction. This approach is proportionate to understand the value for money scheme, but further work is required to better represent the construction phases at each junction. Via East Midlands are to further refine their buildability approach prior to the submission of the Full Business Case to the DfT.
- 3.3.4 A comparison of construction durations is presented within Table 3-5.

Table 3-5 Comparison of construction durations

Duration of Construction	Ollerton	Lowdham	Kirk Hill
Number of weeks/months at each junction (OBC)	20 months	9 months	30 weeks
Number of weeks/months at each junction (2023 Addendum)	26 months	24 months	60 weeks

- 3.3.5 The Present Value Benefits (PVB) results for each junction and the combination of these results generated by the delays under construction produced a disbenefit value of -£22.886 million as presented in Table 3-6. For comparison, the OBC presented a combined disbenefit of -£15.81 million.

Table 3-6 Analysis of Monetised Cost and Benefits (AMCB) of delays during construction - (£'000s 2010 Market Prices, discounted to a 2010 present value year)

Number of weeks/months at each junction	26 months	24 months	60 weeks	
	Factored TUBA outputs – per junction			
	Ollerton	Lowdham	Kirk Hill	Total
Economic Efficiency: Consumer Users (Commuting)	-1,166	-3,565	-556	-5,287
Economic Efficiency: Consumer Users (Other)	-1,669	-7,712	-1,963	-11,344
Economic Efficiency: Business Users and Providers	-1,024	-5,201	-30	-6,255
Present Value of Benefits (PVB)	-3,859	-16,478	-2,548	-22,886

4. Economic Appraisal Methodology

4.1 Estimation of Costs

- 4.1.1 TAG Unit A1-2, Scheme Costs (May 2022), details the approach to developing a robust cost estimate. Scheme costs were developed by VIA East Midlands, using the latest scheme designs.
- 4.1.2 TAG Unit A1.2, identifies two approaches for developing a cost estimate. Both methods require the development of a 'Base Cost'. The base cost represents the basic cost of the scheme, before allowing for risk, made up of investment, maintenance, and operating costs. Risk can be accounted for using two alternate methods:
- Adjustment for risk* – this should cover all the risks that can be identified, the majority of which then need to be assessed and quantified through a Quantified Risk Assessment (QRA). This takes an 'inside view' to form a risk-adjusted cost estimate using a 'bottom-up' approach; or
- Adjustment for Optimism Bias (OB)* – to reflect the well-established and continuing systematic bias for estimated scheme costs and delivery times to be too low and too short, respectively, and results in the optimism bias-adjusted cost estimate. This method takes an 'outside view' using a "top-down" approach to cost estimation based on Reference Class Forecasting (RCF) techniques.
- 4.1.3 A Quantified Risk Assessment (QRA), was undertaken by VIA East Midlands. The QRA identified risks that are likely to affect the delivery of the scheme and assessed the impact, likelihood and duration and/or value of each risk impact.
- 4.1.4 TAG Unit A1.2 notes that: *'While only one cost estimate can be reported in appraisal, it is advisable that both a QRA and OB adjusted cost are calculated, in order to provide valuable insights and help build an overall picture of scheme costs'*.
- 4.1.5 TAG Unit A1.2, Section 4, presents advice on the approach to reconciling QRA and OB costs estimates. TAG notes that the OB estimate, is likely to be more reliable in earlier stages of a project, where cost estimates are less mature, while the QRA may be more informative in later stages as more detailed information becomes available.
- 4.1.6 The following sections present the QRA and OB adjusted cost estimates, identifies the most robust costs estimate for use in Economic appraisal of the scheme and details the process of developing a Present Value Cost (PVC).

4.2 Investment Costs: Construction and Preparation

- 4.2.1 Investment costs comprise construction costs, preparation and administration costs, and traffic related maintenance costs (e.g. non-standard carriageway maintenance and renewal).
- 4.2.2 The capital costs of the A614 /A6097 project will be met from the Major Road Network (MRN) programme provided by central government. Nottinghamshire County Council will contribute 22% of the Investment Costs, including £1.746 million of developer contributions. No other grants or subsidies were identified.
- 4.2.3 Construction, preparation, and administration costs were provided by VIA East Midlands for the Scheme. This included construction, preparation, supervision and land costs. The cost profile provided excluded VAT.
- 4.2.4 Table 4-1 shows the expenditure profile for construction, land, preparation, and supervision for the Scheme. Historic expenditure prior to 2023 was considered to be sunk (historic) costs and therefore was excluded. The first quarter of 2023 preparation costs have also been excluded.

Table 4-1 Ollerton Expenditure Profile for Works Costs (2023 Q1 prices, excluding risk and Optimism Bias)

Works Year	Construction	Land	Preparation	Supervision	Total
2023	£233,278	£410,220	£441,045	-	£1,084,543
2024	£3,587,211	£410,220	£457,474	£26,391	£4,481,296
2025	£5,722,370	-	£354,532	£35,188	£6,112,089
2026	£2,541,778	-	£265,899	£26,391	£2,834,067
Total	£12,084,637	£820,441	£1,518,950	£87,969	£14,511,996

Table 4-2 White Post Expenditure Profile for Works Costs (2023 Q1 prices, excluding risk and Optimism Bias)

Works Year	Construction	Land	Preparation	Supervision	Total
2023	-	-	£11,817	-	£11,817
2024	£164,924	-	£23,423	£2,000	£190,347
Total	£164,924	£0	£35,239	£2,000	£202,163

Table 4-3 Warren Hil Expenditure Profile for Works Costs (2023 Q1 prices, excluding risk and Optimism Bias)

Works Year	Construction	Land	Preparation	Supervision	Total
2023	-	-	£11,817	-	£11,817
2024	£163,952	-	£23,423	£5,000	£192,375
Total	£163,952	£0	£35,239	£5,000	£204,192

Table 4-4 Lowdham Expenditure Profile for Works Costs (2023 Q1 prices, excluding risk and Optimism Bias)

Works Year	Construction	Land	Preparation	Supervision	Total
2023	£53,755	£197,739	£212,209	-	£463,703
2024	-	-	£89,871	-	£89,871
2025	£2,099,115	-	£198,073	£9,424	£2,306,612
2026	£3,396,460	-	£198,073	£37,695	£3,632,228
Total	£5,549,330	£197,739	£698,226	£47,119	£6,492,414

Table 4-5 Kirk Hill Expenditure Profile for Works Costs (2023 Q1 prices, excluding risk and Optimism Bias)

Works Year	Construction	Land	Preparation	Supervision	Total
2023	£40,070	£151,551	£181,575	-	£373,196
2024	£3,509,993	-	£235,453	£32,081	£3,777,528
2025	£2,339,995	-	£106,132	£21,388	£2,467,515
Total	£5,890,058	£151,551	£523,160	£53,469	£6,618,238

Table 4-6 Summary of Expenditure Profile for Works Costs (2023 Q1 prices, excluding risk and Optimism Bias)

Works Year	Construction	Land	Preparation	Supervision	Total
2023	£327,103	£759,511	£858,463	-	£1,945,076
2024	£7,426,080	£410,220	£829,644	£65,472	£8,731,417
2025	£10,161,481	-	£658,736	£65,999	£10,886,216
2026	£5,938,238	-	£463,972	£64,086	£6,466,295
Total	£23,852,902	£1,169,731	£2,810,815	£195,556	£28,029,004

4.3 QRA Adjusted Cost Estimate

4.3.1 The base cost presented in section 4.2 above was adjusted to incorporate risk costs identified in the QRA.

Table 4-7 Ollerton Expenditure Profile for Works Costs (2023 Q1 prices, including QRA risk)

Works Year	Construction	Land	Preparation	Supervision	QRA Risk	Total
2023	£233,278	£410,220	£441,045	-	-	£1,084,543
2024	£3,587,211	£410,220	£457,474	£26,391	£646,527	£5,127,823
2025	£5,722,370	-	£354,532	£35,188	£851,118	£6,963,207
2026	£2,541,778	-	£265,899	£26,391	£638,340	£3,472,407
Total	£12,084,637	£820,441	£1,518,950	£87,969	£2,135,984	£16,647,980

Table 4-8 White Post Expenditure Profile for Works Costs (2023 Q1 prices, including QRA risk)

Works Year	Construction	Land	Preparation	Supervision	QRA Risk	Total
2023	-	-	£11,817	-	-	£11,817
2024	£164,924	-	£23,423	£2,000	£33,245	£223,592
Total	£164,924	£0	£35,239	£2,000	£33,245	£235,408

Table 4-9 Warren Hil Expenditure Profile for Works Costs (2023 Q1 prices, including QRA risk)

Works Year	Construction	Land	Preparation	Supervision	QRA Risk	Total
2023	-	-	£11,817	-	-	£11,817
2024	£163,952	-	£23,423	£5,000	£33,651	£226,026
Total	£163,952	£0	£35,239	£5,000	£33,651	£237,843

Table 4-10 Lowdham Expenditure Profile for Works Costs (2023 Q1 prices, including QRA risk)

Works Year	Construction	Land	Preparation	Supervision	QRA Risk	Total
2023	£53,755	£197,739	£212,209	-	-	£463,704
2024	-	-	£89,871	-	-	£89,871
2025	£2,099,115	-	£198,073	£9,424	£180,104	£2,486,716
2026	£3,396,460	-	£198,073	£37,695	£720,417	£4,352,645
Total	£5,549,330	£197,739	£698,226	£47,119	£900,522	£7,392,936

Table 4-11 Kirk Hill Expenditure Profile for Works Costs (2023 Q1 prices, including QRA risk)

Works Year	Construction	Land	Preparation	Supervision	QRA Risk	Total
2023	£40,070	£151,551	£181,575	-	-	£373,196
2024	£3,509,993	-	£235,453	£32,081	£614,498	£4,392,026
2025	£2,339,995	-	£106,132	£21,388	£409,665	£2,877,180
Total	£5,890,058	£151,551	£523,160	£53,469	£1,024,164	£7,642,402

Table 4-12 Summary of Expenditure Profile for Works Costs (2023 Q1 prices, including QRA risk)

Works Year	Construction	Land	Preparation	Supervision	QRA Risk	Total
2023	£327,103	£759,511	£858,463	-	-	£1,945,077
2024	£7,426,080	£410,220	£829,644	£65,472	£1,327,921	£10,059,338
2025	£10,161,481	-	£658,736	£65,999	£1,440,887	£12,327,103
2026	£5,938,238	-	£463,972	£64,086	£1,358,757	£7,825,052
Total	£23,852,902	£1,169,731	£2,810,815	£195,556	£3,077,566	£31,106,570

4.3.2 The QRA adjusted cost estimate was £31,106,570 (2023 Q1 Prices).

4.4 OB Adjusted Cost Estimate

4.4.1 Optimism bias is the demonstrated systematic tendency for appraisers to be overly optimistic about key parameters. The Green Book [HMT,2003] suggests that appraisers should make explicit, empirically based adjustments to the estimates of a project's costs, benefits, and duration. The function of optimism bias adjustments is to confirm that the economic case remains robust if historically observed cost overrun were to be repeated and are generally higher where the cost estimate is immature.

4.4.2 TAG Unit A1.2, Scheme Costs (May 2022), identifies a four-step approach to the adjustment of investment costs optimism bias.

- **Step 1: Determine the nature of the project** – The CSRR scheme is categorised as a Road project, in accordance with Table 6 of TAG Unit A1.2.
- **Step 2: Identify the stage of scheme development** – The CSRR is a Local Authority led scheme which is currently progressing to Full Business Case. In accordance with Table 7 of TAG Unit A1.2, the scheme is within Stage 3 of the transport project lifecycle.
- **Step 3: Apply the recommended uplift factors to the base capital cost estimate** – Table 8 of TAG Unit A1.2 recommends that a Road project at Stage 3 of the project lifecycle should apply an optimism bias uplift of 20%. This uplift has been applied to the base costs previously set out in section 4.2 above.
- **Step 4: Provide sensitivity analysis around the central estimate** – Sensitivity testing to investigate the impacts of a range of uncertainty around the cost estimate has been undertaken in chapter 11.

4.4.3 The base cost identified above was adjusted to incorporate Optimism Bias.

Table 4-13 Ollerton Expenditure Profile for Works Costs (2022 Q2 prices, including 20% Optimism Bias)

Works Year	Construction	Land	Preparation	Supervision	Optimism Bias	Total
2023	£233,278	£410,220	£441,045	-	£216,909	£1,301,452
2024	£3,587,211	£410,220	£457,474	£26,391	£896,260	£5,377,556
2025	£5,722,370	-	£354,532	£35,188	£1,222,418	£7,334,507
2026	£2,541,778	-	£265,899	£26,391	£566,813	£3,400,880
Total	£12,084,637	£820,441	£1,518,950	£87,969	£2,902,399	£17,414,395

Table 4-14 White Post Expenditure Profile for Works Costs (2022 Q2 prices, including 20% Optimism Bias)

Works Year	Construction	Land	Preparation	Supervision	Optimism Bias	Total
2023	-	-	£11,817	-	£2,363	£14,180
2024	£164,924	-	£23,423	£2,000	£38,069	£228,416
Total	£164,924	£0	£35,239	£2,000	£40,433	£242,596

Table 4-15 Warren Hil Expenditure Profile for Works Costs (2022 Q2 prices, including 20% Optimism Bias)

Works Year	Construction	Land	Preparation	Supervision	Optimism Bias	Total
2023	-	-	£11,817	-	£2,363	£14,180
2024	£163,952	-	£23,423	£5,000	£38,475	£230,850
Total	£163,952	£0	£35,239	£5,000	£40,838	£245,030

Table 4-16 Lowdham Expenditure Profile for Works Costs (2022 Q2 prices, including 20% Optimism Bias)

Works Year	Construction	Land	Preparation	Supervision	Optimism Bias	Total
2023	£53,755	£197,739	£212,209	-	£92,741	£556,444
2024	-	-	£89,871	-	£17,974	£107,845
2025	£2,099,115	-	£198,073	£9,424	£461,322	£2,767,934
2026	£3,396,460	-	£198,073	£37,695	£726,446	£4,358,674
Total	£5,549,330	£197,739	£698,226	£47,119	£1,298,483	£7,790,897

Table 4-17 Kirk Hill Expenditure Profile for Works Costs (2022 Q2 prices, including 20% Optimism Bias)

Works Year	Construction	Land	Preparation	Supervision	Optimism Bias	Total
2023	£40,070	£151,551	£181,575	-	£74,639	£447,835
2024	£3,509,993	-	£235,453	£32,081	£755,505	£4,533,033
2025	£2,339,995	-	£106,132	£21,388	£493,503	£2,961,018
Total	£5,890,058	£151,551	£523,160	£53,469	£1,323,648	£7,941,886

Table 4-18 Summary of Expenditure Profile for Works Costs (2022 Q2 prices, including 20% Optimism Bias)

Works Year	Construction	Land	Preparation	Supervision	Optimism Bias	Total
2023	£327,103	£759,511	£858,463	-	£389,016	£2,334,092
2024	£7,426,080	£410,220	£829,644	£65,472	£1,746,282	£10,477,699
2025	£10,161,481	-	£658,736	£65,999	£2,177,243	£13,063,459
2026	£5,938,238	-	£463,972	£64,086	£1,293,259	£7,759,554
Total	£23,852,902	£1,169,731	£2,810,815	£195,556	£5,605,801	£33,634,805

4.4.4 The Optimism Bias Adjusted cost estimate was £33,634,805 (2022 Q2 Prices).

4.5 Reconciling QRA and OB adjusted cost estimates

- 4.5.1 As noted in Tag Unit A1.2, only one cost estimate can be reported in the economic appraisal.
- 4.5.2 The OB adjusted cost estimate (£33,634,805) is £2,528,235 higher than the QRA risk adjusted cost estimate (£31,106,570).
- 4.5.3 Whilst the QRA is comprehensive, at Stage 3 of the project lifecycle there still remains scope for additional uncertainty due to 'unknown unknowns'. The Reference Class Forecasting (Optimism Bias) approach adjusts for these 'unknown unknowns', drawing upon evidence from similar schemes. As the A614/A6097 MRN Improvements scheme moves through the project lifecycle, the QRA will be updated to reflect increased maturity in scheme design and the scope for 'unknown unknowns' will be reduced.
- 4.5.4 In order to present a robust approach to economic appraisal, the OB adjusted cost estimate has been used. Notwithstanding, a Value for Money sensitivity test using the QRA cost estimate, is presented in Chapter 11.
- 4.5.5 The £33.634m investment cost was split between Local Government and Central Government funding. For the purposes of economic appraisal, £24,339,996 of the investment cost would be provided by Central Government. Local Government investment costs would be partially covered by £1,746,293 of developer contributions, with NCC providing the remainder.

4.6 Investment Costs: Operation and Maintenance

- 4.6.1 VIA East Midlands prepared an estimate of the ongoing yearly maintenance costs for the A614 MRN Improvement scheme. This estimate of maintenance costs represents the increase in maintenance costs, above existing commitments, to maintain and update the new junctions.
- 4.6.2 Table 3.21 shows a summary of the estimated operation and maintenance cost impact over the 60-year assessment period, in undiscounted costs, and with a year 1 price advised by VIA East Midlands to be at Q1 2020 prices.

Table 4-19 Maintenance Estimates (2020 prices)

Year	Proportion of total cost (%)
Ollerton Roundabout	£1,058,629
Lowdham Roundabout	£502,856
Kirk Hill	£803,309
Total	£2,364,794

- 4.6.3 It was assumed that maintenance costs increase at the same rate as the GDP deflator (i.e. there is zero change in real terms, once inflation has been accounted for). A factor of 0.868 (July 2016 figures) was applied to convert the 2020 prices to 2010 prices.
- 4.6.4 The factor costs were converted to market prices, by the TUBA software, which applies a factor of 1.19.
- 4.6.5 The stream of Maintenance costs by junction is presented in Appendix E.
- 4.6.6 The Present Value Costs of additional maintenance activities were included in the Public Accounts Table below.

4.7 Present Value Costs

- 4.7.1 HM Treasury's Green Book requires the costs and benefits of capital investment schemes to be appraised on the basis of a common price base year and for all future costs and benefits to be discounted to this year. This is known as the Present Value Year and is currently 2010.

- 4.7.2 All construction and maintenance costs were input to TUBA as 2010 factor costs. The OB adjusted cost estimates were deflated to 2010 prices, using the GDP deflator series from the TAG Data Book.
- 4.7.3 The 2010 factor costs (i.e. scheme outturn costs including operation and maintenance) were discounted within TUBA from the year of actual expenditure to 2010 by applying a discount rate. The discount rate recommended by HM Treasury decreases from 3.5% to 3.0% for costs and benefits occurring more than 30 years after the current year. Finally, TUBA converted the discounted factor costs to market prices by multiplying them by factor representing the average rate of taxation within the economy, currently 1.19.
- 4.7.4 The resultant costs in each year were summed to give total market costs for the A614/A6097, discounted to a 2010 present value year. The PVC is a difference between the cost of each Do Something option and the Do Minimum case. In this economic assessment, the Do Minimum costs were zero.
- 4.7.5 Table 4-20 to Table 4-24 present the PVC for each scheme junction, as well a combined package PVC.
- 4.7.6 For the A614/A6097, TUBA calculated that the PVC (in 2010 market prices discounted to a 2010 present value year) was £16.399 million. The combined package Public Accounts Table is presented in Table 4-25 below.

Table 4-20 Ollerton - Public Accounts Table

Local Government Funding	Monetised Costs (£000s)
Revenue	0
Operating Costs	0
Investment Costs	2,369
Developer Contributions	-624
Grant/Subsidy Payments	0
Net Impact	1,745
Central Government Funding: Transport	
Revenue	0
Operating Costs	0
Investment Costs	6,351
Developer Contributions	0
Grant/Subsidy Payments	0
Net Impact	6,351
Central Government Funding: Non-Transport	
Indirect Tax Revenues	Not assessed
TOTALS	
Broad Transport Budget	8,096

Note: All entries are discounted to a 2010 present value year as 2010 market prices, in £000s.

Table 4-21 White Post - Public Accounts Table

Local Government Funding	Monetised Costs (£000s)
Revenue	0
Operating Costs	0
Investment Costs	20
Developer Contributions	0
Grant/Subsidy Payments	0
Net Impact	20
Central Government Funding: Transport	
Revenue	0
Operating Costs	0
Investment Costs	114
Developer Contributions	0
Grant/Subsidy Payments	0
Net Impact	114
Central Government Funding: Non-Transport	
Indirect Tax Revenues	Not assessed
TOTALS	
Broad Transport Budget	134

Note: All entries are discounted to a 2010 present value year as 2010 market prices, in £000s.

Table 4-22 Warren Hill - Public Accounts Table

Local Government Funding	Monetised Costs (£000s)
Revenue	0
Operating Costs	0
Investment Costs	20
Developer Contributions	0
Grant/Subsidy Payments	0
Net Impact	20
Central Government Funding: Transport	
Revenue	0
Operating Costs	0
Investment Costs	115
Developer Contributions	0
Grant/Subsidy Payments	0
Net Impact	115
Central Government Funding: Non-Transport	
Indirect Tax Revenues	Not assessed
TOTALS	
Broad Transport Budget	135

Note: All entries are discounted to a 2010 present value year as 2010 market prices, in £000s.

Table 4-23 Lowdham - Public Accounts Table

Local Government Funding	Monetised Costs (£000s)
Revenue	0
Operating Costs	0
Investment Costs	1,376
Developer Contributions	-26
Grant/Subsidy Payments	0
Net Impact	1,350
Central Government Funding: Transport	
Revenue	0
Operating Costs	0
Investment Costs	2,692
Developer Contributions	0
Grant/Subsidy Payments	0
Net Impact	2,692
Central Government Funding: Non-Transport	
Indirect Tax Revenues	Not assessed
TOTALS	
Broad Transport Budget	4,042

Note: All entries are discounted to a 2010 present value year as 2010 market prices, in £000s.

Table 4-24 Kirk Hill - Public Accounts Table

Local Government Funding	Monetised Costs (£000s)
Revenue	0
Operating Costs	0
Investment Costs	688
Developer Contributions	-171
Grant/Subsidy Payments	0
Net Impact	517
Central Government Funding: Transport	
Revenue	0
Operating Costs	0
Investment Costs	3,475
Developer Contributions	0
Grant/Subsidy Payments	0
Net Impact	3,475
Central Government Funding: Non-Transport	
Indirect Tax Revenues	Not assessed
TOTALS	
Broad Transport Budget	3,992

Note: All entries are discounted to a 2010 present value year as 2010 market prices, in £000s.

Table 4-25 Summary of Public Accounts Table

Local Government Funding	Monetised Costs (£000s)
Revenue	0
Operating Costs	0
Investment Costs	4,473
Developer Contributions	-821
Grant/Subsidy Payments	0
Net Impact	3,652
Central Government Funding: Transport	
Revenue	0
Operating Costs	0
Investment Costs	12,747
Developer Contributions	0
Grant/Subsidy Payments	0
Net Impact	12,747
Central Government Funding: Non-Transport	
Indirect Tax Revenues	Not assessed
TOTALS	
Broad Transport Budget	16,399

Note: All entries are discounted to a 2010 present value year as 2010 market prices, in £000s.

5. Travel Time Benefits

5.1 Overview

- 5.1.1 Table 5-1 to Table 5-3 presents the TEE results for the core growth scenario using TUBA version 1.9.17.
- 5.1.2 The methodology follows TAG guidance unit A2.2 (May 2020) and the Department for Transport TUBA software V1.9.17 was used to undertake this analysis, with the TUBA economic parameters file (23/01/2023 v1.9.20, TAG Data Book v1.20.2 January 2023).
- 5.1.3 The TEE table presents the net user benefits, resulting from the 60-year TUBA analysis, disaggregated by group and impact (time, vehicle operating costs, user charges etc.). All the impacts are expressed in monetary terms and show the change brought about by the Do Something (DS) case relative to the Do Minimum (DM) case. Within the TEE table disbenefits appear as negative numbers. The TEE table total presents a Present Value of TEE Benefits (PVB).
- 5.1.4 Updated Delays during Construction disbenefits, as presented in Section 3.3 are included in the TEE tables for each junction.
- 5.1.5 Table 5-1 presents the TEE results for the Ollerton junction.

Table 5-1 Ollerton TEE Table –Core Growth Forecast (2010 values, £000s)

Impact	All Modes Total	Personal	Freight
Consumer			
Commuting User Benefits			
Consumer – Travel Time	6,003	6,003	
Consumer – Delays during Construction	-1,166	-1,166	
Consumer – User Charges	0	0	
NET CONSUMER BENEFITS	4,837	4,837	
Consumer			
Other User Benefits			
Consumer – Travel Time	8,218	8,218	
Consumer – Delays during Construction	-1,669	-1,669	
Consumer – User Charges	0	0	
NET CONSUMER BENEFITS	6,549	6,549	
Business			
User Benefits			
Business – Travel Time	5,935	954	4,981
Business – Delays during Construction	-1,024		
Business – User Charges	0	0	0
Private Sector Provider Impacts			
Revenue (toll income)	0		
Operating Costs	0		
Investment Costs	0		
Grant/subsidy	0		
Subtotal	4,911		
Other Business Impacts			
Developer contributions	-624		
NET BUSINESS IMPACT	4,287		
TOTAL			
Present Value of Transport Economic Efficiency Benefits (TEE)	15,673		

Note: All entries are in 2010 market prices, in £ thousands, and discounted to a 2010 present value year

5.1.6 Table 5-2 presents the TEE results for the Lowdham junction.

Table 5-2 Lowdham TEE Table –Core Growth Forecast (2010 values, £000s)

Impact	All Modes Total	Personal	Freight
Consumer			
Commuting User Benefits			
Consumer – Travel Time	5,078	5,078	
Consumer – Delays during Construction	-3,565	-3,565	
Consumer – User Charges	0	0	
NET CONSUMER BENEFITS	7,213	7,213	
Consumer			
Other User Benefits			
Consumer – Travel Time	7,213	7,213	
Consumer – Delays during Construction	-7,712	-7,712	
Consumer – User Charges	0	0	
NET CONSUMER BENEFITS	-499	-499	
Business			
User Benefits			
Business – Travel Time	4,315	706	3,609
Business – Delays during Construction	-5,201		
Business – User Charges	0	0	0
Private Sector Provider Impacts			
Revenue (toll income)	0		
Operating Costs	0		
Investment Costs	0		
Grant/subsidy	0		
Subtotal	-886		
Other Business Impacts			
Developer contributions	-918		
NET BUSINESS IMPACT	-918		
TOTAL			
Present Value of Transport Economic Efficiency Benefits (TEE)	96		

Note: All entries are in 2010 market prices, in £ thousands, and discounted to a 2010 present value year

5.1.7 Table 5-3 presents the TEE results for the Kirk Hill junction.

Table 5-3 Kirk Hill TEE Table –Core Growth Forecast (2010 values, £000s)

Impact	All Modes Total	Personal	Freight
Consumer			
Commuting User Benefits			
Consumer – Travel Time	8,993	8,993	
Consumer – Delays during Construction	-556	-556	
Consumer – User Charges	0	0	
NET CONSUMER BENEFITS	8,437	8,437	
Consumer			
Other User Benefits			
Consumer – Travel Time	18,547	18,547	
Consumer – Delays during Construction	-1,963	-1,963	
Consumer – User Charges	0	0	
NET CONSUMER BENEFITS	16,584	16,584	
Business			
User Benefits			
Business – Travel Time	1,493	189	1,304
Business – Delays during Construction	-30		
Business – User Charges	0	0	0
Private Sector Provider Impacts			
Revenue (toll income)	0		
Operating Costs	0		
Investment Costs	0		
Grant/subsidy	0		
Subtotal	1,463		
Other Business Impacts			
Developer contributions	-171		
NET BUSINESS IMPACT	1,292		
TOTAL			
Present Value of Transport Economic Efficiency Benefits (TEE)	26,314		

Note: All entries are in 2010 market prices, in £ thousands, and discounted to a 2010 present value year

5.1.8 TUBA input and output files for each junction (using OB adjusted costs) are presented in Appendices F to J.

5.1.9 Table 5-4 sets out the combined TEE outputs across the A416 / A6097 package of schemes.

Table 5-4 Combined TEE Table –Core Growth Forecast (2010 values, £000s)

Impact	All Modes Total	Personal	Freight
Consumer			
Commuting User Benefits			
Consumer – Travel Time	20,074	20,074	
Consumer – Delays during Construction	-5,287	-5,287	
Consumer – User Charges	0	0	
NET CONSUMER BENEFITS	14,787	14,787	
Consumer			
Other User Benefits			
Consumer – Travel Time	33,978	33,978	
Consumer – Delays during Construction	-11,344	-11,344	
Consumer – User Charges	0	0	
NET CONSUMER BENEFITS	22,634	22,634	
Business			
User Benefits			
Business – Travel Time	11,743	1,849	9,894
Business – Delays during Construction	-6,255		
Business – User Charges	0	0	0
Private Sector Provider Impacts			
Revenue (toll income)	0		
Operating Costs	0		
Investment Costs	0		
Grant/subsidy	0		
Subtotal	5,488		
Other Business Impacts			
Developer contributions	-821		
NET BUSINESS IMPACT	4,667		
TOTAL			
Present Value of Transport Economic Efficiency Benefits (TEE)	42,088		

Note: All entries are in 2010 market prices, in £ thousands, and discounted to a 2010 present value year

- 5.1.10 The Present Value of Transport and Economic Efficiency returned the following annualised and discounted user time benefits for the 60-year appraisal period is £42.09 million, showing that as a combined package, the scheme delivers positive TEE benefits, in a Core growth scenario.

6. Road Safety

- 6.1.1 The purpose of the road safety assessment is to calculate the monetary benefits of the scheme arising from the change in collision costs between the Do–Minimum (DM) and Do–Something (DS) scenarios. This is done by calculating the total cost of collisions on the network for the DS and subtracting these from the total cost of collisions in the DM. The road safety assessment for the Scheme was carried out using the software COBALT (Cost and Benefit to Accidents – Light Touch) appraisal program, version 2013.02. The latest version has not been used at draft Full Business Case. A re-run using the latest programme version and economics will be carried out at the Full Business Case stage. The COBALT assessment used the Version 2018.1 TAG parameter file.
- 6.1.2 COBALT is software used to appraise the road safety benefits of a highway improvement. The aim of COBALT is to produce a monetised appraisal in accordance with the DfT’s Transport Analysis Guidance (TAG).
- 6.1.3 The methodology used to assess the scheme’s road safety impacts is detailed in Section 7 of the TEAR Report.
- 6.1.4 In this addendum, Mickledale Lane has been omitted from the combined package. In addition, an assessment of the Kirk Hill Junction improvement has been added (not included in the TEAR). As previously, Warren Hill and White Post have not been assessed using COBALT, as the junction layout will remain unchanged in both scenarios.
- 6.1.5 Table 6-1 shows the junction numbers used within the COBALT assessment for each junction.

Table 6-1: Junction Numbers Used in the COBALT Assessment

Junction	Junction Number (DM)	Junction Number (DS)
Ollerton	1	2
White Post	Not Assessed	Not Assessed
Warren Hill	Not Assessed	Not Assessed
Lowdham	11	12
Kirk Hill	13	14

- 6.1.6 Table 6-2 specifies total accidents with and without scheme implementation. Incident classifications are also considered.
- 6.1.7 Table 6-3 details the DM and DS accident numbers per junction, and the difference between the two scenarios.

Table 6-2: Collision Risk and Valuation of Collisions (60–Year Appraisal Period)

	Total Accidents	Accidents			Accident Costs (£000s)
		Fatal	Serious	Slight	
Without-Scheme (DM)	462.5	1.2	21.8	439.5	10,123.5
With-Scheme (DS)	604.1	1.1	26.5	576.5	13,822.1
Difference	-141.6	0.1	-4.7	-137	-3,698.6

Table 6-3: Total Accidents Across the 60-year Appraisal by Junction

Junction	Do–Minimum (DM) Accidents	Do–Something (DS) Accidents	Change in Accidents
Ollerton	115.6	163.2	+47.6
White Post	Not Assessed	Not Assessed	Not Assessed
Warren Hill	Not Assessed	Not Assessed	Not Assessed
Lowdham	115.3	179.9	+64.6
Kirk Hill	82.4	83.0	+0.6
Total	310.2	385.2	112.2

6.1.8 Table 6-4 details the costs for each junction in the DM and DS scenarios.

Table 6-4: Total Cost Across the 60–Year Appraisal Period by Junction

Junction	Do–Minimum (DM) Cost (£000s)	Do–Something (DS) Cost (£000s)	Change in Cost (£000s)
Ollerton	3,502.30	5,146.20	-1,643.90
White Post	Not Assessed	Not Assessed	Not Assessed
Warren Hill	Not Assessed	Not Assessed	Not Assessed
Lowdham	3,629.80	5,663.50	-2,033.70
Kirk Hill	2,991.40	3,012.40	-21.00
Total	10,123.3	13,822.1	-3,698.6

6.1.9 The assessment returned the following annualised and discounted collision benefits for the 60-year appraisal period: - **£3.699M** (i.e., a disbenefit).

6.1.10 The full COBALT output file is presented in Appendix K.

6.1.11 It is noted that the larger accident disbenefits are associated with the improvements at Ollerton and Lowdham. The proposed junctions fulfil their primary objective of improving capacity. The observed accident rates used in the Do Minimum at the two junctions are much lower than the COBA default values. As such, any comparison against a national default rate will result in a disbenefit. Whilst both junctions will be enlarged to provide additional capacity, the geometry and layout of the proposed junctions are not a large change from the existing and as such it is unlikely that the scheme will lead to a large increase in accidents to the level predicted by COBALT.

6.1.12 The TEAR discusses potential alternative approaches to assessments using local accident rates rather than national default rates. In line with the TEAR conclusions, for the purposes of a robust assessment, national default rates at Ollerton and Lowdham have been retained in the economic appraisal. As such, this represents a 'worst case' assessment.

7. Economic Appraisal

7.1 Introduction

- 7.1.1 Although all the components of the appraisal have to be considered, two key indicators will stand out from this kind of economic assessment: the scheme's benefit to cost ratio (BCR), and its net present value (NPV).
- 7.1.2 The BCR identifies the ratio between the present value of benefits (PVB) and present value of costs (PVC). The higher the BCR the more benefits a scheme is forecast to deliver, compared with the scheme's costs.

7.2 Transport Economic Efficiency

- 7.2.1 Table 7-1 sets out the combined TEE outputs across the A416 / A6097 package of schemes (previously presented in Table 5-4).

Table 7-1 Combined TEE Table –Core Growth Forecast (2010 values, £000s)

Impact	All Modes Total	Personal	Freight
Consumer			
Commuting User Benefits			
Consumer – Travel Time	20,074	20,074	
Consumer – Delays during Construction	-5,287	-5,287	
Consumer – User Charges	0	0	
NET CONSUMER BENEFITS	14,787	14,787	
Consumer			
Other User Benefits			
Consumer – Travel Time	33,978	33,978	
Consumer – Delays during Construction	-11,344	-11,344	
Consumer – User Charges	0	0	
NET CONSUMER BENEFITS	22,634	22,634	
Business			
User Benefits			
Business – Travel Time	11,743	1,849	9,894
Business – Delays during Construction	-6,255		
Business – User Charges	0	0	0
Private Sector Provider Impacts			
Revenue (toll income)	0		
Operating Costs	0		
Investment Costs	0		
Grant/subsidy	0		
Subtotal	5,488		
Other Business Impacts			
Developer contributions	-821		
NET BUSINESS IMPACT	4,667		
TOTAL			
Present Value of Transport Economic Efficiency Benefits (TEE)	42,088		

Note: All entries are in 2010 market prices, in £ thousands, and discounted to a 2010 present value year

8. Analysis of Monetised Costs and Benefits

8.1 Overview

- 8.1.1 Table 8-1 to Table 8-5 show the Analysis of Monetised Costs and Benefits (AMCB) summary table showing the PVB, PVC, NPV and BCR for the 60-year scheme analyses for each junction. Table 8-6 shows the Analysis of Monetised Costs and Benefits (AMCB) summary table showing the PVB, PVC, NPV and BCR for the 60-year scheme analyses for all junctions.
- 8.1.2 The Present Value Cost within this analysis uses the Optimism Bias Adjusted Costs set out in section 4.1.
- 8.1.3 Monetised noise, air quality and greenhouse gas impacts are detailed in the TEAR. This analysis makes no update to the values presented in the TEAR. As the scheme progresses to Full Business Case, further work is likely to be needed to update monetised environmental impacts.

Table 8-1: Ollerton – Core Scenario - AMCB (OB Adjusted Cost)

Core Scenario	Costs and Benefit (in £ thousands)
BENEFITS	
Greenhouse Gases	302
Local Air Quality	2
Noise	Not Assessed
Economic Efficiency: Consumer Users – Business	4,287
Economic Efficiency: Consumer Users – Commuting & Other	11,386
Collisions	1,644
Vehicle Operating Costs	Not Assessed
Indirect Taxation Revenues	Not Assessed
PRESENT VALUE OF BENEFITS (PVB)	14,333
PRESENT VALUE COST (PVC)	8,096
NET PRESENT VALUE (NPV)	6,237
BENEFIT TO COST RATIO (BCR)	1.77

Notes:

- 1) All entries are in 2010 market prices and discounted to 2010 present value year in £ thousands; except for the BCR, which is a dimensionless ratio.

Table 8-2: White Post – Core Scenario - AMCB (OB Adjusted Cost)

Core Scenario	Costs and Benefit (in £ thousands)
BENEFITS	
Greenhouse Gases	Not Assessed
Local Air Quality	Not Assessed
Noise	Not Assessed
Economic Efficiency: Consumer Users – Business	Not Assessed
Economic Efficiency: Consumer Users – Commuting & Other	Not Assessed
Collisions	Not Assessed
Vehicle Operating Costs	Not Assessed
Indirect Taxation Revenues	Not Assessed
PRESENT VALUE OF BENEFITS (PVB)	Not Assessed
PRESENT VALUE COST (PVC)	134
NET PRESENT VALUE (NPV)	-134
BENEFIT TO COST RATIO (BCR)	Not Assessed

Notes:

- 1) All entries are in 2010 market prices and discounted to 2010 present value year in £ thousands; except for the BCR, which is a dimensionless ratio.

Table 8-3: Warren Hill – Core Scenario - AMCB (OB Adjusted Cost)

Core Scenario	Costs and Benefit (in £ thousands)
BENEFITS	
Greenhouse Gases	Not Assessed
Local Air Quality	Not Assessed
Noise	Not Assessed
Economic Efficiency: Consumer Users – Business	Not Assessed
Economic Efficiency: Consumer Users – Commuting & Other	Not Assessed
Collisions	Not Assessed
Vehicle Operating Costs	Not Assessed
Indirect Taxation Revenues	Not Assessed
PRESENT VALUE OF BENEFITS (PVB)	Not Assessed
PRESENT VALUE COST (PVC)	135
NET PRESENT VALUE (NPV)	-135
BENEFIT TO COST RATIO (BCR)	Not Assessed

Notes:

- 1) All entries are in 2010 market prices and discounted to 2010 present value year in £ thousands; except for the BCR, which is a dimensionless ratio.

Table 8-4: Lowdham – Core Scenario - AMCB (OB Adjusted Cost)

Core Scenario	Costs and Benefit (in £ thousands)
BENEFITS	
Greenhouse Gases	216
Local Air Quality	7
Noise	Not Assessed
Economic Efficiency: Consumer Users – Business	-912
Economic Efficiency: Consumer Users – Commuting & Other	1,014
Collisions	-2,034
Vehicle Operating Costs	Not Assessed
Indirect Taxation Revenues	Not Assessed
PRESENT VALUE OF BENEFITS (PVB)	-1,709
PRESENT VALUE COST (PVC)	4,042
NET PRESENT VALUE (NPV)	-5,751
BENEFIT TO COST RATIO (BCR)	-0.42

Notes:

- 1) All entries are in 2010 market prices and discounted to 2010 present value year in £ thousands; except for the BCR, which is a dimensionless ratio.

Table 8-5: Kirk Hill – Core Scenario- AMCB (OB Adjusted Cost)

Core Scenario	Costs and Benefit (in £ thousands)
BENEFITS	
Greenhouse Gases	354
Local Air Quality	4
Noise	Not Assessed
Economic Efficiency: Consumer Users – Business	1,292
Economic Efficiency: Consumer Users – Commuting & Other	25,022
Collisions	-21
Vehicle Operating Costs	Not Assessed
Indirect Taxation Revenues	Not Assessed
PRESENT VALUE OF BENEFITS (PVB)	26,650
PRESENT VALUE COST (PVC)	3,992
NET PRESENT VALUE (NPV)	22,658
BENEFIT TO COST RATIO (BCR)	6.68

Notes:

- 1) All entries are in 2010 market prices and discounted to 2010 present value year in £ thousands; except for the BCR, which is a dimensionless ratio.

Table 8-6: Combined package – Core Scenario - AMCB (OB Adjusted Cost)

Core Scenario	Costs and Benefit (in £ thousands)
BENEFITS	
Greenhouse Gases	872
Local Air Quality	13
Noise	286
Economic Efficiency: Consumer Users – Business	4,667
Economic Efficiency: Consumer Users – Commuting & Other	37,421
Collisions	-3,699
Vehicle Operating Costs	Not Assessed
Indirect Taxation Revenues	Not Assessed
PRESENT VALUE OF BENEFITS (PVB)	39,560
PRESENT VALUE COST (PVC)	16,399
NET PRESENT VALUE (NPV)	23,161
BENEFIT TO COST RATIO (BCR)	2.41

Notes:

- 1) All entries are in 2010 market prices and discounted to 2010 present value year in £ thousands; except for the BCR, which is a dimensionless ratio.

8.1.4 The Department for Transport's "Value for Money Guidance" (2017, www.dft.gov.uk), describes how value for money can be categorised in four classes:

Figure 8-1: DfT Value for Money Guidance

Box 5.1 Standard Categories
(Transport cost outlays exceed revenues or cost savings)

VfM Category	Implied by...*
Very High	BCR greater than or equal to 4
High	BCR between 2 and 4
Medium	BCR between 1.5 and 2
Low	BCR between 1 and 1.5
Poor	BCR between 0 and 1
Very Poor	BCR less than or equal to 0

**Relevant indicative monetised and/or non-monetised impacts must also be considered and may result in a final value for money category different to that which is implied solely by the BCR. This chapter provides guidance on how to select the final value for money category.*

- 8.1.5 The BCR (2.41) of the combined package summarised in the AMCB table above, demonstrates that the package of improvements delivers a positive economic case and represents High value for money. Other appraisal objectives, which have not been monetised, should be taken into account during the decision-making process.

9. Induced Investment

9.1 Introduction

- 9.1.1 The Department for Transport's appraisal process is based on the principles of the HM Treasury Green Book guidance, which advocates the use of cost-benefit (welfare) analysis to determine the value for money of investment spend. Welfare analysis captures a broad range of impacts, such as economic, environmental and social. The results of welfare analysis are reported in the Economic Case and inform the value for money assessment.
- 9.1.2 The method to estimate the incremental impact on scheme benefits arising from a transport scheme unlocking a development which would not have been possible in the absence of that investment is set out in TAG unit A2.2, Appraisal of Induced Investment (May 2020).
- 9.1.3 Following the change in the change in permitted development site detailed in section 2, updates to the assessment of Land Value Uplift, Transport External Costs and Land Amenity Value was undertaken.

9.2 Land Value Uplift

- 9.2.1 TAG Unit A2.2, Appraisal of Induced Investment, May 2020 provides guidance on how to quantify and value induced investments impacts – changes in the level or location of private sector investment as a result of a transport investment – for their inclusion within transport appraisal as part of the value for money assessment; and as non-welfare metrics such as number of jobs and GDP. The assessment of Land Value Uplift associated with Dependent Development sites identified in Section 2 is in accordance with TAG Unit A2.2, Appendix D, Derivation of Land Value Uplift.
- 9.2.2 The Wider Economic Impacts Report (April 2023) contained in Appendix L of this report details the change in benefits resulting from the change in permitted development at Thoresby Colliery including:
- The methodology used to assess potential land value uplift associated with the scheme;
 - A summary of the quantum of housing and employment land on the dependent sites;
 - Key assumptions used in the assessment and sensitivity testing.
- 9.2.3 The DfT's Value for Money Framework states that whilst benefits associated with Induced Investment should not be included in the initial benefit-cost metrics, it may be used to inform the scheme's value for money assessment. As such, Land Value Uplift benefits are excluded from the initial Analysis of Monetised Costs and Benefits (Section 8) but are presented to support the value for money case.
- 9.2.4 The Scheme is estimated to deliver £11.57m gross LVU, which is equivalent to £7.17m net additional Land Value Uplift.

Table 9-1: Affordability Benefits by Income Groups (in £ million)

	Gross impact of Scheme	Net impact of Scheme
Residential Land Value Uplift	£10.96m	£6.79m
Commercial Land Value Uplift	£0.62m	£0.38m
Total LVU	£11.57m	£7.17m

Source: Wider Economic Impacts Report, 2023; Values at 2010 prices

- 9.2.5 As noted, Land Value Uplift Benefits are excluded from the initial Analysis of Monetised Costs and Benefits but are presented in Chapter 10 to inform the value for money case.

9.3 Transport External Costs

- 9.3.1 Transport External Costs refer to the impacts imposed by the transport users generated by the dependent development sites on all other transport users, such as increased levels of congestion.

- 9.3.2 The approach to the assessment of Transport External Costs was detailed in Section 10 of the TEAR. This assessment of TEC at Ollerton was updated to reflect the change in forecast demand at the junction as a result of the change in permitted development. The methodology as detailed in TAG guidance unit A2.2 (May 2020) and the Department for Transport TUBA software V1.9.17 was used to undertake this analysis, with the TUBA economic parameters file (23/01/2023 v1.9.20, TAG Data Book v1.20.2 January 2023). Updated Ollerton TEC TUBA input and output files are presented in Appendix M. Lowdham TEC TUBA inputs and outputs remain as presented in the TEAR.
- 9.3.3 The TEC are summarised for each junction in Table 9-2 below. The TAG assessment of Transport External Costs results in an overall disbenefit with Present Value of Benefits of -£7.706m.
- 9.3.4 These TEC impacts represent an increase in costs to existing road users as a result of the addition of new trips from the dependent development sites.
- 9.3.5 The DfT's Value for Money Framework states that whilst benefits associated with Induced Investment should not be included in the initial benefit-cost results, it may be used to inform the scheme's value for money assessment. As such, monetised TEC impacts were excluded from the initial Analysis of Monetised Costs and Benefits (Section 8) but are presented to support the value for money case.

Table 9-2: Affordability Benefits by Income Groups (in £ million)

	Ollerton TEC	Lowdham TEC	Combined TEC
Consumer User Benefits - Commuting	-0.466	-0.754	-1.22
Consumer User Benefits - Other	-1.603	-0.961	-2.564
Business User Benefits	-1.108	-0.641	-1.749
Net Present Value of Benefits (PVB)	-3.177	-2.356	-5.533

- 9.3.6 The TAG assessment of Transport External Costs results in an overall disbenefit with Present Value of Benefits of -£5.533m.
- 9.3.7 These TEC impacts represent an increase in costs to existing road users as a result of the addition of new trips from the dependent development sites.
- 9.3.8 The DfT's Value for Money Framework states that whilst benefits associated with Induced Investment should not be included in the initial benefit-cost results, it may be used to inform the scheme's value for money assessment. As such, monetised TEC impacts were excluded from the initial Analysis of Monetised Costs and Benefits but are presented in Chapter 10 to support the value for money case.

9.4 Land Amenity Value (LAV)

- 9.4.1 The 'amenity value' of a plot of land refers to the level of pleasantness of the area. TAG Unit A2.2 'Appraisal of Induced Investment, May 2020 provides guidance on how to quantify Land Amenity Value.
- 9.4.2 The TAG Data Book 'Valuing Dependent Development Workbook', incorporates estimates obtained by Department of Communities and Local Government (2001) and has been used as the basis of the LAV assessment of Thoresby Colliery and Teal Close development sites. The welfare impact from the change in land amenity value has been estimated as the difference between the present value benefits for different land types.
- 9.4.3 The LAV assessment, updated using 2023 data, is presented in the Wider Economic Impacts Report (April 2023) contained in Appendix L of this report.

- 9.4.4 At Thoresby Colliery, the development will take place on brownfield land and is anticipated to result in land amenity value gain. However, there is currently limited evidence available on the external amenity impact of development on brownfield land. As a conservative assumption and in line with the DCLG appraisal guide, it is assumed that the change in amenity value on the Thoresby Colliery site is zero. This value remains consistent with the previous estimate.
- 9.4.5 At Teal Close, development will take place on agricultural land predominantly used to grow crops. This land is considered to have limited amenity value in terms of recreation or pleasantness of the area, and its agricultural uses are restricted to crops due history of site use for sewage sludge. 52 This type of land aligns with the definition for intensive agricultural land, with estimated land amenity value of £29,000 per hectare in perpetuity. The delivery of net additional 8.9ha of residential development at Teal Close is therefore estimated to amount to an amenity loss of £258,000 in present value (in 2010 prices). This value remains consistent with the previous estimate.

9.5 Summary

- 9.5.1 The assessment of Induced Investment was updated to reflect the change in permitted development at Thoresby Colliery after the submission of the OBC. The revised total benefits of Dependent Development associated with the A614 / A6097 MRN Improvements are:

Table 9-3: A614 Induced Investment Benefits (£millions)

Induced Investment Benefits	Benefit (£m)
Land Value Uplift	£7.17m
Transport External Costs	-£5.533m
Land Amenity Value	-£0.258m
Other	Not Assessed
Non-Transport Complementary Interventions	Not Assessed
Total Induced Investment	£1.379M

Notes: All entries are in market prices, at present values discounted to 2010, at 2010 market prices, in £ millions.

10. Analysis of Monetised Costs and Benefits – Induced Investment

- 10.1.1 The inclusion of indicative monetised impacts such as Induced Investment should be considered after the presentation of established and evolving monetised impacts. Section 8 presents the AMCB tables using the established monetised impacts. No evolving monetised impacts have been assessed at this stage.
- 10.1.2 Section 10 presents the Land Value Uplift (LVU) benefits and Land Amenity Values associated with the Scheme and the assessment of Transport External Costs (TEC). These were assessed using TAG Unit A2.2, Induced Investment, May 2020 and are both considered to be indicative monetised impacts.
- 10.1.3 Presented in Table 10-1 is the Analysis of Monetised Costs and Benefits (AMCB) summary table based upon the Core growth forecast assignments, taking the induced investment into account, and showing the PVB, PVC, NPV and BCR for the 60-year scheme analyses.

Table 10-1: Core Scenario AMCB with Induced Investment – Analysis of Monetised Cost and Benefits (AMCB) – Combined Package

Core Scenario	Costs and Benefit (in £ thousands)
BENEFITS	
Greenhouse Gases	872
Local Air Quality	13
Noise	286
Economic Efficiency: Consumer Users – Business	4,667
Economic Efficiency: Consumer Users – Commuting & Other	37,421
Collisions	-3,699
Induced Investment	1,379
Vehicle Operating Costs	Not Assessed
Indirect Taxation Revenues	Not Assessed
PRESENT VALUE OF BENEFITS (PVB)	40,939
PRESENT VALUE COST (PVC)	16,399
NET PRESENT VALUE (NPV)	24,540
BENEFIT TO COST RATIO (BCR)	2.49

Notes:

- 2) All entries are in 2010 market prices and discounted to 2010 present value year in £ thousands; except for the BCR, which is a dimensionless ratio.

- 10.1.4 The BCR summarised in the AMCB table above, shows that the improvements deliver a positive economic case and represents High value for money under a Core Scenario with Induced Investment considered. Other appraisal objectives, which have not been monetised, should also be taken into account during the decision-making process.

11. QRA Sensitivity Test

- 11.1.1 Section 8 presents the Analysis of Monetised Costs and Benefits (AMCB) summary table showing the PVB, PVC, NPV and BCR for the 60-year scheme analyses for each junction using the Optimism Bias Adjusted Cost.
- 11.1.2 As a sensitivity test, the Value for Money assessment using the Quantified Risk Assessment (QRA) Adjusted Cost using the combined package presented in section 4.3
- 11.1.3 Table 11-1 shows the Analysis of Monetised Costs and Benefits (AMCB) summary table showing the PVB, PVC, NPV and BCR for the 60-year scheme analyses for all junctions, using QRA Adjusted Cost.
- 11.1.4 The Transport User benefits and monetised environmental impacts remain as set out in section 8. TUBA inputs and outputs for the QRA Adjusted Cost assessment are presented in Appendices N to R.

Table 11-1: Core Scenario AMCB – Sensitivity Test (QRA Adjusted Cost)

Core Scenario	Costs and Benefit (in £ thousands)
BENEFITS	
Greenhouse Gases	872
Local Air Quality	13
Noise	286
Economic Efficiency: Consumer Users – Business	4,510
Economic Efficiency: Consumer Users – Commuting & Other	37,421
Collisions	-3,699
Vehicle Operating Costs	Not Assessed
Indirect Taxation Revenues	Not Assessed
PRESENT VALUE OF BENEFITS (PVB)	39,403
PRESENT VALUE COST (PVC)	15,237
NET PRESENT VALUE (NPV)	24,166
BENEFIT TO COST RATIO (BCR)	2.59

Notes:

- 1) All entries are in 2010 market prices and discounted to 2010 present value year in £ thousands; except for the BCR, which is a dimensionless ratio.

- 11.1.5 The use of the QRA adjusted cost estimate results in a higher BCR of 2.59 which is also considered High Value for Money by the DfT Value for Money Framework.

12. Summary and Conclusions

12.1 Summary

- 12.1.1 The economic assessment for the A614/A6097 Major Road Improvement Scheme was undertaken to support the submission of an Outline Business Case to the DfT in December 2020. This work is documented in the Traffic & Economic Assessment Report. (TEAR) (Version 4, issued 6/04/21).
- 12.1.2 Since the submission of the OBC, a number of changes have impacted the scheme, including:
- A comprehensive cost review and value engineering.
 - A change in the number of junctions included within the package.
 - A change in planning conditions attached to the Thoresby (Vale) Colliery site.
 - An update to the buildability assessments.
- 12.1.3 The purpose of this TEAR Addendum is to inform NCC whether, given the changes in the scheme costs, scheme package and change in planning conditions at Thoresby Vale, the scheme still provides value for money. The work presented provides an update to the value for money assessment and forms an interim review of the scheme. Further analysis and updates will be required to support the scheme's Full Business Case (FBC).
- 12.1.4 The economic assessment of the A614/A6097 Major Road Improvement Scheme was updated using a revised Core Growth forecast at Ollerton, reflecting the change in planning conditions at the Thoresby Colliery development site.
- 12.1.5 Cost estimates were updated by Via East Midlands. A Present Value Cost was produced using TAG guidance. Both an Optimism Bias (OB) Adjusted Cost estimate and a Quantified Risk Assessment (QRA) Adjusted Cost estimate was produced, with the OB Adjusted Cost estimate used in the appraisal, represent a robust assessment. A sensitivity test, examining the impact of using the QRA adjusted cost estimate in the value for money assessment was presented.
- 12.1.6 The assessments of Induced Investment (Land Value Uplift, Transport External Costs and Land Value Uplift) associated with Dependent Development sites were updated to reflect the change in planning conditions associated with the Thoresby Colliery development site.

12.2 Conclusions

- 12.2.1 The Core growth TEE benefits including the delays during construction, excluding accident benefits, carbon benefits, indirect tax revenue impacts and maintenance operations were £42.088 million (Table 5-4 - 2010 market prices discounted to a 2010 present value year).
- 12.2.2 Accident costs over the appraisal period were appraised using the COBALT accident analysis software. Road safety impacts at Ollerton, Lowdham and Kirk Hill have been assessed. The junction layouts at the White Post and Warren Hill junctions are unchanged.
- 12.2.3 The accident analysis showed that the implementation of the Scheme would result in a monetised benefit (refer to Table 6-4) of £-3.699 million in 2010 market prices discounted to a 2010 present value year.
- 12.2.4 Scheme cost estimates including developer contributions were provided by Via East Midlands in the form of a Most Likely Cost Estimate and were referred to as Investment Costs. The Present Value investment cost of the scheme (i.e. in 2010 market prices and discounted to a 2010 present value year) is £16.399 million (refer to Table 4-25).

- 12.2.5 The updated core growth forecast results, were (all costs in 2010 market prices discounted to a 2010 present value year):
- PVB £39.56M
 - PVC £16.40M
 - NPV £23.16M
 - BCR 2.41
- 12.2.6 In transport economy terms, the 'initial' value for money assessment of the combined package of improvements provides high value for money using the DfT Value for Money Framework.
- 12.2.7 In accordance with DfT Value for Money Guidance, the benefits associated with Induced Assessment (Land Value Uplift, Transport External Costs and Land Amenity Value) were excluded from the initial analysis of monetised costs and benefits.
- 12.2.8 The Scheme is estimated to deliver £1.379m additional induced Investment benefits (Table 10.3).
- 12.2.9 The Core growth forecast results, with induced investment, were (all costs in 2010 market prices discounted to a 2010 present value year):
- PVB £40.94M
 - PVC £16.40M
 - NPV £24.54M
 - BCR 2.49
- 12.2.10 In transport economy terms, the 'adjusted' value for money assessment of the combined package of improvements provides high value for money using the DfT Value for Money Framework.
- 12.2.11 As a sensitivity test, QRA Adjusted Cost were included in the value for money assessment. This is presented in full in Table 11-1. This sensitivity tests results in an 'adjusted' BCR of 2.59, representing high value for money using the DfT Value for Money Framework.
- 12.2.12 The interim analysis of the scheme's current (April 2023) Value for Money position presented in this TEAR Addendum concludes that the combined package of improvements provides High value for money. Further work is required to develop the evidence base for Full Business Case submission.

Appendix A Revised ARCADY Flows

AM	2023	to A	to B	to C	to D	to E	Total
DM	From A	0	407	198	142	70.0	817
	From B	267	15	35	183	447.0	947
	From C	307	53	0	8	107.0	475
	From D	231	134	8	0	2.0	375
	From E	74.0	363.0	84.0	3.0	0.0	524
	Total	879	972	325	336	626	3138

IP	2023	to A	to B	to C	to D	to E	Total
DM	From A	1	302	240	130	52.0	725
	From B	247	2	42	107	284.0	682
	From C	216	51	0	12	55.0	334
	From D	125	89	11	0	7.0	232
	From E	58.0	281.0	55.0	5.0	0.0	399
	Total	647	725	348	254	398	2372

PM	2023	to A	to B	to C	to D	to E	Total
DM	From A	3	426	372	281	63.0	1145
	From B	154	3	56	165	403.0	781
	From C	283	50	0	11	79.0	423
	From D	171	132	8	0	4.0	315
	From E	69.0	381.0	88.0	7.0	1.0	546
	Total	680	992	524	464	550	3210

OP	2023	to A	to B	to C	to D	to E	Total
DM	From A	0	30	23	13	5.0	71
	From B	24	0	4	10	28.0	66
	From C	21	5	0	1	5.0	32
	From D	12	9	1	0	1.0	23
	From E	6.0	27.0	5.0	1.0	0.0	39
	Total	63	71	33	25	39	231

AM	2023	to A	to B	to C	to D	to E	Total
DS	From A	0	407	198	142	70.0	817
	From B	432	15	35	183	447.0	1112
	From C	307	53	0	8	107.0	475
	From D	231	134	8	0	2.0	375
	From E	74.0	363.0	84.0	3.0	0.0	524
	Total	1044	972	325	336	626	3303

IP	2023	to A	to B	to C	to D	to E	Total
DM	From A	1	302	240	130	52.0	725
	From B	264	2	42	107	284.0	699
	From C	216	51	0	12	55.0	334
	From D	125	89	11	0	7.0	232
	From E	58.0	281.0	55.0	5.0	0.0	399
	Total	664	725	348	254	398	2389

PM	2023	to A	to B	to C	to D	to E	Total
DM	From A	3	426	372	281	63.0	1145
	From B	426	3	56	165	403.0	1053
	From C	283	50	0	11	79.0	423
	From D	171	132	8	0	4.0	315
	From E	69.0	381.0	88.0	7.0	1.0	546
	Total	952	992	524	464	550	3482

OP	2023	to A	to B	to C	to D	to E	Total
DM	From A	0	30	23	13	5.0	71
	From B	24	0	4	10	28.0	66
	From C	21	5	0	1	5.0	32
	From D	12	9	1	0	1.0	23
	From E	6.0	27.0	5.0	1.0	0.0	39
	Total	63	71	33	25	39	231

AM	2037	to A	to B	to C	to D	to E	Total
DM	From A	0	428	206	145	72.0	851
	From B	278	16	42	189	462.0	987
	From C	339	120	0	18	127.0	604
	From D	233	138	9	0	2.0	382
	From E	75.0	373.0	86.0	3.0	0.0	537
	Total	925	1075	343	355	663	3361

IP	2037	to A	to B	to C	to D	to E	Total
DM	From A	1	313	263	131	52.0	760
	From B	256	2	92	109	291.0	750
	From C	235	88	0	17	67.0	407
	From D	127	92	18	0	7.0	244
	From E	59.0	289.0	71.0	5.0	0.0	424
	Total	678	784	444	262	417	2585

PM	2037	to A	to B	to C	to D	to E	Total
DM	From A	3	436	402	280	63.0	1184
	From B	161	3	124	169	413.0	870
	From C	294	67	0	14	85.0	460
	From D	173	135	17	0	4.0	329
	From E	69.0	389.0	106.0	7.0	1.0	572
	Total	700	1030	649	470	566	3415

OP	2037	to A	to B	to C	to D	to E	Total
DM	From A	0	31	27	13	5.0	76
	From B	25	0	11	11	28.0	75
	From C	26	13	0	1	8.0	48
	From D	12	9	1	0	1.0	23
	From E	6.0	28.0	7.0	1.0	0.0	42
	Total	69	81	46	26	42	264

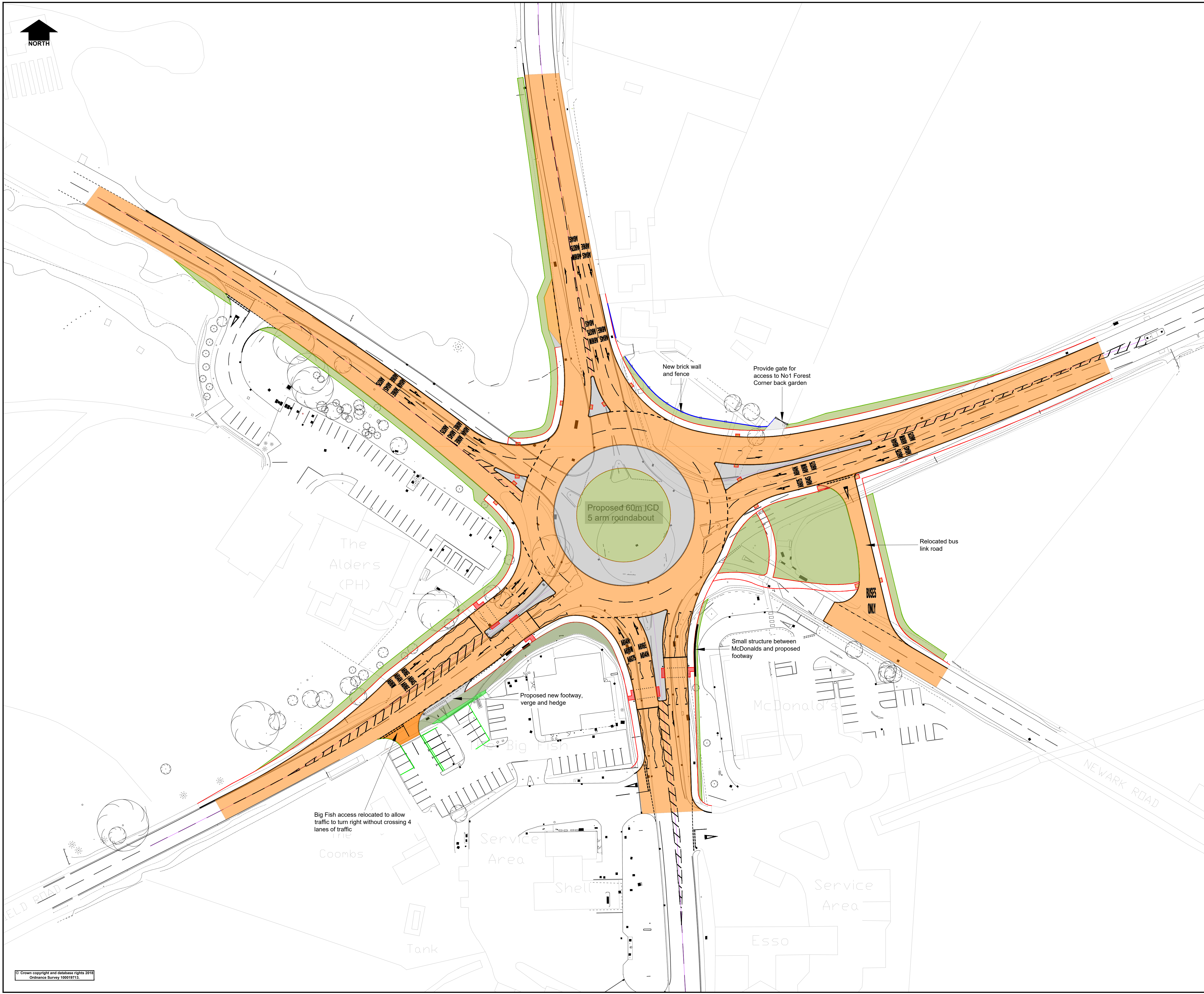
AM	2037	to A	to B	to C	to D	to E	Total
DM	From A	0	428	206	145	72.0	851
	From B	443	16	42	189	462.0	1152
	From C	339	120	0	18	127.0	604
	From D	233	138	9	0	2.0	382
	From E	75.0	373.0	86.0	3.0	0.0	537
	Total	1090	1075	343	355	663	3526

IP	2037	to A	to B	to C	to D	to E	Total
DM	From A	1	313	263	131	52.0	760
	From B	273	2	92	109	291.0	767
	From C	235	88	0	17	67.0	407
	From D	127	92	18	0	7.0	244
	From E	59.0	289.0	71.0	5.0	0.0	424
	Total	695	784	444	262	417	2602

PM	2037	to A	to B	to C	to D	to E	Total
DM	From A	3	436	402	280	63.0	1184
	From B	279	3	124	169	413.0	988
	From C	294	67	0	14	85.0	460
	From D	173	135	17	0	4.0	329
	From E	69.0	389.0	106.0	7.0	1.0	572
	Total	818	1030	649	470	566	3533

OP	2037	to A	to B	to C	to D	to E	Total
DM	From A	0	31	27	13	5.0	76
	From B	25	0	11	11	28.0	75
	From C	26	13	0	1	8.0	48
	From D	12	9	1	0	1.0	23
	From E	6.0	28.0	7.0	1.0	0.0	42
	Total	69	81	46	26	42	264

Appendix B Ollerton ARCADY Results



NOTES

1. This drawing shows the updated revised layout of the enlarged 60m ICD roundabout improvements.
2. The lane arrangements are configured to suit the current and future traffic forecast (2033) requirements.
3. The proposed lane destination markings are provided to suit the current and future peak flow and are suggested to compliment the road signage to reduce the potential conflict associated with vehicles crossing over lanes.
4. The layouts are subject to further road safety audits which will be commissioned following the detailed design stage.
5. The revised layout has been produced using updated topographical survey information obtained June 2018.
6. The precise extents of private land are subject to change which may be required as a result of the the detailed design process. The extents of embankments/ earth slopes are shown for indicative purposes and are based on the assumption that adjoining land does not significantly fluctuate in level. Where private land interfaces are restricted in respect of widths available retaining features may be required at these locations. Further verification for the embankment interface will be determined once updated private land topographical survey information and detailed design information is available.
7. A preliminary analysis has been undertaken to verify vertical design requirements, this has determined that the proposals could meet this design criteria if the speed limits on the approaches were altered to 30mph. Further verification in to the affect of the vertical design on to adjoining land is to be determined during the detailed design process.
8. Refer to feasibility report produced August 2018 by Via EM Ltd. for further information on the proposals and the departures from standards required.

KEY

- Proposed Carriageway Areas
- Proposed Footways/Hardstanding Areas
- Proposed Embankment/Verges
- Proposed Hedges

Rev.	Description	Drawn	Ch'kd	Auth	Date
Project A614/A6097 CORRIDOR IMPROVEMENTS OLLERTON ROUNDABOUT					
Status FOR INFO		Project No. HW20949			
Drawing Title GENERAL ARRANGEMENT					
Scale 1:500 @A1	Drawn AP	Date 20.02.2019		Drawn AP	Date 20.02.2019
Drawing No. HW 20949/GEN/O001/003	Auth JJP	Tracked AP	Rev. 0		

in partnership with

www.viam.co.uk Tel 0115 804 2100
Bilthorpe Depot, Bilthorpe Business Park, Bilthorpe, Nottinghamshire, NG22 8ST

Junctions 10

ARCADY 10 - Roundabout Module

Version: 10.0.4.1693

© Copyright TRL Software Limited, 2021

For sales and distribution information, program advice and maintenance, contact TRL Software:
+44 (0)1344 379777 software@trl.co.uk trlsoftware.com

The users of this computer program for the solution of an engineering problem are in no way relieved of their responsibility for the correctness of the solution

Filename: Import of Ollerton Rdbt existing 2037.j10

Path: L:\60625845_A614 MRN DfT responses\2023_Draft_FBC\Updated Ollerton Model

Report generation date: 07/03/2023 11:38:30

- »2023, AM
- »2023, PM
- »2023, IP
- »2023, OP
- »2037, AM
- »2037, PM
- »2037, IP
- »2037, OP
- »2037 final (incl rats), AM
- »2037 final (incl rats), PM
- »2037 final (incl rats), IP
- »2037 final (incl rats), OP
- »2037 TB DM, AM
- »2037 TB DM, PM
- »2037 TB DM, IP
- »2037 TB DM, OP

Summary of junction performance

	AM					PM					IP					OP								
Set ID	95% Queue (PCU)	Delay (s)	RFC	LOS	Junction Delay (s)	Set ID	95% Queue (PCU)	Delay (s)	RFC	LOS	Junction Delay (s)	Set ID	95% Queue (PCU)	Delay (s)	RFC	LOS	Junction Delay (s)	Set ID	95% Queue (PCU)	Delay (s)	RFC	LOS	Junction Delay (s)	
					Network Residual Capacity						Network Residual Capacity						Network Residual Capacity						Network Residual Capacity	
2023																								

Ar m 5	2 . 3	7 . 6	1 3. 2 1	0 . 6 8	B					2 . 0	4 . 7	1 1. 3 2	0 . 6 6	B						0 . 8	3 . 1	6 . 1 8	0 . 4 5	A					0 . 0	0 . 5	2 . 2 6	0 . 0 3	A			
2037 TB DM																																				
Ar m 1	1 . 4	1 . 6	5. 3 7	0 . 5 8	A					4 . 2	1 9 . 5	1 2. 0 3	0 . 8 1	B						0 . 9	1 . 7	4 . 0 4	0 . 4 8	A					0 . 0	0 . 5	1 . 7 6	0 . 0 4	A			
Ar m 2	9 4 . 1	1 4 8 . 8	3 1 . 5	1 . 1 8	F					1 3 9 . 2	2 0 0 . 0	6 1 . 2	1 . 3 6	F						8 . 5	4 6 . 0	3 9 . 5	0 . 9 1	E					0 . 1	0 . 5	3 . 2 3	0 . 0 7	A			
Ar m 3	D 1 3	8 . 1	4 2 . 9	4 6. 9 1	0 . 9 1	E	1 4 2. 3 2	F	- 2 1 %	D 1 4	1 . 7	4 . 0	2. 1 4	0 . 6 3	B	1 6 5. 0 8	F	- 2 4 %	D 1 5	1 . 1	3 . 3	2 . 0	5 . 3	A	1 6. 4 5	C	- 1 %	D 1 6	0 . 0	0 . 5	2 . 8 3	0 . 0 4	A	2. 6 4	A	8 9 0 %
Ar m 4	3 9 . 3	7 1 . 9	3 3 . 6 3	1 . 2 0	F					2 . 1	9 . 6	2 1. 2 8	0 . 6 8	C						1 . 1	4 . 7	1 5 . 3 0	0 . 5 3	C				0 . 0	0 . 5	3 . 8 9	0 . 0 3	A				
Ar m 5	1 . 5	2 . 4	9. 0 7	0 . 6 0	A					1 . 2	1 . 9	7. 1 3	0 . 5 6	A						0 . 7	3 . 0	5 . 4 4	0 . 4 1	A				0 . 0	0 . 5	2 . 2 6	0 . 0 3	A				

There are warnings associated with one or more model runs - see the 'Data Errors and Warnings' tables for each Analysis or Demand Set.

Values shown are the highest values encountered over all time segments. Delay is the maximum value of average delay per arriving vehicle. Junction LOS and Junction Delay are demand-weighted averages. Network Residual Capacity indicates the amount by which network flow could be increased before a user-definable threshold (see Analysis Options) is met.

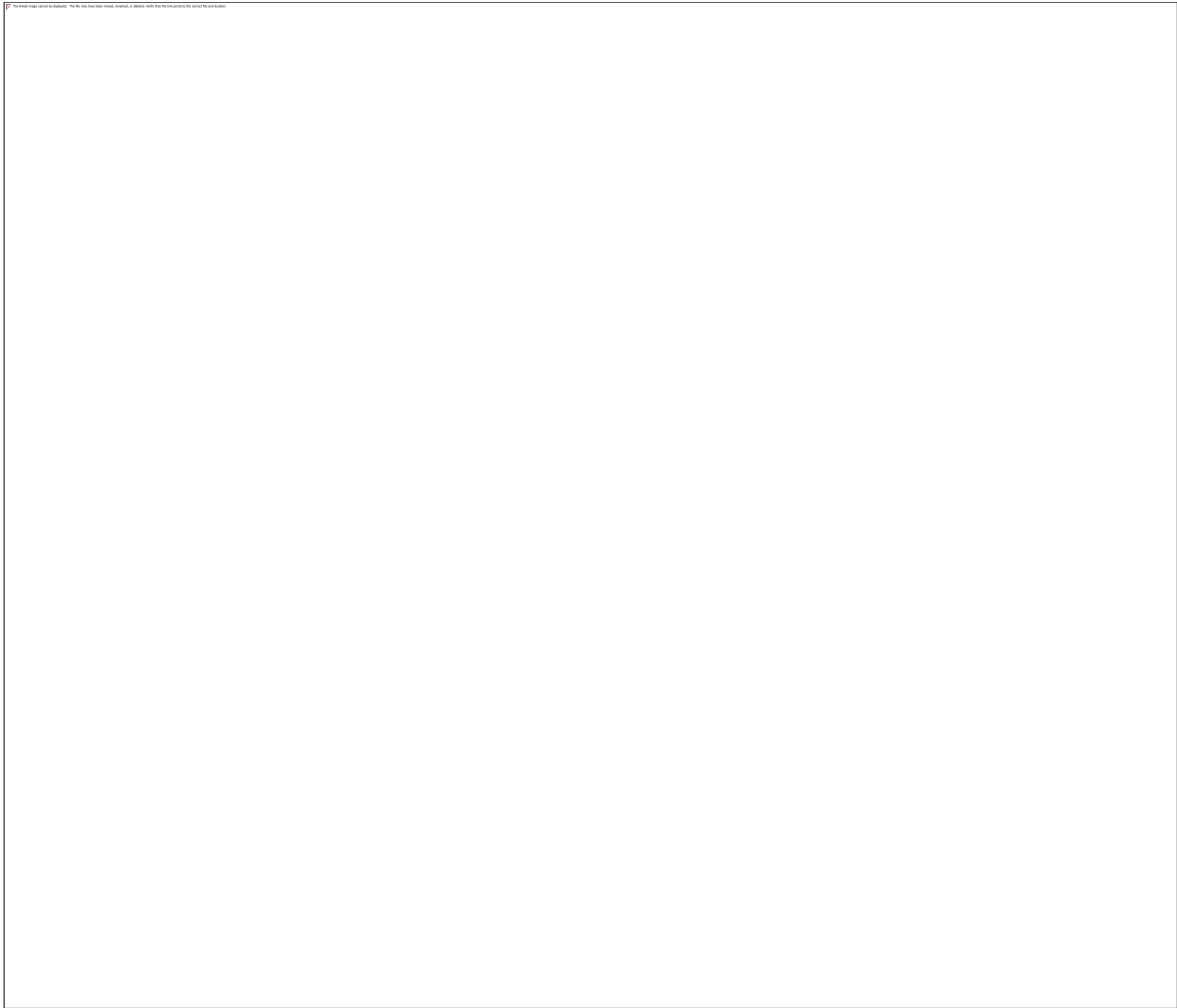
File summary

File Description

Title	Ollerton Roundabout - existing 2036+psd+tc1
Location	A614/ A616/ A6075 Ollerton
Site number	
Date	12/02/2018
Version	
Status	(new file)
Identifier	
Client	NCC
Jobnumber	
Enumerator	NCCADMIN\br18
Description	

Units

Distance units	Speed units	Traffic units input	Traffic units results	Flow units	Average delay units	Total delay units	Rate of delay units
m	kph	PCU	PCU	perHour	s	-Min	perMin



The junction diagram reflects the last run of Junctions.

Analysis Options

Vehicle length (m)	Calculate Queue Percentiles	Calculate detailed queueing delay	Show lane queues in feet / metres	Show all PICADY stream intercepts	Calculate residual capacity	Residual capacity criteria type	RFC Threshold	Average Delay threshold (s)	Queue threshold (PCU)	Use iterations with HCM roundabouts	Max number of iterations for roundabouts
5.75	✓				✓	Delay	0.85	36.00	20.00		500

Demand Set Summary

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D1	2023	AM	ONE HOUR	07:45	09:15	15	✓
D2	2023	PM	ONE HOUR	16:45	18:15	15	✓
D3	2023	IP	ONE HOUR	12:45	14:15	15	✓
D4	2023	OP	ONE HOUR	22:45	00:15	15	✓
D5	2037	AM	ONE HOUR	07:45	09:15	15	✓
D6	2037	PM	ONE HOUR	16:45	18:15	15	✓
D7	2037	IP	ONE HOUR	12:45	14:15	15	✓
D8	2037	OP	ONE HOUR	22:45	00:15	15	✓
D9	2037 final (incl rats)	AM	ONE HOUR	07:45	09:15	15	✓

D10	2037 final (incl rats)	PM	ONE HOUR	16:45	18:15	15	✓
D11	2037 final (incl rats)	IP	ONE HOUR	12:45	14:15	15	✓
D12	2037 final (incl rats)	OP	ONE HOUR	22:45	00:15	15	✓
D13	2037 TB DM	AM	ONE HOUR	07:45	09:15	15	✓
D14	2037 TB DM	PM	ONE HOUR	16:45	18:15	15	✓
D15	2037 TB DM	IP	ONE HOUR	12:45	14:15	15	✓
D16	2037 TB DM	OP	ONE HOUR	22:45	00:15	15	✓

Analysis Set Details

ID	Include in report	Network flow scaling factor (%)	Network capacity scaling factor (%)
A1	✓	100.000	100.000

2023, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	Arm 1 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout		1, 2, 3, 4, 5	85.92	F

Junction Network

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold	Network delay (s)	Network LOS
Left	Normal/unknown	-16	Arm 2	85.92	F

Arms

Arms

Arm	Name	Description	No give-way line
1	A616 Ollerton Rd		
2	A614S Old Rufford Road		
3	A6075 Mansfield Road		
4	A616 Worksop Road		
5	A614N Blyth Road		

Roundabout Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	I' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Entry only	Exit only
1	4.60	8.00	100.0	35.0	37.5	54.0		
2	4.00	4.20	5.0	13.0	37.5	31.0		

3	3.80	5.70	4.3	18.0	37.5	31.0		
4	3.50	4.10	4.5	7.5	37.5	51.0		
5	4.50	6.60	12.0	24.0	37.5	44.0		

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Arm	Final slope	Final intercept (PCU/hr)
1	0.724	2178
2	0.543	1228
3	0.580	1378
4	0.460	1005
5	0.635	1700

The slope and intercept shown above include any corrections and adjustments.

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D1	2023	AM	ONE HOUR	07:45	09:15	15	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1		ONE HOUR	✓	817	100.000
2		ONE HOUR	✓	947	100.000
3		ONE HOUR	✓	475	100.000
4		ONE HOUR	✓	375	100.000
5		ONE HOUR	✓	524	100.000

Origin-Destination Data

Demand (PCU/hr)

		To				
		1	2	3	4	5
From	1	0	407	198	142	70
	2	267	15	35	183	447
	3	307	53	0	8	107
	4	231	134	8	0	2
	5	74	363	84	3	0

Vehicle Mix

Heavy Vehicle Percentages

		To				
		1	2	3	4	5
From	1	0	0	0	0	0
	2	0	0	0	0	0
	3	0	0	0	0	0
	4	0	0	0	0	0
	5	0	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max 95th percentile Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
1	0.54	4.74	1.2	1.5	A	750	1125
2	1.13	213.52	67.5	121.3	F	869	1303
3	0.72	17.72	2.5	11.0	C	436	654
4	1.02	135.81	15.5	48.7	F	344	516
5	0.56	8.00	1.3	2.5	A	481	721

Main Results for each time segment

07:45 - 08:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	615	154	493	1821	0.338	613	655	0.0	0.5	2.976	A
2	713	178	379	1022	0.697	704	728	0.0	2.2	11.030	B
3	358	89	839	891	0.401	355	243	0.0	0.7	6.684	A
4	282	71	944	570	0.495	279	251	0.0	1.0	12.183	B
5	394	99	756	1220	0.323	393	466	0.0	0.5	4.341	A

08:00 - 08:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	734	184	590	1750	0.420	734	782	0.5	0.7	3.537	A
2	851	213	453	982	0.867	838	871	2.2	5.5	23.177	C
3	427	107	1000	798	0.535	425	291	0.7	1.1	9.613	A
4	337	84	1126	486	0.693	333	299	1.0	2.1	22.755	C
5	471	118	903	1127	0.418	470	556	0.5	0.7	5.474	A

08:15 - 08:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	900	225	710	1664	0.541	898	908	0.7	1.2	4.690	A
2	1043	261	554	927	1.125	913	1054	5.5	37.8	98.966	F

3	523	131	1116	731	0.716	518	352	1.1	2.4	16.537	C
4	413	103	1289	411	1.004	381	345	2.1	10.2	78.858	F
5	577	144	1043	1038	0.556	575	627	0.7	1.2	7.745	A

08:30 - 08:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	900	225	717	1659	0.542	899	921	1.2	1.2	4.739	A
2	1043	261	556	926	1.126	924	1061	37.8	67.5	213.520	F
3	523	131	1126	725	0.722	522	353	2.4	2.5	17.715	C
4	413	103	1302	405	1.018	392	347	10.2	15.5	135.807	F
5	577	144	1061	1026	0.562	577	633	1.2	1.3	8.003	A

08:45 - 09:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	734	184	615	1733	0.424	736	854	1.2	0.7	3.617	A
2	851	213	456	980	0.868	966	895	67.5	38.9	200.115	F
3	427	107	1124	726	0.588	431	298	2.5	1.5	12.367	B
4	337	84	1231	438	0.769	383	325	15.5	4.0	78.499	F
5	471	118	995	1068	0.441	473	618	1.3	0.8	6.070	A

09:00 - 09:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	615	154	505	1813	0.339	616	711	0.7	0.5	3.010	A
2	713	178	381	1021	0.698	858	740	38.9	2.5	42.271	E
3	358	89	989	804	0.445	360	251	1.5	0.8	8.153	A
4	282	71	1068	513	0.550	293	281	4.0	1.3	17.132	C
5	394	99	820	1179	0.335	396	541	0.8	0.5	4.602	A

Queue Variation Results for each time segment

07:45 - 08:00

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.51	0.51	1.00	1.40	1.45			N/A	N/A
2	2.21	0.17	1.21	4.33	5.62			N/A	N/A
3	0.66	0.55	1.00	1.40	1.45			N/A	N/A
4	0.95	0.29	1.00	1.41	1.41			N/A	N/A
5	0.47	0.00	0.00	0.47	0.47			N/A	N/A

08:00 - 08:15

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.72	0.08	0.79	1.40	1.48			N/A	N/A
2	5.49	0.10	1.95	14.39	20.69			N/A	N/A
3	1.13	0.08	0.92	2.01	2.80			N/A	N/A
4	2.09	0.07	1.05	5.15	7.51			N/A	N/A
5	0.71	0.09	0.82	1.39	1.46			N/A	N/A

08:15 - 08:30

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	1.16	0.03	0.26	1.16	1.16			N/A	N/A
2	37.83	12.00	34.09	63.32	73.82			N/A	N/A
3	2.37	0.03	0.30	2.63	11.01			N/A	N/A
4	10.18	0.45	6.40	23.34	30.73			N/A	N/A
5	1.23	0.03	0.26	1.23	1.23			N/A	N/A

08:30 - 08:45

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	1.18	0.03	0.27	1.18	1.45			N/A	N/A
2	67.51	27.09	62.85	106.21	121.31			N/A	N/A
3	2.49	0.03	0.29	2.49	8.52			N/A	N/A
4	15.48	0.51	9.49	36.62	48.69			N/A	N/A
5	1.27	0.03	0.27	1.27	2.53			N/A	N/A

08:45 - 09:00

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.74	0.50	0.98	1.40	1.45			N/A	N/A
2	38.85	14.63	35.75	61.86	70.99			N/A	N/A
3	1.47	0.08	1.03	3.08	4.29			N/A	N/A
4	4.04	0.06	1.06	11.29	17.71			N/A	N/A
5	0.80	0.19	0.93	1.40	1.46			N/A	N/A

09:00 - 09:15

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.52	0.05	0.52	1.30	1.40			N/A	N/A
2	2.48	0.03	0.29	2.48	9.73			N/A	N/A
3	0.81	0.04	0.40	1.87	2.98			N/A	N/A
4	1.27	0.03	0.29	1.27	5.67			N/A	N/A
5	0.51	0.04	0.45	1.28	1.39			N/A	N/A

2023, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	Arm 1 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout		1, 2, 3, 4, 5	73.19	F

Junction Network

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold	Network delay (s)	Network LOS
Left	Normal/unknown	-16	Arm 2	73.19	F

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D2	2023	PM	ONE HOUR	16:45	18:15	15	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1		ONE HOUR	✓	1145	100.000
2		ONE HOUR	✓	781	100.000
3		ONE HOUR	✓	423	100.000
4		ONE HOUR	✓	315	100.000
5		ONE HOUR	✓	546	100.000

Origin-Destination Data

Demand (PCU/hr)

		To				
		1	2	3	4	5
From	1	3	426	372	281	63
	2	154	3	56	165	403
	3	283	50	0	11	79
	4	171	132	8	0	4
	5	69	381	88	7	1

Vehicle Mix

Heavy Vehicle Percentages

		To				
		1	2	3	4	5
From	1	0	0	0	0	0
	2	0	0	0	0	0
	3	0	0	0	0	0
	4	0	0	0	0	0
	5	0	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max 95th percentile Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
1	0.77	9.36	3.2	10.9	A	1051	1576
2	1.17	267.49	69.2	116.9	F	717	1075
3	0.62	12.38	1.6	3.8	B	388	582
4	0.67	20.70	1.9	8.4	C	289	434
5	0.52	6.51	1.1	2.2	A	501	752

Main Results for each time segment

16:45 - 17:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	862	216	502	1815	0.475	858	508	0.0	0.9	3.750	A
2	588	147	617	893	0.658	581	743	0.0	1.9	11.274	B
3	318	80	805	911	0.350	316	392	0.0	0.5	6.032	A
4	237	59	775	648	0.366	235	347	0.0	0.6	8.665	A
5	411	103	600	1319	0.312	409	410	0.0	0.4	3.949	A

17:00 - 17:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	1029	257	601	1743	0.591	1027	607	0.9	1.4	5.015	A
2	702	176	738	827	0.849	690	890	1.9	4.8	24.486	C
3	380	95	959	821	0.463	379	469	0.5	0.8	8.113	A
4	283	71	924	579	0.489	282	414	0.6	0.9	12.040	B
5	491	123	718	1244	0.395	490	488	0.4	0.6	4.770	A

17:15 - 17:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	1261	315	734	1647	0.766	1254	719	1.4	3.1	9.011	A
2	860	215	901	738	1.165	728	1086	4.8	37.8	120.474	F
3	466	116	1064	761	0.612	463	565	0.8	1.5	11.983	B
4	347	87	1046	523	0.663	343	481	0.9	1.9	19.599	C
5	601	150	853	1158	0.519	599	536	0.6	1.1	6.422	A

17:30 - 17:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	1261	315	737	1644	0.767	1260	724	3.1	3.2	9.359	A
2	860	215	906	736	1.168	734	1091	37.8	69.2	267.488	F
3	466	116	1073	756	0.616	466	568	1.5	1.6	12.382	B
4	347	87	1054	520	0.667	346	484	1.9	1.9	20.700	C
5	601	150	860	1154	0.521	601	541	1.1	1.1	6.509	A

17:45 - 18:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	1029	257	606	1739	0.592	1036	636	3.2	1.5	5.172	A
2	702	176	745	824	0.852	812	897	69.2	41.7	246.597	F
3	380	95	1075	755	0.504	382	482	1.6	1.0	9.729	A
4	283	71	1015	537	0.527	286	442	1.9	1.1	14.513	B
5	491	123	750	1224	0.401	492	552	1.1	0.7	4.934	A

18:00 - 18:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	862	216	507	1811	0.476	864	545	1.5	0.9	3.813	A
2	588	147	621	891	0.660	747	750	41.7	2.1	53.693	F
3	318	80	961	821	0.388	320	407	1.0	0.6	7.214	A
4	237	59	898	592	0.401	239	383	1.1	0.7	10.267	B
5	411	103	640	1293	0.318	412	496	0.7	0.5	4.087	A

Queue Variation Results for each time segment

16:45 - 17:00

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.90	0.55	1.00	1.40	1.45			N/A	N/A
2	1.86	0.11	1.34	3.81	5.06			N/A	N/A
3	0.53	0.53	1.00	1.40	1.45			N/A	N/A
4	0.57	0.55	1.00	1.40	1.45			N/A	N/A
5	0.45	0.00	0.00	0.45	0.45			N/A	N/A

17:00 - 17:15

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	1.42	0.05	0.48	3.61	5.62			N/A	N/A
2	4.78	0.09	1.45	12.74	18.65			N/A	N/A
3	0.85	0.10	0.88	1.49	1.50			N/A	N/A
4	0.93	0.11	0.93	1.37	1.75			N/A	N/A
5	0.65	0.09	0.82	1.37	1.43			N/A	N/A

17:15 - 17:30

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	3.14	0.03	0.29	3.14	10.95			N/A	N/A
2	37.82	13.76	34.65	60.81	70.01			N/A	N/A
3	1.53	0.03	0.27	1.53	3.19			N/A	N/A
4	1.85	0.03	0.30	1.85	8.38			N/A	N/A
5	1.06	0.03	0.26	1.06	1.06			N/A	N/A

17:30 - 17:45

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	3.21	0.03	0.27	3.21	3.89			N/A	N/A
2	69.18	31.75	65.37	103.84	116.91			N/A	N/A
3	1.57	0.03	0.28	1.57	3.79			N/A	N/A
4	1.93	0.03	0.29	1.93	7.46			N/A	N/A

5	1.08	0.03	0.27	1.08	2.17			N/A	N/A
---	------	------	------	------	------	--	--	-----	-----

17:45 - 18:00

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	1.47	0.06	0.90	3.31	4.71			N/A	N/A
2	41.73	18.37	39.11	63.18	71.42			N/A	N/A
3	1.04	0.11	0.99	1.63	1.93			N/A	N/A
4	1.15	0.07	0.87	2.27	3.05			N/A	N/A
5	0.68	0.18	0.92	1.38	1.44			N/A	N/A

18:00 - 18:15

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.92	0.04	0.40	2.18	3.62			N/A	N/A
2	2.09	0.03	0.28	2.09	5.89			N/A	N/A
3	0.64	0.05	0.48	1.46	1.50			N/A	N/A
4	0.68	0.04	0.40	1.47	2.23			N/A	N/A
5	0.47	0.04	0.40	1.24	1.37			N/A	N/A

2023, IP

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	Arm 1 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout		1, 2, 3, 4, 5	9.82	A

Junction Network

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold	Network delay (s)	Network LOS
Left	Normal/unknown	8	Arm 2	9.82	A

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D3	2023	IP	ONE HOUR	12:45	14:15	15	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
------------------------------	-------------------------------	--------------------	---------------------------

✓	✓	HV Percentages	2.00
---	---	----------------	------

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1		ONE HOUR	✓	725	100.000
2		ONE HOUR	✓	682	100.000
3		ONE HOUR	✓	334	100.000
4		ONE HOUR	✓	232	100.000
5		ONE HOUR	✓	399	100.000

Origin-Destination Data

Demand (PCU/hr)

		To				
		1	2	3	4	5
From	1	1	302	240	130	52
	2	247	2	42	107	284
	3	216	51	0	12	55
	4	125	89	11	0	7
	5	58	281	55	5	0

Vehicle Mix

Heavy Vehicle Percentages

		To				
		1	2	3	4	5
From	1	0	0	0	0	0
	2	0	0	0	0	0
	3	0	0	0	0	0
	4	0	0	0	0	0
	5	0	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max 95th percentile Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
1	0.45	3.65	0.8	2.3	A	665	998
2	0.81	19.54	3.9	20.2	C	626	939
3	0.43	7.47	0.8	3.2	A	306	460
4	0.47	12.43	0.9	3.8	B	213	319
5	0.37	4.85	0.6	2.8	A	366	549

Main Results for each time segment

12:45 - 13:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	546	136	370	1910	0.286	544	484	0.0	0.4	2.634	A
2	513	128	371	1027	0.500	510	544	0.0	1.0	6.909	A
3	251	63	619	1019	0.247	250	261	0.0	0.3	4.677	A
4	175	44	679	692	0.252	173	190	0.0	0.3	6.921	A
5	300	75	555	1348	0.223	299	298	0.0	0.3	3.431	A

13:00 - 13:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	652	163	443	1857	0.351	651	580	0.4	0.5	2.984	A
2	613	153	444	987	0.621	611	651	1.0	1.6	9.500	A
3	300	75	742	948	0.317	300	312	0.3	0.5	5.552	A
4	209	52	814	630	0.331	208	228	0.3	0.5	8.515	A
5	359	90	665	1278	0.281	358	357	0.3	0.4	3.914	A

13:15 - 13:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	798	200	542	1785	0.447	797	708	0.5	0.8	3.640	A
2	751	188	543	933	0.805	742	796	1.6	3.7	18.100	C
3	368	92	903	854	0.431	367	382	0.5	0.7	7.368	A
4	255	64	992	548	0.466	254	278	0.5	0.9	12.177	B
5	439	110	811	1185	0.371	439	434	0.4	0.6	4.820	A

13:30 - 13:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	798	200	544	1784	0.447	798	712	0.8	0.8	3.650	A
2	751	188	544	933	0.805	750	798	3.7	3.9	19.539	C
3	368	92	911	850	0.433	368	383	0.7	0.8	7.471	A
4	255	64	999	545	0.469	255	280	0.9	0.9	12.430	B
5	439	110	817	1181	0.372	439	438	0.6	0.6	4.850	A

13:45 - 14:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	652	163	446	1855	0.351	653	587	0.8	0.5	2.998	A
2	613	153	445	986	0.622	622	653	3.9	1.7	10.111	B
3	300	75	753	941	0.319	301	314	0.8	0.5	5.637	A
4	209	52	824	625	0.334	210	230	0.9	0.5	8.700	A
5	359	90	673	1273	0.282	359	362	0.6	0.4	3.946	A

14:00 - 14:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	546	136	373	1908	0.286	546	489	0.5	0.4	2.646	A

2	513	128	372	1026	0.501	516	547	1.7	1.0	7.099	A
3	251	63	626	1015	0.248	252	262	0.5	0.3	4.723	A
4	175	44	686	689	0.254	175	192	0.5	0.3	7.019	A
5	300	75	561	1344	0.224	301	301	0.4	0.3	3.454	A

Queue Variation Results for each time segment

12:45 - 13:00

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.40	0.00	0.00	0.40	0.40			N/A	N/A
2	0.99	0.55	1.00	1.40	1.45			N/A	N/A
3	0.33	0.00	0.00	0.33	0.33			N/A	N/A
4	0.33	0.00	0.00	0.33	0.33			N/A	N/A
5	0.29	0.00	0.00	0.29	0.29			N/A	N/A

13:00 - 13:15

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.54	0.06	0.69	1.34	1.42			N/A	N/A
2	1.60	0.06	0.84	3.80	5.55			N/A	N/A
3	0.46	0.00	0.00	0.46	0.46			N/A	N/A
4	0.49	0.00	0.00	0.49	0.49			N/A	N/A
5	0.39	0.00	0.00	0.39	0.39			N/A	N/A

13:15 - 13:30

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.80	0.03	0.25	0.80	0.80			N/A	N/A
2	3.75	0.03	0.34	7.66	20.17			N/A	N/A
3	0.75	0.03	0.26	0.75	0.75			N/A	N/A
4	0.85	0.03	0.26	0.85	0.85			N/A	N/A
5	0.58	0.03	0.25	0.58	0.58			N/A	N/A

13:30 - 13:45

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.81	0.03	0.28	0.81	2.29			N/A	N/A
2	3.92	0.03	0.30	3.92	16.01			N/A	N/A
3	0.76	0.03	0.29	1.12	3.19			N/A	N/A
4	0.87	0.03	0.29	1.27	3.77			N/A	N/A
5	0.59	0.03	0.30	1.37	2.77			N/A	N/A

13:45 - 14:00

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.54	0.54	1.00	1.40	1.45			N/A	N/A
2	1.69	0.05	0.47	4.45	7.10			N/A	N/A
3	0.47	0.00	0.00	0.47	0.47			N/A	N/A
4	0.51	0.05	0.48	1.29	1.40			N/A	N/A
5	0.39	0.00	0.00	0.39	0.39			N/A	N/A

14:00 - 14:15

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.40	0.00	0.00	0.40	0.40			N/A	N/A
2	1.02	0.03	0.34	2.44	4.87			N/A	N/A
3	0.33	0.00	0.00	0.33	0.33			N/A	N/A
4	0.34	0.03	0.29	0.69	1.10			N/A	N/A
5	0.29	0.00	0.00	0.29	0.29			N/A	N/A

2023, OP

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	Arm 1 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout		1, 2, 3, 4, 5	2.60	A

Junction Network

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold	Network delay (s)	Network LOS
Left	Normal/unknown	900		2.60	A

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D4	2023	OP	ONE HOUR	22:45	00:15	15	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1		ONE HOUR	✓	71	100.000
2		ONE HOUR	✓	66	100.000
3		ONE HOUR	✓	32	100.000
4		ONE HOUR	✓	23	100.000
5		ONE HOUR	✓	39	100.000

Origin-Destination Data

Demand (PCU/hr)

		To				
		1	2	3	4	5
From	1	0	30	23	13	5
	2	24	0	4	10	28
	3	21	5	0	1	5
	4	12	9	1	0	1
	5	6	27	5	1	0

Vehicle Mix

Heavy Vehicle Percentages

		To				
		1	2	3	4	5
From	1	0	0	0	0	0
	2	0	0	0	0	0
	3	0	0	0	0	0
	4	0	0	0	0	0
	5	0	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max 95th percentile Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
1	0.04	1.74	0.0	0.5	A	65	98
2	0.06	3.19	0.1	0.5	A	61	91
3	0.03	2.79	0.0	0.5	A	29	44
4	0.03	3.85	0.0	0.5	A	21	32
5	0.03	2.24	0.0	0.5	A	36	54

Main Results for each time segment

22:45 - 23:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	53	13	36	2152	0.025	53	47	0.0	0.0	1.714	A
2	50	12	36	1208	0.041	50	53	0.0	0.0	3.106	A
3	24	6	61	1342	0.018	24	25	0.0	0.0	2.730	A
4	17	4	66	974	0.018	17	19	0.0	0.0	3.761	A
5	29	7	54	1665	0.018	29	29	0.0	0.0	2.199	A

23:00 - 23:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	64	16	43	2147	0.030	64	57	0.0	0.0	1.727	A
2	59	15	43	1205	0.049	59	64	0.0	0.1	3.142	A
3	29	7	73	1335	0.022	29	30	0.0	0.0	2.754	A
4	21	5	79	968	0.021	21	22	0.0	0.0	3.798	A
5	35	9	65	1659	0.021	35	35	0.0	0.0	2.216	A

23:15 - 23:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	78	20	53	2140	0.037	78	69	0.0	0.0	1.745	A
2	73	18	53	1199	0.061	73	78	0.1	0.1	3.194	A
3	35	9	89	1326	0.027	35	36	0.0	0.0	2.788	A
4	25	6	97	960	0.026	25	28	0.0	0.0	3.851	A
5	43	11	79	1649	0.026	43	43	0.0	0.0	2.240	A

23:30 - 23:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	78	20	53	2140	0.037	78	69	0.0	0.0	1.745	A
2	73	18	53	1199	0.061	73	78	0.1	0.1	3.194	A
3	35	9	89	1326	0.027	35	36	0.0	0.0	2.788	A
4	25	6	97	960	0.026	25	28	0.0	0.0	3.851	A
5	43	11	79	1649	0.026	43	43	0.0	0.0	2.240	A

23:45 - 00:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	64	16	43	2147	0.030	64	57	0.0	0.0	1.727	A
2	59	15	43	1205	0.049	59	64	0.1	0.1	3.145	A
3	29	7	73	1335	0.022	29	30	0.0	0.0	2.757	A
4	21	5	79	968	0.021	21	22	0.0	0.0	3.801	A
5	35	9	65	1659	0.021	35	35	0.0	0.0	2.217	A

00:00 - 00:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	53	13	36	2152	0.025	53	47	0.0	0.0	1.714	A
2	50	12	36	1208	0.041	50	53	0.1	0.0	3.108	A
3	24	6	61	1342	0.018	24	25	0.0	0.0	2.730	A
4	17	4	66	974	0.018	17	19	0.0	0.0	3.761	A
5	29	7	54	1665	0.018	29	29	0.0	0.0	2.201	A

Queue Variation Results for each time segment

22:45 - 23:00

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.03	0.00	0.00	0.03	0.03			N/A	N/A
2	0.04	0.00	0.00	0.04	0.04			N/A	N/A

3	0.02	0.00	0.00	0.02	0.02			N/A	N/A
4	0.02	0.00	0.00	0.02	0.02			N/A	N/A
5	0.02	0.00	0.00	0.02	0.02			N/A	N/A

23:00 - 23:15

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.03	0.03	0.25	0.45	0.48			N/A	N/A
2	0.05	0.03	0.25	0.45	0.48			N/A	N/A
3	0.02	0.02	0.25	0.45	0.48			N/A	N/A
4	0.02	0.02	0.25	0.45	0.48			N/A	N/A
5	0.02	0.02	0.25	0.45	0.48			N/A	N/A

23:15 - 23:30

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.04	0.00	0.00	0.04	0.04			N/A	N/A
2	0.06	0.03	0.26	0.47	0.49			N/A	N/A
3	0.03	0.00	0.00	0.03	0.03			N/A	N/A
4	0.03	0.00	0.00	0.03	0.03			N/A	N/A
5	0.03	0.00	0.00	0.03	0.03			N/A	N/A

23:30 - 23:45

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.04	0.00	0.00	0.04	0.04			N/A	N/A
2	0.06	0.00	0.00	0.06	0.06			N/A	N/A
3	0.03	0.00	0.00	0.03	0.03			N/A	N/A
4	0.03	0.00	0.00	0.03	0.03			N/A	N/A
5	0.03	0.00	0.00	0.03	0.03			N/A	N/A

23:45 - 00:00

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.03	0.00	0.00	0.03	0.03			N/A	N/A
2	0.05	0.00	0.00	0.05	0.05			N/A	N/A
3	0.02	0.00	0.00	0.02	0.02			N/A	N/A
4	0.02	0.00	0.00	0.02	0.02			N/A	N/A
5	0.02	0.00	0.00	0.02	0.02			N/A	N/A

00:00 - 00:15

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.03	0.00	0.00	0.03	0.03			N/A	N/A
2	0.04	0.00	0.00	0.04	0.04			N/A	N/A
3	0.02	0.00	0.00	0.02	0.02			N/A	N/A
4	0.02	0.00	0.00	0.02	0.02			N/A	N/A
5	0.02	0.00	0.00	0.02	0.02			N/A	N/A

2037, AM

Data Errors and Warnings

Severity	Area	Item	Description
----------	------	------	-------------

Warning	Geometry	Arm 1 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout		1, 2, 3, 4, 5	112.92	F

Junction Network

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold	Network delay (s)	Network LOS
Left	Normal/unknown	-18	Arm 2	112.92	F

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D5	2037	AM	ONE HOUR	07:45	09:15	15	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1		ONE HOUR	✓	848	100.000
2		ONE HOUR	✓	981	100.000
3		ONE HOUR	✓	478	100.000
4		ONE HOUR	✓	381	100.000
5		ONE HOUR	✓	535	100.000

Origin-Destination Data

Demand (PCU/hr)

		To				
		1	2	3	4	5
From	1	0	428	203	145	72
	2	278	16	36	189	462
	3	309	54	0	8	107
	4	233	138	8	0	2
	5	75	373	84	3	0

Vehicle Mix

Heavy Vehicle Percentages

		To				
		1	2	3	4	5
From	1	0	0	0	0	0
	2	0	0	0	0	0
	3	0	0	0	0	0
	4	0	0	0	0	0
	5	0	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max 95th percentile Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
1	0.57	5.04	1.3	1.5	A	778	1167
2	1.17	293.60	89.1	143.4	F	900	1350
3	0.73	18.08	2.6	11.7	C	439	658
4	1.04	153.72	18.0	51.8	F	350	524
5	0.58	8.29	1.3	2.4	A	491	736

Main Results for each time segment

07:45 - 08:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	638	160	505	1812	0.352	636	666	0.0	0.5	3.056	A
2	739	185	386	1018	0.725	728	755	0.0	2.5	12.043	B
3	360	90	867	875	0.411	357	248	0.0	0.7	6.914	A
4	287	72	967	560	0.512	283	257	0.0	1.0	12.816	B
5	403	101	771	1210	0.333	401	479	0.0	0.5	4.436	A

08:00 - 08:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	762	191	604	1740	0.438	761	795	0.5	0.8	3.674	A
2	882	220	462	977	0.903	864	903	2.5	7.0	28.125	D
3	430	107	1030	781	0.550	428	296	0.7	1.2	10.139	B
4	343	86	1151	475	0.721	337	306	1.0	2.4	25.193	D
5	481	120	919	1116	0.431	480	569	0.5	0.7	5.647	A

08:15 - 08:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	934	233	725	1653	0.565	932	912	0.8	1.3	4.977	A
2	1080	270	565	921	1.172	913	1092	7.0	48.9	123.272	F

3	526	132	1121	728	0.723	521	357	1.2	2.4	17.015	C
4	419	105	1295	409	1.026	383	347	2.4	11.6	87.090	F
5	589	147	1050	1033	0.570	587	628	0.7	1.3	8.025	A

08:30 - 08:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	934	233	732	1648	0.567	934	924	1.3	1.3	5.038	A
2	1080	270	566	920	1.174	919	1099	48.9	89.1	276.138	F
3	526	132	1128	724	0.727	526	358	2.4	2.6	18.078	C
4	419	105	1305	404	1.038	394	349	11.6	18.0	153.715	F
5	589	147	1066	1023	0.576	589	632	1.3	1.3	8.291	A

08:45 - 09:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	762	191	632	1720	0.443	764	864	1.3	0.8	3.774	A
2	882	220	465	975	0.904	964	931	89.1	68.5	293.604	F
3	430	107	1127	724	0.593	434	302	2.6	1.5	12.580	B
4	343	86	1235	436	0.785	396	326	18.0	4.7	98.166	F
5	481	120	1012	1057	0.455	483	618	1.3	0.8	6.294	A

09:00 - 09:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	638	160	519	1802	0.354	639	756	0.8	0.6	3.100	A
2	739	185	389	1017	0.726	997	770	68.5	3.9	134.648	F
3	360	90	1126	725	0.497	362	259	1.5	1.0	9.977	A
4	287	72	1178	462	0.620	299	310	4.7	1.7	23.370	C
5	403	101	871	1147	0.351	404	606	0.8	0.5	4.854	A

Queue Variation Results for each time segment

07:45 - 08:00

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.54	0.54	1.00	1.40	1.45			N/A	N/A
2	2.51	0.13	1.24	5.42	7.22			N/A	N/A
3	0.69	0.55	1.00	1.40	1.45			N/A	N/A
4	1.02	0.19	1.02	1.41	1.74			N/A	N/A
5	0.50	0.00	0.00	0.50	0.50			N/A	N/A

08:00 - 08:15

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.77	0.08	0.79	1.41	1.41			N/A	N/A
2	7.03	0.16	3.27	17.70	24.60			N/A	N/A
3	1.20	0.08	0.95	2.26	2.98			N/A	N/A
4	2.36	0.07	1.16	5.86	8.51			N/A	N/A
5	0.75	0.09	0.83	1.41	1.48			N/A	N/A

08:15 - 08:30

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	1.28	0.03	0.26	1.28	1.28			N/A	N/A
2	48.89	20.37	45.61	75.63	85.99			N/A	N/A
3	2.45	0.03	0.31	3.00	11.70			N/A	N/A
4	11.59	0.83	7.99	25.24	32.50			N/A	N/A
5	1.30	0.03	0.26	1.30	1.30			N/A	N/A

08:30 - 08:45

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	1.30	0.03	0.27	1.30	1.30			N/A	N/A
2	89.12	45.46	85.25	128.81	143.36			N/A	N/A
3	2.56	0.03	0.28	2.56	8.53			N/A	N/A
4	18.05	1.17	12.50	40.07	51.76			N/A	N/A
5	1.34	0.03	0.27	1.34	2.44			N/A	N/A

08:45 - 09:00

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.80	0.40	0.97	1.40	1.45			N/A	N/A
2	68.49	36.94	65.78	96.54	106.72			N/A	N/A
3	1.51	0.06	0.89	3.46	4.91			N/A	N/A
4	4.68	0.06	0.93	13.31	21.55			N/A	N/A
5	0.85	0.18	0.94	1.43	1.49			N/A	N/A

09:00 - 09:15

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.55	0.06	0.60	1.32	1.41			N/A	N/A
2	3.86	0.03	0.32	6.47	20.04			N/A	N/A
3	1.01	0.05	0.45	2.36	3.64			N/A	N/A
4	1.73	0.03	0.31	2.93	8.87			N/A	N/A
5	0.55	0.05	0.49	1.31	1.42			N/A	N/A

2037, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	Arm 1 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout		1, 2, 3, 4, 5	83.52	F

Junction Network

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold	Network delay (s)	Network LOS
Left	Normal/unknown	-18	Arm 2	83.52	F

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D6	2037	PM	ONE HOUR	16:45	18:15	15	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1		ONE HOUR	✓	1154	100.000
2		ONE HOUR	✓	802	100.000
3		ONE HOUR	✓	424	100.000
4		ONE HOUR	✓	320	100.000
5		ONE HOUR	✓	553	100.000

Origin-Destination Data

Demand (PCU/hr)

		To				
		1	2	3	4	5
From	1	3	436	372	280	63
	2	161	3	56	169	413
	3	286	49	0	11	78
	4	173	135	8	0	4
	5	69	389	87	7	1

Vehicle Mix

Heavy Vehicle Percentages

		To				
		1	2	3	4	5
From	1	0	0	0	0	0
	2	0	0	0	0	0
	3	0	0	0	0	0
	4	0	0	0	0	0
	5	0	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max 95th percentile Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
1	0.78	9.79	3.4	12.5	A	1059	1588
2	1.20	304.84	80.1	128.4	F	736	1104
3	0.62	12.48	1.6	3.7	B	389	584
4	0.68	21.61	2.0	9.3	C	294	440
5	0.53	6.68	1.1	2.1	A	507	761

Main Results for each time segment

16:45 - 17:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	869	217	508	1810	0.480	865	516	0.0	0.9	3.797	A
2	604	151	615	894	0.676	596	758	0.0	2.0	11.788	B
3	319	80	820	903	0.354	317	392	0.0	0.5	6.127	A
4	241	60	788	642	0.375	239	349	0.0	0.6	8.871	A
5	416	104	610	1312	0.317	414	416	0.0	0.5	4.001	A

17:00 - 17:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	1037	259	609	1737	0.597	1035	617	0.9	1.5	5.112	A
2	721	180	737	828	0.871	707	907	2.0	5.5	27.095	D
3	381	95	975	812	0.469	380	468	0.5	0.9	8.300	A
4	288	72	939	573	0.502	286	416	0.6	1.0	12.497	B
5	497	124	730	1236	0.402	496	495	0.5	0.7	4.859	A

17:15 - 17:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	1271	318	743	1640	0.775	1263	727	1.5	3.3	9.388	A
2	883	221	899	740	1.194	731	1108	5.5	43.4	134.963	F
3	467	117	1068	759	0.615	464	563	0.9	1.5	12.111	B
4	352	88	1052	521	0.677	348	480	1.0	2.0	20.442	C
5	609	152	864	1152	0.529	607	536	0.7	1.1	6.591	A

17:30 - 17:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	1271	318	747	1637	0.776	1270	732	3.3	3.4	9.789	A
2	883	221	904	737	1.198	736	1113	43.4	80.1	304.843	F
3	467	117	1074	755	0.618	467	565	1.5	1.6	12.477	B
4	352	88	1058	518	0.680	352	483	2.0	2.0	21.608	C
5	609	152	870	1147	0.531	609	540	1.1	1.1	6.684	A

17:45 - 18:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	1037	259	614	1733	0.599	1045	644	3.4	1.5	5.286	A
2	721	180	743	824	0.875	814	916	80.1	56.8	301.167	F
3	381	95	1078	753	0.506	383	479	1.6	1.0	9.802	A
4	288	72	1020	535	0.537	291	441	2.0	1.2	14.940	B
5	497	124	760	1218	0.408	499	551	1.1	0.7	5.021	A

18:00 - 18:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	869	217	514	1806	0.481	871	567	1.5	0.9	3.861	A
2	604	151	620	891	0.677	821	765	56.8	2.4	105.387	F
3	319	80	1031	780	0.409	321	410	1.0	0.7	7.863	A
4	241	60	954	566	0.426	243	398	1.2	0.8	11.206	B
5	416	104	663	1279	0.326	417	533	0.7	0.5	4.182	A

Queue Variation Results for each time segment

16:45 - 17:00

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.92	0.55	1.00	1.40	1.45			N/A	N/A
2	2.00	0.10	1.33	4.35	5.89			N/A	N/A
3	0.54	0.54	1.00	1.40	1.45			N/A	N/A
4	0.59	0.55	1.00	1.40	1.45			N/A	N/A
5	0.46	0.00	0.00	0.46	0.46			N/A	N/A

17:00 - 17:15

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	1.46	0.05	0.47	3.74	5.87			N/A	N/A
2	5.47	0.10	1.94	14.36	20.65			N/A	N/A
3	0.87	0.10	0.90	1.08	1.58			N/A	N/A
4	0.98	0.10	0.95	1.54	1.86			N/A	N/A
5	0.67	0.09	0.82	1.37	1.44			N/A	N/A

17:15 - 17:30

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	3.29	0.03	0.29	3.29	12.46			N/A	N/A
2	43.38	17.97	40.40	67.10	76.33			N/A	N/A
3	1.55	0.03	0.27	1.55	3.43			N/A	N/A
4	1.96	0.03	0.30	2.35	9.27			N/A	N/A
5	1.11	0.03	0.26	1.11	1.11			N/A	N/A

17:30 - 17:45

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	3.38	0.03	0.27	3.38	4.78			N/A	N/A
2	80.10	41.07	76.62	115.45	128.42			N/A	N/A
3	1.59	0.03	0.28	1.59	3.67			N/A	N/A
4	2.05	0.03	0.29	2.05	7.99			N/A	N/A

5	1.12	0.03	0.27	1.12	2.08			N/A	N/A
---	------	------	------	------	------	--	--	-----	-----

17:45 - 18:00

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	1.51	0.06	0.86	3.52	5.00			N/A	N/A
2	56.78	29.98	54.35	80.55	89.23			N/A	N/A
3	1.05	0.10	0.98	1.69	1.98			N/A	N/A
4	1.20	0.06	0.81	2.55	3.56			N/A	N/A
5	0.70	0.18	0.92	1.38	1.44			N/A	N/A

18:00 - 18:15

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.93	0.04	0.39	2.28	3.83			N/A	N/A
2	2.41	0.03	0.28	2.41	7.72			N/A	N/A
3	0.70	0.05	0.56	1.05	1.64			N/A	N/A
4	0.76	0.04	0.41	1.68	2.60			N/A	N/A
5	0.49	0.04	0.43	1.26	1.38			N/A	N/A

2037, IP

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	Arm 1 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout		1, 2, 3, 4, 5	10.75	B

Junction Network

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold	Network delay (s)	Network LOS
Left	Normal/unknown	6	Arm 2	10.75	B

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D7	2037	IP	ONE HOUR	12:45	14:15	15	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
------------------------------	-------------------------------	--------------------	---------------------------

✓	✓	HV Percentages	2.00
---	---	----------------	------

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1		ONE HOUR	✓	739	100.000
2		ONE HOUR	✓	701	100.000
3		ONE HOUR	✓	336	100.000
4		ONE HOUR	✓	237	100.000
5		ONE HOUR	✓	408	100.000

Origin-Destination Data

Demand (PCU/hr)

		To				
		1	2	3	4	5
From	1	1	313	242	131	52
	2	256	2	43	109	291
	3	218	51	0	12	55
	4	127	92	11	0	7
	5	59	289	55	5	0

Vehicle Mix

Heavy Vehicle Percentages

		To				
		1	2	3	4	5
From	1	0	0	0	0	0
	2	0	0	0	0	0
	3	0	0	0	0	0
	4	0	0	0	0	0
	5	0	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max 95th percentile Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
1	0.46	3.74	0.8	2.1	A	678	1017
2	0.83	22.15	4.5	23.3	C	643	965
3	0.44	7.70	0.8	3.3	A	308	462
4	0.49	13.08	0.9	4.0	B	217	326
5	0.38	4.99	0.6	2.9	A	374	562

Main Results for each time segment

12:45 - 13:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	556	139	378	1904	0.292	555	494	0.0	0.4	2.664	A
2	528	132	373	1025	0.515	524	560	0.0	1.0	7.116	A
3	253	63	633	1010	0.250	252	263	0.0	0.3	4.737	A
4	178	45	692	686	0.260	177	192	0.0	0.3	7.056	A
5	307	77	567	1340	0.229	306	303	0.0	0.3	3.479	A

13:00 - 13:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	664	166	453	1850	0.359	664	592	0.4	0.6	3.033	A
2	630	158	446	986	0.639	627	671	1.0	1.7	9.974	A
3	302	76	759	938	0.322	302	315	0.3	0.5	5.653	A
4	213	53	830	623	0.342	212	230	0.3	0.5	8.759	A
5	367	92	679	1268	0.289	366	363	0.3	0.4	3.989	A

13:15 - 13:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	814	203	554	1777	0.458	813	722	0.6	0.8	3.729	A
2	772	193	546	931	0.829	762	821	1.7	4.3	20.084	C
3	370	92	923	843	0.439	369	385	0.5	0.8	7.574	A
4	261	65	1010	540	0.484	259	281	0.5	0.9	12.767	B
5	449	112	828	1174	0.383	448	441	0.4	0.6	4.958	A

13:30 - 13:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	814	203	556	1775	0.458	814	727	0.8	0.8	3.742	A
2	772	193	547	931	0.829	771	822	4.3	4.5	22.153	C
3	370	92	932	838	0.442	370	386	0.8	0.8	7.696	A
4	261	65	1019	536	0.487	261	283	0.9	0.9	13.084	B
5	449	112	834	1170	0.384	449	445	0.6	0.6	4.992	A

13:45 - 14:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	664	166	456	1848	0.359	665	600	0.8	0.6	3.048	A
2	630	158	448	985	0.640	641	673	4.5	1.8	10.778	B
3	302	76	772	930	0.325	303	317	0.8	0.5	5.755	A

4	213	53	842	617	0.345	215	233	0.9	0.5	8.982	A
5	367	92	688	1263	0.290	368	369	0.6	0.4	4.025	A

14:00 - 14:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	556	139	381	1902	0.292	557	500	0.6	0.4	2.678	A
2	528	132	375	1025	0.515	531	563	1.8	1.1	7.333	A
3	253	63	641	1006	0.251	254	265	0.5	0.3	4.788	A
4	178	45	700	682	0.261	179	194	0.5	0.4	7.162	A
5	307	77	573	1336	0.230	308	306	0.4	0.3	3.503	A

Queue Variation Results for each time segment

12:45 - 13:00

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.41	0.00	0.00	0.41	0.41			N/A	N/A
2	1.04	0.55	1.00	1.40	1.45			N/A	N/A
3	0.33	0.00	0.00	0.33	0.33			N/A	N/A
4	0.35	0.00	0.00	0.35	0.35			N/A	N/A
5	0.30	0.00	0.00	0.30	0.30			N/A	N/A

13:00 - 13:15

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.56	0.07	0.73	1.35	1.42			N/A	N/A
2	1.72	0.06	0.83	4.22	6.23			N/A	N/A
3	0.47	0.00	0.00	0.47	0.47			N/A	N/A
4	0.51	0.51	1.00	1.40	1.45			N/A	N/A
5	0.40	0.00	0.00	0.40	0.40			N/A	N/A

13:15 - 13:30

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.84	0.03	0.25	0.84	0.84			N/A	N/A
2	4.29	0.04	0.36	10.15	23.27			N/A	N/A
3	0.77	0.03	0.26	0.77	0.77			N/A	N/A
4	0.91	0.03	0.26	0.91	0.91			N/A	N/A
5	0.61	0.03	0.25	0.61	0.61			N/A	N/A

13:30 - 13:45

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.84	0.03	0.27	0.84	2.08			N/A	N/A
2	4.54	0.03	0.31	4.85	20.97			N/A	N/A
3	0.78	0.03	0.29	1.09	3.25			N/A	N/A
4	0.93	0.03	0.29	1.25	3.96			N/A	N/A

5	0.62	0.03	0.29	1.31	2.87			N/A	N/A
---	------	------	------	------	------	--	--	-----	-----

13:45 - 14:00

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.56	0.55	1.00	1.40	1.45			N/A	N/A
2	1.83	0.04	0.45	4.89	8.11			N/A	N/A
3	0.49	0.00	0.00	0.49	0.49			N/A	N/A
4	0.54	0.05	0.56	1.31	1.41			N/A	N/A
5	0.41	0.00	0.00	0.41	0.41			N/A	N/A

14:00 - 14:15

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.42	0.00	0.00	0.42	0.42			N/A	N/A
2	1.08	0.03	0.33	2.49	5.39			N/A	N/A
3	0.34	0.03	0.25	0.46	0.48			N/A	N/A
4	0.36	0.03	0.30	0.94	1.22			N/A	N/A
5	0.30	0.00	0.00	0.30	0.30			N/A	N/A

2037, OP

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	Arm 1 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout		1, 2, 3, 4, 5	2.60	A

Junction Network

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold	Network delay (s)	Network LOS
Left	Normal/unknown	900		2.60	A

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
----	---------------	------------------	----------------------	--------------------	---------------------	---------------------------	-------------------

D8	2037	OP	ONE HOUR	22:45	00:15	15	✓
----	------	----	----------	-------	-------	----	---

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1		ONE HOUR	✓	73	100.000
2		ONE HOUR	✓	68	100.000
3		ONE HOUR	✓	32	100.000
4		ONE HOUR	✓	23	100.000
5		ONE HOUR	✓	40	100.000

Origin-Destination Data

Demand (PCU/hr)

		To				
		1	2	3	4	5
From	1	0	31	24	13	5
	2	25	0	4	11	28
	3	21	5	0	1	5
	4	12	9	1	0	1
	5	6	28	5	1	0

Vehicle Mix

Heavy Vehicle Percentages

		To				
		1	2	3	4	5
From	1	0	0	0	0	0
	2	0	0	0	0	0
	3	0	0	0	0	0
	4	0	0	0	0	0
	5	0	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max 95th percentile Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
1	0.04	1.75	0.0	0.5	A	67	100
2	0.06	3.20	0.1	0.5	A	62	94
3	0.03	2.79	0.0	0.5	A	29	44
4	0.03	3.85	0.0	0.5	A	21	32

5	0.03	2.24	0.0	0.5	A	37	55
---	------	------	-----	-----	---	----	----

Main Results for each time segment

22:45 - 23:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	55	14	37	2151	0.026	55	48	0.0	0.0	1.716	A
2	51	13	37	1208	0.042	51	55	0.0	0.0	3.111	A
3	24	6	62	1341	0.018	24	26	0.0	0.0	2.732	A
4	17	4	67	974	0.018	17	20	0.0	0.0	3.762	A
5	30	8	55	1665	0.018	30	29	0.0	0.0	2.201	A

23:00 - 23:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	66	16	44	2146	0.031	66	58	0.0	0.0	1.729	A
2	61	15	44	1204	0.051	61	66	0.0	0.1	3.148	A
3	29	7	75	1334	0.022	29	31	0.0	0.0	2.756	A
4	21	5	80	968	0.021	21	23	0.0	0.0	3.800	A
5	36	9	66	1658	0.022	36	35	0.0	0.0	2.218	A

23:15 - 23:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	80	20	54	2139	0.038	80	70	0.0	0.0	1.747	A
2	75	19	54	1199	0.062	75	80	0.1	0.1	3.202	A
3	35	9	91	1325	0.027	35	37	0.0	0.0	2.791	A
4	25	6	98	959	0.026	25	29	0.0	0.0	3.853	A
5	44	11	80	1649	0.027	44	43	0.0	0.0	2.242	A

23:30 - 23:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	80	20	54	2139	0.038	80	70	0.0	0.0	1.747	A
2	75	19	54	1199	0.062	75	80	0.1	0.1	3.202	A
3	35	9	91	1325	0.027	35	37	0.0	0.0	2.791	A
4	25	6	98	959	0.026	25	29	0.0	0.0	3.853	A
5	44	11	80	1649	0.027	44	43	0.0	0.0	2.243	A

23:45 - 00:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
-----	-----------------------	-------------------------	---------------------------	-------------------	-----	---------------------	---------------------------------	-------------------	-----------------	-----------	-------------------------------

1	66	16	44	2146	0.031	66	58	0.0	0.0	1.732	A
2	61	15	44	1204	0.051	61	66	0.1	0.1	3.151	A
3	29	7	75	1334	0.022	29	31	0.0	0.0	2.759	A
4	21	5	80	968	0.021	21	23	0.0	0.0	3.800	A
5	36	9	66	1658	0.022	36	35	0.0	0.0	2.220	A

00:00 - 00:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	55	14	37	2151	0.026	55	48	0.0	0.0	1.719	A
2	51	13	37	1208	0.042	51	55	0.1	0.0	3.111	A
3	24	6	63	1341	0.018	24	26	0.0	0.0	2.734	A
4	17	4	67	974	0.018	17	20	0.0	0.0	3.763	A
5	30	8	55	1665	0.018	30	29	0.0	0.0	2.203	A

Queue Variation Results for each time segment

22:45 - 23:00

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.03	0.00	0.00	0.03	0.03			N/A	N/A
2	0.04	0.00	0.00	0.04	0.04			N/A	N/A
3	0.02	0.00	0.00	0.02	0.02			N/A	N/A
4	0.02	0.00	0.00	0.02	0.02			N/A	N/A
5	0.02	0.00	0.00	0.02	0.02			N/A	N/A

23:00 - 23:15

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.03	0.03	0.25	0.45	0.48			N/A	N/A
2	0.05	0.03	0.25	0.45	0.48			N/A	N/A
3	0.02	0.02	0.25	0.45	0.48			N/A	N/A
4	0.02	0.02	0.25	0.45	0.48			N/A	N/A
5	0.02	0.02	0.25	0.45	0.48			N/A	N/A

23:15 - 23:30

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.04	0.00	0.00	0.04	0.04			N/A	N/A
2	0.07	0.03	0.26	0.47	0.49			N/A	N/A
3	0.03	0.00	0.00	0.03	0.03			N/A	N/A
4	0.03	0.00	0.00	0.03	0.03			N/A	N/A
5	0.03	0.00	0.00	0.03	0.03			N/A	N/A

23:30 - 23:45

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.04	0.00	0.00	0.04	0.04			N/A	N/A

2	0.07	0.00	0.00	0.07	0.07			N/A	N/A
3	0.03	0.00	0.00	0.03	0.03			N/A	N/A
4	0.03	0.00	0.00	0.03	0.03			N/A	N/A
5	0.03	0.00	0.00	0.03	0.03			N/A	N/A

23:45 - 00:00

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.03	0.00	0.00	0.03	0.03			N/A	N/A
2	0.05	0.00	0.00	0.05	0.05			N/A	N/A
3	0.02	0.00	0.00	0.02	0.02			N/A	N/A
4	0.02	0.00	0.00	0.02	0.02			N/A	N/A
5	0.02	0.00	0.00	0.02	0.02			N/A	N/A

00:00 - 00:15

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.03	0.00	0.00	0.03	0.03			N/A	N/A
2	0.04	0.00	0.00	0.04	0.04			N/A	N/A
3	0.02	0.00	0.00	0.02	0.02			N/A	N/A
4	0.02	0.00	0.00	0.02	0.02			N/A	N/A
5	0.02	0.00	0.00	0.02	0.02			N/A	N/A

2037 final (incl rats), AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	Arm 1 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout		1, 2, 3, 4, 5	419.23	F

Junction Network

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold	Network delay (s)	Network LOS
Left	Normal/unknown	-32	Arm 2	419.23	F

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D9	2037 final (incl rats)	AM	ONE HOUR	07:45	09:15	15	✓

Default vehicle mix	Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	✓	HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1		ONE HOUR	✓	914	100.000
2		ONE HOUR	✓	1164	100.000
3		ONE HOUR	✓	766	100.000
4		ONE HOUR	✓	400	100.000
5		ONE HOUR	✓	577	100.000

Origin-Destination Data

Demand (PCU/hr)

		To				
		1	2	3	4	5
From	1	0	451	246	145	72
	2	357	16	129	192	470
	3	378	207	0	29	152
	4	233	139	26	0	2
	5	75	379	120	3	0

Vehicle Mix

Heavy Vehicle Percentages

		To				
		1	2	3	4	5
From	1	10	10	10	10	10
	2	10	10	10	10	10
	3	10	10	10	10	10
	4	10	10	10	10	10
	5	10	10	10	10	10

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max 95th percentile Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
1	0.66	7.75	2.1	3.0	A	839	1258
2	1.48	1014.81	276.5	276.5	F	1068	1602
3	1.07	160.54	39.4	91.4	F	703	1054

4	1.32	707.39	70.0	117.8	F	367	551
5	0.68	13.21	2.3	7.6	B	529	794

Main Results for each time segment

07:45 - 08:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	688	172	661	1699	0.405	685	767	0.0	0.7	3.895	A
2	876	219	458	979	0.895	848	888	0.0	7.1	26.203	D
3	577	144	919	845	0.682	568	387	0.0	2.3	13.868	B
4	301	75	1214	446	0.675	293	272	0.0	2.1	24.695	C
5	434	109	997	1067	0.407	431	510	0.0	0.7	6.201	A

08:00 - 08:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	822	205	782	1611	0.510	820	876	0.7	1.1	4.994	A
2	1046	262	547	931	1.124	917	1055	7.1	39.4	106.716	F
3	689	172	1013	790	0.871	674	452	2.3	5.9	30.715	D
4	360	90	1377	371	0.970	334	310	2.1	8.5	79.070	F
5	519	130	1141	975	0.532	517	570	0.7	1.2	8.599	A

08:15 - 08:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	1006	252	907	1521	0.662	1002	923	1.1	2.1	7.583	A
2	1282	320	664	867	1.478	867	1246	39.4	143.1	388.587	F
3	843	211	1012	791	1.066	769	519	5.9	24.5	87.447	F
4	440	110	1447	339	1.300	335	334	8.5	34.7	257.967	F
5	635	159	1199	939	0.677	631	583	1.2	2.2	12.717	B

08:30 - 08:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	1006	252	913	1517	0.664	1006	928	2.1	2.1	7.752	A
2	1282	320	667	866	1.480	866	1253	143.1	247.0	790.794	F
3	843	211	1012	791	1.066	784	520	24.5	39.4	160.536	F
4	440	110	1460	333	1.324	332	335	34.7	61.8	546.385	F
5	635	159	1206	934	0.680	635	586	2.2	2.3	13.214	B

08:45 - 09:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	822	205	808	1593	0.516	825	919	2.1	1.2	5.185	A
2	1046	262	551	929	1.127	929	1083	247.0	276.5	1014.815	F
3	689	172	1025	784	0.879	762	455	39.4	21.0	147.014	F
4	360	90	1471	328	1.098	327	316	61.8	70.0	707.387	F
5	519	130	1205	935	0.555	522	593	2.3	1.4	9.679	A

09:00 - 09:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	688	172	718	1658	0.415	690	886	1.2	0.8	4.097	A
2	876	219	466	975	0.899	971	941	276.5	252.8	981.287	F
3	577	144	1029	781	0.739	647	408	21.0	3.4	40.456	E
4	301	75	1380	370	0.815	364	296	70.0	54.3	617.110	F
5	434	109	1167	959	0.453	436	577	1.4	0.9	7.606	A

Queue Variation Results for each time segment

07:45 - 08:00

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.74	0.61	1.10	1.54	1.60			N/A	N/A
2	7.10	0.03	0.31	7.10	19.26			N/A	N/A
3	2.25	0.26	1.34	4.04	5.09			N/A	N/A
4	2.10	0.03	0.33	2.78	10.20			N/A	N/A
5	0.75	0.61	1.10	1.54	1.60			N/A	N/A

08:00 - 08:15

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	1.13	0.07	0.86	2.13	3.01			N/A	N/A
2	39.40	0.40	19.66	102.82	143.23			N/A	N/A
3	5.90	0.18	2.96	14.21	19.43			N/A	N/A
4	8.45	0.10	2.50	23.24	34.42			N/A	N/A
5	1.23	0.09	1.05	2.11	2.88			N/A	N/A

08:15 - 08:30

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	2.10	0.03	0.30	2.10	2.40			N/A	N/A
2	143.11	>199	>199	>199	>199			N/A	N/A
3	24.49	3.60	19.88	47.49	58.22			N/A	N/A
4	34.71	10.49	31.04	58.61	68.55			N/A	N/A
5	2.21	0.03	0.31	2.21	7.62			N/A	N/A

08:30 - 08:45

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	2.14	0.03	0.29	2.14	2.14			N/A	N/A
2	247.04	>199	>199	>199	>199			N/A	N/A
3	39.42	6.99	32.91	75.13	91.38			N/A	N/A
4	61.82	29.09	58.50	91.73	102.96			N/A	N/A
5	2.28	0.03	0.30	2.28	4.76			N/A	N/A

08:45 - 09:00

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	1.19	0.12	1.10	1.92	2.32			N/A	N/A
2	276.45	>199	>199	>199	>199			N/A	N/A
3	20.96	1.63	14.98	45.59	58.36			N/A	N/A
4	70.01	32.40	66.19	104.71	117.79			N/A	N/A
5	1.40	0.08	1.07	2.81	3.80			N/A	N/A

09:00 - 09:15

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.79	0.06	0.57	1.33	1.93			N/A	N/A
2	252.78	>199	>199	>199	>199			N/A	N/A
3	3.43	0.04	0.37	7.02	18.42			N/A	N/A
4	54.33	17.06	49.01	91.58	106.91			N/A	N/A
5	0.92	0.05	0.51	1.96	2.90			N/A	N/A

2037 final (incl rats), PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	Arm 1 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout		1, 2, 3, 4, 5	422.80	F

Junction Network

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold	Network delay (s)	Network LOS
Left	Normal/unknown	-35	Arm 2	422.80	F

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D10	2037 final (incl rats)	PM	ONE HOUR	16:45	18:15	15	✓

Default vehicle mix	Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	✓	HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1		ONE HOUR	✓	1283	100.000
2		ONE HOUR	✓	1054	100.000
3		ONE HOUR	✓	641	100.000
4		ONE HOUR	✓	343	100.000
5		ONE HOUR	✓	603	100.000

Origin-Destination Data

Demand (PCU/hr)

		To				
		1	2	3	4	5
From	1	2	495	437	285	64
	2	259	3	189	175	428
	3	339	155	0	30	117
	4	176	139	24	0	4
	5	71	400	124	7	1

Vehicle Mix

Heavy Vehicle Percentages

		To				
		1	2	3	4	5
From	1	10	10	10	10	10
	2	10	10	10	10	10
	3	10	10	10	10	10
	4	10	10	10	10	10
	5	10	10	10	10	10

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max 95th percentile Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
1	0.94	35.99	13.2	69.9	E	1177	1766
2	1.74	1491.04	349.0	349.0	F	967	1451

3	0.85	29.93	5.6	29.0	D	588	882
4	0.82	44.65	4.4	23.8	E	315	472
5	0.66	11.32	2.0	4.7	B	553	830

Main Results for each time segment

16:45 - 17:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	966	241	637	1717	0.563	960	623	0.0	1.4	5.195	A
2	794	198	706	844	0.940	756	890	0.0	9.4	36.082	E
3	483	121	889	862	0.560	477	573	0.0	1.4	10.146	B
4	258	65	1000	545	0.474	254	366	0.0	1.0	13.480	B
5	454	113	809	1186	0.383	451	446	0.0	0.7	5.367	A

17:00 - 17:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	1153	288	763	1626	0.709	1149	712	1.4	2.6	8.216	A
2	948	237	845	769	1.232	764	1066	9.4	55.4	172.041	F
3	576	144	948	828	0.696	572	661	1.4	2.4	15.223	C
4	308	77	1105	496	0.622	305	415	1.0	1.7	20.446	C
5	542	136	934	1107	0.490	541	476	0.7	1.0	6.978	A

17:15 - 17:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	1413	353	927	1506	0.938	1379	802	2.6	11.0	26.145	D
2	1160	290	1017	676	1.718	675	1289	55.4	176.7	632.038	F
3	706	176	940	833	0.848	695	752	2.4	5.2	26.705	D
4	378	94	1176	463	0.815	369	459	1.7	4.0	38.517	E
5	664	166	1070	1021	0.650	660	475	1.0	2.0	10.871	B

17:30 - 17:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	1413	353	936	1500	0.942	1404	809	11.0	13.2	35.995	E
2	1160	290	1034	667	1.741	667	1306	176.7	300.2	1295.629	F
3	706	176	940	833	0.847	704	760	5.2	5.6	29.933	D
4	378	94	1181	461	0.819	376	463	4.0	4.4	44.649	E
5	664	166	1082	1013	0.656	664	475	2.0	2.0	11.325	B

17:45 - 18:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	1153	288	777	1615	0.714	1195	725	13.2	2.8	10.312	B
2	948	237	876	752	1.259	752	1096	300.2	349.0	1491.037	F
3	576	144	952	826	0.698	588	676	5.6	2.7	17.341	C
4	308	77	1115	491	0.627	318	424	4.4	2.0	23.950	C
5	542	136	956	1093	0.496	546	477	2.0	1.1	7.289	A

18:00 - 18:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	966	241	646	1710	0.565	971	653	2.8	1.4	5.403	A
2	794	198	715	840	0.945	837	903	349.0	338.0	1477.099	F
3	483	121	959	822	0.587	487	593	2.7	1.6	11.971	B
4	258	65	1063	515	0.501	262	383	2.0	1.1	15.787	C
5	454	113	843	1164	0.390	456	481	1.1	0.7	5.600	A

Queue Variation Results for each time segment

16:45 - 17:00

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	1.40	0.58	1.31	1.87	2.08			N/A	N/A
2	9.40	0.03	0.29	9.40	9.40			N/A	N/A
3	1.36	0.61	1.10	1.54	1.60			N/A	N/A
4	0.96	0.61	1.10	1.54	1.60			N/A	N/A
5	0.68	0.61	1.10	1.54	1.60			N/A	N/A

17:00 - 17:15

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	2.61	0.05	0.50	7.19	12.07			N/A	N/A
2	55.39	>199	>199	>199	>199			N/A	N/A
3	2.39	0.09	1.38	5.60	7.90			N/A	N/A
4	1.71	0.11	1.31	3.30	4.40			N/A	N/A
5	1.04	0.09	0.95	1.75	2.14			N/A	N/A

17:15 - 17:30

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	11.04	0.08	1.60	32.11	51.33			N/A	N/A
2	176.67	>199	>199	>199	>199			N/A	N/A
3	5.17	0.05	0.46	14.07	27.34			N/A	N/A
4	3.97	0.05	0.48	11.09	20.07			N/A	N/A
5	1.98	0.03	0.30	1.98	4.67			N/A	N/A

17:30 - 17:45

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	13.25	0.05	0.55	37.66	69.90			N/A	N/A
2	300.16	>199	>199	>199	>199			N/A	N/A
3	5.55	0.04	0.36	9.46	28.99			N/A	N/A
4	4.39	0.04	0.38	9.66	23.81			N/A	N/A
5	2.05	0.03	0.30	2.05	4.11			N/A	N/A

17:45 - 18:00

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	2.84	0.04	0.44	7.69	14.31			N/A	N/A
2	348.95	>199	>199	>199	>199			N/A	N/A
3	2.68	0.05	0.48	7.36	12.76			N/A	N/A
4	1.96	0.05	0.47	5.28	9.04			N/A	N/A
5	1.10	0.09	0.97	1.90	2.41			N/A	N/A

18:00 - 18:15

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	1.45	0.03	0.33	1.82	6.88			N/A	N/A
2	338.03	>199	>199	>199	>199			N/A	N/A
3	1.61	0.04	0.38	3.92	8.22			N/A	N/A
4	1.14	0.04	0.37	2.61	5.65			N/A	N/A
5	0.71	0.05	0.48	1.25	1.93			N/A	N/A

2037 final (incl rats), IP

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	Arm 1 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout		1, 2, 3, 4, 5	35.09	E

Junction Network

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold	Network delay (s)	Network LOS
Left	Normal/unknown	-9	Arm 2	35.09	E

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D11	2037 final (incl rats)	IP	ONE HOUR	12:45	14:15	15	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1		ONE HOUR	✓	795	100.000
2		ONE HOUR	✓	820	100.000
3		ONE HOUR	✓	488	100.000
4		ONE HOUR	✓	250	100.000
5		ONE HOUR	✓	437	100.000

Origin-Destination Data

Demand (PCU/hr)

		To				
		1	2	3	4	5
From	1	1	334	277	131	52
	2	292	2	119	111	296
	3	254	130	0	24	80
	4	127	93	23	0	7
	5	59	293	79	5	1

Vehicle Mix

Heavy Vehicle Percentages

		To				
		1	2	3	4	5
From	1	0	0	0	0	0
	2	0	0	0	0	0
	3	0	0	0	0	0
	4	0	0	0	0	0
	5	0	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max 95th percentile Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
-----	---------	---------------	-----------------	---------------------------------	---------	-------------------------	-------------------------------

1	0.52	4.48	1.1	1.5	A	730	1094
2	1.02	98.25	25.1	77.3	F	752	1129
3	0.65	12.46	1.8	4.5	B	448	672
4	0.61	20.00	1.5	6.5	C	229	344
5	0.45	6.18	0.8	3.1	A	401	601

Main Results for each time segment

12:45 - 13:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	599	150	469	1839	0.326	597	547	0.0	0.5	2.895	A
2	617	154	427	996	0.620	611	638	0.0	1.6	9.203	A
3	367	92	665	992	0.370	365	373	0.0	0.6	5.721	A
4	188	47	827	624	0.302	187	203	0.0	0.4	8.199	A
5	329	82	688	1263	0.261	328	325	0.0	0.4	3.844	A

13:00 - 13:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	715	179	561	1771	0.403	714	655	0.5	0.7	3.403	A
2	737	184	511	951	0.776	731	764	1.6	3.2	15.908	C
3	439	110	795	917	0.479	437	446	0.6	0.9	7.493	A
4	225	56	990	549	0.409	224	243	0.4	0.7	11.033	B
5	393	98	825	1176	0.334	392	389	0.4	0.5	4.589	A

13:15 - 13:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	875	219	686	1681	0.521	874	784	0.7	1.1	4.448	A
2	903	226	625	889	1.016	848	934	3.2	16.9	56.548	F
3	537	134	934	836	0.642	534	539	0.9	1.7	11.778	B
4	275	69	1177	463	0.595	272	291	0.7	1.4	18.624	C
5	481	120	990	1071	0.449	480	460	0.5	0.8	6.076	A

13:30 - 13:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	875	219	689	1679	0.521	875	795	1.1	1.1	4.478	A
2	903	226	626	888	1.017	870	938	16.9	25.1	98.245	F
3	537	134	953	825	0.651	537	543	1.7	1.8	12.462	B
4	275	69	1196	454	0.606	275	294	1.4	1.5	20.004	C
5	481	120	1003	1063	0.453	481	468	0.8	0.8	6.184	A

13:45 - 14:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	715	179	566	1768	0.404	716	692	1.1	0.7	3.430	A
2	737	184	513	949	0.776	822	769	25.1	3.9	40.482	E
3	439	110	874	871	0.504	442	461	1.8	1.0	8.448	A
4	225	56	1060	517	0.435	228	256	1.5	0.8	12.567	B
5	393	98	864	1151	0.341	394	423	0.8	0.5	4.764	A

14:00 - 14:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	599	150	473	1835	0.326	599	557	0.7	0.5	2.915	A
2	617	154	429	995	0.620	626	643	3.9	1.7	9.982	A
3	367	92	678	984	0.373	369	377	1.0	0.6	5.870	A
4	188	47	842	617	0.305	190	205	0.8	0.4	8.450	A
5	329	82	700	1255	0.262	330	332	0.5	0.4	3.892	A

Queue Variation Results for each time segment

12:45 - 13:00

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.48	0.00	0.00	0.48	0.48			N/A	N/A
2	1.59	0.47	1.44	2.36	2.83			N/A	N/A
3	0.58	0.55	1.00	1.40	1.45			N/A	N/A
4	0.43	0.00	0.00	0.43	0.43			N/A	N/A
5	0.35	0.00	0.00	0.35	0.35			N/A	N/A

13:00 - 13:15

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.67	0.08	0.79	1.37	1.44			N/A	N/A
2	3.21	0.06	1.12	8.67	13.16			N/A	N/A
3	0.90	0.08	0.87	1.42	1.81			N/A	N/A
4	0.68	0.10	0.84	1.37	1.44			N/A	N/A
5	0.50	0.00	0.00	0.50	0.50			N/A	N/A

13:15 - 13:30

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	1.08	0.03	0.26	1.08	1.08			N/A	N/A
2	16.90	0.91	11.32	38.31	49.96			N/A	N/A
3	1.74	0.03	0.28	1.74	4.41			N/A	N/A
4	1.40	0.03	0.28	1.40	4.68			N/A	N/A
5	0.81	0.03	0.26	0.81	0.81			N/A	N/A

13:30 - 13:45

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	1.08	0.03	0.27	1.08	1.20			N/A	N/A
2	25.09	1.02	16.24	58.66	77.30			N/A	N/A
3	1.82	0.03	0.28	1.82	4.51			N/A	N/A
4	1.48	0.03	0.29	1.48	6.45			N/A	N/A
5	0.82	0.03	0.28	0.85	3.07			N/A	N/A

13:45 - 14:00

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.68	0.55	1.00	1.40	1.45			N/A	N/A
2	3.87	0.04	0.41	10.52	20.27			N/A	N/A
3	1.03	0.09	0.94	1.72	2.10			N/A	N/A
4	0.79	0.07	0.75	1.11	1.63			N/A	N/A
5	0.52	0.52	1.00	1.40	1.45			N/A	N/A

14:00 - 14:15

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.49	0.04	0.43	1.26	1.38			N/A	N/A
2	1.68	0.03	0.29	1.68	7.10			N/A	N/A
3	0.60	0.04	0.42	1.49	1.66			N/A	N/A
4	0.44	0.04	0.36	1.30	1.49			N/A	N/A
5	0.36	0.00	0.00	0.36	0.36			N/A	N/A

2037 final (incl rats), OP

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	Arm 1 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout		1, 2, 3, 4, 5	2.65	A

Junction Network

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold	Network delay (s)	Network LOS
Left	Normal/unknown	862	Arm 2	2.65	A

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D12	2037 final (incl rats)	OP	ONE HOUR	22:45	00:15	15	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1		ONE HOUR	✓	76	100.000
2		ONE HOUR	✓	77	100.000
3		ONE HOUR	✓	48	100.000
4		ONE HOUR	✓	24	100.000
5		ONE HOUR	✓	44	100.000

Origin-Destination Data

Demand (PCU/hr)

		To				
		1	2	3	4	5
From	1	0	31	27	13	5
	2	25	0	12	11	29
	3	25	13	0	2	8
	4	12	9	2	0	1
	5	6	29	8	1	0

Vehicle Mix

Heavy Vehicle Percentages

		To				
		1	2	3	4	5
From	1	0	0	0	0	0
	2	0	0	0	0	0
	3	0	0	0	0	0
	4	0	0	0	0	0
	5	0	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max 95th percentile Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
-----	---------	---------------	-----------------	---------------------------------	---------	-------------------------	-------------------------------

1	0.04	1.76	0.0	0.5	A	70	105
2	0.07	3.24	0.1	0.5	A	71	106
3	0.04	2.83	0.0	0.5	A	44	66
4	0.03	3.89	0.0	0.5	A	22	33
5	0.03	2.26	0.0	0.5	A	40	61

Main Results for each time segment

22:45 - 23:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	57	14	47	2144	0.027	57	51	0.0	0.0	1.723	A
2	58	14	42	1205	0.048	58	62	0.0	0.1	3.137	A
3	36	9	63	1341	0.027	36	37	0.0	0.0	2.758	A
4	18	5	79	968	0.019	18	20	0.0	0.0	3.787	A
5	33	8	65	1659	0.020	33	32	0.0	0.0	2.214	A

23:00 - 23:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	68	17	56	2138	0.032	68	61	0.0	0.0	1.738	A
2	69	17	50	1201	0.058	69	74	0.1	0.1	3.181	A
3	43	11	75	1334	0.032	43	44	0.0	0.0	2.788	A
4	22	5	94	961	0.022	22	24	0.0	0.0	3.830	A
5	40	10	77	1651	0.024	40	39	0.0	0.0	2.234	A

23:15 - 23:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	84	21	68	2129	0.039	84	75	0.0	0.0	1.759	A
2	85	21	62	1195	0.071	85	90	0.1	0.1	3.243	A
3	53	13	92	1324	0.040	53	54	0.0	0.0	2.831	A
4	26	7	116	951	0.028	26	30	0.0	0.0	3.891	A
5	48	12	95	1640	0.030	48	47	0.0	0.0	2.261	A

23:30 - 23:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	84	21	68	2129	0.039	84	75	0.0	0.0	1.759	A
2	85	21	62	1195	0.071	85	90	0.1	0.1	3.243	A
3	53	13	92	1324	0.040	53	54	0.0	0.0	2.831	A
4	26	7	116	951	0.028	26	30	0.0	0.0	3.891	A
5	48	12	95	1640	0.030	48	47	0.0	0.0	2.262	A

23:45 - 00:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	68	17	56	2138	0.032	68	61	0.0	0.0	1.741	A
2	69	17	50	1201	0.058	69	74	0.1	0.1	3.181	A
3	43	11	76	1334	0.032	43	44	0.0	0.0	2.791	A
4	22	5	94	961	0.022	22	24	0.0	0.0	3.833	A
5	40	10	77	1651	0.024	40	39	0.0	0.0	2.235	A

00:00 - 00:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	57	14	47	2144	0.027	57	51	0.0	0.0	1.726	A
2	58	14	42	1205	0.048	58	62	0.1	0.1	3.137	A
3	36	9	63	1341	0.027	36	37	0.0	0.0	2.760	A
4	18	5	79	968	0.019	18	20	0.0	0.0	3.788	A
5	33	8	65	1659	0.020	33	32	0.0	0.0	2.214	A

Queue Variation Results for each time segment

22:45 - 23:00

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.03	0.00	0.00	0.03	0.03			N/A	N/A
2	0.05	0.00	0.00	0.05	0.05			N/A	N/A
3	0.03	0.00	0.00	0.03	0.03			N/A	N/A
4	0.02	0.00	0.00	0.02	0.02			N/A	N/A
5	0.02	0.00	0.00	0.02	0.02			N/A	N/A

23:00 - 23:15

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.03	0.03	0.25	0.45	0.48			N/A	N/A
2	0.06	0.03	0.25	0.45	0.48			N/A	N/A
3	0.03	0.03	0.25	0.45	0.48			N/A	N/A
4	0.02	0.02	0.25	0.45	0.48			N/A	N/A
5	0.02	0.02	0.25	0.45	0.48			N/A	N/A

23:15 - 23:30

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.04	0.00	0.00	0.04	0.04			N/A	N/A
2	0.08	0.03	0.26	0.47	0.49			N/A	N/A
3	0.04	0.03	0.25	0.45	0.48			N/A	N/A
4	0.03	0.00	0.00	0.03	0.03			N/A	N/A
5	0.03	0.00	0.00	0.03	0.03			N/A	N/A

23:30 - 23:45

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.04	0.00	0.00	0.04	0.04			N/A	N/A
2	0.08	0.00	0.00	0.08	0.08			N/A	N/A
3	0.04	0.00	0.00	0.04	0.04			N/A	N/A
4	0.03	0.00	0.00	0.03	0.03			N/A	N/A
5	0.03	0.00	0.00	0.03	0.03			N/A	N/A

23:45 - 00:00

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.03	0.00	0.00	0.03	0.03			N/A	N/A
2	0.06	0.00	0.00	0.06	0.06			N/A	N/A
3	0.03	0.00	0.00	0.03	0.03			N/A	N/A
4	0.02	0.00	0.00	0.02	0.02			N/A	N/A
5	0.02	0.00	0.00	0.02	0.02			N/A	N/A

00:00 - 00:15

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.03	0.00	0.00	0.03	0.03			N/A	N/A
2	0.05	0.00	0.00	0.05	0.05			N/A	N/A
3	0.03	0.00	0.00	0.03	0.03			N/A	N/A
4	0.02	0.00	0.00	0.02	0.02			N/A	N/A
5	0.02	0.00	0.00	0.02	0.02			N/A	N/A

2037 TB DM, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	Arm 1 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout		1, 2, 3, 4, 5	142.32	F

Junction Network

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold	Network delay (s)	Network LOS
Left	Normal/unknown	-21	Arm 4	142.32	F

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D13	2037 TB DM	AM	ONE HOUR	07:45	09:15	15	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1		ONE HOUR	✓	851	100.000
2		ONE HOUR	✓	987	100.000
3		ONE HOUR	✓	604	100.000
4		ONE HOUR	✓	382	100.000
5		ONE HOUR	✓	537	100.000

Origin-Destination Data

Demand (PCU/hr)

		To				
		1	2	3	4	5
From	1	0	428	206	145	72
	2	278	16	42	189	462
	3	339	120	0	18	127
	4	233	138	9	0	2
	5	75	373	86	3	0

Vehicle Mix

Heavy Vehicle Percentages

		To				
		1	2	3	4	5
From	1	0	0	0	0	0
	2	0	0	0	0	0
	3	0	0	0	0	0
	4	0	0	0	0	0
	5	0	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max 95th percentile Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
-----	---------	---------------	-----------------	---------------------------------	---------	-------------------------	-------------------------------

1	0.58	5.37	1.4	1.6	A	781	1171
2	1.18	315.95	94.1	148.8	F	906	1359
3	0.91	46.92	8.1	42.9	E	554	831
4	1.20	336.93	39.3	71.9	F	351	526
5	0.60	9.07	1.5	2.4	A	493	739

Main Results for each time segment

07:45 - 08:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	641	160	556	1775	0.361	638	688	0.0	0.6	3.160	A
2	743	186	391	1016	0.731	733	804	0.0	2.6	12.305	B
3	455	114	867	875	0.520	450	257	0.0	1.1	8.394	A
4	288	72	1052	520	0.553	283	265	0.0	1.2	14.879	B
5	404	101	842	1165	0.347	402	493	0.0	0.5	4.707	A

08:00 - 08:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	765	191	664	1697	0.451	764	818	0.6	0.8	3.855	A
2	887	222	467	974	0.911	868	961	2.6	7.5	29.509	D
3	543	136	1028	781	0.695	539	307	1.1	2.2	14.556	B
4	343	86	1252	429	0.801	335	315	1.2	3.4	35.505	E
5	483	121	1001	1064	0.454	482	586	0.5	0.8	6.163	A

08:15 - 08:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	937	234	784	1610	0.582	935	914	0.8	1.4	5.313	A
2	1087	272	570	918	1.184	911	1148	7.5	51.5	129.420	F
3	665	166	1113	732	0.908	646	368	2.2	6.9	35.902	E
4	421	105	1404	359	1.172	349	356	3.4	21.3	151.890	F
5	591	148	1109	996	0.594	589	643	0.8	1.4	8.798	A

08:30 - 08:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	937	234	789	1607	0.583	937	924	1.4	1.4	5.374	A
2	1087	272	572	917	1.185	916	1154	51.5	94.1	291.284	F
3	665	166	1120	729	0.913	660	369	6.9	8.1	46.917	E
4	421	105	1422	350	1.200	349	358	21.3	39.3	325.880	F
5	591	148	1121	988	0.599	591	649	1.4	1.5	9.066	A

08:45 - 09:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	765	191	689	1679	0.456	767	883	1.4	0.8	3.958	A
2	887	222	471	972	0.912	962	985	94.1	75.4	315.945	F
3	543	136	1120	729	0.745	563	313	8.1	3.2	23.765	C
4	343	86	1348	384	0.893	375	334	39.3	31.4	336.927	F
5	483	121	1087	1010	0.478	485	636	1.5	0.9	6.887	A

09:00 - 09:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	641	160	611	1736	0.369	642	841	0.8	0.6	3.293	A
2	743	186	396	1013	0.733	1000	857	75.4	11.2	161.277	F
3	455	114	1123	727	0.626	460	272	3.2	1.7	13.805	B
4	288	72	1267	422	0.682	401	317	31.4	3.0	158.204	F
5	404	101	1047	1035	0.391	405	621	0.9	0.6	5.728	A

Queue Variation Results for each time segment

07:45 - 08:00

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.56	0.55	1.00	1.40	1.45			N/A	N/A
2	2.59	0.11	1.11	5.87	8.00			N/A	N/A
3	1.06	0.54	1.04	1.40	1.40			N/A	N/A
4	1.19	0.07	0.87	2.42	3.32			N/A	N/A
5	0.53	0.53	1.00	1.40	1.45			N/A	N/A

08:00 - 08:15

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.81	0.07	0.79	1.14	1.64			N/A	N/A
2	7.46	0.16	3.55	18.78	26.04			N/A	N/A
3	2.17	0.06	1.00	5.47	8.03			N/A	N/A
4	3.37	0.08	1.49	8.68	12.57			N/A	N/A
5	0.82	0.09	0.85	1.46	1.46			N/A	N/A

08:15 - 08:30

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	1.37	0.03	0.26	1.37	1.37			N/A	N/A
2	51.51	22.35	48.29	78.66	89.09			N/A	N/A
3	6.85	0.06	1.38	19.74	31.54			N/A	N/A
4	21.31	5.83	18.73	36.50	42.97			N/A	N/A
5	1.43	0.03	0.27	1.43	1.43			N/A	N/A

08:30 - 08:45

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	1.39	0.03	0.27	1.39	1.39			N/A	N/A
2	94.09	49.66	90.33	134.19	148.76			N/A	N/A
3	8.08	0.05	0.46	22.59	42.88			N/A	N/A
4	39.29	14.76	36.15	62.62	71.88			N/A	N/A
5	1.47	0.03	0.27	1.47	2.39			N/A	N/A

08:45 - 09:00

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.84	0.29	0.96	1.41	1.47			N/A	N/A
2	75.36	39.10	72.15	108.05	120.03			N/A	N/A
3	3.16	0.05	0.47	8.86	15.10			N/A	N/A
4	31.44	11.48	28.76	50.30	57.87			N/A	N/A
5	0.93	0.14	0.96	1.18	1.62			N/A	N/A

09:00 - 09:15

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.59	0.06	0.65	1.34	1.42			N/A	N/A
2	11.16	0.13	4.23	30.12	43.46			N/A	N/A
3	1.73	0.04	0.35	4.24	8.96			N/A	N/A
4	3.00	0.03	0.35	6.83	16.13			N/A	N/A
5	0.65	0.06	0.62	1.39	1.49			N/A	N/A

2037 TB DM, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	Arm 1 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout		1, 2, 3, 4, 5	165.08	F

Junction Network

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold	Network delay (s)	Network LOS
Left	Normal/unknown	-24	Arm 2	165.08	F

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D14	2037 TB DM	PM	ONE HOUR	16:45	18:15	15	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1		ONE HOUR	✓	1184	100.000
2		ONE HOUR	✓	870	100.000
3		ONE HOUR	✓	460	100.000
4		ONE HOUR	✓	329	100.000
5		ONE HOUR	✓	572	100.000

Origin-Destination Data

Demand (PCU/hr)

		To				
		1	2	3	4	5
From	1	3	436	402	280	63
	2	161	3	124	169	413
	3	294	67	0	14	85
	4	173	135	17	0	4
	5	69	389	106	7	1

Vehicle Mix

Heavy Vehicle Percentages

		To				
		1	2	3	4	5
From	1	0	0	0	0	0
	2	0	0	0	0	0
	3	0	0	0	0	0
	4	0	0	0	0	0
	5	0	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max 95th percentile Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
-----	---------	---------------	-----------------	---------------------------------	---------	-------------------------	-------------------------------

1	0.81	12.03	4.2	19.5	B	1086	1630
2	1.36	612.46	139.2	200.0	F	798	1197
3	0.63	12.14	1.7	4.0	B	422	633
4	0.68	21.28	2.1	9.6	C	302	453
5	0.56	7.13	1.2	1.9	A	525	787

Main Results for each time segment

16:45 - 17:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	891	223	543	1785	0.499	887	522	0.0	1.0	3.993	A
2	655	164	659	870	0.753	644	771	0.0	2.8	15.211	C
3	346	87	817	904	0.383	344	485	0.0	0.6	6.400	A
4	248	62	810	632	0.392	245	351	0.0	0.6	9.257	A
5	431	108	636	1296	0.332	429	420	0.0	0.5	4.140	A

17:00 - 17:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	1064	266	650	1707	0.623	1062	621	1.0	1.6	5.554	A
2	782	196	788	800	0.978	746	923	2.8	11.8	48.801	E
3	414	103	957	823	0.503	412	577	0.6	1.0	8.734	A
4	296	74	954	565	0.523	294	415	0.6	1.1	13.182	B
5	514	129	757	1219	0.422	513	491	0.5	0.7	5.094	A

17:15 - 17:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	1304	326	793	1603	0.813	1294	720	1.6	4.1	11.289	B
2	958	239	961	706	1.357	704	1126	11.8	75.3	235.924	F
3	506	127	990	803	0.630	504	674	1.0	1.6	11.906	B
4	362	91	1029	531	0.682	358	466	1.1	2.0	20.387	C
5	630	157	885	1138	0.554	628	502	0.7	1.2	7.028	A

17:30 - 17:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	1304	326	797	1601	0.814	1303	723	4.1	4.2	12.032	B
2	958	239	967	703	1.363	702	1133	75.3	139.2	534.044	F
3	506	127	992	803	0.631	506	678	1.6	1.7	12.137	B
4	362	91	1030	530	0.683	362	468	2.0	2.1	21.280	C
5	630	157	891	1134	0.555	630	502	1.2	1.2	7.131	A

17:45 - 18:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	1064	266	655	1703	0.625	1075	634	4.2	1.7	5.814	A
2	782	196	797	795	0.984	789	933	139.2	137.4	612.457	F
3	414	103	998	799	0.518	416	588	1.7	1.1	9.451	A
4	296	74	988	550	0.538	299	426	2.1	1.2	14.544	B
5	514	129	774	1209	0.425	516	513	1.2	0.7	5.212	A

18:00 - 18:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	891	223	548	1781	0.501	894	567	1.7	1.0	4.073	A
2	655	164	664	868	0.755	861	779	137.4	85.8	468.025	F
3	346	87	1006	795	0.436	348	519	1.1	0.8	8.075	A
4	248	62	959	563	0.440	249	395	1.2	0.8	11.521	B
5	431	108	684	1266	0.340	432	524	0.7	0.5	4.321	A

Queue Variation Results for each time segment

16:45 - 17:00

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.99	0.55	1.00	1.40	1.45			N/A	N/A
2	2.84	0.04	0.37	7.15	15.08			N/A	N/A
3	0.61	0.55	1.00	1.40	1.45			N/A	N/A
4	0.63	0.55	1.00	1.40	1.45			N/A	N/A
5	0.49	0.00	0.00	0.49	0.49			N/A	N/A

17:00 - 17:15

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	1.63	0.05	0.45	4.30	6.95			N/A	N/A
2	11.82	0.21	5.81	30.14	41.79			N/A	N/A
3	0.99	0.11	0.96	1.55	1.87			N/A	N/A
4	1.07	0.11	1.00	1.70	1.98			N/A	N/A
5	0.72	0.09	0.82	1.39	1.46			N/A	N/A

17:15 - 17:30

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	4.08	0.03	0.31	4.94	19.47			N/A	N/A
2	75.33	40.90	72.43	105.97	117.06			N/A	N/A
3	1.65	0.03	0.28	1.65	4.03			N/A	N/A
4	2.01	0.03	0.30	2.51	9.59			N/A	N/A
5	1.22	0.03	0.26	1.22	1.22			N/A	N/A

17:30 - 17:45

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	4.23	0.03	0.28	4.23	10.68			N/A	N/A
2	139.20	91.76	136.40	179.84	193.64			N/A	N/A
3	1.68	0.03	0.27	1.68	3.00			N/A	N/A
4	2.08	0.03	0.29	2.08	7.71			N/A	N/A
5	1.24	0.03	0.27	1.24	1.92			N/A	N/A

17:45 - 18:00

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	1.69	0.05	0.64	4.30	6.55			N/A	N/A
2	137.39	>199	>199	>199	>199			N/A	N/A
3	1.09	0.08	0.94	1.90	2.58			N/A	N/A
4	1.20	0.06	0.69	2.69	3.86			N/A	N/A
5	0.75	0.15	0.90	1.39	1.45			N/A	N/A

18:00 - 18:15

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	1.01	0.04	0.36	2.50	4.71			N/A	N/A
2	85.82	38.46	80.99	130.28	147.14			N/A	N/A
3	0.78	0.05	0.57	1.45	1.92			N/A	N/A
4	0.80	0.04	0.41	1.81	2.84			N/A	N/A
5	0.52	0.05	0.47	1.29	1.40			N/A	N/A

2037 TB DM, IP

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	Arm 1 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout		1, 2, 3, 4, 5	16.45	C

Junction Network

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold	Network delay (s)	Network LOS
Left	Normal/unknown	-1	Arm 2	16.45	C

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D15	2037 TB DM	IP	ONE HOUR	12:45	14:15	15	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1		ONE HOUR	✓	760	100.000
2		ONE HOUR	✓	750	100.000
3		ONE HOUR	✓	407	100.000
4		ONE HOUR	✓	244	100.000
5		ONE HOUR	✓	424	100.000

Origin-Destination Data

Demand (PCU/hr)

		To				
		1	2	3	4	5
From	1	1	313	263	131	52
	2	256	2	92	109	291
	3	235	88	0	17	67
	4	127	92	18	0	7
	5	59	289	71	5	0

Vehicle Mix

Heavy Vehicle Percentages

		To				
		1	2	3	4	5
From	1	0	0	0	0	0
	2	0	0	0	0	0
	3	0	0	0	0	0
	4	0	0	0	0	0
	5	0	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max 95th percentile Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
-----	---------	---------------	-----------------	---------------------------------	---------	-------------------------	-------------------------------

1	0.48	4.04	0.9	1.7	A	697	1046
2	0.91	39.55	8.5	46.0	E	688	1032
3	0.53	9.20	1.1	3.3	A	373	560
4	0.53	15.30	1.1	4.7	C	224	336
5	0.41	5.44	0.7	3.0	A	389	584

Main Results for each time segment

12:45 - 13:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	572	143	423	1872	0.306	570	507	0.0	0.4	2.763	A
2	565	141	406	1008	0.560	560	588	0.0	1.2	7.953	A
3	306	77	633	1011	0.303	305	333	0.0	0.4	5.086	A
4	184	46	741	663	0.277	182	196	0.0	0.4	7.459	A
5	319	80	612	1311	0.243	318	312	0.0	0.3	3.619	A

13:00 - 13:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	683	171	507	1811	0.377	683	607	0.4	0.6	3.189	A
2	674	169	486	964	0.699	670	704	1.2	2.2	12.089	B
3	366	91	758	938	0.390	365	398	0.4	0.6	6.271	A
4	219	55	888	596	0.368	219	235	0.4	0.6	9.520	A
5	381	95	734	1234	0.309	381	373	0.3	0.4	4.215	A

13:15 - 13:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	837	209	620	1729	0.484	835	737	0.6	0.9	4.023	A
2	826	206	595	905	0.912	805	861	2.2	7.4	31.049	D
3	448	112	914	848	0.529	446	486	0.6	1.1	8.925	A
4	269	67	1075	510	0.527	267	285	0.6	1.1	14.681	B
5	467	117	891	1134	0.412	466	451	0.4	0.7	5.380	A

13:30 - 13:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	837	209	622	1728	0.484	837	745	0.9	0.9	4.041	A
2	826	206	596	905	0.913	821	863	7.4	8.5	39.552	E
3	448	112	929	839	0.534	448	488	1.1	1.1	9.197	A
4	269	67	1089	503	0.534	268	288	1.1	1.1	15.299	C
5	467	117	900	1128	0.414	467	457	0.7	0.7	5.441	A

13:45 - 14:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	683	171	510	1809	0.378	685	620	0.9	0.6	3.205	A
2	674	169	487	963	0.700	698	707	8.5	2.4	14.711	B
3	366	91	783	924	0.396	368	403	1.1	0.7	6.495	A
4	219	55	911	585	0.375	221	239	1.1	0.6	9.948	A
5	381	95	748	1225	0.311	382	385	0.7	0.5	4.278	A

14:00 - 14:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	572	143	426	1869	0.306	573	513	0.6	0.4	2.779	A
2	565	141	408	1006	0.561	569	591	2.4	1.3	8.316	A
3	306	77	642	1006	0.305	307	335	0.7	0.4	5.163	A
4	184	46	751	659	0.279	185	198	0.6	0.4	7.604	A
5	319	80	620	1306	0.244	320	316	0.5	0.3	3.652	A

Queue Variation Results for each time segment

12:45 - 13:00

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.44	0.00	0.00	0.44	0.44			N/A	N/A
2	1.25	0.56	1.14	1.54	1.77			N/A	N/A
3	0.43	0.00	0.00	0.43	0.43			N/A	N/A
4	0.38	0.00	0.00	0.38	0.38			N/A	N/A
5	0.32	0.00	0.00	0.32	0.32			N/A	N/A

13:00 - 13:15

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.60	0.08	0.78	1.36	1.43			N/A	N/A
2	2.23	0.06	0.84	5.83	8.85			N/A	N/A
3	0.63	0.10	0.83	1.37	1.43			N/A	N/A
4	0.57	0.09	0.80	1.36	1.43			N/A	N/A
5	0.44	0.00	0.00	0.44	0.44			N/A	N/A

13:15 - 13:30

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.93	0.03	0.25	0.93	0.93			N/A	N/A
2	7.40	0.06	1.26	21.47	35.04			N/A	N/A
3	1.10	0.03	0.26	1.10	1.10			N/A	N/A
4	1.08	0.03	0.27	1.08	1.10			N/A	N/A
5	0.69	0.03	0.25	0.69	0.69			N/A	N/A

13:30 - 13:45

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.93	0.03	0.27	0.93	1.73			N/A	N/A
2	8.47	0.04	0.43	22.98	45.96			N/A	N/A
3	1.13	0.03	0.28	1.13	3.27			N/A	N/A
4	1.12	0.03	0.29	1.31	4.69			N/A	N/A
5	0.70	0.03	0.29	1.13	2.98			N/A	N/A

13:45 - 14:00

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.61	0.55	1.00	1.40	1.45			N/A	N/A
2	2.44	0.04	0.40	6.61	12.23			N/A	N/A
3	0.66	0.10	0.83	1.37	1.44			N/A	N/A
4	0.61	0.06	0.66	1.35	1.43			N/A	N/A
5	0.45	0.00	0.00	0.45	0.45			N/A	N/A

14:00 - 14:15

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.44	0.00	0.00	0.44	0.44			N/A	N/A
2	1.30	0.03	0.31	2.06	6.56			N/A	N/A
3	0.44	0.04	0.38	1.20	1.35			N/A	N/A
4	0.39	0.03	0.34	1.14	1.33			N/A	N/A
5	0.33	0.00	0.00	0.33	0.33			N/A	N/A

2037 TB DM, OP

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	Arm 1 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout		1, 2, 3, 4, 5	2.64	A

Junction Network

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold	Network delay (s)	Network LOS
Left	Normal/unknown	890	Arm 2	2.64	A

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D16	2037 TB DM	OP	ONE HOUR	22:45	00:15	15	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1		ONE HOUR	✓	76	100.000
2		ONE HOUR	✓	75	100.000
3		ONE HOUR	✓	48	100.000
4		ONE HOUR	✓	23	100.000
5		ONE HOUR	✓	42	100.000

Origin-Destination Data

Demand (PCU/hr)

		To				
		1	2	3	4	5
From	1	0	31	27	13	5
	2	25	0	11	11	28
	3	26	13	0	1	8
	4	12	9	1	0	1
	5	6	28	7	1	0

Vehicle Mix

Heavy Vehicle Percentages

		To				
		1	2	3	4	5
From	1	0	0	0	0	0
	2	0	0	0	0	0
	3	0	0	0	0	0
	4	0	0	0	0	0
	5	0	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max 95th percentile Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
-----	---------	---------------	-----------------	---------------------------------	---------	-------------------------	-------------------------------

1	0.04	1.76	0.0	0.5	A	70	105
2	0.07	3.23	0.1	0.5	A	69	103
3	0.04	2.83	0.0	0.5	A	44	66
4	0.03	3.89	0.0	0.5	A	21	32
5	0.03	2.26	0.0	0.5	A	39	58

Main Results for each time segment

22:45 - 23:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	57	14	44	2146	0.027	57	52	0.0	0.0	1.722	A
2	56	14	41	1206	0.047	56	61	0.0	0.0	3.131	A
3	36	9	62	1341	0.027	36	35	0.0	0.0	2.757	A
4	17	4	79	968	0.018	17	20	0.0	0.0	3.784	A
5	32	8	65	1659	0.019	32	32	0.0	0.0	2.212	A

23:00 - 23:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	68	17	53	2140	0.032	68	62	0.0	0.0	1.737	A
2	67	17	49	1202	0.056	67	73	0.0	0.1	3.173	A
3	43	11	75	1334	0.032	43	41	0.0	0.0	2.787	A
4	21	5	94	961	0.022	21	23	0.0	0.0	3.826	A
5	38	9	77	1651	0.023	38	38	0.0	0.0	2.231	A

23:15 - 23:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	84	21	65	2131	0.039	84	76	0.0	0.0	1.757	A
2	83	21	59	1196	0.069	83	89	0.1	0.1	3.233	A
3	53	13	91	1325	0.040	53	51	0.0	0.0	2.830	A
4	25	6	116	951	0.027	25	29	0.0	0.0	3.887	A
5	46	12	95	1640	0.028	46	46	0.0	0.0	2.258	A

23:30 - 23:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	84	21	65	2131	0.039	84	76	0.0	0.0	1.757	A
2	83	21	59	1196	0.069	83	89	0.1	0.1	3.233	A
3	53	13	91	1325	0.040	53	51	0.0	0.0	2.830	A
4	25	6	116	951	0.027	25	29	0.0	0.0	3.887	A
5	46	12	95	1640	0.028	46	46	0.0	0.0	2.258	A

23:45 - 00:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	68	17	53	2140	0.032	68	62	0.0	0.0	1.737	A
2	67	17	49	1202	0.056	67	73	0.1	0.1	3.173	A
3	43	11	75	1334	0.032	43	41	0.0	0.0	2.787	A
4	21	5	94	961	0.022	21	23	0.0	0.0	3.830	A
5	38	9	77	1651	0.023	38	38	0.0	0.0	2.233	A

00:00 - 00:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	57	14	44	2146	0.027	57	52	0.0	0.0	1.722	A
2	56	14	41	1206	0.047	57	61	0.1	0.0	3.131	A
3	36	9	63	1341	0.027	36	35	0.0	0.0	2.760	A
4	17	4	79	968	0.018	17	20	0.0	0.0	3.788	A
5	32	8	65	1659	0.019	32	32	0.0	0.0	2.212	A

Queue Variation Results for each time segment

22:45 - 23:00

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.03	0.00	0.00	0.03	0.03			N/A	N/A
2	0.05	0.00	0.00	0.05	0.05			N/A	N/A
3	0.03	0.00	0.00	0.03	0.03			N/A	N/A
4	0.02	0.00	0.00	0.02	0.02			N/A	N/A
5	0.02	0.00	0.00	0.02	0.02			N/A	N/A

23:00 - 23:15

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.03	0.03	0.25	0.45	0.48			N/A	N/A
2	0.06	0.03	0.25	0.45	0.48			N/A	N/A
3	0.03	0.03	0.25	0.45	0.48			N/A	N/A
4	0.02	0.02	0.25	0.45	0.48			N/A	N/A
5	0.02	0.02	0.25	0.45	0.48			N/A	N/A

23:15 - 23:30

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.04	0.00	0.00	0.04	0.04			N/A	N/A
2	0.07	0.03	0.26	0.47	0.49			N/A	N/A
3	0.04	0.03	0.25	0.45	0.48			N/A	N/A
4	0.03	0.00	0.00	0.03	0.03			N/A	N/A
5	0.03	0.00	0.00	0.03	0.03			N/A	N/A

23:30 - 23:45

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.04	0.00	0.00	0.04	0.04			N/A	N/A
2	0.07	0.00	0.00	0.07	0.07			N/A	N/A
3	0.04	0.00	0.00	0.04	0.04			N/A	N/A
4	0.03	0.00	0.00	0.03	0.03			N/A	N/A
5	0.03	0.00	0.00	0.03	0.03			N/A	N/A

23:45 - 00:00

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.03	0.00	0.00	0.03	0.03			N/A	N/A
2	0.06	0.00	0.00	0.06	0.06			N/A	N/A
3	0.03	0.00	0.00	0.03	0.03			N/A	N/A
4	0.02	0.00	0.00	0.02	0.02			N/A	N/A
5	0.02	0.00	0.00	0.02	0.02			N/A	N/A

00:00 - 00:15

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.03	0.00	0.00	0.03	0.03			N/A	N/A
2	0.05	0.00	0.00	0.05	0.05			N/A	N/A
3	0.03	0.00	0.00	0.03	0.03			N/A	N/A
4	0.02	0.00	0.00	0.02	0.02			N/A	N/A
5	0.02	0.00	0.00	0.02	0.02			N/A	N/A

Junctions 10

ARCADY 10 - Roundabout Module

Version: 10.0.4.1693

© Copyright TRL Software Limited, 2021

For sales and distribution information, program advice and maintenance, contact TRL Software:
+44 (0)1344 379777 software@trl.co.uk trlsoftware.com

The users of this computer program for the solution of an engineering problem are in no way relieved of their responsibility for the correctness of the solution

Filename: Import of Ollerton Rdbt rev impt2+xings rev 2023+2037 etc.j10

Path: L:\60625845_A614 MRN DfT responses\2023_Draft_FBC\Updated Ollerton Model

Report generation date: 07/03/2023 13:46:16

- »2023, AM
- »2023, PM
- »2023, IP
- »2023, OP
- »2037, AM
- »2037, PM
- »2037, IP
- »2037, OP
- »2037 final (incl rats), AM
- »2037 final (incl rats), PM
- »2037 final (incl rats), IP
- »2037 final (incl rats), OP
- »2023 TB incl station rats, AM
- »2023 TB incl station rats, PM
- »2023 TB incl station rats, IP
- »2023 TB incl station rats, OP
- »2037 TB, AM
- »2037 TB, PM
- »2037 TB, IP
- »2037 TB, OP

Summary of junction performance

AM						PM						IP						OP					
Set ID	Queue (PCU)	95% Queue (PCU)	Delay (s)	RFC	LOS	Junction Delay (s)	Network Residual Capacity	Set ID	Queue (PCU)	95% Queue (PCU)	Delay (s)	RFC	LOS	Junction Delay (s)	Network Residual Capacity	Set ID	Queue (PCU)	95% Queue (PCU)	Delay (s)	RFC	LOS	Junction Delay (s)	Network Residual Capacity

Ar m 5	1 . 5	3 . 5	8 . 8 7	0 . 5 9	A					1 . 2	2 . 7	6 . 7 5	0 . 5 3	A					0 . 5	2 . 5	4 . 0 7	0 . 3 5	A					0 . 0	0 . 5	1 . 9 3	0 . 0 3	A							
2023 TB incl station rats																																							
Ar m 1	1 . 0	1 . 5	4 . 0 4	0 . 5 0	A					2 . 4	4 . 2	6 . 8 9	0 . 7 1	A					0 . 7	2 . 6	3 . 2 4	0 . 4 2	A					0 . 0	0 . 5	1 . 6 7	0 . 0 4	A							
Ar m 2	3 . 4	3 . 5	1 . 0 3 3	0 . 7 8	B					5 . 1	2 . 6 5	1 . 6 1	0 . 8 4	C					0 . 9	1 . 6	4 . 4 5	0 . 4 9	A					0 . 0	0 . 5	2 . 0 2	0 . 0 4	A							
Ar m 3	D 1 3	0 . 8	3 . 2	5 . 0 3 4	A	6. 9 0	A	1 7 %	[Ar m 2]	D 1 4	0 . 7	3 . 1	5 . 1 4 8	0 . 0 0	A	9. 2 4	A	7 %	[Ar m 2]	D 1 5	0 . 3	1 . 3	3 . 1 2 5	0 . 2 5	A	3. 6 6	A	6 7 %	[Ar m 2]	D 1 6	0 . 0	0 . 5	1 . 8 9	0 . 0 2	A	1. 8 8	A	9 0 0 %	□
Ar m 4		0 . 7	3 . 3	6 . 0 5 4 3	A					0 . 5	2 . 1	5 . 2 3 3	0 . 3 3	A					0 . 3	0 . 9	3 . 5 8	0 . 2 0	A					0 . 0	0 . 5	2 . 0 9 1	0 . 0 1	A							
Ar m 5		0 . 9	2 . 9	5 . 0 8 1	A					0 . 9	2 . 7	5 . 4 2	0 . 4 8	A					0 . 4	1 . 6	3 . 4 8	0 . 3 0	A					0 . 0	0 . 5	1 . 9 1	0 . 0 2	A							
2037 TB																																							
Ar m 1	1 . 2	1 . 5	4 . 5 4	0 . 5 4	A					2 . 9	7 . 7	8 . 1 7	0 . 7 5	A					0 . 8	2 . 2	3 . 5 3	0 . 4 5	A					0 . 0	0 . 5	1 . 6 8	0 . 0 4	A							
Ar m 2	4 . 2	9 . 4	1 . 2 1 9	0 . 8 1	B					4 . 2	2 . 4	1 . 2 9	0 . 8 1	B					1 . 2	5 . 1	5 . 1 5	0 . 5 5	A					0 . 0	0 . 5	2 . 0 3 4	0 . 0 4	A							
Ar m 3	D 1 7	1 . 3	2 . 5	7 . 0 5 7	A	8. 1 8	A	1 3 %	[Ar m 2]	D 1 8	0 . 7	3 . 1	4 . 8 4 1	0 . 4 1	A	8. 6 5	A	1 0 %	[Ar m 2]	D 1 9	0 . 4	1 . 6	3 . 4 7 0	0 . 3 0	A	4. 0 5	A	5 2 %	[Ar m 2]	D 2 0	0 . 0	0 . 5	1 . 9 1 3	0 . 0 3	A	1. 9 0	A	9 0 0 %	□
Ar m 4		0 . 9	3 . 7	7 . 0 8 5 8	A					0 . 5	2 . 1	4 . 9 1 3	0 . 3 3	A					0 . 3	1 . 2	3 . 8 2 2	0 . 2 2	A					0 . 0	0 . 5	2 . 1 0 1	0 . 0 1	A							
Ar m 5		1 . 1	2 . 8	6 . 0 8 5 3	A					0 . 9	2 . 6	5 . 1 4 7	0 . 4 7	A					0 . 5	2 . 1	3 . 7 3	0 . 7 3	A					0 . 0	0 . 5	1 . 9 3	0 . 0 2	A							

There are warnings associated with one or more model runs - see the 'Data Errors and Warnings' tables for each Analysis or Demand Set.

Values shown are the highest values encountered over all time segments. Delay is the maximum value of average delay per arriving vehicle. Junction LOS and Junction Delay are demand-weighted averages. Network Residual Capacity indicates the amount by which network flow could be increased before a user-definable threshold (see Analysis Options) is met.

File summary

File Description

Title	Ollerton Roundabout - impt2+xings 2046+psd+tc2
Location	A614/ A616/ A6075 Ollerton
Site number	
Date	12/12/2017
Version	

Status	(new file)
Identifier	
Client	NCC
Jobnumber	
Enumerator	NCCADMIN\r18
Description	

Units

Distance units	Speed units	Traffic units input	Traffic units results	Flow units	Average delay units	Total delay units	Rate of delay units
m	kph	PCU	PCU	perHour	s	-Min	perMin



The junction diagram reflects the last run of Junctions.

Analysis Options

Vehicle length (m)	Calculate Queue Percentiles	Calculate detailed queueing delay	Show lane queues in feet / metres	Show all PICADY stream intercepts	Calculate residual capacity	Residual capacity criteria type	RFC Threshold	Average Delay threshold (s)	Queue threshold (PCU)	Use iterations with HCM roundabouts	Max number of iterations for roundabouts
5.75	✓				✓	Delay	0.85	36.00	20.00		500

Demand Set Summary

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D1	2023	AM	ONE HOUR	07:45	09:15	15	✓
D2	2023	PM	ONE HOUR	16:45	18:15	15	✓
D3	2023	IP	ONE HOUR	12:45	14:15	15	✓
D4	2023	OP	ONE HOUR	22:45	00:15	15	✓
D5	2037	AM	ONE HOUR	07:45	09:15	15	✓
D6	2037	PM	ONE HOUR	16:45	18:15	15	✓
D7	2037	IP	ONE HOUR	12:45	14:15	15	✓
D8	2037	OP	ONE HOUR	22:45	00:15	15	✓
D9	2037 final (incl rats)	AM	ONE HOUR	07:45	09:15	15	✓
D10	2037 final (incl rats)	PM	ONE HOUR	16:45	18:15	15	✓
D11	2037 final (incl rats)	IP	ONE HOUR	12:45	14:15	15	✓
D12	2037 final (incl rats)	OP	ONE HOUR	22:45	00:15	15	✓
D13	2023 TB incl station rats	AM	ONE HOUR	07:45	09:15	15	✓
D14	2023 TB incl station rats	PM	ONE HOUR	16:45	18:15	15	✓
D15	2023 TB incl station rats	IP	ONE HOUR	12:45	14:15	15	✓
D16	2023 TB incl station rats	OP	ONE HOUR	22:45	00:15	15	✓
D17	2037 TB	AM	ONE HOUR	07:45	09:15	15	✓
D18	2037 TB	PM	ONE HOUR	16:45	18:15	15	✓
D19	2037 TB	IP	ONE HOUR	12:45	14:15	15	✓
D20	2037 TB	OP	ONE HOUR	22:45	00:15	15	✓

Analysis Set Details

ID	Include in report	Network flow scaling factor (%)	Network capacity scaling factor (%)
A1	✓	100.000	100.000

2023, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	Arm 1 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	Arm 3 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	Arm 4 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Pedestrian Crossing	Arm 2 - Pedestrian crossing	Pedestrian crossing uses default flow of 0. Is this correct?
Warning	Pedestrian Crossing	Arm 3 - Pedestrian crossing	Pedestrian crossing uses default flow of 0. Is this correct?
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout		1, 2, 3, 4, 5	5.29	A

Junction Network

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold	Network delay (s)	Network LOS
Left	Normal/unknown	33	Arm 2	5.29	A

Arms

Arms

Arm	Name	Description	No give-way line
1	A616 Ollerton Rd		
2	A614S Old Rufford Road		
3	A6075 Mansfield Road		
4	A616 Worksop Road		
5	A614N Blyth Road		

Roundabout Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	I' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Entry only	Exit only
1	4.50	8.40	50.0	20.0	60.0	36.0		
2	4.60	8.60	15.0	12.5	60.0	44.0		
3	3.80	8.00	55.0	15.0	60.0	40.0		
4	3.30	8.90	40.0	7.5	60.0	56.0		
5	5.00	8.80	10.0	25.0	60.0	42.0		

Pelican/Puffin Crossings

Arm	Space between crossing and junc. entry (Signalised) (PCU)	Amber time preceding red (s)	Amber time regarded as green (s)	Time from traffic red start to green man start (s)	Time period green man shown (s)	Clearance Period (s)	Traffic minimum green (s)
2	4.00	3.00	2.90	3.00	6.00	9.00	7.00
3	4.00	3.00	2.90	3.00	6.00	9.00	7.00

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Arm	Final slope	Final intercept (PCU/hr)
1	0.649	2261
2	0.569	1888
3	0.607	2063
4	0.529	1799
5	0.595	1970

The slope and intercept shown above include any corrections and adjustments.

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
----	---------------	------------------	----------------------	--------------------	---------------------	---------------------------	-------------------

D1	2023	AM	ONE HOUR	07:45	09:15	15	✓
----	------	----	----------	-------	-------	----	---

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1		ONE HOUR	✓	817	100.000
2		ONE HOUR	✓	947	100.000
3		ONE HOUR	✓	475	100.000
4		ONE HOUR	✓	375	100.000
5		ONE HOUR	✓	524	100.000

Demand overview (Pedestrians)

Arm	Profile type	Average pedestrian flow (Ped/hr)
1		
2	[ONEHOUR]	0.00
3	[ONEHOUR]	0.00
4		
5		

Origin-Destination Data

Demand (PCU/hr)

		To				
		1	2	3	4	5
From	1	0	407	198	142	70
	2	267	15	35	183	447
	3	307	53	0	8	107
	4	231	134	8	0	2
	5	74	363	84	3	0

Vehicle Mix

Heavy Vehicle Percentages

		To				
		1	2	3	4	5
From	1	0	0	0	0	0
	2	0	0	0	0	0
	3	0	0	0	0	0
	4	0	0	0	0	0
	5	0	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max 95th percentile Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
1	0.50	4.04	1.0	1.5	A	750	1125
2	0.66	6.80	1.9	3.0	A	869	1303
3	0.40	4.57	0.7	3.0	A	436	654
4	0.39	5.55	0.6	3.0	A	344	516
5	0.44	4.95	0.8	2.9	A	481	721

Main Results for each time segment

07:45 - 08:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	615	154	495		1940	0.317	613	659	0.0	0.5	2.710	A
2	713	178	379	0.00	1672	0.426	710	729	0.0	0.7	3.730	A
3	358	89	845	0.00	1551	0.231	356	244	0.0	0.3	3.012	A
4	282	71	950		1296	0.218	281	252	0.0	0.3	3.543	A
5	394	99	761		1516	0.260	393	469	0.0	0.3	3.200	A

08:00 - 08:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	734	184	593		1877	0.391	734	789	0.5	0.6	3.148	A
2	851	213	454	0.00	1630	0.522	850	873	0.7	1.1	4.606	A
3	427	107	1012	0.00	1450	0.295	427	292	0.3	0.4	3.517	A
4	337	84	1137		1197	0.282	337	302	0.3	0.4	4.180	A
5	471	118	911		1427	0.330	471	562	0.3	0.5	3.761	A

08:15 - 08:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	900	225	725		1791	0.502	898	965	0.6	1.0	4.027	A
2	1043	261	555	0.00	1572	0.663	1039	1068	1.1	1.9	6.712	A
3	523	131	1237	0.00	1313	0.398	522	357	0.4	0.7	4.547	A

4	413	103	1390		1063	0.388	412	369	0.4	0.6	5.519	A
5	577	144	1115		1306	0.442	576	687	0.5	0.8	4.922	A

08:30 - 08:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	900	225	727		1790	0.503	900	968	1.0	1.0	4.044	A
2	1043	261	556	0.00	1572	0.663	1043	1070	1.9	1.9	6.801	A
3	523	131	1241	0.00	1311	0.399	523	358	0.7	0.7	4.570	A
4	413	103	1394		1061	0.389	413	370	0.6	0.6	5.551	A
5	577	144	1117		1304	0.442	577	689	0.8	0.8	4.948	A

08:45 - 09:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	734	184	595		1875	0.392	736	793	1.0	0.6	3.165	A
2	851	213	455	0.00	1629	0.523	855	876	1.9	1.1	4.669	A
3	427	107	1017	0.00	1446	0.295	428	293	0.7	0.4	3.539	A
4	337	84	1142		1195	0.282	338	303	0.6	0.4	4.206	A
5	471	118	915		1425	0.331	472	565	0.8	0.5	3.785	A

09:00 - 09:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	615	154	498		1938	0.317	616	663	0.6	0.5	2.725	A
2	713	178	381	0.00	1672	0.427	714	733	1.1	0.7	3.768	A
3	358	89	850	0.00	1548	0.231	358	245	0.4	0.3	3.027	A
4	282	71	955		1294	0.218	283	253	0.4	0.3	3.564	A
5	394	99	765		1514	0.261	395	472	0.5	0.4	3.218	A

Queue Variation Results for each time segment

07:45 - 08:00

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
-----	------------	-----------	-----------	-----------	-----------	--------------------	----------------	---	--

1	0.46	0.00	0.00	0.46	0.46			N/A	N/A
2	0.74	0.55	1.00	1.40	1.45			N/A	N/A
3	0.30	0.00	0.00	0.30	0.30			N/A	N/A
4	0.28	0.00	0.00	0.28	0.28			N/A	N/A
5	0.35	0.00	0.00	0.35	0.35			N/A	N/A

08:00 - 08:15

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.64	0.08	0.78	1.36	1.43			N/A	N/A
2	1.08	0.06	0.76	2.17	2.99			N/A	N/A
3	0.42	0.00	0.00	0.42	0.42			N/A	N/A
4	0.39	0.00	0.00	0.39	0.39			N/A	N/A
5	0.49	0.00	0.00	0.49	0.49			N/A	N/A

08:15 - 08:30

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	1.00	0.03	0.26	1.00	1.00			N/A	N/A
2	1.93	0.03	0.27	1.93	1.93			N/A	N/A
3	0.66	0.03	0.25	0.66	0.66			N/A	N/A
4	0.63	0.03	0.25	0.63	0.63			N/A	N/A
5	0.78	0.03	0.25	0.78	0.78			N/A	N/A

08:30 - 08:45

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	1.01	0.03	0.27	1.01	1.35			N/A	N/A
2	1.95	0.03	0.27	1.95	1.95			N/A	N/A
3	0.66	0.03	0.29	1.28	2.98			N/A	N/A
4	0.63	0.03	0.30	1.38	2.96			N/A	N/A
5	0.79	0.03	0.28	0.79	2.91			N/A	N/A

08:45 - 09:00

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.65	0.55	1.00	1.40	1.45			N/A	N/A
2	1.11	0.11	1.02	1.77	2.15			N/A	N/A
3	0.42	0.00	0.00	0.42	0.42			N/A	N/A
4	0.40	0.00	0.00	0.40	0.40			N/A	N/A
5	0.50	0.00	0.00	0.50	0.50			N/A	N/A

09:00 - 09:15

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.47	0.00	0.00	0.47	0.47			N/A	N/A
2	0.75	0.05	0.59	1.27	1.78			N/A	N/A
3	0.30	0.00	0.00	0.30	0.30			N/A	N/A
4	0.28	0.00	0.00	0.28	0.28			N/A	N/A
5	0.35	0.00	0.00	0.35	0.35			N/A	N/A

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	Arm 1 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	Arm 3 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	Arm 4 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Pedestrian Crossing	Arm 2 - Pedestrian crossing	Pedestrian crossing uses default flow of 0. Is this correct?
Warning	Pedestrian Crossing	Arm 3 - Pedestrian crossing	Pedestrian crossing uses default flow of 0. Is this correct?
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout		1, 2, 3, 4, 5	5.85	A

Junction Network

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold	Network delay (s)	Network LOS
Left	Normal/unknown	25	Arm 1	5.85	A

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D2	2023	PM	ONE HOUR	16:45	18:15	15	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1		ONE HOUR	✓	1145	100.000
2		ONE HOUR	✓	781	100.000
3		ONE HOUR	✓	423	100.000
4		ONE HOUR	✓	315	100.000
5		ONE HOUR	✓	546	100.000

Demand overview (Pedestrians)

Arm	Profile type	Average pedestrian flow (Ped/hr)
1		

1	862	216	503		1935	0.446	859	510	0.0	0.8	3.336	A
2	588	147	617	0.00	1537	0.383	586	744	0.0	0.6	3.775	A
3	318	80	810	0.00	1572	0.203	317	393	0.0	0.3	2.866	A
4	237	59	779		1386	0.171	236	348	0.0	0.2	3.129	A
5	411	103	603		1611	0.255	410	412	0.0	0.3	2.995	A

17:00 - 17:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	1029	257	602		1871	0.550	1028	611	0.8	1.2	4.261	A
2	702	176	739	0.00	1468	0.478	701	891	0.6	0.9	4.688	A
3	380	95	969	0.00	1475	0.258	380	470	0.3	0.3	3.286	A
4	283	71	933		1305	0.217	283	416	0.2	0.3	3.521	A
5	491	123	722		1540	0.319	490	494	0.3	0.5	3.428	A

17:15 - 17:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	1261	315	737		1783	0.707	1256	747	1.2	2.4	6.769	A
2	860	215	903	0.00	1374	0.626	857	1090	0.9	1.6	6.923	A
3	466	116	1185	0.00	1344	0.346	465	575	0.3	0.5	4.090	A
4	347	87	1141		1195	0.290	346	509	0.3	0.4	4.238	A
5	601	150	884		1444	0.416	600	604	0.5	0.7	4.264	A

17:30 - 17:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	1261	315	738		1782	0.707	1261	749	2.4	2.4	6.892	A
2	860	215	906	0.00	1372	0.627	860	1092	1.6	1.7	7.019	A
3	466	116	1189	0.00	1342	0.347	466	577	0.5	0.5	4.108	A
4	347	87	1144		1194	0.291	347	511	0.4	0.4	4.251	A
5	601	150	885		1443	0.417	601	606	0.7	0.7	4.277	A

17:45 - 18:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	1029	257	603		1870	0.551	1034	613	2.4	1.2	4.331	A
2	702	176	743	0.00	1465	0.479	705	894	1.7	0.9	4.752	A
3	380	95	975	0.00	1472	0.258	381	473	0.5	0.4	3.304	A
4	283	71	937		1303	0.217	284	419	0.4	0.3	3.535	A
5	491	123	724		1538	0.319	492	496	0.7	0.5	3.444	A

18:00 - 18:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	862	216	505		1933	0.446	864	513	1.2	0.8	3.372	A
2	588	147	621	0.00	1535	0.383	589	748	0.9	0.6	3.813	A
3	318	80	815	0.00	1569	0.203	319	395	0.4	0.3	2.879	A
4	237	59	784		1384	0.171	237	350	0.3	0.2	3.139	A
5	411	103	606		1609	0.256	412	415	0.5	0.3	3.009	A

Queue Variation Results for each time segment

16:45 - 17:00

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.80	0.55	1.00	1.40	1.45			N/A	N/A
2	0.62	0.55	1.00	1.40	1.45			N/A	N/A
3	0.25	0.00	0.00	0.25	0.25			N/A	N/A
4	0.21	0.00	0.00	0.21	0.21			N/A	N/A
5	0.34	0.00	0.00	0.34	0.34			N/A	N/A

17:00 - 17:15

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	1.21	0.05	0.55	2.83	4.21			N/A	N/A
2	0.91	0.07	0.80	1.58	1.95			N/A	N/A
3	0.35	0.00	0.00	0.35	0.35			N/A	N/A
4	0.28	0.00	0.00	0.28	0.28			N/A	N/A
5	0.47	0.00	0.00	0.47	0.47			N/A	N/A

17:15 - 17:30

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	2.35	0.03	0.27	2.35	3.29			N/A	N/A
2	1.64	0.03	0.27	1.64	1.64			N/A	N/A
3	0.53	0.03	0.25	0.53	0.53			N/A	N/A

4	0.41	0.03	0.25	0.46	0.48			N/A	N/A
5	0.71	0.03	0.25	0.71	0.71			N/A	N/A

17:30 - 17:45

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	2.38	0.03	0.27	2.38	2.38			N/A	N/A
2	1.66	0.03	0.27	1.66	1.66			N/A	N/A
3	0.53	0.03	0.31	1.46	2.43			N/A	N/A
4	0.41	0.03	0.33	1.32	1.45			N/A	N/A
5	0.71	0.03	0.28	0.95	2.86			N/A	N/A

17:45 - 18:00

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	1.24	0.10	1.05	2.18	2.87			N/A	N/A
2	0.93	0.13	0.95	1.24	1.66			N/A	N/A
3	0.35	0.00	0.00	0.35	0.35			N/A	N/A
4	0.28	0.00	0.00	0.28	0.28			N/A	N/A
5	0.47	0.00	0.00	0.47	0.47			N/A	N/A

18:00 - 18:15

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.81	0.05	0.49	1.64	2.31			N/A	N/A
2	0.63	0.05	0.53	1.07	1.07			N/A	N/A
3	0.26	0.00	0.00	0.26	0.26			N/A	N/A
4	0.21	0.00	0.00	0.21	0.21			N/A	N/A
5	0.34	0.00	0.00	0.34	0.34			N/A	N/A

2023, IP

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	Arm 1 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	Arm 3 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	Arm 4 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Pedestrian Crossing	Arm 2 - Pedestrian crossing	Pedestrian crossing uses default flow of 0. Is this correct?
Warning	Pedestrian Crossing	Arm 3 - Pedestrian crossing	Pedestrian crossing uses default flow of 0. Is this correct?
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout		1, 2, 3, 4, 5	3.61	A

Junction Network

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold	Network delay (s)	Network LOS
Left	Normal/unknown	70	Arm 2	3.61	A

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D3	2023	IP	ONE HOUR	12:45	14:15	15	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1		ONE HOUR	✓	725	100.000
2		ONE HOUR	✓	682	100.000
3		ONE HOUR	✓	334	100.000
4		ONE HOUR	✓	232	100.000
5		ONE HOUR	✓	399	100.000

Demand overview (Pedestrians)

Arm	Profile type	Average pedestrian flow (Ped/hr)
1		
2	[ONEHOUR]	0.00
3	[ONEHOUR]	0.00
4		
5		

Origin-Destination Data

Demand (PCU/hr)

		To				
		1	2	3	4	5
From	1	1	302	240	130	52
	2	247	2	42	107	284
	3	216	51	0	12	55
	4	125	89	11	0	7
	5	58	281	55	5	0

Vehicle Mix

Heavy Vehicle Percentages

		To				
		1	2	3	4	5
From	1	0	0	0	0	0
	2	0	0	0	0	0
	3	0	0	0	0	0
	4	0	0	0	0	0
	5	0	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max 95th percentile Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
1	0.42	3.24	0.7	2.6	A	665	998
2	0.48	4.35	0.9	1.8	A	626	939
3	0.24	3.15	0.3	1.3	A	306	460
4	0.20	3.55	0.3	0.8	A	213	319
5	0.30	3.45	0.4	1.6	A	366	549

Main Results for each time segment

12:45 - 13:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	546	136	371		2021	0.270	544	486	0.0	0.4	2.436	A
2	513	128	371	0.00	1677	0.306	512	544	0.0	0.4	3.085	A
3	251	63	621	0.00	1686	0.149	251	261	0.0	0.2	2.506	A
4	175	44	681		1438	0.121	174	191	0.0	0.1	2.846	A
5	300	75	557		1638	0.183	299	299	0.0	0.2	2.688	A

13:00 - 13:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	652	163	444		1973	0.330	651	581	0.4	0.5	2.723	A
2	613	153	444	0.00	1636	0.375	612	651	0.4	0.6	3.517	A
3	300	75	744	0.00	1612	0.186	300	313	0.2	0.2	2.743	A

4	209	52	816		1367	0.153	208	228	0.1	0.2	3.106	A
5	359	90	666		1573	0.228	358	357	0.2	0.3	2.964	A

13:15 - 13:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	798	200	543		1909	0.418	797	711	0.5	0.7	3.236	A
2	751	188	543	0.00	1579	0.476	750	797	0.6	0.9	4.335	A
3	368	92	910	0.00	1511	0.243	367	383	0.2	0.3	3.148	A
4	255	64	998		1271	0.201	255	279	0.2	0.3	3.545	A
5	439	110	816		1484	0.296	439	438	0.3	0.4	3.442	A

13:30 - 13:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	798	200	544		1908	0.418	798	712	0.7	0.7	3.242	A
2	751	188	544	0.00	1579	0.476	751	798	0.9	0.9	4.349	A
3	368	92	912	0.00	1510	0.244	368	383	0.3	0.3	3.150	A
4	255	64	1000		1270	0.201	255	280	0.3	0.3	3.547	A
5	439	110	817		1483	0.296	439	438	0.4	0.4	3.447	A

13:45 - 14:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	652	163	445		1973	0.330	653	583	0.7	0.5	2.730	A
2	613	153	445	0.00	1635	0.375	614	653	0.9	0.6	3.532	A
3	300	75	746	0.00	1611	0.186	301	313	0.3	0.2	2.747	A
4	209	52	818		1366	0.153	209	229	0.3	0.2	3.110	A
5	359	90	668		1572	0.228	359	358	0.4	0.3	2.968	A

14:00 - 14:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
-----	-----------------------	-------------------------	---------------------------	----------------------------	-------------------	-----	---------------------	---------------------------------	-------------------	-----------------	-----------	-------------------------------

1	546	136	372		2020	0.27 0	546	488	0.5	0.4	2.443	A
2	513	128	372	0.00	1676	0.30 6	514	546	0.6	0.4	3.098	A
3	251	63	624	0.00	1685	0.14 9	252	262	0.2	0.2	2.514	A
4	175	44	684		1437	0.12 2	175	191	0.2	0.1	2.852	A
5	300	75	559		1637	0.18 4	301	300	0.3	0.2	2.696	A

Queue Variation Results for each time segment

12:45 - 13:00

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.37	0.00	0.00	0.37	0.37			N/A	N/A
2	0.44	0.00	0.00	0.44	0.44			N/A	N/A
3	0.17	0.00	0.00	0.17	0.17			N/A	N/A
4	0.14	0.00	0.00	0.14	0.14			N/A	N/A
5	0.22	0.00	0.00	0.22	0.22			N/A	N/A

13:00 - 13:15

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.49	0.00	0.00	0.49	0.49			N/A	N/A
2	0.60	0.09	0.80	1.36	1.43			N/A	N/A
3	0.23	0.00	0.00	0.23	0.23			N/A	N/A
4	0.18	0.00	0.00	0.18	0.18			N/A	N/A
5	0.29	0.00	0.00	0.29	0.29			N/A	N/A

13:15 - 13:30

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.71	0.03	0.25	0.71	0.71			N/A	N/A
2	0.90	0.03	0.25	0.90	0.90			N/A	N/A
3	0.32	0.03	0.25	0.45	0.48			N/A	N/A
4	0.25	0.03	0.25	0.46	0.48			N/A	N/A
5	0.42	0.03	0.25	0.45	0.48			N/A	N/A

13:30 - 13:45

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.72	0.03	0.28	0.72	2.64			N/A	N/A
2	0.90	0.03	0.27	0.90	1.83			N/A	N/A
3	0.32	0.03	0.32	1.06	1.31			N/A	N/A
4	0.25	0.03	0.27	0.49	0.84			N/A	N/A
5	0.42	0.03	0.32	1.34	1.55			N/A	N/A

13:45 - 14:00

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.50	0.00	0.00	0.50	0.50			N/A	N/A
2	0.60	0.55	1.00	1.40	1.45			N/A	N/A
3	0.23	0.00	0.00	0.23	0.23			N/A	N/A
4	0.18	0.00	0.00	0.18	0.18			N/A	N/A

5	0.30	0.00	0.00	0.30	0.30			N/A	N/A
---	------	------	------	------	------	--	--	-----	-----

14:00 - 14:15

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.37	0.00	0.00	0.37	0.37			N/A	N/A
2	0.44	0.00	0.00	0.44	0.44			N/A	N/A
3	0.18	0.00	0.00	0.18	0.18			N/A	N/A
4	0.14	0.00	0.00	0.14	0.14			N/A	N/A
5	0.23	0.00	0.00	0.23	0.23			N/A	N/A

2023, OP

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	Arm 1 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	Arm 3 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	Arm 4 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Pedestrian Crossing	Arm 2 - Pedestrian crossing	Pedestrian crossing uses default flow of 0. Is this correct?
Warning	Pedestrian Crossing	Arm 3 - Pedestrian crossing	Pedestrian crossing uses default flow of 0. Is this correct?
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout		1, 2, 3, 4, 5	1.88	A

Junction Network

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold	Network delay (s)	Network LOS
Left	Normal/unknown	900		1.88	A

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D4	2023	OP	ONE HOUR	22:45	00:15	15	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1		ONE HOUR	✓	71	100.000
2		ONE HOUR	✓	66	100.000
3		ONE HOUR	✓	32	100.000
4		ONE HOUR	✓	23	100.000
5		ONE HOUR	✓	39	100.000

Demand overview (Pedestrians)

Arm	Profile type	Average pedestrian flow (Ped/hr)
1		
2	[ONEHOUR]	0.00
3	[ONEHOUR]	0.00
4		
5		

Origin-Destination Data

Demand (PCU/hr)

		To				
		1	2	3	4	5
From	1	0	30	23	13	5
	2	24	0	4	10	28
	3	21	5	0	1	5
	4	12	9	1	0	1
	5	6	27	5	1	0

Vehicle Mix

Heavy Vehicle Percentages

		To				
		1	2	3	4	5
From	1	0	0	0	0	0
	2	0	0	0	0	0
	3	0	0	0	0	0
	4	0	0	0	0	0
	5	0	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max 95th percentile Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
1	0.04	1.67	0.0	0.5	A	65	98

2	0.04	2.02	0.0	0.5	A	61	91
3	0.02	1.89	0.0	0.5	A	29	44
4	0.01	2.09	0.0	0.5	A	21	32
5	0.02	1.91	0.0	0.5	A	36	54

Main Results for each time segment

22:45 - 23:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	53	13	36		2238	0.024	53	47	0.0	0.0	1.647	A
2	50	12	36	0.00	1868	0.027	50	53	0.0	0.0	1.979	A
3	24	6	61	0.00	1934	0.012	24	25	0.0	0.0	1.884	A
4	17	4	66		1764	0.010	17	19	0.0	0.0	2.060	A
5	29	7	54		1938	0.015	29	29	0.0	0.0	1.885	A

23:00 - 23:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	64	16	43		2233	0.029	64	57	0.0	0.0	1.658	A
2	59	15	43	0.00	1864	0.032	59	64	0.0	0.0	1.994	A
3	29	7	73	0.00	1934	0.015	29	30	0.0	0.0	1.888	A
4	21	5	79		1757	0.012	21	22	0.0	0.0	2.073	A
5	35	9	65		1931	0.018	35	35	0.0	0.0	1.897	A

23:15 - 23:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	78	20	53		2227	0.035	78	69	0.0	0.0	1.674	A
2	73	18	53	0.00	1858	0.039	73	78	0.0	0.0	2.016	A
3	35	9	89	0.00	1934	0.018	35	36	0.0	0.0	1.895	A
4	25	6	97		1748	0.014	25	28	0.0	0.0	2.090	A
5	43	11	79		1923	0.022	43	43	0.0	0.0	1.914	A

23:30 - 23:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	78	20	53		2227	0.035	78	69	0.0	0.0	1.674	A
2	73	18	53	0.00	1858	0.039	73	78	0.0	0.0	2.016	A
3	35	9	89	0.00	1934	0.018	35	36	0.0	0.0	1.895	A
4	25	6	97		1748	0.014	25	28	0.0	0.0	2.090	A
5	43	11	79		1923	0.022	43	43	0.0	0.0	1.914	A

23:45 - 00:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	64	16	43		2233	0.029	64	57	0.0	0.0	1.661	A
2	59	15	43	0.00	1864	0.032	59	64	0.0	0.0	1.995	A
3	29	7	73	0.00	1934	0.015	29	30	0.0	0.0	1.888	A
4	21	5	79		1757	0.012	21	22	0.0	0.0	2.074	A
5	35	9	65		1931	0.018	35	35	0.0	0.0	1.900	A

00:00 - 00:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	53	13	36		2238	0.024	53	47	0.0	0.0	1.647	A
2	50	12	36	0.00	1868	0.027	50	53	0.0	0.0	1.980	A
3	24	6	61	0.00	1934	0.012	24	25	0.0	0.0	1.884	A
4	17	4	66		1764	0.010	17	19	0.0	0.0	2.062	A
5	29	7	54		1937	0.015	29	29	0.0	0.0	1.885	A

Queue Variation Results for each time segment

22:45 - 23:00

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.02	0.00	0.00	0.02	0.02			N/A	N/A
2	0.03	0.00	0.00	0.03	0.03			N/A	N/A
3	0.01	0.00	0.00	0.01	0.01			N/A	N/A
4	0.01	0.00	0.00	0.01	0.01			N/A	N/A
5	0.02	0.00	0.00	0.02	0.02			N/A	N/A

23:00 - 23:15

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.03	0.03	0.25	0.45	0.48			N/A	N/A
2	0.03	0.03	0.25	0.45	0.48			N/A	N/A
3	0.02	0.02	0.25	0.45	0.48			N/A	N/A
4	0.01	0.01	0.25	0.45	0.48			N/A	N/A
5	0.02	0.02	0.25	0.45	0.48			N/A	N/A

23:15 - 23:30

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.04	0.00	0.00	0.04	0.04			N/A	N/A
2	0.04	0.00	0.00	0.04	0.04			N/A	N/A
3	0.02	0.02	0.25	0.45	0.48			N/A	N/A
4	0.01	0.01	0.25	0.46	0.48			N/A	N/A
5	0.02	0.00	0.00	0.02	0.02			N/A	N/A

23:30 - 23:45

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.04	0.00	0.00	0.04	0.04			N/A	N/A
2	0.04	0.00	0.00	0.04	0.04			N/A	N/A
3	0.02	0.00	0.00	0.02	0.02			N/A	N/A
4	0.01	0.00	0.00	0.01	0.01			N/A	N/A
5	0.02	0.00	0.00	0.02	0.02			N/A	N/A

23:45 - 00:00

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.03	0.00	0.00	0.03	0.03			N/A	N/A
2	0.03	0.00	0.00	0.03	0.03			N/A	N/A
3	0.02	0.00	0.00	0.02	0.02			N/A	N/A
4	0.01	0.00	0.00	0.01	0.01			N/A	N/A
5	0.02	0.00	0.00	0.02	0.02			N/A	N/A

00:00 - 00:15

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.02	0.00	0.00	0.02	0.02			N/A	N/A
2	0.03	0.00	0.00	0.03	0.03			N/A	N/A
3	0.01	0.00	0.00	0.01	0.01			N/A	N/A
4	0.01	0.00	0.00	0.01	0.01			N/A	N/A
5	0.02	0.00	0.00	0.02	0.02			N/A	N/A

2037, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	Arm 1 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	Arm 3 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.

Warning	Geometry	Arm 4 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Pedestrian Crossing	Arm 2 - Pedestrian crossing	Pedestrian crossing uses default flow of 0. Is this correct?
Warning	Pedestrian Crossing	Arm 3 - Pedestrian crossing	Pedestrian crossing uses default flow of 0. Is this correct?
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout		1, 2, 3, 4, 5	5.61	A

Junction Network

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold	Network delay (s)	Network LOS
Left	Normal/unknown	29	Arm 2	5.61	A

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D5	2037	AM	ONE HOUR	07:45	09:15	15	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1		ONE HOUR	✓	848	100.000
2		ONE HOUR	✓	981	100.000
3		ONE HOUR	✓	478	100.000
4		ONE HOUR	✓	381	100.000
5		ONE HOUR	✓	535	100.000

Demand overview (Pedestrians)

Arm	Profile type	Average pedestrian flow (Ped/hr)
1		
2	[ONEHOUR]	0.00
3	[ONEHOUR]	0.00
4		
5		

Origin-Destination Data

Demand (PCU/hr)

		To				
		1	2	3	4	5
From	1	0	428	203	145	72
	2	278	16	36	189	462
	3	309	54	0	8	107
	4	233	138	8	0	2
	5	75	373	84	3	0

Vehicle Mix

Heavy Vehicle Percentages

		To				
		1	2	3	4	5
From	1	0	0	0	0	0
	2	0	0	0	0	0
	3	0	0	0	0	0
	4	0	0	0	0	0
	5	0	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max 95th percentile Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
1	0.53	4.26	1.1	1.5	A	778	1167
2	0.69	7.41	2.2	3.7	A	900	1350
3	0.41	4.74	0.7	3.0	A	439	658
4	0.40	5.78	0.7	3.1	A	350	524
5	0.46	5.13	0.8	2.8	A	491	736

Main Results for each time segment

07:45 - 08:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	638	160	507		1932	0.330	636	671	0.0	0.5	2.775	A
2	739	185	386	0.00	1668	0.443	735	757	0.0	0.8	3.846	A
3	360	90	874	0.00	1533	0.235	359	248	0.0	0.3	3.062	A
4	287	72	973		1284	0.223	286	259	0.0	0.3	3.604	A

5	403	101	777		1507	0.267	401	482	0.0	0.4	3.251	A
---	-----	-----	-----	--	------	-------	-----	-----	-----	-----	-------	---

08:00 - 08:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	762	191	607		1867	0.408	762	803	0.5	0.7	3.254	A
2	882	220	462	0.00	1625	0.543	880	906	0.8	1.2	4.825	A
3	430	107	1046	0.00	1429	0.301	429	297	0.3	0.4	3.599	A
4	343	86	1165		1182	0.290	342	310	0.3	0.4	4.283	A
5	481	120	930		1416	0.340	480	577	0.4	0.5	3.845	A

08:15 - 08:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	934	233	743		1779	0.525	932	983	0.7	1.1	4.242	A
2	1080	270	566	0.00	1566	0.690	1076	1109	1.2	2.2	7.288	A
3	526	132	1278	0.00	1288	0.409	525	364	0.4	0.7	4.716	A
4	419	105	1425		1045	0.401	418	379	0.4	0.7	5.737	A
5	589	147	1138		1292	0.456	588	706	0.5	0.8	5.100	A

08:30 - 08:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	934	233	744		1778	0.525	934	985	1.1	1.1	4.262	A
2	1080	270	567	0.00	1565	0.690	1080	1111	2.2	2.2	7.410	A
3	526	132	1283	0.00	1285	0.410	526	364	0.7	0.7	4.743	A
4	419	105	1429		1043	0.402	419	380	0.7	0.7	5.775	A
5	589	147	1141		1291	0.456	589	708	0.8	0.8	5.130	A

08:45 - 09:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	762	191	609		1866	0.409	764	807	1.1	0.7	3.274	A

2	882	220	464	0.00	1624	0.543	886	909	2.2	1.2	4.904	A
3	430	107	1052	0.00	1425	0.301	431	298	0.7	0.4	3.625	A
4	343	86	1171		1179	0.290	344	311	0.7	0.4	4.314	A
5	481	120	934		1413	0.340	482	580	0.8	0.5	3.870	A

09:00 - 09:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	638	160	510		1930	0.331	639	675	0.7	0.5	2.789	A
2	739	185	388	0.00	1667	0.443	740	761	1.2	0.8	3.889	A
3	360	90	879	0.00	1530	0.235	360	250	0.4	0.3	3.080	A
4	287	72	979		1281	0.224	287	260	0.4	0.3	3.627	A
5	403	101	781		1505	0.268	403	485	0.5	0.4	3.272	A

Queue Variation Results for each time segment

07:45 - 08:00

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.49	0.00	0.00	0.49	0.49			N/A	N/A
2	0.79	0.55	1.00	1.40	1.45			N/A	N/A
3	0.31	0.00	0.00	0.31	0.31			N/A	N/A
4	0.29	0.00	0.00	0.29	0.29			N/A	N/A
5	0.36	0.00	0.00	0.36	0.36			N/A	N/A

08:00 - 08:15

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.69	0.08	0.78	1.38	1.45			N/A	N/A
2	1.17	0.06	0.72	2.58	3.68			N/A	N/A
3	0.43	0.00	0.00	0.43	0.43			N/A	N/A
4	0.41	0.00	0.00	0.41	0.41			N/A	N/A
5	0.51	0.05	0.55	1.31	1.41			N/A	N/A

08:15 - 08:30

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	1.09	0.03	0.26	1.09	1.09			N/A	N/A
2	2.17	0.03	0.27	2.17	3.06			N/A	N/A
3	0.69	0.03	0.25	0.69	0.69			N/A	N/A
4	0.66	0.03	0.25	0.66	0.66			N/A	N/A
5	0.83	0.03	0.25	0.83	0.83			N/A	N/A

08:30 - 08:45

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	1.09	0.03	0.26	1.09	1.09			N/A	N/A
2	2.17	0.03	0.27	2.17	3.06			N/A	N/A
3	0.69	0.03	0.25	0.69	0.69			N/A	N/A
4	0.66	0.03	0.25	0.66	0.66			N/A	N/A
5	0.83	0.03	0.25	0.83	0.83			N/A	N/A

1	1.10	0.03	0.27	1.10	1.47			N/A	N/A
2	2.20	0.03	0.27	2.20	2.20			N/A	N/A
3	0.69	0.03	0.29	1.21	3.03			N/A	N/A
4	0.67	0.03	0.29	1.33	3.08			N/A	N/A
5	0.83	0.03	0.28	0.83	2.84			N/A	N/A

08:45 - 09:00

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.70	0.55	1.00	1.40	1.45			N/A	N/A
2	1.20	0.09	1.03	2.04	2.78			N/A	N/A
3	0.43	0.00	0.00	0.43	0.43			N/A	N/A
4	0.41	0.00	0.00	0.41	0.41			N/A	N/A
5	0.52	0.52	1.00	1.40	1.45			N/A	N/A

09:00 - 09:15

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.50	0.05	0.46	1.28	1.39			N/A	N/A
2	0.80	0.05	0.50	1.59	2.17			N/A	N/A
3	0.31	0.00	0.00	0.31	0.31			N/A	N/A
4	0.29	0.00	0.00	0.29	0.29			N/A	N/A
5	0.37	0.00	0.00	0.37	0.37			N/A	N/A

2037, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	Arm 1 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	Arm 3 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	Arm 4 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Pedestrian Crossing	Arm 2 - Pedestrian crossing	Pedestrian crossing uses default flow of 0. Is this correct?
Warning	Pedestrian Crossing	Arm 3 - Pedestrian crossing	Pedestrian crossing uses default flow of 0. Is this correct?
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout		1, 2, 3, 4, 5	6.04	A

Junction Network

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold	Network delay (s)	Network LOS
Left	Normal/unknown	24	Arm 1	6.04	A

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D6	2037	PM	ONE HOUR	16:45	18:15	15	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1		ONE HOUR	✓	1154	100.000
2		ONE HOUR	✓	802	100.000
3		ONE HOUR	✓	424	100.000
4		ONE HOUR	✓	320	100.000
5		ONE HOUR	✓	553	100.000

Demand overview (Pedestrians)

Arm	Profile type	Average pedestrian flow (Ped/hr)
1		
2	[ONEHOUR]	0.00
3	[ONEHOUR]	0.00
4		
5		

Origin-Destination Data

Demand (PCU/hr)

		To				
		1	2	3	4	5
From	1	3	436	372	280	63
	2	161	3	56	169	413
	3	286	49	0	11	78
	4	173	135	8	0	4
	5	69	389	87	7	1

Vehicle Mix

Heavy Vehicle Percentages

		To				
		1	2	3	4	5
From	1	0	0	0	0	0
	2	0	0	0	0	0
	3	0	0	0	0	0
	4	0	0	0	0	0
	5	0	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max 95th percentile Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
1	0.72	7.12	2.5	4.4	A	1059	1588
2	0.64	7.33	1.8	2.3	A	736	1104
3	0.35	4.18	0.5	2.5	A	389	584
4	0.30	4.33	0.4	1.6	A	294	440
5	0.42	4.36	0.7	2.8	A	507	761

Main Results for each time segment

16:45 - 17:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	869	217	509		1931	0.450	866	519	0.0	0.8	3.371	A
2	604	151	616	0.00	1538	0.393	601	759	0.0	0.6	3.835	A
3	319	80	825	0.00	1563	0.204	318	392	0.0	0.3	2.889	A
4	241	60	793		1379	0.175	240	350	0.0	0.2	3.159	A
5	416	104	614		1604	0.260	415	419	0.0	0.3	3.024	A

17:00 - 17:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	1037	259	610		1865	0.556	1036	621	0.8	1.2	4.330	A
2	721	180	737	0.00	1469	0.491	720	909	0.6	1.0	4.798	A
3	381	95	987	0.00	1464	0.260	381	469	0.3	0.4	3.322	A

4	288	72	949		1297	0.22 2	287	419	0.2	0.3	3.566	A
5	497	124	735		1532	0.32 4	497	502	0.3	0.5	3.473	A

17:15 - 17:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	1271	318	746		1777	0.71 5	1266	760	1.2	2.4	6.979	A
2	883	221	901	0.00	1375	0.64 2	880	1111	1.0	1.8	7.217	A
3	467	117	1207	0.00	1331	0.35 1	466	574	0.4	0.5	4.157	A
4	352	88	1160		1185	0.29 7	352	512	0.3	0.4	4.319	A
5	609	152	899		1435	0.42 4	608	613	0.5	0.7	4.349	A

17:30 - 17:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	1271	318	748		1776	0.71 5	1270	762	2.4	2.5	7.115	A
2	883	221	904	0.00	1374	0.64 3	883	1114	1.8	1.8	7.332	A
3	467	117	1211	0.00	1329	0.35 1	467	576	0.5	0.5	4.177	A
4	352	88	1164		1183	0.29 8	352	514	0.4	0.4	4.333	A
5	609	152	901		1434	0.42 5	609	615	0.7	0.7	4.365	A

17:45 - 18:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	1037	259	612		1864	0.55 6	1042	624	2.5	1.3	4.404	A
2	721	180	741	0.00	1466	0.49 2	724	913	1.8	1.0	4.873	A
3	381	95	993	0.00	1461	0.26 1	382	472	0.5	0.4	3.341	A
4	288	72	954		1294	0.22 2	288	422	0.4	0.3	3.582	A
5	497	124	737		1531	0.32 5	498	505	0.7	0.5	3.488	A

18:00 - 18:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
-----	-----------------------	-------------------------	---------------------------	----------------------------	-------------------	-----	---------------------	---------------------------------	-------------------	-----------------	-----------	-------------------------------

1	869	217	512		1929	0.45 0	871	522	1.3	0.8	3.406	A
2	604	151	619	0.00	1536	0.39 3	605	763	1.0	0.7	3.875	A
3	319	80	830	0.00	1560	0.20 5	320	394	0.4	0.3	2.903	A
4	241	60	797		1377	0.17 5	241	352	0.3	0.2	3.172	A
5	416	104	617		1603	0.26 0	417	422	0.5	0.4	3.036	A

Queue Variation Results for each time segment

16:45 - 17:00

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.81	0.55	1.00	1.40	1.45			N/A	N/A
2	0.64	0.55	1.00	1.40	1.45			N/A	N/A
3	0.26	0.00	0.00	0.26	0.26			N/A	N/A
4	0.21	0.00	0.00	0.21	0.21			N/A	N/A
5	0.35	0.00	0.00	0.35	0.35			N/A	N/A

17:00 - 17:15

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	1.24	0.05	0.52	2.92	4.43			N/A	N/A
2	0.95	0.07	0.79	1.74	2.31			N/A	N/A
3	0.35	0.00	0.00	0.35	0.35			N/A	N/A
4	0.28	0.00	0.00	0.28	0.28			N/A	N/A
5	0.48	0.00	0.00	0.48	0.48			N/A	N/A

17:15 - 17:30

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	2.44	0.03	0.27	2.44	3.98			N/A	N/A
2	1.75	0.03	0.27	1.75	1.75			N/A	N/A
3	0.54	0.03	0.25	0.54	0.54			N/A	N/A
4	0.42	0.03	0.25	0.46	0.48			N/A	N/A
5	0.73	0.03	0.25	0.73	0.73			N/A	N/A

17:30 - 17:45

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	2.48	0.03	0.27	2.48	2.48			N/A	N/A
2	1.78	0.03	0.27	1.78	1.78			N/A	N/A
3	0.54	0.03	0.31	1.46	2.49			N/A	N/A
4	0.42	0.03	0.32	1.35	1.58			N/A	N/A
5	0.74	0.03	0.28	0.86	2.83			N/A	N/A

17:45 - 18:00

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	1.27	0.09	1.04	2.35	3.02			N/A	N/A
2	0.98	0.11	0.96	1.48	1.82			N/A	N/A
3	0.35	0.00	0.00	0.35	0.35			N/A	N/A
4	0.29	0.00	0.00	0.29	0.29			N/A	N/A

5	0.48	0.00	0.00	0.48	0.48			N/A	N/A
---	------	------	------	------	------	--	--	-----	-----

18:00 - 18:15

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.82	0.05	0.48	1.72	2.50			N/A	N/A
2	0.65	0.05	0.51	1.43	1.43			N/A	N/A
3	0.26	0.00	0.00	0.26	0.26			N/A	N/A
4	0.21	0.00	0.00	0.21	0.21			N/A	N/A
5	0.35	0.00	0.00	0.35	0.35			N/A	N/A

2037, IP

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	Arm 1 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	Arm 3 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	Arm 4 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Pedestrian Crossing	Arm 2 - Pedestrian crossing	Pedestrian crossing uses default flow of 0. Is this correct?
Warning	Pedestrian Crossing	Arm 3 - Pedestrian crossing	Pedestrian crossing uses default flow of 0. Is this correct?
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout		1, 2, 3, 4, 5	3.69	A

Junction Network

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold	Network delay (s)	Network LOS
Left	Normal/unknown	66	Arm 2	3.69	A

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D7	2037	IP	ONE HOUR	12:45	14:15	15	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1		ONE HOUR	✓	739	100.000
2		ONE HOUR	✓	701	100.000
3		ONE HOUR	✓	336	100.000
4		ONE HOUR	✓	237	100.000
5		ONE HOUR	✓	408	100.000

Demand overview (Pedestrians)

Arm	Profile type	Average pedestrian flow (Ped/hr)
1		
2	[ONEHOUR]	0.00
3	[ONEHOUR]	0.00
4		
5		

Origin-Destination Data

Demand (PCU/hr)

		To				
		1	2	3	4	5
From	1	1	313	242	131	52
	2	256	2	43	109	291
	3	218	51	0	12	55
	4	127	92	11	0	7
	5	59	289	55	5	0

Vehicle Mix

Heavy Vehicle Percentages

		To				
		1	2	3	4	5
From	1	0	0	0	0	0
	2	0	0	0	0	0
	3	0	0	0	0	0
	4	0	0	0	0	0
	5	0	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max 95th percentile Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
1	0.43	3.31	0.7	2.5	A	678	1017

2	0.49	4.47	1.0	1.6	A	643	965
3	0.25	3.19	0.3	1.3	A	308	462
4	0.21	3.60	0.3	1.0	A	217	326
5	0.31	3.52	0.4	1.7	A	374	562

Main Results for each time segment

12:45 - 13:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	556	139	379		2015	0.276	555	496	0.0	0.4	2.463	A
2	528	132	373	0.00	1676	0.315	526	561	0.0	0.5	3.125	A
3	253	63	636	0.00	1678	0.151	252	263	0.0	0.2	2.524	A
4	178	45	695		1431	0.125	178	193	0.0	0.1	2.870	A
5	307	77	569		1631	0.188	306	304	0.0	0.2	2.716	A

13:00 - 13:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	664	166	454		1967	0.338	664	594	0.4	0.5	2.761	A
2	630	158	446	0.00	1634	0.386	630	671	0.5	0.6	3.582	A
3	302	76	761	0.00	1602	0.189	302	315	0.2	0.2	2.769	A
4	213	53	832		1359	0.157	213	231	0.1	0.2	3.141	A
5	367	92	681		1564	0.234	366	364	0.2	0.3	3.005	A

13:15 - 13:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	814	203	555		1901	0.428	813	727	0.5	0.7	3.305	A
2	772	193	547	0.00	1577	0.489	771	822	0.6	0.9	4.456	A
3	370	92	931	0.00	1498	0.247	370	386	0.2	0.3	3.189	A
4	261	65	1018		1260	0.207	261	283	0.2	0.3	3.602	A
5	449	112	833		1473	0.305	449	445	0.3	0.4	3.511	A

13:30 - 13:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	814	203	556		1900	0.428	814	728	0.7	0.7	3.312	A
2	772	193	547	0.00	1577	0.490	772	822	0.9	1.0	4.472	A
3	370	92	933	0.00	1498	0.247	370	386	0.3	0.3	3.191	A
4	261	65	1020		1259	0.207	261	283	0.3	0.3	3.604	A
5	449	112	835		1473	0.305	449	446	0.4	0.4	3.516	A

13:45 - 14:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	664	166	455		1966	0.338	665	595	0.7	0.5	2.771	A
2	630	158	447	0.00	1634	0.386	631	672	1.0	0.6	3.599	A
3	302	76	763	0.00	1600	0.189	302	316	0.3	0.2	2.775	A
4	213	53	834		1358	0.157	213	231	0.3	0.2	3.148	A
5	367	92	682		1563	0.235	367	365	0.4	0.3	3.010	A

14:00 - 14:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	556	139	381		2014	0.276	557	498	0.5	0.4	2.470	A
2	528	132	375	0.00	1675	0.315	528	563	0.6	0.5	3.140	A
3	253	63	638	0.00	1676	0.151	253	265	0.2	0.2	2.532	A
4	178	45	698		1430	0.125	179	194	0.2	0.1	2.879	A
5	307	77	571		1630	0.188	307	305	0.3	0.2	2.725	A

Queue Variation Results for each time segment

12:45 - 13:00

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.38	0.00	0.00	0.38	0.38			N/A	N/A
2	0.46	0.00	0.00	0.46	0.46			N/A	N/A
3	0.18	0.00	0.00	0.18	0.18			N/A	N/A
4	0.14	0.00	0.00	0.14	0.14			N/A	N/A
5	0.23	0.00	0.00	0.23	0.23			N/A	N/A

13:00 - 13:15

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.51	0.51	1.00	1.40	1.45			N/A	N/A
2	0.62	0.09	0.81	1.36	1.43			N/A	N/A
3	0.23	0.00	0.00	0.23	0.23			N/A	N/A
4	0.19	0.00	0.00	0.19	0.19			N/A	N/A
5	0.30	0.00	0.00	0.30	0.30			N/A	N/A

13:15 - 13:30

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.74	0.03	0.25	0.74	0.74			N/A	N/A
2	0.95	0.03	0.26	0.95	0.95			N/A	N/A
3	0.33	0.03	0.25	0.45	0.48			N/A	N/A
4	0.26	0.03	0.25	0.46	0.48			N/A	N/A
5	0.44	0.03	0.25	0.45	0.48			N/A	N/A

13:30 - 13:45

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.75	0.03	0.28	0.75	2.53			N/A	N/A
2	0.95	0.03	0.27	0.95	1.62			N/A	N/A
3	0.33	0.03	0.32	1.08	1.33			N/A	N/A
4	0.26	0.03	0.28	0.51	1.01			N/A	N/A
5	0.44	0.03	0.32	1.37	1.71			N/A	N/A

13:45 - 14:00

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.51	0.51	1.00	1.40	1.45			N/A	N/A
2	0.63	0.55	1.00	1.40	1.45			N/A	N/A
3	0.23	0.00	0.00	0.23	0.23			N/A	N/A
4	0.19	0.00	0.00	0.19	0.19			N/A	N/A
5	0.31	0.00	0.00	0.31	0.31			N/A	N/A

14:00 - 14:15

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.38	0.00	0.00	0.38	0.38			N/A	N/A
2	0.46	0.00	0.00	0.46	0.46			N/A	N/A
3	0.18	0.00	0.00	0.18	0.18			N/A	N/A
4	0.14	0.00	0.00	0.14	0.14			N/A	N/A
5	0.23	0.00	0.00	0.23	0.23			N/A	N/A

2037, OP

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	Arm 1 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	Arm 3 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.

Warning	Geometry	Arm 4 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Pedestrian Crossing	Arm 2 - Pedestrian crossing	Pedestrian crossing uses default flow of 0. Is this correct?
Warning	Pedestrian Crossing	Arm 3 - Pedestrian crossing	Pedestrian crossing uses default flow of 0. Is this correct?
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout		1, 2, 3, 4, 5	1.89	A

Junction Network

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold	Network delay (s)	Network LOS
Left	Normal/unknown	900		1.89	A

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D8	2037	OP	ONE HOUR	22:45	00:15	15	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1		ONE HOUR	✓	73	100.000
2		ONE HOUR	✓	68	100.000
3		ONE HOUR	✓	32	100.000
4		ONE HOUR	✓	23	100.000
5		ONE HOUR	✓	40	100.000

Demand overview (Pedestrians)

Arm	Profile type	Average pedestrian flow (Ped/hr)
1		
2	[ONEHOUR]	0.00
3	[ONEHOUR]	0.00
4		
5		

Origin-Destination Data

Demand (PCU/hr)

		To				
		1	2	3	4	5
From	1	0	31	24	13	5
	2	25	0	4	11	28
	3	21	5	0	1	5
	4	12	9	1	0	1
	5	6	28	5	1	0

Vehicle Mix

Heavy Vehicle Percentages

		To				
		1	2	3	4	5
From	1	0	0	0	0	0
	2	0	0	0	0	0
	3	0	0	0	0	0
	4	0	0	0	0	0
	5	0	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max 95th percentile Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
1	0.04	1.68	0.0	0.5	A	67	100
2	0.04	2.02	0.0	0.5	A	62	94
3	0.02	1.89	0.0	0.5	A	29	44
4	0.01	2.09	0.0	0.5	A	21	32
5	0.02	1.92	0.0	0.5	A	37	55

Main Results for each time segment

22:45 - 23:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	55	14	37		2237	0.025	55	48	0.0	0.0	1.648	A
2	51	13	37	0.00	1867	0.027	51	55	0.0	0.0	1.982	A
3	24	6	62	0.00	1934	0.012	24	26	0.0	0.0	1.884	A
4	17	4	67		1763	0.010	17	20	0.0	0.0	2.061	A

5	30	8	55		1937	0.016	30	29	0.0	0.0	1.886	A
---	----	---	----	--	------	-------	----	----	-----	-----	-------	---

23:00 - 23:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	66	16	44		2233	0.029	66	58	0.0	0.0	1.660	A
2	61	15	44	0.00	1863	0.033	61	66	0.0	0.0	1.997	A
3	29	7	75	0.00	1934	0.015	29	31	0.0	0.0	1.888	A
4	21	5	80		1756	0.012	21	23	0.0	0.0	2.073	A
5	36	9	66		1931	0.019	36	35	0.0	0.0	1.899	A

23:15 - 23:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	80	20	54		2226	0.036	80	70	0.0	0.0	1.676	A
2	75	19	54	0.00	1857	0.040	75	80	0.0	0.0	2.019	A
3	35	9	91	0.00	1934	0.018	35	37	0.0	0.0	1.895	A
4	25	6	98		1747	0.015	25	29	0.0	0.0	2.090	A
5	44	11	80		1922	0.023	44	43	0.0	0.0	1.916	A

23:30 - 23:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	80	20	54		2226	0.036	80	70	0.0	0.0	1.676	A
2	75	19	54	0.00	1857	0.040	75	80	0.0	0.0	2.019	A
3	35	9	91	0.00	1934	0.018	35	37	0.0	0.0	1.895	A
4	25	6	98		1747	0.015	25	29	0.0	0.0	2.090	A
5	44	11	80		1922	0.023	44	43	0.0	0.0	1.916	A

23:45 - 00:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	66	16	44		2232	0.029	66	58	0.0	0.0	1.663	A

2	61	15	44	0.00	1863	0.033	61	66	0.0	0.0	1.997	A
3	29	7	75	0.00	1934	0.015	29	31	0.0	0.0	1.888	A
4	21	5	80		1756	0.012	21	23	0.0	0.0	2.075	A
5	36	9	66		1931	0.019	36	35	0.0	0.0	1.899	A

00:00 - 00:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	55	14	37		2237	0.025	55	48	0.0	0.0	1.648	A
2	51	13	37	0.00	1867	0.027	51	55	0.0	0.0	1.982	A
3	24	6	63	0.00	1934	0.012	24	26	0.0	0.0	1.884	A
4	17	4	67		1763	0.010	17	20	0.0	0.0	2.063	A
5	30	8	55		1937	0.016	30	29	0.0	0.0	1.889	A

Queue Variation Results for each time segment

22:45 - 23:00

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.03	0.00	0.00	0.03	0.03			N/A	N/A
2	0.03	0.00	0.00	0.03	0.03			N/A	N/A
3	0.01	0.00	0.00	0.01	0.01			N/A	N/A
4	0.01	0.00	0.00	0.01	0.01			N/A	N/A
5	0.02	0.00	0.00	0.02	0.02			N/A	N/A

23:00 - 23:15

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.03	0.03	0.25	0.45	0.48			N/A	N/A
2	0.03	0.03	0.25	0.45	0.48			N/A	N/A
3	0.02	0.02	0.25	0.45	0.48			N/A	N/A
4	0.01	0.01	0.25	0.45	0.48			N/A	N/A
5	0.02	0.02	0.25	0.45	0.48			N/A	N/A

23:15 - 23:30

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.04	0.00	0.00	0.04	0.04			N/A	N/A
2	0.04	0.03	0.25	0.45	0.48			N/A	N/A
3	0.02	0.02	0.25	0.45	0.48			N/A	N/A
4	0.01	0.01	0.25	0.46	0.48			N/A	N/A
5	0.02	0.00	0.00	0.02	0.02			N/A	N/A

23:30 - 23:45

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.04	0.00	0.00	0.04	0.04			N/A	N/A
2	0.04	0.03	0.25	0.45	0.48			N/A	N/A
3	0.02	0.02	0.25	0.45	0.48			N/A	N/A
4	0.01	0.01	0.25	0.46	0.48			N/A	N/A
5	0.02	0.00	0.00	0.02	0.02			N/A	N/A

1	0.04	0.00	0.00	0.04	0.04			N/A	N/A
2	0.04	0.00	0.00	0.04	0.04			N/A	N/A
3	0.02	0.00	0.00	0.02	0.02			N/A	N/A
4	0.01	0.00	0.00	0.01	0.01			N/A	N/A
5	0.02	0.00	0.00	0.02	0.02			N/A	N/A

23:45 - 00:00

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.03	0.00	0.00	0.03	0.03			N/A	N/A
2	0.03	0.00	0.00	0.03	0.03			N/A	N/A
3	0.02	0.00	0.00	0.02	0.02			N/A	N/A
4	0.01	0.00	0.00	0.01	0.01			N/A	N/A
5	0.02	0.00	0.00	0.02	0.02			N/A	N/A

00:00 - 00:15

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.03	0.00	0.00	0.03	0.03			N/A	N/A
2	0.03	0.00	0.00	0.03	0.03			N/A	N/A
3	0.01	0.00	0.00	0.01	0.01			N/A	N/A
4	0.01	0.00	0.00	0.01	0.01			N/A	N/A
5	0.02	0.00	0.00	0.02	0.02			N/A	N/A

2037 final (incl rats), AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	Arm 1 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	Arm 3 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	Arm 4 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout		1, 2, 3, 4, 5	11.33	B

Junction Network

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold	Network delay (s)	Network LOS
Left	Normal/unknown	8	Arm 2	11.33	B

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D9	2037 final (incl rats)	AM	ONE HOUR	07:45	09:15	15	✓

Default vehicle mix	Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	✓	HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1		ONE HOUR	✓	914	100.000
2		ONE HOUR	✓	1164	100.000
3		ONE HOUR	✓	766	100.000
4		ONE HOUR	✓	400	100.000
5		ONE HOUR	✓	577	100.000

Demand overview (Pedestrians)

Arm	Profile type	Average pedestrian flow (Ped/hr)
1		
2	[ONEHOUR]	12.00
3	[ONEHOUR]	10.00
4		
5		

Origin-Destination Data

Demand (PCU/hr)

		To				
		1	2	3	4	5
From	1	0	451	246	145	72
	2	357	16	129	192	470
	3	378	207	0	29	152
	4	233	139	26	0	2
	5	75	379	120	3	0

Vehicle Mix

Heavy Vehicle Percentages

		To				
		1	2	3	4	5
From	1	10	10	10	10	10
	2	10	10	10	10	10
	3	10	10	10	10	10
	4	10	10	10	10	10
	5	10	10	10	10	10

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max 95th percentile Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
1	0.62	6.39	1.8	2.1	A	839	1258
2	0.85	17.41	5.9	30.7	C	1068	1602
3	0.69	10.54	2.4	6.7	B	703	1054
4	0.53	9.98	1.2	4.5	A	367	551
5	0.59	8.87	1.5	3.5	A	529	794

Main Results for each time segment

07:45 - 08:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	688	172	667		1828	0.376	685	781	0.0	0.7	3.458	A
2	876	219	459	9.03	1597	0.549	871	893	0.0	1.3	5.415	A
3	577	144	939	7.53	1469	0.393	574	390	0.0	0.7	4.426	A
4	301	75	1237		1144	0.263	300	276	0.0	0.4	4.679	A
5	434	109	1015		1365	0.318	432	521	0.0	0.5	4.236	A

08:00 - 08:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	822	205	798		1743	0.471	820	935	0.7	1.0	4.287	A
2	1046	262	549	10.79	1553	0.674	1043	1069	1.3	2.2	7.710	A
3	689	172	1125	8.99	1359	0.507	687	467	0.7	1.1	5.880	A
4	360	90	1481		1015	0.354	359	331	0.4	0.6	6.024	A
5	519	130	1216		1246	0.416	518	624	0.5	0.8	5.430	A

08:15 - 08:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	1006	252	975		1629	0.618	1003	1140	1.0	1.7	6.300	A
2	1282	320	671	13.21	1506	0.851	1268	1307	2.2	5.6	15.794	C

3	843	211	1369	11.01	1219	0.692	838	571	1.1	2.4	10.279	B
4	440	110	1804		844	0.522	438	403	0.6	1.2	9.693	A
5	635	159	1482		1087	0.584	632	760	0.8	1.5	8.653	A

08:30 - 08:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	1006	252	980		1625	0.619	1006	1148	1.7	1.8	6.392	A
2	1282	320	674	13.21	1505	0.852	1280	1312	5.6	5.9	17.407	C
3	843	211	1381	11.01	1218	0.692	843	573	2.4	2.4	10.543	B
4	440	110	1818		837	0.526	440	406	1.2	1.2	9.977	A
5	635	159	1492		1081	0.588	635	766	1.5	1.5	8.873	A

08:45 - 09:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	822	205	805		1739	0.473	825	946	1.8	1.0	4.349	A
2	1046	262	553	10.79	1574	0.665	1061	1077	5.9	2.2	7.941	A
3	689	172	1142	8.99	1356	0.508	694	472	2.4	1.2	6.024	A
4	360	90	1501		1005	0.358	362	335	1.2	0.6	6.185	A
5	519	130	1230		1237	0.419	522	633	1.5	0.8	5.555	A

09:00 - 09:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	688	172	672		1825	0.377	689	788	1.0	0.7	3.492	A
2	876	219	462	9.03	1605	0.546	880	900	2.2	1.3	5.487	A
3	577	144	948	7.53	1467	0.393	578	393	1.2	0.7	4.464	A
4	301	75	1248		1138	0.265	302	279	0.6	0.4	4.740	A
5	434	109	1024		1360	0.319	436	526	0.8	0.5	4.288	A

Queue Variation Results for each time segment

07:45 - 08:00

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.66	0.61	1.10	1.54	1.60			N/A	N/A
2	1.32	0.61	1.14	1.32	1.67			N/A	N/A
3	0.71	0.61	1.10	1.54	1.60			N/A	N/A
4	0.39	0.00	0.00	0.39	0.39			N/A	N/A
5	0.51	0.00	0.00	0.51	0.51			N/A	N/A

08:00 - 08:15

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.97	0.07	0.86	1.68	2.10			N/A	N/A
2	2.22	0.06	0.58	5.91	9.31			N/A	N/A
3	1.12	0.07	0.83	2.13	3.02			N/A	N/A
4	0.60	0.07	0.73	1.47	1.56			N/A	N/A
5	0.78	0.09	0.85	1.54	1.62			N/A	N/A

08:15 - 08:30

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	1.75	0.03	0.29	1.75	1.75			N/A	N/A
2	5.63	0.04	0.39	12.44	30.71			N/A	N/A
3	2.39	0.03	0.31	2.39	6.71			N/A	N/A
4	1.17	0.03	0.29	1.17	1.17			N/A	N/A
5	1.51	0.03	0.29	1.51	1.51			N/A	N/A

08:30 - 08:45

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	1.77	0.03	0.29	1.77	1.77			N/A	N/A
2	5.94	0.03	0.33	5.94	25.09			N/A	N/A
3	2.43	0.03	0.30	2.43	4.28			N/A	N/A
4	1.20	0.03	0.31	1.20	4.54			N/A	N/A
5	1.54	0.03	0.30	1.54	3.51			N/A	N/A

08:45 - 09:00

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.99	0.16	1.05	1.64	1.64			N/A	N/A
2	2.24	0.05	0.49	6.09	10.24			N/A	N/A
3	1.15	0.08	0.94	2.09	2.89			N/A	N/A
4	0.62	0.07	0.74	1.47	1.56			N/A	N/A
5	0.80	0.10	0.91	1.53	1.61			N/A	N/A

09:00 - 09:15

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.67	0.06	0.61	1.50	1.61			N/A	N/A
2	1.34	0.04	0.37	3.04	6.78			N/A	N/A
3	0.72	0.04	0.45	1.47	2.15			N/A	N/A
4	0.40	0.03	0.34	1.05	1.35			N/A	N/A
5	0.52	0.04	0.44	1.38	1.53			N/A	N/A

2037 final (incl rats), PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	Arm 1 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	Arm 3 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	Arm 4 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout		1, 2, 3, 4, 5	15.45	C

Junction Network

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold	Network delay (s)	Network LOS
Left	Normal/unknown	2	Arm 2	15.45	C

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D10	2037 final (incl rats)	PM	ONE HOUR	16:45	18:15	15	✓

Default vehicle mix	Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	✓	HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1		ONE HOUR	✓	1284	100.000
2		ONE HOUR	✓	1054	100.000
3		ONE HOUR	✓	641	100.000
4		ONE HOUR	✓	343	100.000
5		ONE HOUR	✓	603	100.000

Demand overview (Pedestrians)

Arm	Profile type	Average pedestrian flow (Ped/hr)
1		
2	[ONEHOUR]	10.00
3	[ONEHOUR]	15.00
4		
5		

Origin-Destination Data

Demand (PCU/hr)

		To				
		1	2	3	4	5
From	1	3	495	437	285	64
	2	259	3	189	175	428
	3	339	155	0	30	117
	4	176	139	24	0	4
	5	71	400	124	7	1

Vehicle Mix

Heavy Vehicle Percentages

		To				
		1	2	3	4	5
From	1	10	10	10	10	10
	2	10	10	10	10	10
	3	10	10	10	10	10
	4	10	10	10	10	10
	5	10	10	10	10	10

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max 95th percentile Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
1	0.86	16.32	6.1	31.7	C	1178	1767
2	0.90	27.06	8.2	44.8	D	967	1451
3	0.58	7.68	1.5	2.6	A	588	882
4	0.38	6.34	0.7	3.1	A	315	472
5	0.53	6.75	1.2	2.7	A	553	830

Main Results for each time segment

16:45 - 17:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	967	242	639		1846	0.524	962	635	0.0	1.2	4.454	A
2	794	198	708	7.53	1463	0.543	788	893	0.0	1.3	5.829	A
3	483	121	917	11.29	1469	0.328	480	580	0.0	0.5	3.997	A
4	258	65	1025		1256	0.206	257	372	0.0	0.3	3.958	A

5	454	113	823		1480	0.307	452	460	0.0	0.5	3.845	A
---	-----	-----	-----	--	------	-------	-----	-----	-----	-----	-------	---

17:00 - 17:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	1154	289	766		1764	0.654	1151	760	1.2	2.0	6.419	A
2	948	237	847	8.99	1391	0.681	944	1069	1.3	2.3	8.777	A
3	576	144	1097	13.48	1362	0.423	575	694	0.5	0.8	5.029	A
4	308	77	1227		1150	0.268	308	445	0.3	0.4	4.702	A
5	542	136	985		1383	0.392	541	550	0.5	0.7	4.697	A

17:15 - 17:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	1414	353	936		1654	0.855	1399	926	2.0	5.8	14.724	B
2	1160	290	1031	11.01	1302	0.892	1140	1304	2.3	7.3	22.215	C
3	706	176	1328	16.52	1226	0.575	703	843	0.8	1.5	7.529	A
4	378	94	1491		1010	0.374	377	540	0.4	0.6	6.241	A
5	664	166	1201		1255	0.529	662	667	0.7	1.2	6.656	A

17:30 - 17:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	1414	353	939		1652	0.856	1412	933	5.8	6.1	16.322	C
2	1160	290	1040	11.01	1296	0.895	1157	1312	7.3	8.2	27.061	D
3	706	176	1346	16.52	1221	0.578	706	851	1.5	1.5	7.675	A
4	378	94	1505		1003	0.377	378	546	0.6	0.7	6.336	A
5	664	166	1208		1251	0.531	664	675	1.2	1.2	6.749	A

17:45 - 18:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	1154	289	770		1762	0.655	1170	770	6.1	2.1	6.873	A

2	948	237	860	8.99	1399	0.677	971	1080	8.2	2.4	9.729	A
3	576	144	1125	13.48	1351	0.426	579	706	1.5	0.8	5.142	A
4	308	77	1249		1138	0.271	309	454	0.7	0.4	4.787	A
5	542	136	996		1377	0.394	544	563	1.2	0.7	4.767	A

18:00 - 18:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	967	242	644		1844	0.524	970	640	2.1	1.2	4.554	A
2	794	198	714	7.53	1468	0.541	798	900	2.4	1.3	5.944	A
3	483	121	927	11.29	1468	0.329	484	585	0.8	0.5	4.029	A
4	258	65	1035		1251	0.206	259	376	0.4	0.3	3.992	A
5	454	113	829		1476	0.308	455	464	0.7	0.5	3.882	A

Queue Variation Results for each time segment

16:45 - 17:00

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	1.20	0.61	1.12	1.58	1.64			N/A	N/A
2	1.29	0.61	1.19	1.39	1.80			N/A	N/A
3	0.53	0.00	0.00	0.53	0.53			N/A	N/A
4	0.28	0.00	0.00	0.28	0.28			N/A	N/A
5	0.48	0.00	0.00	0.48	0.48			N/A	N/A

17:00 - 17:15

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	2.04	0.05	0.50	5.45	9.02			N/A	N/A
2	2.28	0.05	0.55	6.13	9.72			N/A	N/A
3	0.80	0.09	0.87	1.55	1.63			N/A	N/A
4	0.40	0.00	0.00	0.40	0.40			N/A	N/A
5	0.70	0.09	0.87	1.50	1.58			N/A	N/A

17:15 - 17:30

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	5.82	0.04	0.39	12.56	31.75			N/A	N/A
2	7.35	0.05	0.50	20.63	38.30			N/A	N/A
3	1.46	0.03	0.29	1.46	1.46			N/A	N/A
4	0.65	0.03	0.28	0.65	0.65			N/A	N/A
5	1.22	0.03	0.29	1.22	1.22			N/A	N/A

17:30 - 17:45

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	5.82	0.04	0.39	12.56	31.75			N/A	N/A
2	7.35	0.05	0.50	20.63	38.30			N/A	N/A
3	1.46	0.03	0.29	1.46	1.46			N/A	N/A
4	0.65	0.03	0.28	0.65	0.65			N/A	N/A
5	1.22	0.03	0.29	1.22	1.22			N/A	N/A

1	6.15	0.03	0.33	6.15	25.62			N/A	N/A
2	8.20	0.04	0.39	17.30	44.83			N/A	N/A
3	1.49	0.03	0.30	1.49	2.62			N/A	N/A
4	0.66	0.03	0.33	1.60	3.11			N/A	N/A
5	1.23	0.03	0.30	1.23	2.68			N/A	N/A

17:45 - 18:00

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	2.13	0.05	0.51	5.74	9.41			N/A	N/A
2	2.38	0.05	0.45	6.46	11.61			N/A	N/A
3	0.83	0.13	0.97	1.53	1.61			N/A	N/A
4	0.41	0.00	0.00	0.41	0.41			N/A	N/A
5	0.72	0.15	0.98	1.52	1.58			N/A	N/A

18:00 - 18:15

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	1.23	0.04	0.36	2.74	6.17			N/A	N/A
2	1.31	0.03	0.34	2.25	6.64			N/A	N/A
3	0.54	0.05	0.47	1.40	1.53			N/A	N/A
4	0.29	0.00	0.00	0.29	0.29			N/A	N/A
5	0.49	0.04	0.41	1.32	1.48			N/A	N/A

2037 final (incl rats), IP

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	Arm 1 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	Arm 3 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	Arm 4 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout		1, 2, 3, 4, 5	4.58	A

Junction Network

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold	Network delay (s)	Network LOS
Left	Normal/unknown	43	Arm 2	4.58	A

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D11	2037 final (incl rats)	IP	ONE HOUR	12:45	14:15	15	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1		ONE HOUR	✓	795	100.000
2		ONE HOUR	✓	820	100.000
3		ONE HOUR	✓	488	100.000
4		ONE HOUR	✓	250	100.000
5		ONE HOUR	✓	436	100.000

Demand overview (Pedestrians)

Arm	Profile type	Average pedestrian flow (Ped/hr)
1		
2	[ONEHOUR]	15.00
3	[ONEHOUR]	10.00
4		
5		

Origin-Destination Data

Demand (PCU/hr)

		To				
		1	2	3	4	5
From	1	1	334	277	131	52
	2	292	2	119	111	296
	3	254	130	0	24	80
	4	127	93	23	0	7
	5	59	293	79	5	0

Vehicle Mix

Heavy Vehicle Percentages

		To				
		1	2	3	4	5
From	1	0	0	0	0	0
	2	0	0	0	0	0
	3	0	0	0	0	0
	4	0	0	0	0	0
	5	0	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max 95th percentile Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
1	0.48	3.83	0.9	1.7	A	730	1094
2	0.61	6.07	1.5	1.9	A	752	1129
3	0.37	4.00	0.6	2.8	A	448	672
4	0.24	4.10	0.3	1.3	A	229	344
5	0.35	4.07	0.5	2.5	A	400	600

Main Results for each time segment

12:45 - 13:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	599	150	469		1957	0.306	597	550	0.0	0.4	2.643	A
2	617	154	426	11.29	1605	0.385	615	639	0.0	0.6	3.628	A
3	367	92	667	7.53	1629	0.226	366	374	0.0	0.3	2.848	A
4	188	47	830		1359	0.138	188	203	0.0	0.2	3.070	A
5	328	82	692		1558	0.211	327	326	0.0	0.3	2.922	A

13:00 - 13:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	715	179	561		1897	0.377	714	658	0.4	0.6	3.042	A
2	737	184	510	13.48	1556	0.474	736	765	0.6	0.9	4.383	A
3	439	110	799	8.99	1547	0.284	438	447	0.3	0.4	3.246	A
4	225	56	994		1273	0.177	225	243	0.2	0.2	3.433	A
5	392	98	828		1477	0.265	392	391	0.3	0.4	3.317	A

13:15 - 13:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	875	219	687		1815	0.482	874	805	0.6	0.9	3.819	A

2	903	226	624	16.52	1492	0.605	900	937	0.9	1.5	6.061	A
3	537	134	977	11.01	1437	0.374	537	547	0.4	0.6	3.996	A
4	275	69	1216		1155	0.238	275	298	0.2	0.3	4.087	A
5	480	120	1013		1366	0.351	479	478	0.4	0.5	4.054	A

13:30 - 13:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	875	219	688		1815	0.482	875	807	0.9	0.9	3.831	A
2	903	226	625	16.52	1496	0.604	903	938	1.5	1.5	6.068	A
3	537	134	980	11.01	1436	0.374	537	548	0.6	0.6	4.003	A
4	275	69	1219		1154	0.239	275	298	0.3	0.3	4.096	A
5	480	120	1015		1365	0.352	480	479	0.5	0.5	4.066	A

13:45 - 14:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	715	179	563		1896	0.377	716	661	0.9	0.6	3.056	A
2	737	184	512	13.48	1561	0.472	740	767	1.5	0.9	4.393	A
3	439	110	802	8.99	1546	0.284	439	449	0.6	0.4	3.256	A
4	225	56	998		1271	0.177	225	244	0.3	0.2	3.442	A
5	392	98	831		1475	0.266	393	392	0.5	0.4	3.327	A

14:00 - 14:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	599	150	471		1955	0.306	599	553	0.6	0.4	2.655	A
2	617	154	428	11.29	1608	0.384	618	642	0.9	0.6	3.642	A
3	367	92	671	7.53	1628	0.226	368	375	0.4	0.3	2.856	A
4	188	47	835		1357	0.139	188	204	0.2	0.2	3.082	A
5	328	82	695		1556	0.211	329	328	0.4	0.3	2.933	A

Queue Variation Results for each time segment

12:45 - 13:00

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.44	0.00	0.00	0.44	0.44			N/A	N/A
2	0.62	0.55	1.00	1.40	1.45			N/A	N/A
3	0.29	0.00	0.00	0.29	0.29			N/A	N/A
4	0.16	0.00	0.00	0.16	0.16			N/A	N/A
5	0.27	0.00	0.00	0.27	0.27			N/A	N/A

13:00 - 13:15

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.60	0.08	0.77	1.35	1.43			N/A	N/A
2	0.89	0.07	0.82	1.49	1.87			N/A	N/A
3	0.39	0.00	0.00	0.39	0.39			N/A	N/A
4	0.21	0.00	0.00	0.21	0.21			N/A	N/A
5	0.36	0.00	0.00	0.36	0.36			N/A	N/A

13:15 - 13:30

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.92	0.03	0.25	0.92	0.92			N/A	N/A
2	1.51	0.03	0.26	1.51	1.51			N/A	N/A
3	0.59	0.03	0.25	0.59	0.59			N/A	N/A
4	0.31	0.03	0.25	0.46	0.48			N/A	N/A
5	0.54	0.03	0.25	0.54	0.54			N/A	N/A

13:30 - 13:45

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.93	0.03	0.27	0.93	1.68			N/A	N/A
2	1.51	0.03	0.27	1.51	1.51			N/A	N/A
3	0.60	0.03	0.30	1.36	2.79			N/A	N/A
4	0.31	0.03	0.31	1.04	1.30			N/A	N/A
5	0.54	0.03	0.30	1.43	2.50			N/A	N/A

13:45 - 14:00

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.61	0.55	1.00	1.40	1.45			N/A	N/A
2	0.90	0.17	0.96	1.42	1.42			N/A	N/A
3	0.40	0.00	0.00	0.40	0.40			N/A	N/A
4	0.22	0.00	0.00	0.22	0.22			N/A	N/A
5	0.36	0.00	0.00	0.36	0.36			N/A	N/A

14:00 - 14:15

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.44	0.00	0.00	0.44	0.44			N/A	N/A
2	0.63	0.06	0.62	1.37	1.46			N/A	N/A
3	0.29	0.00	0.00	0.29	0.29			N/A	N/A
4	0.16	0.00	0.00	0.16	0.16			N/A	N/A
5	0.27	0.00	0.00	0.27	0.27			N/A	N/A

2037 final (incl rats), OP

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	Arm 1 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	Arm 3 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	Arm 4 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout		1, 2, 3, 4, 5	1.96	A

Junction Network

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold	Network delay (s)	Network LOS
Left	Normal/unknown	900		1.96	A

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D12	2037 final (incl rats)	OP	ONE HOUR	22:45	00:15	15	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1		ONE HOUR	✓	76	100.000
2		ONE HOUR	✓	77	100.000
3		ONE HOUR	✓	48	100.000
4		ONE HOUR	✓	24	100.000
5		ONE HOUR	✓	44	100.000

Demand overview (Pedestrians)

Arm	Profile type	Average pedestrian flow (Ped/hr)
1		
2	[ONEHOUR]	20.00
3	[ONEHOUR]	24.00

4		
5		

Origin-Destination Data

Demand (PCU/hr)

	To					
	1	2	3	4	5	
From	1	0	31	27	13	5
	2	25	0	12	11	29
	3	25	13	0	2	8
	4	12	9	2	0	1
	5	6	29	8	1	0

Vehicle Mix

Heavy Vehicle Percentages

	To					
	1	2	3	4	5	
From	1	0	0	0	0	0
	2	0	0	0	0	0
	3	0	0	0	0	0
	4	0	0	0	0	0
	5	0	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max 95th percentile Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
1	0.04	1.69	0.0	0.5	A	70	105
2	0.05	2.15	0.1	0.5	A	71	106
3	0.03	2.04	0.0	0.5	A	44	66
4	0.02	2.10	0.0	0.5	A	22	33
5	0.03	1.93	0.0	0.5	A	40	61

Main Results for each time segment

22:45 - 23:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	57	14	47		2231	0.026	57	51	0.0	0.0	1.655	A

2	58	14	42	15.06	1799	0.032	58	62	0.0	0.0	2.067	A
3	36	9	63	18.07	1853	0.020	36	37	0.0	0.0	1.980	A
4	18	5	79		1757	0.010	18	20	0.0	0.0	2.069	A
5	33	8	65		1931	0.017	33	32	0.0	0.0	1.895	A

23:00 - 23:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	68	17	56		2225	0.031	68	61	0.0	0.0	1.668	A
2	69	17	50	17.98	1783	0.039	69	74	0.0	0.0	2.100	A
3	43	11	75	21.58	1839	0.023	43	44	0.0	0.0	2.003	A
4	22	5	94		1749	0.012	22	24	0.0	0.0	2.083	A
5	40	10	77		1924	0.021	40	39	0.0	0.0	1.909	A

23:15 - 23:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	84	21	68		2217	0.038	84	75	0.0	0.0	1.686	A
2	85	21	62	22.02	1762	0.048	85	90	0.0	0.1	2.146	A
3	53	13	92	26.42	1821	0.029	53	54	0.0	0.0	2.036	A
4	26	7	116		1738	0.015	26	30	0.0	0.0	2.103	A
5	48	12	95		1913	0.025	48	47	0.0	0.0	1.930	A

23:30 - 23:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	84	21	68		2217	0.038	84	75	0.0	0.0	1.686	A
2	85	21	62	22.02	1762	0.048	85	90	0.1	0.1	2.146	A
3	53	13	92	26.42	1821	0.029	53	54	0.0	0.0	2.036	A
4	26	7	116		1738	0.015	26	30	0.0	0.0	2.103	A
5	48	12	95		1913	0.025	48	47	0.0	0.0	1.930	A

23:45 - 00:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	68	17	56		2225	0.031	68	61	0.0	0.0	1.668	A
2	69	17	50	17.98	1783	0.039	69	74	0.1	0.0	2.101	A
3	43	11	76	21.58	1839	0.023	43	44	0.0	0.0	2.005	A
4	22	5	94		1749	0.012	22	24	0.0	0.0	2.085	A
5	40	10	77		1924	0.021	40	39	0.0	0.0	1.912	A

00:00 - 00:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	57	14	47		2231	0.026	57	51	0.0	0.0	1.658	A
2	58	14	42	15.06	1799	0.032	58	62	0.0	0.0	2.069	A
3	36	9	63	18.07	1853	0.020	36	37	0.0	0.0	1.980	A
4	18	5	79		1757	0.010	18	20	0.0	0.0	2.070	A
5	33	8	65		1931	0.017	33	32	0.0	0.0	1.898	A

Queue Variation Results for each time segment

22:45 - 23:00

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.03	0.00	0.00	0.03	0.03			N/A	N/A
2	0.03	0.00	0.00	0.03	0.03			N/A	N/A
3	0.02	0.00	0.00	0.02	0.02			N/A	N/A
4	0.01	0.00	0.00	0.01	0.01			N/A	N/A
5	0.02	0.00	0.00	0.02	0.02			N/A	N/A

23:00 - 23:15

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.03	0.03	0.25	0.45	0.48			N/A	N/A
2	0.04	0.03	0.25	0.45	0.48			N/A	N/A
3	0.02	0.02	0.25	0.45	0.48			N/A	N/A
4	0.01	0.01	0.25	0.45	0.48			N/A	N/A
5	0.02	0.02	0.25	0.45	0.48			N/A	N/A

23:15 - 23:30

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.04	0.00	0.00	0.04	0.04			N/A	N/A
2	0.05	0.03	0.25	0.46	0.48			N/A	N/A
3	0.03	0.00	0.00	0.03	0.03			N/A	N/A

4	0.02	0.02	0.25	0.45	0.48			N/A	N/A
5	0.03	0.00	0.00	0.03	0.03			N/A	N/A

23:30 - 23:45

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.04	0.00	0.00	0.04	0.04			N/A	N/A
2	0.05	0.00	0.00	0.05	0.05			N/A	N/A
3	0.03	0.00	0.00	0.03	0.03			N/A	N/A
4	0.02	0.00	0.00	0.02	0.02			N/A	N/A
5	0.03	0.00	0.00	0.03	0.03			N/A	N/A

23:45 - 00:00

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.03	0.00	0.00	0.03	0.03			N/A	N/A
2	0.04	0.00	0.00	0.04	0.04			N/A	N/A
3	0.02	0.00	0.00	0.02	0.02			N/A	N/A
4	0.01	0.00	0.00	0.01	0.01			N/A	N/A
5	0.02	0.00	0.00	0.02	0.02			N/A	N/A

00:00 - 00:15

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.03	0.00	0.00	0.03	0.03			N/A	N/A
2	0.03	0.00	0.00	0.03	0.03			N/A	N/A
3	0.02	0.00	0.00	0.02	0.02			N/A	N/A
4	0.01	0.00	0.00	0.01	0.01			N/A	N/A
5	0.02	0.00	0.00	0.02	0.02			N/A	N/A

2023 TB incl station rats, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	Arm 1 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	Arm 3 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	Arm 4 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Pedestrian Crossing	Arm 2 - Pedestrian crossing	Pedestrian crossing uses default flow of 0. Is this correct?
Warning	Pedestrian Crossing	Arm 3 - Pedestrian crossing	Pedestrian crossing uses default flow of 0. Is this correct?
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout		1, 2, 3, 4, 5	6.90	A

Junction Network

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold	Network delay (s)	Network LOS
Left	Normal/unknown	17	Arm 2	6.90	A

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D13	2023 TB incl station rats	AM	ONE HOUR	07:45	09:15	15	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1		ONE HOUR	✓	817	100.000
2		ONE HOUR	✓	1112	100.000
3		ONE HOUR	✓	475	100.000
4		ONE HOUR	✓	375	100.000
5		ONE HOUR	✓	524	100.000

Demand overview (Pedestrians)

Arm	Profile type	Average pedestrian flow (Ped/hr)
1		
2	[ONEHOUR]	0.00
3	[ONEHOUR]	0.00
4		
5		

Origin-Destination Data

Demand (PCU/hr)

	To					
	1	2	3	4	5	
From	1	0	407	198	142	70
	2	432	15	35	183	447
	3	307	53	0	8	107
	4	231	134	8	0	2
	5	74	363	84	3	0

Vehicle Mix

Heavy Vehicle Percentages

		To				
		1	2	3	4	5
From	1	0	0	0	0	0
	2	0	0	0	0	0
	3	0	0	0	0	0
	4	0	0	0	0	0
	5	0	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max 95th percentile Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
1	0.50	4.04	1.0	1.5	A	750	1125
2	0.78	10.33	3.4	13.5	B	1020	1531
3	0.44	5.31	0.8	3.2	A	436	654
4	0.43	6.52	0.7	3.3	A	344	516
5	0.48	5.81	0.9	2.9	A	481	721

Main Results for each time segment

07:45 - 08:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	615	154	495		1940	0.317	613	783	0.0	0.5	2.710	A
2	837	209	379	0.00	1672	0.501	833	729	0.0	1.0	4.270	A
3	358	89	968	0.00	1476	0.242	356	244	0.0	0.3	3.213	A
4	282	71	1073		1231	0.229	281	252	0.0	0.3	3.784	A
5	394	99	885		1443	0.273	393	469	0.0	0.4	3.424	A

08:00 - 08:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	734	184	592		1877	0.391	734	937	0.5	0.6	3.148	A
2	1000	250	454	0.00	1630	0.613	997	873	1.0	1.6	5.669	A
3	427	107	1159	0.00	1360	0.314	426	292	0.3	0.5	3.853	A

4	337	84	1284		1119	0.30 1	337	302	0.3	0.4	4.595	A
5	471	118	1059		1339	0.35 2	470	562	0.4	0.5	4.141	A

08:15 - 08:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	900	225	725		1791	0.50 2	898	1145	0.6	1.0	4.025	A
2	1224	306	555	0.00	1572	0.77 9	1217	1068	1.6	3.4	9.939	A
3	523	131	1415	0.00	1205	0.43 4	522	357	0.5	0.8	5.261	A
4	413	103	1568		969	0.42 6	412	368	0.4	0.7	6.445	A
5	577	144	1294		1199	0.48 1	575	686	0.5	0.9	5.757	A

08:30 - 08:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	900	225	727		1790	0.50 3	900	1149	1.0	1.0	4.044	A
2	1224	306	556	0.00	1572	0.77 9	1224	1070	3.4	3.4	10.326	B
3	523	131	1422	0.00	1201	0.43 6	523	358	0.8	0.8	5.312	A
4	413	103	1575		965	0.42 8	413	370	0.7	0.7	6.515	A
5	577	144	1299		1196	0.48 2	577	689	0.9	0.9	5.811	A

08:45 - 09:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	734	184	595		1875	0.39 2	736	943	1.0	0.6	3.166	A
2	1000	250	455	0.00	1629	0.61 4	1007	876	3.4	1.6	5.852	A
3	427	107	1169	0.00	1354	0.31 5	428	293	0.8	0.5	3.892	A
4	337	84	1294		1114	0.30 3	338	304	0.7	0.4	4.645	A
5	471	118	1066		1335	0.35 3	473	566	0.9	0.5	4.182	A

09:00 - 09:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
-----	-----------------------	-------------------------	---------------------------	----------------------------	-------------------	-----	---------------------	---------------------------------	-------------------	-----------------	-----------	-------------------------------

1	615	154	498		1938	0.31 7	616	788	0.6	0.5	2.723	A
2	837	209	381	0.00	1672	0.50 1	840	733	1.6	1.0	4.341	A
3	358	89	975	0.00	1472	0.24 3	358	245	0.5	0.3	3.233	A
4	282	71	1080		1227	0.23 0	283	253	0.4	0.3	3.812	A
5	394	99	890		1440	0.27 4	395	472	0.5	0.4	3.450	A

Queue Variation Results for each time segment

07:45 - 08:00

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.46	0.00	0.00	0.46	0.46			N/A	N/A
2	0.99	0.55	1.00	1.40	1.45			N/A	N/A
3	0.32	0.00	0.00	0.32	0.32			N/A	N/A
4	0.30	0.00	0.00	0.30	0.30			N/A	N/A
5	0.37	0.00	0.00	0.37	0.37			N/A	N/A

08:00 - 08:15

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.64	0.08	0.78	1.36	1.43			N/A	N/A
2	1.56	0.05	0.49	3.96	6.17			N/A	N/A
3	0.45	0.00	0.00	0.45	0.45			N/A	N/A
4	0.43	0.00	0.00	0.43	0.43			N/A	N/A
5	0.54	0.06	0.67	1.33	1.42			N/A	N/A

08:15 - 08:30

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	1.00	0.03	0.26	1.00	1.00			N/A	N/A
2	3.35	0.03	0.29	3.35	13.49			N/A	N/A
3	0.76	0.03	0.25	0.76	0.76			N/A	N/A
4	0.73	0.03	0.26	0.73	0.73			N/A	N/A
5	0.92	0.03	0.26	0.92	0.92			N/A	N/A

08:30 - 08:45

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	1.01	0.03	0.27	1.01	1.35			N/A	N/A
2	3.44	0.03	0.27	3.44	5.19			N/A	N/A
3	0.77	0.03	0.29	1.07	3.18			N/A	N/A
4	0.74	0.03	0.29	1.26	3.31			N/A	N/A
5	0.92	0.03	0.28	0.92	2.86			N/A	N/A

08:45 - 09:00

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.65	0.55	1.00	1.40	1.45			N/A	N/A
2	1.61	0.06	0.83	3.86	5.68			N/A	N/A
3	0.46	0.00	0.00	0.46	0.46			N/A	N/A
4	0.44	0.00	0.00	0.44	0.44			N/A	N/A

5	0.55	0.55	1.00	1.40	1.45			N/A	N/A
---	------	------	------	------	------	--	--	-----	-----

09:00 - 09:15

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.47	0.00	0.00	0.47	0.47			N/A	N/A
2	1.01	0.04	0.39	2.53	4.26			N/A	N/A
3	0.32	0.00	0.00	0.32	0.32			N/A	N/A
4	0.30	0.00	0.00	0.30	0.30			N/A	N/A
5	0.38	0.03	0.27	0.48	0.71			N/A	N/A

2023 TB incl station rats, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	Arm 1 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	Arm 3 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	Arm 4 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Pedestrian Crossing	Arm 2 - Pedestrian crossing	Pedestrian crossing uses default flow of 0. Is this correct?
Warning	Pedestrian Crossing	Arm 3 - Pedestrian crossing	Pedestrian crossing uses default flow of 0. Is this correct?
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout		1, 2, 3, 4, 5	9.24	A

Junction Network

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold	Network delay (s)	Network LOS
Left	Normal/unknown	7	Arm 2	9.24	A

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D14	2023 TB incl station rats	PM	ONE HOUR	16:45	18:15	15	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1		ONE HOUR	✓	1145	100.000
2		ONE HOUR	✓	1053	100.000
3		ONE HOUR	✓	423	100.000
4		ONE HOUR	✓	315	100.000
5		ONE HOUR	✓	546	100.000

Demand overview (Pedestrians)

Arm	Profile type	Average pedestrian flow (Ped/hr)
1		
2	[ONEHOUR]	0.00
3	[ONEHOUR]	0.00
4		
5		

Origin-Destination Data

Demand (PCU/hr)

		To				
		1	2	3	4	5
From	1	3	426	372	281	63
	2	426	3	56	165	403
	3	283	50	0	11	79
	4	171	132	8	0	4
	5	69	381	88	7	1

Vehicle Mix

Heavy Vehicle Percentages

		To				
		1	2	3	4	5
From	1	0	0	0	0	0
	2	0	0	0	0	0
	3	0	0	0	0	0
	4	0	0	0	0	0
	5	0	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max 95th percentile Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
1	0.71	6.89	2.4	4.2	A	1051	1576
2	0.84	16.61	5.1	26.5	C	966	1449
3	0.40	5.18	0.7	3.1	A	388	582
4	0.33	5.23	0.5	2.1	A	289	434
5	0.48	5.42	0.9	2.7	A	501	752

Main Results for each time segment

16:45 - 17:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	862	216	503		1935	0.445	859	714	0.0	0.8	3.335	A
2	793	198	617	0.00	1537	0.516	789	744	0.0	1.1	4.784	A
3	318	80	1013	0.00	1449	0.220	317	393	0.0	0.3	3.179	A
4	237	59	982		1279	0.185	236	348	0.0	0.2	3.449	A
5	411	103	807		1490	0.276	410	412	0.0	0.4	3.329	A

17:00 - 17:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	1029	257	602		1871	0.550	1028	854	0.8	1.2	4.261	A
2	947	237	739	0.00	1468	0.645	944	891	1.1	1.8	6.832	A
3	380	95	1212	0.00	1328	0.286	380	470	0.3	0.4	3.794	A
4	283	71	1176		1177	0.241	283	416	0.2	0.3	4.025	A
5	491	123	965		1395	0.352	490	493	0.4	0.5	3.976	A

17:15 - 17:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	1261	315	736		1784	0.707	1256	1042	1.2	2.4	6.768	A

2	1159	290	903	0.00	1374	0.84 4	1147	1089	1.8	4.9	15.08 5	C
3	466	116	1475	0.00	1168	0.39 9	465	575	0.4	0.7	5.110	A
4	347	87	1432		1041	0.33 3	346	508	0.3	0.5	5.175	A
5	601	150	1178		1268	0.47 4	600	600	0.5	0.9	5.374	A

17:30 - 17:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	1261	315	738		1782	0.70 7	1261	1048	2.4	2.4	6.892	A
2	1159	290	906	0.00	1372	0.84 5	1158	1092	4.9	5.1	16.61 0	C
3	466	116	1488	0.00	1161	0.40 1	466	577	0.7	0.7	5.178	A
4	347	87	1443		1036	0.33 5	347	511	0.5	0.5	5.226	A
5	601	150	1184		1265	0.47 5	601	605	0.9	0.9	5.425	A

17:45 - 18:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	1029	257	604		1869	0.55 1	1034	862	2.4	1.2	4.332	A
2	947	237	743	0.00	1465	0.64 6	960	895	5.1	1.9	7.296	A
3	380	95	1229	0.00	1318	0.28 9	381	473	0.7	0.4	3.849	A
4	283	71	1190		1169	0.24 2	284	420	0.5	0.3	4.069	A
5	491	123	974		1390	0.35 3	492	500	0.9	0.5	4.018	A

18:00 - 18:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	862	216	505		1933	0.44 6	864	719	1.2	0.8	3.370	A
2	793	198	621	0.00	1535	0.51 7	796	748	1.9	1.1	4.893	A
3	318	80	1021	0.00	1444	0.22 1	319	395	0.4	0.3	3.204	A
4	237	59	990		1275	0.18 6	238	350	0.3	0.2	3.473	A
5	411	103	812		1486	0.27 7	412	415	0.5	0.4	3.354	A

Queue Variation Results for each time segment

16:45 - 17:00

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.80	0.55	1.00	1.40	1.45			N/A	N/A
2	1.05	0.55	1.00	1.40	1.45			N/A	N/A
3	0.28	0.00	0.00	0.28	0.28			N/A	N/A
4	0.23	0.00	0.00	0.23	0.23			N/A	N/A
5	0.38	0.00	0.00	0.38	0.38			N/A	N/A

17:00 - 17:15

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	1.21	0.05	0.55	2.83	4.21			N/A	N/A
2	1.78	0.05	0.47	4.72	7.57			N/A	N/A
3	0.40	0.00	0.00	0.40	0.40			N/A	N/A
4	0.32	0.00	0.00	0.32	0.32			N/A	N/A
5	0.54	0.06	0.68	1.34	1.42			N/A	N/A

17:15 - 17:30

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	2.35	0.03	0.27	2.35	3.28			N/A	N/A
2	4.88	0.03	0.35	10.18	26.46			N/A	N/A
3	0.66	0.03	0.25	0.66	0.66			N/A	N/A
4	0.50	0.03	0.25	0.50	0.50			N/A	N/A
5	0.89	0.03	0.26	0.89	0.89			N/A	N/A

17:30 - 17:45

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	2.38	0.03	0.27	2.38	2.38			N/A	N/A
2	5.14	0.03	0.30	5.14	20.91			N/A	N/A
3	0.67	0.03	0.29	1.38	3.10			N/A	N/A
4	0.50	0.03	0.31	1.45	2.14			N/A	N/A
5	0.90	0.03	0.28	0.90	2.75			N/A	N/A

17:45 - 18:00

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	1.24	0.10	1.05	2.18	2.87			N/A	N/A
2	1.86	0.05	0.47	4.97	8.10			N/A	N/A
3	0.41	0.00	0.00	0.41	0.41			N/A	N/A
4	0.32	0.00	0.00	0.32	0.32			N/A	N/A
5	0.55	0.55	1.00	1.40	1.45			N/A	N/A

18:00 - 18:15

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.81	0.05	0.49	1.64	2.31			N/A	N/A
2	1.08	0.03	0.33	2.47	5.40			N/A	N/A
3	0.28	0.00	0.00	0.28	0.28			N/A	N/A
4	0.23	0.00	0.00	0.23	0.23			N/A	N/A
5	0.38	0.00	0.00	0.38	0.38			N/A	N/A

2023 TB incl station rats, IP

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	Arm 1 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	Arm 3 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	Arm 4 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Pedestrian Crossing	Arm 2 - Pedestrian crossing	Pedestrian crossing uses default flow of 0. Is this correct?
Warning	Pedestrian Crossing	Arm 3 - Pedestrian crossing	Pedestrian crossing uses default flow of 0. Is this correct?
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout		1, 2, 3, 4, 5	3.66	A

Junction Network

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold	Network delay (s)	Network LOS
Left	Normal/unknown	67	Arm 2	3.66	A

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D15	2023 TB incl station rats	IP	ONE HOUR	12:45	14:15	15	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1		ONE HOUR	✓	725	100.000
2		ONE HOUR	✓	699	100.000
3		ONE HOUR	✓	334	100.000
4		ONE HOUR	✓	232	100.000
5		ONE HOUR	✓	399	100.000

Demand overview (Pedestrians)

Arm	Profile type	Average pedestrian flow (Ped/hr)
1		
2	[ONEHOUR]	0.00
3	[ONEHOUR]	0.00
4		
5		

Origin-Destination Data

Demand (PCU/hr)

		To				
		1	2	3	4	5
From	1	1	302	240	130	52
	2	264	2	42	107	284
	3	216	51	0	12	55
	4	125	89	11	0	7
	5	58	281	55	5	0

Vehicle Mix

Heavy Vehicle Percentages

		To				
		1	2	3	4	5
From	1	0	0	0	0	0
	2	0	0	0	0	0
	3	0	0	0	0	0
	4	0	0	0	0	0
	5	0	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max 95th percentile Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
1	0.42	3.24	0.7	2.6	A	665	998
2	0.49	4.45	0.9	1.6	A	641	962
3	0.25	3.18	0.3	1.3	A	306	460
4	0.20	3.58	0.3	0.9	A	213	319
5	0.30	3.48	0.4	1.6	A	366	549

Main Results for each time segment

12:45 - 13:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	546	136	371		2021	0.270	544	498	0.0	0.4	2.436	A
2	526	132	371	0.00	1677	0.314	524	544	0.0	0.5	3.113	A
3	251	63	634	0.00	1679	0.150	251	261	0.0	0.2	2.520	A
4	175	44	694		1432	0.122	174	191	0.0	0.1	2.861	A
5	300	75	570		1631	0.184	299	299	0.0	0.2	2.703	A

13:00 - 13:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	652	163	444		1973	0.330	651	596	0.4	0.5	2.723	A
2	628	157	444	0.00	1636	0.384	628	651	0.5	0.6	3.570	A
3	300	75	759	0.00	1603	0.187	300	313	0.2	0.2	2.763	A
4	209	52	831		1359	0.153	208	228	0.1	0.2	3.127	A
5	359	90	682		1564	0.229	358	357	0.2	0.3	2.986	A

13:15 - 13:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	798	200	543		1909	0.418	797	730	0.5	0.7	3.236	A

2	770	192	543	0.00	1579	0.487	768	797	0.6	0.9	4.433	A
3	368	92	929	0.00	1500	0.245	367	383	0.2	0.3	3.179	A
4	255	64	1017		1261	0.203	255	279	0.2	0.3	3.580	A
5	439	110	835		1473	0.298	439	438	0.3	0.4	3.479	A

13:30 - 13:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	798	200	544		1908	0.418	798	731	0.7	0.7	3.242	A
2	770	192	544	0.00	1579	0.488	770	798	0.9	0.9	4.449	A
3	368	92	930	0.00	1499	0.245	368	383	0.3	0.3	3.181	A
4	255	64	1018		1260	0.203	255	280	0.3	0.3	3.582	A
5	439	110	836		1472	0.298	439	438	0.4	0.4	3.484	A

13:45 - 14:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	652	163	445		1973	0.330	653	598	0.7	0.5	2.730	A
2	628	157	445	0.00	1635	0.384	630	653	0.9	0.6	3.587	A
3	300	75	761	0.00	1602	0.187	301	313	0.3	0.2	2.769	A
4	209	52	833		1358	0.154	209	229	0.3	0.2	3.135	A
5	359	90	683		1563	0.230	359	358	0.4	0.3	2.993	A

14:00 - 14:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	546	136	372		2020	0.270	546	500	0.5	0.4	2.443	A
2	526	132	372	0.00	1676	0.314	527	546	0.6	0.5	3.135	A
3	251	63	637	0.00	1677	0.150	252	262	0.2	0.2	2.525	A
4	175	44	697		1430	0.122	175	191	0.2	0.1	2.868	A
5	300	75	572		1629	0.184	301	300	0.3	0.2	2.709	A

Queue Variation Results for each time segment

12:45 - 13:00

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.37	0.00	0.00	0.37	0.37			N/A	N/A
2	0.45	0.00	0.00	0.45	0.45			N/A	N/A
3	0.18	0.00	0.00	0.18	0.18			N/A	N/A
4	0.14	0.00	0.00	0.14	0.14			N/A	N/A
5	0.22	0.00	0.00	0.22	0.22			N/A	N/A

13:00 - 13:15

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.49	0.00	0.00	0.49	0.49			N/A	N/A
2	0.62	0.09	0.81	1.36	1.43			N/A	N/A
3	0.23	0.00	0.00	0.23	0.23			N/A	N/A
4	0.18	0.00	0.00	0.18	0.18			N/A	N/A
5	0.30	0.00	0.00	0.30	0.30			N/A	N/A

13:15 - 13:30

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.71	0.03	0.25	0.71	0.71			N/A	N/A
2	0.94	0.03	0.26	0.94	0.94			N/A	N/A
3	0.32	0.03	0.25	0.45	0.48			N/A	N/A
4	0.25	0.03	0.25	0.46	0.48			N/A	N/A
5	0.42	0.03	0.25	0.45	0.48			N/A	N/A

13:30 - 13:45

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.72	0.03	0.28	0.72	2.64			N/A	N/A
2	0.95	0.03	0.27	0.95	1.65			N/A	N/A
3	0.32	0.03	0.32	1.07	1.32			N/A	N/A
4	0.25	0.03	0.27	0.49	0.89			N/A	N/A
5	0.42	0.03	0.32	1.35	1.59			N/A	N/A

13:45 - 14:00

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.50	0.00	0.00	0.50	0.50			N/A	N/A
2	0.63	0.55	1.00	1.40	1.45			N/A	N/A
3	0.23	0.00	0.00	0.23	0.23			N/A	N/A
4	0.18	0.00	0.00	0.18	0.18			N/A	N/A
5	0.30	0.00	0.00	0.30	0.30			N/A	N/A

14:00 - 14:15

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.37	0.00	0.00	0.37	0.37			N/A	N/A
2	0.46	0.00	0.00	0.46	0.46			N/A	N/A
3	0.18	0.00	0.00	0.18	0.18			N/A	N/A
4	0.14	0.00	0.00	0.14	0.14			N/A	N/A
5	0.23	0.00	0.00	0.23	0.23			N/A	N/A

2023 TB incl station rats, OP

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	Arm 1 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	Arm 3 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	Arm 4 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Pedestrian Crossing	Arm 2 - Pedestrian crossing	Pedestrian crossing uses default flow of 0. Is this correct?
Warning	Pedestrian Crossing	Arm 3 - Pedestrian crossing	Pedestrian crossing uses default flow of 0. Is this correct?
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout		1, 2, 3, 4, 5	1.88	A

Junction Network

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold	Network delay (s)	Network LOS
Left	Normal/unknown	900		1.88	A

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D16	2023 TB incl station rats	OP	ONE HOUR	22:45	00:15	15	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1		ONE HOUR	✓	71	100.000
2		ONE HOUR	✓	66	100.000
3		ONE HOUR	✓	32	100.000
4		ONE HOUR	✓	23	100.000
5		ONE HOUR	✓	39	100.000

Demand overview (Pedestrians)

Arm	Profile type	Average pedestrian flow (Ped/hr)
1		
2	[ONEHOUR]	0.00
3	[ONEHOUR]	0.00
4		
5		

Origin-Destination Data

Demand (PCU/hr)

		To				
		1	2	3	4	5
From	1	0	30	23	13	5
	2	24	0	4	10	28
	3	21	5	0	1	5
	4	12	9	1	0	1
	5	6	27	5	1	0

Vehicle Mix

Heavy Vehicle Percentages

		To				
		1	2	3	4	5
From	1	0	0	0	0	0
	2	0	0	0	0	0
	3	0	0	0	0	0
	4	0	0	0	0	0
	5	0	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max 95th percentile Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
1	0.04	1.67	0.0	0.5	A	65	98
2	0.04	2.02	0.0	0.5	A	61	91
3	0.02	1.89	0.0	0.5	A	29	44
4	0.01	2.09	0.0	0.5	A	21	32
5	0.02	1.91	0.0	0.5	A	36	54

Main Results for each time segment

22:45 - 23:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	53	13	36		2238	0.024	53	47	0.0	0.0	1.647	A
2	50	12	36	0.00	1868	0.027	50	53	0.0	0.0	1.979	A
3	24	6	61	0.00	1934	0.012	24	25	0.0	0.0	1.884	A
4	17	4	66		1764	0.010	17	19	0.0	0.0	2.060	A
5	29	7	54		1938	0.015	29	29	0.0	0.0	1.885	A

23:00 - 23:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	64	16	43		2233	0.029	64	57	0.0	0.0	1.658	A
2	59	15	43	0.00	1864	0.032	59	64	0.0	0.0	1.994	A
3	29	7	73	0.00	1934	0.015	29	30	0.0	0.0	1.888	A
4	21	5	79		1757	0.012	21	22	0.0	0.0	2.073	A
5	35	9	65		1931	0.018	35	35	0.0	0.0	1.897	A

23:15 - 23:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	78	20	53		2227	0.035	78	69	0.0	0.0	1.674	A

2	73	18	53	0.00	1858	0.039	73	78	0.0	0.0	2.016	A
3	35	9	89	0.00	1934	0.018	35	36	0.0	0.0	1.895	A
4	25	6	97		1748	0.014	25	28	0.0	0.0	2.090	A
5	43	11	79		1923	0.022	43	43	0.0	0.0	1.914	A

23:30 - 23:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	78	20	53		2227	0.035	78	69	0.0	0.0	1.674	A
2	73	18	53	0.00	1858	0.039	73	78	0.0	0.0	2.016	A
3	35	9	89	0.00	1934	0.018	35	36	0.0	0.0	1.895	A
4	25	6	97		1748	0.014	25	28	0.0	0.0	2.090	A
5	43	11	79		1923	0.022	43	43	0.0	0.0	1.914	A

23:45 - 00:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	64	16	43		2233	0.029	64	57	0.0	0.0	1.661	A
2	59	15	43	0.00	1864	0.032	59	64	0.0	0.0	1.995	A
3	29	7	73	0.00	1934	0.015	29	30	0.0	0.0	1.888	A
4	21	5	79		1757	0.012	21	22	0.0	0.0	2.074	A
5	35	9	65		1931	0.018	35	35	0.0	0.0	1.900	A

00:00 - 00:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	53	13	36		2238	0.024	53	47	0.0	0.0	1.647	A
2	50	12	36	0.00	1868	0.027	50	53	0.0	0.0	1.980	A
3	24	6	61	0.00	1934	0.012	24	25	0.0	0.0	1.884	A
4	17	4	66		1764	0.010	17	19	0.0	0.0	2.062	A
5	29	7	54		1937	0.015	29	29	0.0	0.0	1.885	A

Queue Variation Results for each time segment

22:45 - 23:00

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.02	0.00	0.00	0.02	0.02			N/A	N/A
2	0.03	0.00	0.00	0.03	0.03			N/A	N/A
3	0.01	0.00	0.00	0.01	0.01			N/A	N/A
4	0.01	0.00	0.00	0.01	0.01			N/A	N/A
5	0.02	0.00	0.00	0.02	0.02			N/A	N/A

23:00 - 23:15

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.03	0.03	0.25	0.45	0.48			N/A	N/A
2	0.03	0.03	0.25	0.45	0.48			N/A	N/A
3	0.02	0.02	0.25	0.45	0.48			N/A	N/A
4	0.01	0.01	0.25	0.45	0.48			N/A	N/A
5	0.02	0.02	0.25	0.45	0.48			N/A	N/A

23:15 - 23:30

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.04	0.00	0.00	0.04	0.04			N/A	N/A
2	0.04	0.00	0.00	0.04	0.04			N/A	N/A
3	0.02	0.02	0.25	0.45	0.48			N/A	N/A
4	0.01	0.01	0.25	0.46	0.48			N/A	N/A
5	0.02	0.00	0.00	0.02	0.02			N/A	N/A

23:30 - 23:45

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.04	0.00	0.00	0.04	0.04			N/A	N/A
2	0.04	0.00	0.00	0.04	0.04			N/A	N/A
3	0.02	0.00	0.00	0.02	0.02			N/A	N/A
4	0.01	0.00	0.00	0.01	0.01			N/A	N/A
5	0.02	0.00	0.00	0.02	0.02			N/A	N/A

23:45 - 00:00

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.03	0.00	0.00	0.03	0.03			N/A	N/A
2	0.03	0.00	0.00	0.03	0.03			N/A	N/A
3	0.02	0.00	0.00	0.02	0.02			N/A	N/A
4	0.01	0.00	0.00	0.01	0.01			N/A	N/A
5	0.02	0.00	0.00	0.02	0.02			N/A	N/A

00:00 - 00:15

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.02	0.00	0.00	0.02	0.02			N/A	N/A
2	0.03	0.00	0.00	0.03	0.03			N/A	N/A
3	0.01	0.00	0.00	0.01	0.01			N/A	N/A
4	0.01	0.00	0.00	0.01	0.01			N/A	N/A
5	0.02	0.00	0.00	0.02	0.02			N/A	N/A

2037 TB, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	Arm 1 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	Arm 3 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	Arm 4 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Pedestrian Crossing	Arm 2 - Pedestrian crossing	Pedestrian crossing uses default flow of 0. Is this correct?
Warning	Pedestrian Crossing	Arm 3 - Pedestrian crossing	Pedestrian crossing uses default flow of 0. Is this correct?
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout		1, 2, 3, 4, 5	8.18	A

Junction Network

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold	Network delay (s)	Network LOS
Left	Normal/unknown	13	Arm 2	8.18	A

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D17	2037 TB	AM	ONE HOUR	07:45	09:15	15	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1		ONE HOUR	✓	851	100.000
2		ONE HOUR	✓	1152	100.000
3		ONE HOUR	✓	604	100.000
4		ONE HOUR	✓	382	100.000
5		ONE HOUR	✓	537	100.000

Demand overview (Pedestrians)

Arm	Profile type	Average pedestrian flow (Ped/hr)
1		
2	[ONEHOUR]	0.00
3	[ONEHOUR]	0.00
4		
5		

Origin-Destination Data

Demand (PCU/hr)

		To				
		1	2	3	4	5
From	1	0	428	206	145	72
	2	443	16	42	189	462
	3	339	120	0	18	127
	4	233	138	9	0	2
	5	75	373	86	3	0

Vehicle Mix

Heavy Vehicle Percentages

		To				
		1	2	3	4	5
From	1	0	0	0	0	0
	2	0	0	0	0	0
	3	0	0	0	0	0
	4	0	0	0	0	0
	5	0	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max 95th percentile Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
1	0.54	4.54	1.2	1.5	A	781	1171
2	0.81	12.19	4.2	19.4	B	1057	1586
3	0.57	7.05	1.3	2.5	A	554	831
4	0.48	7.85	0.9	3.7	A	351	526
5	0.53	6.82	1.1	2.8	A	493	739

Main Results for each time segment

07:45 - 08:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	641	160	559		1899	0.337	639	817	0.0	0.5	2.852	A
2	867	217	391	0.00	1666	0.521	863	806	0.0	1.1	4.461	A
3	455	114	997	0.00	1459	0.312	453	257	0.0	0.5	3.573	A
4	288	72	1183		1173	0.245	286	266	0.0	0.3	4.056	A
5	404	101	973		1391	0.291	403	497	0.0	0.4	3.637	A

08:00 - 08:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	765	191	669		1827	0.419	764	978	0.5	0.7	3.382	A
2	1036	259	468	0.00	1622	0.639	1033	965	1.1	1.7	6.084	A
3	543	136	1193	0.00	1340	0.405	542	308	0.5	0.7	4.509	A
4	343	86	1416		1049	0.327	343	319	0.3	0.5	5.091	A
5	483	121	1165		1276	0.378	482	595	0.4	0.6	4.526	A

08:15 - 08:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	937	234	817		1731	0.541	935	1194	0.7	1.2	4.515	A

2	1268	317	572	0.00	1562	0.81 2	1259	1180	1.7	4.0	11.53 3	B
3	665	166	1455	0.00	1181	0.56 3	663	377	0.7	1.3	6.918	A
4	421	105	1729		884	0.47 6	419	389	0.5	0.9	7.711	A
5	591	148	1422		1123	0.52 6	589	726	0.6	1.1	6.720	A

08:30 - 08:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	937	234	820		1729	0.54 2	937	1200	1.2	1.2	4.545	A
2	1268	317	574	0.00	1562	0.81 2	1268	1183	4.0	4.2	12.19 1	B
3	665	166	1464	0.00	1175	0.56 6	665	378	1.3	1.3	7.051	A
4	421	105	1738		879	0.47 8	421	391	0.9	0.9	7.846	A
5	591	148	1429		1119	0.52 8	591	730	1.1	1.1	6.820	A

08:45 - 09:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	765	191	673		1825	0.41 9	767	986	1.2	0.7	3.410	A
2	1036	259	470	0.00	1621	0.63 9	1045	970	4.2	1.8	6.354	A
3	543	136	1205	0.00	1332	0.40 8	545	309	1.3	0.7	4.589	A
4	343	86	1430		1042	0.32 9	345	321	0.9	0.5	5.173	A
5	483	121	1174		1271	0.38 0	485	600	1.1	0.6	4.591	A

09:00 - 09:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	641	160	562		1896	0.33 8	642	823	0.7	0.5	2.872	A
2	867	217	393	0.00	1665	0.52 1	870	811	1.8	1.1	4.546	A
3	455	114	1004	0.00	1454	0.31 3	456	259	0.7	0.5	3.608	A
4	288	72	1192		1168	0.24 6	288	268	0.5	0.3	4.095	A
5	404	101	980		1386	0.29 2	405	501	0.6	0.4	3.673	A

Queue Variation Results for each time segment

07:45 - 08:00

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.51	0.51	1.00	1.40	1.45			N/A	N/A
2	1.08	0.55	1.00	1.40	1.45			N/A	N/A
3	0.45	0.00	0.00	0.45	0.45			N/A	N/A
4	0.32	0.00	0.00	0.32	0.32			N/A	N/A
5	0.41	0.00	0.00	0.41	0.41			N/A	N/A

08:00 - 08:15

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.72	0.08	0.78	1.40	1.48			N/A	N/A
2	1.73	0.05	0.48	4.57	7.25			N/A	N/A
3	0.68	0.08	0.76	1.38	1.45			N/A	N/A
4	0.48	0.00	0.00	0.48	0.48			N/A	N/A
5	0.60	0.07	0.75	1.35	1.43			N/A	N/A

08:15 - 08:30

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	1.17	0.03	0.26	1.17	1.17			N/A	N/A
2	4.04	0.03	0.31	4.97	19.37			N/A	N/A
3	1.27	0.03	0.26	1.27	1.27			N/A	N/A
4	0.89	0.03	0.26	0.89	0.89			N/A	N/A
5	1.09	0.03	0.26	1.09	1.09			N/A	N/A

08:30 - 08:45

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	1.18	0.03	0.27	1.18	1.41			N/A	N/A
2	4.18	0.03	0.28	4.18	10.21			N/A	N/A
3	1.29	0.03	0.27	1.29	2.51			N/A	N/A
4	0.91	0.03	0.28	1.09	3.67			N/A	N/A
5	1.11	0.03	0.28	1.11	2.81			N/A	N/A

08:45 - 09:00

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.73	0.50	0.97	1.40	1.45			N/A	N/A
2	1.80	0.05	0.63	4.65	7.11			N/A	N/A
3	0.69	0.12	0.88	1.38	1.44			N/A	N/A
4	0.50	0.05	0.46	1.28	1.39			N/A	N/A
5	0.62	0.11	0.85	1.37	1.44			N/A	N/A

09:00 - 09:15

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.51	0.05	0.50	1.30	1.40			N/A	N/A
2	1.10	0.04	0.36	2.75	5.13			N/A	N/A
3	0.46	0.04	0.39	1.23	1.36			N/A	N/A
4	0.33	0.03	0.26	0.46	0.49			N/A	N/A
5	0.41	0.03	0.33	1.09	1.30			N/A	N/A

2037 TB, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	Arm 1 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	Arm 3 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	Arm 4 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Pedestrian Crossing	Arm 2 - Pedestrian crossing	Pedestrian crossing uses default flow of 0. Is this correct?
Warning	Pedestrian Crossing	Arm 3 - Pedestrian crossing	Pedestrian crossing uses default flow of 0. Is this correct?
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout		1, 2, 3, 4, 5	8.65	A

Junction Network

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold	Network delay (s)	Network LOS
Left	Normal/unknown	10	Arm 2	8.65	A

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D18	2037 TB	PM	ONE HOUR	16:45	18:15	15	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1		ONE HOUR	✓	1184	100.000
2		ONE HOUR	✓	988	100.000
3		ONE HOUR	✓	460	100.000
4		ONE HOUR	✓	329	100.000
5		ONE HOUR	✓	572	100.000

Demand overview (Pedestrians)

Arm	Profile type	Average pedestrian flow (Ped/hr)
1		
2	[ONEHOUR]	0.00
3	[ONEHOUR]	0.00
4		
5		

Origin-Destination Data

Demand (PCU/hr)

		To				
		1	2	3	4	5
From	1	3	436	402	280	63
	2	279	3	124	169	413
	3	294	67	0	14	85
	4	173	135	17	0	4
	5	69	389	106	7	1

Vehicle Mix

Heavy Vehicle Percentages

		To				
		1	2	3	4	5
From	1	0	0	0	0	0
	2	0	0	0	0	0
	3	0	0	0	0	0
	4	0	0	0	0	0
	5	0	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max 95th percentile Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
1	0.75	8.17	2.9	7.7	A	1086	1630
2	0.81	14.29	4.2	20.4	B	907	1360
3	0.41	4.84	0.7	3.1	A	422	633
4	0.33	4.91	0.5	2.1	A	302	453
5	0.47	5.12	0.9	2.6	A	525	787

Main Results for each time segment

16:45 - 17:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	891	223	544		1908	0.467	888	613	0.0	0.9	3.517	A
2	744	186	659	0.00	1513	0.492	740	773	0.0	1.0	4.636	A
3	346	87	913	0.00	1510	0.229	345	487	0.0	0.3	3.089	A
4	248	62	905		1320	0.188	247	352	0.0	0.2	3.351	A
5	431	108	728		1536	0.280	429	424	0.0	0.4	3.247	A

17:00 - 17:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	1064	266	651		1839	0.579	1062	734	0.9	1.4	4.626	A
2	888	222	789	0.00	1439	0.617	886	925	1.0	1.6	6.474	A
3	414	103	1092	0.00	1401	0.295	413	582	0.3	0.4	3.643	A
4	296	74	1084		1225	0.241	295	422	0.2	0.3	3.870	A
5	514	129	871		1451	0.354	514	508	0.4	0.5	3.838	A

17:15 - 17:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	1304	326	797		1744	0.747	1298	897	1.4	2.9	7.953	A

2	1088	272	964	0.00	1340	0.81 2	1078	1130	1.6	4.0	13.29 7	B
3	506	127	1331	0.00	1256	0.40 3	505	711	0.4	0.7	4.791	A
4	362	91	1322		1099	0.32 9	362	514	0.3	0.5	4.875	A
5	630	157	1065		1336	0.47 1	628	619	0.5	0.9	5.081	A

17:30 - 17:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	1304	326	798		1743	0.74 8	1303	900	2.9	2.9	8.174	A
2	1088	272	968	0.00	1337	0.81 3	1087	1134	4.0	4.2	14.28 7	B
3	506	127	1340	0.00	1250	0.40 5	506	714	0.7	0.7	4.840	A
4	362	91	1330		1095	0.33 1	362	517	0.5	0.5	4.910	A
5	630	157	1069		1333	0.47 2	630	623	0.9	0.9	5.116	A

17:45 - 18:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	1064	266	653		1837	0.57 9	1070	739	2.9	1.4	4.731	A
2	888	222	794	0.00	1436	0.61 9	898	930	4.2	1.7	6.814	A
3	414	103	1106	0.00	1393	0.29 7	415	587	0.7	0.4	3.686	A
4	296	74	1094		1220	0.24 2	296	426	0.5	0.3	3.903	A
5	514	129	877		1447	0.35 5	516	514	0.9	0.6	3.870	A

18:00 - 18:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	891	223	547		1906	0.46 8	893	617	1.4	0.9	3.560	A
2	744	186	663	0.00	1511	0.49 2	747	777	1.7	1.0	4.726	A
3	346	87	920	0.00	1505	0.23 0	347	490	0.4	0.3	3.108	A
4	248	62	912		1316	0.18 8	248	355	0.3	0.2	3.370	A
5	431	108	733		1534	0.28 1	431	427	0.6	0.4	3.269	A

Queue Variation Results for each time segment

16:45 - 17:00

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.87	0.55	1.00	1.40	1.45			N/A	N/A
2	0.96	0.55	1.00	1.40	1.45			N/A	N/A
3	0.30	0.00	0.00	0.30	0.30			N/A	N/A
4	0.23	0.00	0.00	0.23	0.23			N/A	N/A
5	0.39	0.00	0.00	0.39	0.39			N/A	N/A

17:00 - 17:15

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	1.36	0.05	0.48	3.40	5.25			N/A	N/A
2	1.58	0.05	0.49	4.05	6.39			N/A	N/A
3	0.42	0.00	0.00	0.42	0.42			N/A	N/A
4	0.32	0.00	0.00	0.32	0.32			N/A	N/A
5	0.55	0.07	0.70	1.34	1.42			N/A	N/A

17:15 - 17:30

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	2.86	0.03	0.28	2.86	7.72			N/A	N/A
2	4.01	0.03	0.32	6.17	20.37			N/A	N/A
3	0.67	0.03	0.25	0.67	0.67			N/A	N/A
4	0.49	0.03	0.25	0.49	0.49			N/A	N/A
5	0.88	0.03	0.26	0.88	0.88			N/A	N/A

17:30 - 17:45

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	2.91	0.03	0.27	2.91	2.91			N/A	N/A
2	4.18	0.03	0.29	4.18	13.34			N/A	N/A
3	0.68	0.03	0.29	1.29	3.06			N/A	N/A
4	0.49	0.03	0.31	1.44	2.07			N/A	N/A
5	0.89	0.03	0.28	0.89	2.60			N/A	N/A

17:45 - 18:00

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	1.39	0.07	0.98	2.90	3.98			N/A	N/A
2	1.65	0.05	0.51	4.24	6.58			N/A	N/A
3	0.42	0.00	0.00	0.42	0.42			N/A	N/A
4	0.32	0.00	0.00	0.32	0.32			N/A	N/A
5	0.55	0.55	1.00	1.40	1.45			N/A	N/A

18:00 - 18:15

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.88	0.04	0.43	1.98	3.13			N/A	N/A
2	0.98	0.03	0.35	2.37	4.63			N/A	N/A
3	0.30	0.00	0.00	0.30	0.30			N/A	N/A
4	0.23	0.00	0.00	0.23	0.23			N/A	N/A
5	0.39	0.00	0.00	0.39	0.39			N/A	N/A

2037 TB, IP

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	Arm 1 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	Arm 3 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	Arm 4 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Pedestrian Crossing	Arm 2 - Pedestrian crossing	Pedestrian crossing uses default flow of 0. Is this correct?
Warning	Pedestrian Crossing	Arm 3 - Pedestrian crossing	Pedestrian crossing uses default flow of 0. Is this correct?
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout		1, 2, 3, 4, 5	4.05	A

Junction Network

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold	Network delay (s)	Network LOS
Left	Normal/unknown	52	Arm 2	4.05	A

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D19	2037 TB	IP	ONE HOUR	12:45	14:15	15	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1		ONE HOUR	✓	760	100.000
2		ONE HOUR	✓	767	100.000
3		ONE HOUR	✓	407	100.000
4		ONE HOUR	✓	244	100.000
5		ONE HOUR	✓	424	100.000

Demand overview (Pedestrians)

Arm	Profile type	Average pedestrian flow (Ped/hr)
1		
2	[ONEHOUR]	0.00
3	[ONEHOUR]	0.00
4		
5		

Origin-Destination Data

Demand (PCU/hr)

		To				
		1	2	3	4	5
From	1	1	313	263	131	52
	2	273	2	92	109	291
	3	235	88	0	17	67
	4	127	92	18	0	7
	5	59	289	71	5	0

Vehicle Mix

Heavy Vehicle Percentages

		To				
		1	2	3	4	5
From	1	0	0	0	0	0
	2	0	0	0	0	0
	3	0	0	0	0	0
	4	0	0	0	0	0
	5	0	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max 95th percentile Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
1	0.45	3.53	0.8	2.2	A	697	1046
2	0.55	5.11	1.2	1.5	A	704	1056
3	0.30	3.47	0.4	1.6	A	373	560
4	0.22	3.82	0.3	1.2	A	224	336
5	0.33	3.77	0.5	2.1	A	389	584

Main Results for each time segment

12:45 - 13:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	572	143	424		1986	0.288	571	522	0.0	0.4	2.541	A
2	577	144	406	0.00	1657	0.348	575	588	0.0	0.5	3.323	A
3	306	77	648	0.00	1670	0.183	306	333	0.0	0.2	2.637	A
4	184	46	757		1398	0.131	183	197	0.0	0.2	2.961	A
5	319	80	627		1596	0.200	318	313	0.0	0.2	2.817	A

13:00 - 13:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	683	171	507		1932	0.354	683	624	0.4	0.5	2.880	A
2	690	172	486	0.00	1612	0.428	689	704	0.5	0.7	3.897	A
3	366	91	776	0.00	1593	0.230	366	399	0.2	0.3	2.934	A
4	219	55	906		1319	0.166	219	235	0.2	0.2	3.271	A
5	381	95	751		1523	0.250	381	374	0.2	0.3	3.152	A

13:15 - 13:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	837	209	621		1858	0.450	836	764	0.5	0.8	3.518	A

2	844	211	595	0.00	1550	0.545	843	862	0.7	1.2	5.081	A
3	448	112	949	0.00	1487	0.301	448	488	0.3	0.4	3.460	A
4	269	67	1109		1212	0.222	268	288	0.2	0.3	3.815	A
5	467	117	919		1423	0.328	466	458	0.3	0.5	3.763	A

13:30 - 13:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	837	209	622		1857	0.450	837	765	0.8	0.8	3.526	A
2	844	211	596	0.00	1549	0.545	844	863	1.2	1.2	5.108	A
3	448	112	951	0.00	1486	0.302	448	489	0.4	0.4	3.467	A
4	269	67	1111		1211	0.222	269	288	0.3	0.3	3.819	A
5	467	117	920		1422	0.328	467	459	0.5	0.5	3.769	A

13:45 - 14:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	683	171	509		1931	0.354	684	626	0.8	0.6	2.891	A
2	690	172	487	0.00	1611	0.428	691	706	1.2	0.8	3.921	A
3	366	91	779	0.00	1591	0.230	366	400	0.4	0.3	2.942	A
4	219	55	909		1318	0.166	220	236	0.3	0.2	3.280	A
5	381	95	753		1521	0.251	382	376	0.5	0.3	3.162	A

14:00 - 14:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	572	143	426		1985	0.288	573	524	0.6	0.4	2.549	A
2	577	144	408	0.00	1656	0.349	578	591	0.8	0.5	3.344	A
3	306	77	651	0.00	1668	0.184	307	335	0.3	0.2	2.646	A
4	184	46	761		1396	0.132	184	197	0.2	0.2	2.971	A
5	319	80	630		1595	0.200	320	314	0.3	0.3	2.825	A

Queue Variation Results for each time segment

12:45 - 13:00

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.40	0.00	0.00	0.40	0.40			N/A	N/A
2	0.53	0.53	1.00	1.40	1.45			N/A	N/A
3	0.22	0.00	0.00	0.22	0.22			N/A	N/A
4	0.15	0.00	0.00	0.15	0.15			N/A	N/A
5	0.25	0.00	0.00	0.25	0.25			N/A	N/A

13:00 - 13:15

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.54	0.07	0.70	1.34	1.42			N/A	N/A
2	0.74	0.09	0.81	1.41	1.49			N/A	N/A
3	0.30	0.00	0.00	0.30	0.30			N/A	N/A
4	0.20	0.00	0.00	0.20	0.20			N/A	N/A
5	0.33	0.00	0.00	0.33	0.33			N/A	N/A

13:15 - 13:30

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.81	0.03	0.25	0.81	0.81			N/A	N/A
2	1.18	0.03	0.26	1.18	1.18			N/A	N/A
3	0.43	0.03	0.25	0.45	0.48			N/A	N/A
4	0.28	0.03	0.25	0.46	0.48			N/A	N/A
5	0.49	0.03	0.25	0.49	0.49			N/A	N/A

13:30 - 13:45

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.82	0.03	0.27	0.82	2.19			N/A	N/A
2	1.19	0.03	0.27	1.19	1.41			N/A	N/A
3	0.43	0.03	0.32	1.36	1.62			N/A	N/A
4	0.28	0.03	0.30	0.87	1.19			N/A	N/A
5	0.49	0.03	0.31	1.43	2.06			N/A	N/A

13:45 - 14:00

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.55	0.55	1.00	1.40	1.45			N/A	N/A
2	0.75	0.34	0.96	1.39	1.45			N/A	N/A
3	0.30	0.00	0.00	0.30	0.30			N/A	N/A
4	0.20	0.00	0.00	0.20	0.20			N/A	N/A
5	0.34	0.00	0.00	0.34	0.34			N/A	N/A

14:00 - 14:15

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.41	0.00	0.00	0.41	0.41			N/A	N/A
2	0.54	0.06	0.59	1.32	1.41			N/A	N/A
3	0.23	0.00	0.00	0.23	0.23			N/A	N/A
4	0.15	0.00	0.00	0.15	0.15			N/A	N/A
5	0.25	0.00	0.00	0.25	0.25			N/A	N/A

2037 TB, OP

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	Arm 1 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	Arm 3 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	Arm 4 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Pedestrian Crossing	Arm 2 - Pedestrian crossing	Pedestrian crossing uses default flow of 0. Is this correct?
Warning	Pedestrian Crossing	Arm 3 - Pedestrian crossing	Pedestrian crossing uses default flow of 0. Is this correct?
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout		1, 2, 3, 4, 5	1.90	A

Junction Network

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold	Network delay (s)	Network LOS
Left	Normal/unknown	900		1.90	A

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D20	2037 TB	OP	ONE HOUR	22:45	00:15	15	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1		ONE HOUR	✓	76	100.000
2		ONE HOUR	✓	75	100.000
3		ONE HOUR	✓	48	100.000
4		ONE HOUR	✓	23	100.000
5		ONE HOUR	✓	42	100.000

Demand overview (Pedestrians)

Arm	Profile type	Average pedestrian flow (Ped/hr)
1		
2	[ONEHOUR]	0.00
3	[ONEHOUR]	0.00
4		
5		

Origin-Destination Data

Demand (PCU/hr)

		To				
		1	2	3	4	5
From	1	0	31	27	13	5
	2	25	0	11	11	28
	3	26	13	0	1	8
	4	12	9	1	0	1
	5	6	28	7	1	0

Vehicle Mix

Heavy Vehicle Percentages

		To				
		1	2	3	4	5
From	1	0	0	0	0	0
	2	0	0	0	0	0
	3	0	0	0	0	0
	4	0	0	0	0	0
	5	0	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max 95th percentile Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
1	0.04	1.68	0.0	0.5	A	70	105
2	0.04	2.03	0.0	0.5	A	69	103
3	0.03	1.91	0.0	0.5	A	44	66
4	0.01	2.10	0.0	0.5	A	21	32
5	0.02	1.93	0.0	0.5	A	39	58

Main Results for each time segment

22:45 - 23:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	57	14	44		2232	0.026	57	52	0.0	0.0	1.654	A
2	56	14	41	0.00	1865	0.030	56	61	0.0	0.0	1.990	A
3	36	9	62	0.00	1934	0.019	36	35	0.0	0.0	1.895	A
4	17	4	79		1757	0.010	17	20	0.0	0.0	2.068	A
5	32	8	65		1931	0.016	32	32	0.0	0.0	1.894	A

23:00 - 23:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	68	17	53		2227	0.031	68	62	0.0	0.0	1.667	A
2	67	17	49	0.00	1861	0.036	67	73	0.0	0.0	2.007	A
3	43	11	75	0.00	1934	0.022	43	41	0.0	0.0	1.903	A
4	21	5	94		1749	0.012	21	23	0.0	0.0	2.082	A
5	38	9	77		1924	0.020	38	38	0.0	0.0	1.907	A

23:15 - 23:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	84	21	65		2219	0.038	84	76	0.0	0.0	1.685	A

2	83	21	59	0.00	1854	0.045	83	89	0.0	0.0	2.031	A
3	53	13	91	0.00	1934	0.027	53	51	0.0	0.0	1.912	A
4	25	6	116		1738	0.015	25	29	0.0	0.0	2.102	A
5	46	12	95		1913	0.024	46	46	0.0	0.0	1.927	A

23:30 - 23:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	84	21	65		2219	0.038	84	76	0.0	0.0	1.685	A
2	83	21	59	0.00	1854	0.045	83	89	0.0	0.0	2.031	A
3	53	13	91	0.00	1934	0.027	53	51	0.0	0.0	1.912	A
4	25	6	116		1738	0.015	25	29	0.0	0.0	2.102	A
5	46	12	95		1913	0.024	46	46	0.0	0.0	1.927	A

23:45 - 00:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	68	17	53		2227	0.031	68	62	0.0	0.0	1.667	A
2	67	17	49	0.00	1861	0.036	67	73	0.0	0.0	2.007	A
3	43	11	75	0.00	1934	0.022	43	41	0.0	0.0	1.903	A
4	21	5	94		1749	0.012	21	23	0.0	0.0	2.082	A
5	38	9	77		1924	0.020	38	38	0.0	0.0	1.910	A

00:00 - 00:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	57	14	44		2232	0.026	57	52	0.0	0.0	1.654	A
2	56	14	41	0.00	1865	0.030	56	61	0.0	0.0	1.990	A
3	36	9	63	0.00	1934	0.019	36	35	0.0	0.0	1.896	A
4	17	4	79		1757	0.010	17	20	0.0	0.0	2.070	A
5	32	8	65		1931	0.016	32	32	0.0	0.0	1.897	A

Queue Variation Results for each time segment

22:45 - 23:00

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.03	0.00	0.00	0.03	0.03			N/A	N/A
2	0.03	0.00	0.00	0.03	0.03			N/A	N/A
3	0.02	0.00	0.00	0.02	0.02			N/A	N/A
4	0.01	0.00	0.00	0.01	0.01			N/A	N/A
5	0.02	0.00	0.00	0.02	0.02			N/A	N/A

23:00 - 23:15

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.03	0.03	0.25	0.45	0.48			N/A	N/A
2	0.04	0.03	0.25	0.45	0.48			N/A	N/A
3	0.02	0.02	0.25	0.45	0.48			N/A	N/A
4	0.01	0.01	0.25	0.45	0.48			N/A	N/A
5	0.02	0.02	0.25	0.45	0.48			N/A	N/A

23:15 - 23:30

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.04	0.00	0.00	0.04	0.04			N/A	N/A
2	0.05	0.03	0.25	0.45	0.48			N/A	N/A
3	0.03	0.00	0.00	0.03	0.03			N/A	N/A
4	0.01	0.01	0.25	0.45	0.48			N/A	N/A
5	0.02	0.00	0.00	0.02	0.02			N/A	N/A

23:30 - 23:45

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.04	0.00	0.00	0.04	0.04			N/A	N/A
2	0.05	0.00	0.00	0.05	0.05			N/A	N/A
3	0.03	0.00	0.00	0.03	0.03			N/A	N/A
4	0.01	0.00	0.00	0.01	0.01			N/A	N/A
5	0.02	0.00	0.00	0.02	0.02			N/A	N/A

23:45 - 00:00

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.03	0.00	0.00	0.03	0.03			N/A	N/A
2	0.04	0.00	0.00	0.04	0.04			N/A	N/A
3	0.02	0.00	0.00	0.02	0.02			N/A	N/A
4	0.01	0.00	0.00	0.01	0.01			N/A	N/A
5	0.02	0.00	0.00	0.02	0.02			N/A	N/A

00:00 - 00:15

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	0.03	0.00	0.00	0.03	0.03			N/A	N/A
2	0.03	0.00	0.00	0.03	0.03			N/A	N/A
3	0.02	0.00	0.00	0.02	0.02			N/A	N/A
4	0.01	0.00	0.00	0.01	0.01			N/A	N/A
5	0.02	0.00	0.00	0.02	0.02			N/A	N/A


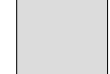


Appendix C Lowdham ARCADY Results

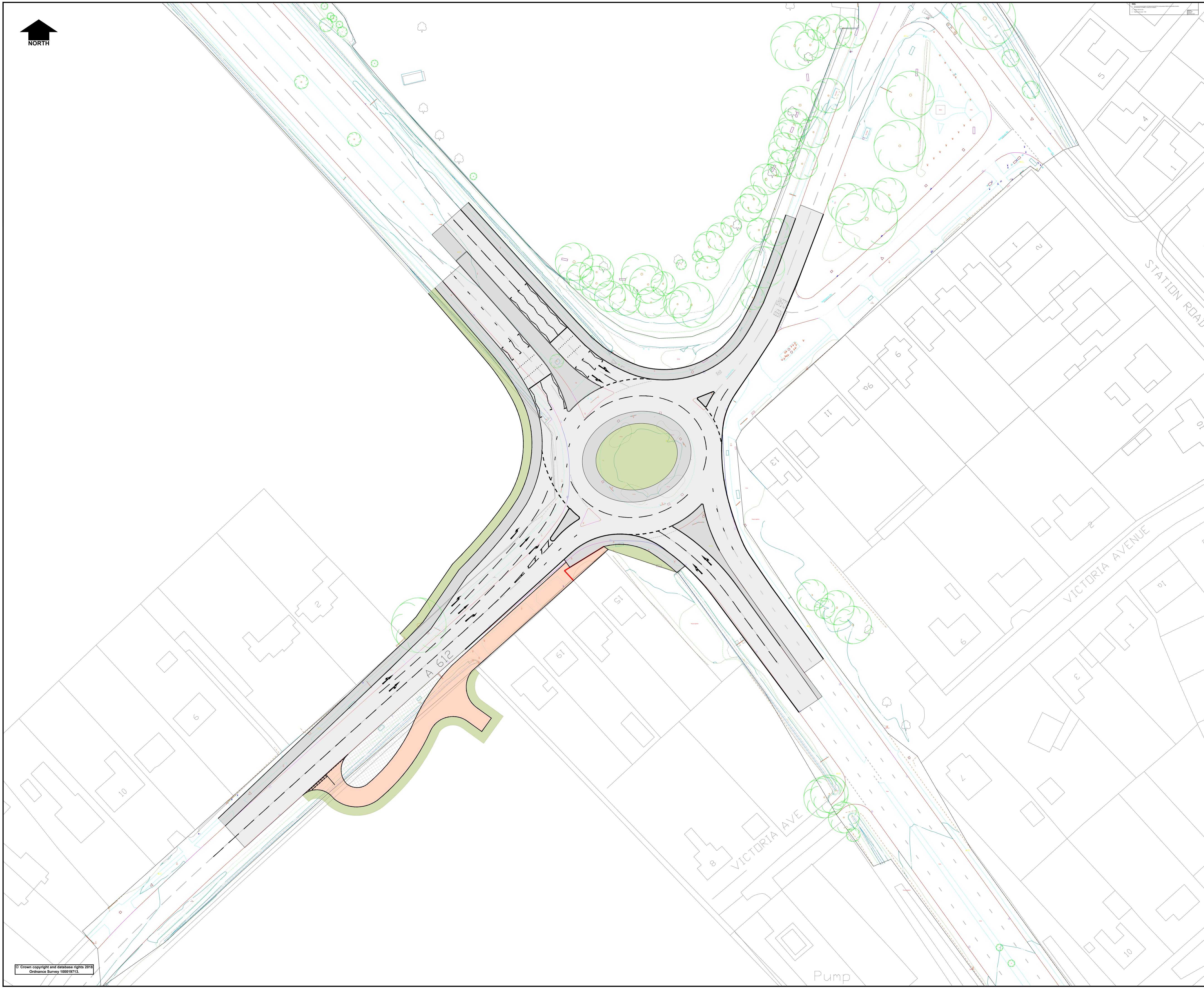


NOTES

1. This drawing is to be read in conjunction with all other relevant drawings, details and specifications.
2. Do not scale from this drawing.
3. All measurements are given in metres unless otherwise stated.

KEY

-  Proposed carriageway
-  Proposed footway
-  Proposed grass verge
-  Proposed access road
- New boundary fence and gate to property 15



Rev.	Description	Drawn	Ch'kd	Auth	Date
Project A614/A6097 CORRIDOR IMPROVEMENTS LOWDHAM ROUNDABOUT					
Status FOR INFOR		Project No. HW20949			
Drawing Title ELLIPSE ROUNDABOUT WITH LEFT LANE FILTER ON A612					
Scale 1:500 @A1		Drawn JD	Date MAR 20		
Drawing No. 20949/GEN/L006/SK/009		Rev. P02			

in partnership with




www.viam.co.uk Tel 0115 804 2100
Bilthorpe Depot, Bilthorpe Business Park, Bilthorpe,
Nottinghamshire, NG22 8ST

Junctions 9

ARCADY 9 - Roundabout Module

Version: 9.5.1.7462
© Copyright TRL Limited, 2019

For sales and distribution information, program advice and maintenance, contact TRL:
+44 (0)1344 379777 software@trl.co.uk www.trlsoftware.co.uk

The users of this computer program for the solution of an engineering problem are in no way relieved of their responsibility for the correctness of the solution

Filename: Junction 6 (Lowdham Rbt Existing) incl LG_V4.j9

Path: L:\DATA\Projects\CH_TP\60625845_A614 MRN DfT responses\08_Models\Junction Models\6-Lowdham

Report generation date: 04/12/2020 10:22:48

- » Existing Layout - 2023, AM
- » Existing Layout - 2023, PM
- » Existing Layout - 2023, IP
- » Existing Layout - 2023, OP
- » Existing Layout - 2037, AM
- » Existing Layout - 2037, PM
- » Existing Layout - 2037, IP
- » Existing Layout - 2037, OP
- » Existing Layout - 2037 final, AM
- » Existing Layout - 2037 final, PM
- » Existing Layout - 2037 final, IP
- » Existing Layout - 2037 final, OP
- » Existing Layout - 2023LG, AM
- » Existing Layout - 2023LG, PM
- » Existing Layout - 2023LG, IP
- » Existing Layout - 2023LG, OP
- » Existing Layout - 2037LG, AM
- » Existing Layout - 2037LG, PM
- » Existing Layout - 2037LG, IP
- » Existing Layout - 2037LG, OP
- » Existing Layout - 2023HG, AM
- » Existing Layout - 2023HG, PM
- » Existing Layout - 2023HG, IP
- » Existing Layout - 2023HG, OP
- » Existing Layout - 2037HG, AM
- » Existing Layout - 2037HG, PM
- » Existing Layout - 2037HG, IP
- » Existing Layout - 2037HG, OP

Summary of junction performance

	AM						PM						IP						OP															
	Set ID	Queue	Delay	RF C	LOS	Junction	Set ID	Queue	Delay	RF C	LOS	Junction	Network	Set ID	Queue	Delay	RF C	LOS	Junction	Network	Set ID	Queue	Delay	RF C	LOS	Junction	Network							

	Level (PCU)	Speed (s)	Delay (s)	LOS	Residual Capacity	Level (PCU)	Speed (s)	Delay (s)	LOS	Residual Capacity	Level (PCU)	Speed (s)	Delay (s)	LOS	Residual Capacity					
Existing Layout - 2023																				
2 - Southwell Road	6.6	5.0	6.3	F	-4%	1.7	1.0	2.3	B	0.8	7.0	0.5	0.4	A	0.0	2.0	0.8	0.1	A	
3 - A6097	8.2	2.0	3.5	C	24	1.5	3.0	6.5	E	-18%	1.2	4.0	6.5	A	33%	0.0	1.0	0.9	0.5	A
4 - Nottingham Road	4.9	2.0	4.0	C	.62	1.1	4.0	7.5	F	12	1.4	7.0	6.9	A	5.53	0.0	2.0	4.0	2.4	A
1 - Epperstone Bypass	6.2	1.0	6.0	C		1.7	5.0	8.6	A		0.8	3.0	7.4	A		0.0	1.0	7.0	3.0	A
Existing Layout - 2037																				
2 - Southwell Road	1.3	1.0	3.9	F	-8%	1.8	1.0	3.6	B	0.9	8.0	1.1	4.7	A	0.0	2.0	0.8	0.1	A	
3 - A6097	1.3	3.0	3.0	E	40	2.7	5.0	9.2	F	-20%	1.4	5.0	0.1	8.0	28%	0.1	1.0	0.9	0.5	A
4 - Nottingham Road	8.2	3.0	8.6	E	.22	1.3	5.0	3.4	F	15	1.6	8.0	5.6	A	5.99	0.0	2.0	4.0	3.4	A
1 - Epperstone Bypass	9.5	2.0	4.0	C		1.8	6.0	1.6	A		0.9	3.0	9.4	A		0.0	1.0	7.0	4.4	A
Existing Layout - 2037 final																				
2 - Southwell Road	3.5	2.0	5.0	F	-13%	2.6	1.0	8.0	C	1.0	9.0	1.1	5.1	A	0.0	2.0	0.8	0.2	A	
3 - A6097	2.2	5.0	2.8	F	77	6.9	1.0	7.8	F	-25%	1.5	5.0	4.6	A	21%	0.1	1.0	0.9	0.5	A
4 - Nottingham Road	1.9	7.0	9.0	F	.76	2.2	4.0	9.2	F	29	2.0	0.0	6.7	B	6.75	0.0	2.0	4.0	4.5	A
1 - Epperstone Bypass	1.9	4.0	6.6	E		2.2	6.0	8.9	A		1.0	4.0	2.4	A		0.0	1.0	7.0	8.4	A
Existing Layout - 2023LG																				

2 - Southwell Road	D 13	3.333	2.978	0.78	D	15.46	C	1%	[2 - Southwell Road]	D 14	1.306	1.064	0.58	B	67.50	F	-13%	[4 - Nottingham Road]	D 15	0.766	6.861	0.41	A	5.04	A	41%	[4 - Nottingham Road]	D 16	0.079	2.703	0.03	A	2.11	A	90%
3 - A6097		5.011	4.984	0.84	B						7.608	1.089	0.89	C						1.129	4.052	0.52	A					0.090	1.004	0.04	A				
4 - Nottingham Road		3.207	6.377	0.70	C						6.788	2.493	1.17	F						1.182	6.054	0.24	A					0.041	2.004	0.44	A				
1 - Epperstone Bypass		4.211	1.281	0.11	B						1.545	5.460	0.60	A						0.751	3.041	0.41	A					0.076	1.003	0.03	A				

Existing Layout - 2037LG

2 - Southwell Road	D 17	2.988	2.678	0.86	D	14.65	B	2%	[2 - Southwell Road]	D 18	1.306	1.056	0.56	B	50.95	F	-11%	[4 - Nottingham Road]	D 19	0.773	6.730	0.40	A	4.95	A	42%	[4 - Nottingham Road]	D 20	0.079	2.703	0.03	A	2.10	A	90%
3 - A6097		4.784	4.383	0.83	B						6.927	1.788	0.88	C						1.125	4.052	0.52	A					0.090	1.004	0.04	A				
4 - Nottingham Road		3.217	6.177	0.77	C						4.822	1.311	1.11	F						1.166	6.053	0.63	A					0.041	2.004	0.44	A				
1 - Epperstone Bypass		4.088	1.881	0.81	B						1.540	5.460	0.60	A						0.748	3.041	0.41	A					0.076	1.003	0.03	A				

Existing Layout - 2023HG

2 - Southwell Road	D 21	1.842	1.322	1.04	F	46.00	E	-9%	[2 - Southwell Road]	D 22	2.497	1.968	0.68	B	20.64	F	-23%	[4 - Nottingham Road]	D 23	0.935	8.049	0.49	A	6.12	A	27%	[4 - Nottingham Road]	D 24	0.081	2.803	0.03	A	2.12	A	90%
3 - A6097		1.544	4.696	0.46	E						4.033	8.302	1.02	F						1.488	5.058	0.88	A					0.191	1.005	0.05	A				
4 - Nottingham Road		8.337	9.391	0.71	E						1.779	7.445	1.45	F						1.679	8.062	0.92	A					0.043	2.004	0.44	A				
1 - Epperstone Bypass		1.055	2.393	0.53	D						2.036	6.67	0.67	A						0.900	4.047	0.47	A					0.077	1.004	0.04	A				

Existing Layout - 2037HG

2 - Southwell Road	D 25	7.759	7.569	1.34	F	20.38	F	-20%	[2 - Southwell Road]	D 26	6.632	4.589	0.89	E	63.45	F	-33%	[4 - Nottingham Road]	D 27	1.592	1.960	0.60	B	8.92	A	11%	[4 - Nottingham Road]	D 28	0.084	2.803	0.03	A	2.15	A	90%
3 - A6097		7.161	6.228	1.08	F						1.933	4.536	1.23	F						2.175	6.688	0.58	A					0.193	1.006	0.06	A				
4 - Nottingham Road		5.573	9.391	1.11	F						3.999	2.176	1.66	F						3.277	1.477	0.77	B					0.146	2.005	0.05	A				

D15	2023LG	IP	ONE HOUR	12:45	14:15	15		✓
D16	2023LG	OP	ONE HOUR	22:45	00:15	15		✓
D17	2037LG	AM	ONE HOUR	07:45	09:15	15	✓	✓
D18	2037LG	PM	ONE HOUR	16:45	18:15	15		✓
D19	2037LG	IP	ONE HOUR	12:45	14:15	15		✓
D20	2037LG	OP	ONE HOUR	22:45	00:15	15		✓
D21	2023HG	AM	ONE HOUR	07:45	09:15	15	✓	✓
D22	2023HG	PM	ONE HOUR	16:45	18:15	15		✓
D23	2023HG	IP	ONE HOUR	12:45	14:15	15		✓
D24	2023HG	OP	ONE HOUR	22:45	00:15	15		✓
D25	2037HG	AM	ONE HOUR	07:45	09:15	15	✓	✓
D26	2037HG	PM	ONE HOUR	16:45	18:15	15		✓
D27	2037HG	IP	ONE HOUR	12:45	14:15	15		✓
D28	2037HG	OP	ONE HOUR	22:45	00:15	15		✓

Analysis Set Details

ID	Name	Include in report	Network flow scaling factor (%)	Network capacity scaling factor (%)
A1	Existing Layout	✓	100.000	100.000

Existing Layout - 2023, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Demand Sets	D1 - 2023, AM	Time results are shown for central hour only. (Model is run for a 90 minute period.)
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Junction 11	Standard Roundabout		2, 3, 4, 1	24.62	C

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	-4	2 - Southwell Road

Arms

Arms

Arm	Name	Description
2	Southwell Road	
3	A6097	
4	Nottingham Road	
1	Epperstone By-Pass	

Roundabout Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	I' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit only
2 - Southwell Road	3.50	5.40	10.0	48.8	42.3	48.0	
3 - A6097	6.70	6.70	0.0	26.3	42.3	36.0	
4 - Nottingham Road	3.70	6.50	10.0	27.5	42.3	29.0	
1 - Epperstone By-Pass	6.70	6.70	0.0	26.2	42.3	16.0	

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Arm	Final slope	Final intercept (PCU/hr)
2 - Southwell Road	0.561	1371
3 - A6097	0.695	2012
4 - Nottingham Road	0.620	1595
1 - Epperstone By-Pass	0.744	2152

The slope and intercept shown above include any corrections and adjustments.

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Results for central hour only	Run automatically
D1	2023	AM	ONE HOUR	07:45	09:15	15	✓	✓

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
2 - Southwell Road		ONE HOUR	✓	412	100.000
3 - A6097		ONE HOUR	✓	1214	100.000
4 - Nottingham Road		ONE HOUR	✓	705	100.000
1 - Epperstone By-Pass		ONE HOUR	✓	1320	100.000

Origin-Destination Data

Demand (PCU/hr)

		To			
		2 - Southwell Road	3 - A6097	4 - Nottingham Road	1 - Epperstone By-Pass
From	2 - Southwell Road	0	78	259	75
	3 - A6097	122	0	300	792
	4 - Nottingham Road	206	258	1	240
	1 - Epperstone By-Pass	175	779	364	2

Vehicle Mix

Heavy Vehicle Percentages

From	To			
	2 - Southwell Road	3 - A6097	4 - Nottingham Road	1 - Epperstone By-Pass
2 - Southwell Road	0	0	0	0
3 - A6097	0	0	0	0
4 - Nottingham Road	0	0	0	0
1 - Epperstone By-Pass	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
2 - Southwell Road	0.90	56.37	6.6	F	412	412
3 - A6097	0.90	23.57	8.2	C	1214	1214
4 - Nottingham Road	0.84	24.03	4.9	C	705	705
1 - Epperstone By-Pass	0.87	16.01	6.2	C	1320	1320

Main Results for each time segment

08:00 - 08:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
2 - Southwell Road	370	93	1258	665	0.557	368	451	0.6	1.2	12.026	B
3 - A6097	1091	273	627	1576	0.693	1087	999	1.2	2.2	7.317	A
4 - Nottingham Road	634	158	888	1044	0.607	631	827	0.9	1.5	8.659	A
1 - Epperstone By-Pass	1187	297	526	1761	0.674	1183	993	1.2	2.0	6.191	A

08:15 - 08:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
2 - Southwell Road	454	113	1529	514	0.883	437	546	1.2	5.4	40.639	E
3 - A6097	1337	334	754	1487	0.899	1316	1211	2.2	7.3	19.109	C
4 - Nottingham Road	776	194	1073	930	0.835	764	998	1.5	4.4	20.501	C
1 - Epperstone By-Pass	1453	363	636	1679	0.866	1438	1201	2.0	5.8	14.159	B

08:30 - 08:45

Arm	Total Demand	Junction	Circulating flow (PCU/hr)	Capacity	RFC	Throughput (PCU/hr)	Throughput (exit	Start queue	End queue	Delay (s)	Unsignalised level of service
-----	--------------	----------	---------------------------	----------	-----	---------------------	------------------	-------------	-----------	-----------	-------------------------------

	(PCU/hr)	Arrivals (PCU)		(PCU/hr)			side) (PCU/hr)	(PCU)	(PCU)		
2 - Southwell Road	454	113	1544	505	0.898	449	553	5.4	6.6	56.371	F
3 - A6097	1337	334	767	1478	0.904	1333	1225	7.3	8.2	23.565	C
4 - Nottingham Road	776	194	1087	920	0.843	774	1013	4.4	4.9	24.031	C
1 - Epperstone By-Pass	1453	363	645	1673	0.869	1452	1217	5.8	6.2	16.008	C

08:45 - 09:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
2 - Southwell Road	370	93	1281	652	0.568	391	460	6.6	1.4	14.834	B
3 - A6097	1091	273	652	1559	0.700	1115	1021	8.2	2.4	8.513	A
4 - Nottingham Road	634	158	912	1029	0.616	647	854	4.9	1.6	9.726	A
1 - Epperstone By-Pass	1187	297	539	1752	0.677	1203	1020	6.2	2.1	6.745	A

Existing Layout - 2023, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Junction 11	Standard Roundabout		2, 3, 4, 1	121.15	F

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	-18	4 - Nottingham Road

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D2	2023	PM	ONE HOUR	16:45	18:15	15	✓

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
2 - Southwell Road		ONE HOUR	✓	444	100.000
3 - A6097		ONE HOUR	✓	1451	100.000
4 - Nottingham Road		ONE HOUR	✓	854	100.000
1 - Epperstone By-Pass		ONE HOUR	✓	963	100.000

Origin-Destination Data

Demand (PCU/hr)

		To			
		2 - Southwell Road	3 - A6097	4 - Nottingham Road	1 - Epperstone By-Pass
From	2 - Southwell Road	0	137	169	138
	3 - A6097	155	1	290	1005
	4 - Nottingham Road	321	243	0	290
	1 - Epperstone By-Pass	190	633	139	1

Vehicle Mix

Heavy Vehicle Percentages

		To			
		2 - Southwell Road	3 - A6097	4 - Nottingham Road	1 - Epperstone By-Pass
From	2 - Southwell Road	0	0	0	0
	3 - A6097	0	0	0	0
	4 - Nottingham Road	0	0	0	0
	1 - Epperstone By-Pass	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
2 - Southwell Road	0.63	12.38	1.7	B	407	611
3 - A6097	0.96	36.53	15.3	E	1331	1997
4 - Nottingham Road	1.32	451.52	117.5	F	784	1175
1 - Epperstone By-Pass	0.63	5.85	1.7	A	884	1325

Main Results for each time segment

16:45 - 17:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
2 - Southwell Road	334	84	761	944	0.354	332	497	0.0	0.5	5.865	A

3 - A6097	1092	273	335	1779	0.614	1086	759	0.0	1.6	5.149	A
4 - Nottingham Road	643	161	973	991	0.649	636	448	0.0	1.8	9.935	A
1 - Epperstone By-Pass	725	181	537	1753	0.414	722	1072	0.0	0.7	3.483	A

17:00 - 17:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
2 - Southwell Road	399	100	909	861	0.463	398	592	0.5	0.9	7.748	A
3 - A6097	1304	326	401	1733	0.753	1299	906	1.6	2.9	8.187	A
4 - Nottingham Road	768	192	1164	873	0.879	752	536	1.8	5.8	26.712	D
1 - Epperstone By-Pass	866	216	636	1679	0.516	864	1279	0.7	1.1	4.410	A

17:15 - 17:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
2 - Southwell Road	489	122	1056	779	0.628	486	647	0.9	1.6	12.153	B
3 - A6097	1598	399	490	1671	0.956	1559	1052	2.9	12.6	25.959	D
4 - Nottingham Road	940	235	1399	727	1.293	722	649	5.8	60.4	179.226	F
1 - Epperstone By-Pass	1060	265	644	1673	0.634	1058	1477	1.1	1.7	5.825	A

17:30 - 17:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
2 - Southwell Road	489	122	1055	779	0.627	489	646	1.6	1.7	12.376	B
3 - A6097	1598	399	492	1670	0.957	1587	1051	12.6	15.3	36.527	E
4 - Nottingham Road	940	235	1423	712	1.320	712	656	60.4	117.5	435.159	F
1 - Epperstone By-Pass	1060	265	641	1676	0.633	1060	1494	1.7	1.7	5.848	A

17:45 - 18:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
2 - Southwell Road	399	100	936	846	0.472	402	631	1.7	0.9	8.168	A
3 - A6097	1304	326	404	1731	0.754	1353	934	15.3	3.2	10.679	B
4 - Nottingham Road	768	192	1208	845	0.908	838	549	117.5	99.8	451.521	F
1 - Epperstone By-Pass	866	216	699	1632	0.530	868	1348	1.7	1.1	4.722	A

18:00 - 18:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
2 - Southwell Road	334	84	861	888	0.376	335	627	0.9	0.6	6.529	A
3 - A6097	1092	273	338	1777	0.615	1099	859	3.2	1.6	5.355	A
4 - Nottingham Road	643	161	984	985	0.653	975	452	99.8	16.9	220.045	F
1 - Epperstone By-Pass	725	181	762	1586	0.457	726	1197	1.1	0.8	4.195	A

Existing Layout - 2023, IP

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Junction 11	Standard Roundabout		2, 3, 4, 1	5.53	A

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	33	4 - Nottingham Road

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D3	2023	IP	ONE HOUR	12:45	14:15	15	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
2 - Southwell Road		ONE HOUR	✓	352	100.000
3 - A6097		ONE HOUR	✓	857	100.000
4 - Nottingham Road		ONE HOUR	✓	588	100.000
1 - Epperstone By-Pass		ONE HOUR	✓	683	100.000

Origin-Destination Data

Demand (PCU/hr)

	To			
	2 - Southwell Road	3 - A6097	4 - Nottingham Road	1 - Epperstone By-Pass
From 2 - Southwell Road	1	104	159	88
From 3 - A6097	113	3	245	496
From 4 - Nottingham Road	185	231	2	170
From 1 - Epperstone By-Pass	99	450	133	1

Vehicle Mix

Heavy Vehicle Percentages

	To			
	2 - Southwell Road	3 - A6097	4 - Nottingham Road	1 - Epperstone By-Pass
From 2 - Southwell Road	0	0	0	0
From 3 - A6097	0	0	0	0
From 4 - Nottingham Road	0	0	0	0
From 1 - Epperstone By-Pass	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
2 - Southwell Road	0.45	7.55	0.8	A	323	485
3 - A6097	0.55	4.65	1.2	A	786	1180
4 - Nottingham Road	0.58	7.69	1.4	A	540	809
1 - Epperstone By-Pass	0.44	3.74	0.8	A	627	940

Main Results for each time segment

12:45 - 13:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
2 - Southwell Road	265	66	615	1026	0.258	264	298	0.0	0.3	4.714	A
3 - A6097	645	161	288	1812	0.356	643	591	0.0	0.6	3.076	A
4 - Nottingham Road	443	111	527	1268	0.349	441	404	0.0	0.5	4.337	A
1 - Epperstone By-Pass	514	129	401	1854	0.277	513	566	0.0	0.4	2.682	A

13:00 - 13:15

Arm	Total Demand	Junction	Circulating flow (PCU/hr)	Capacity	RFC	Throughput (PCU/hr)	Throughput (exit	Start queue	End queue	Delay (s)	Unsignalised level of service
-----	--------------	----------	---------------------------	----------	-----	---------------------	------------------	-------------	-----------	-----------	-------------------------------

	(PCU/hr)	Arrivals (PCU)		(PCU/hr)			side (PCU/hr)	(PCU)	(PCU)		
2 - Southwell Road	316	79	736	958	0.330	316	357	0.3	0.5	5.602	A
3 - A6097	770	193	345	1772	0.435	770	707	0.6	0.8	3.587	A
4 - Nottingham Road	529	132	630	1204	0.439	528	484	0.5	0.8	5.315	A
1 - Epperstone By-Pass	614	154	480	1795	0.342	613	678	0.4	0.5	3.044	A

13:15 - 13:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
2 - Southwell Road	388	97	901	866	0.448	386	437	0.5	0.8	7.492	A
3 - A6097	944	236	422	1719	0.549	942	866	0.8	1.2	4.624	A
4 - Nottingham Road	647	162	771	1116	0.580	645	592	0.8	1.4	7.598	A
1 - Epperstone By-Pass	752	188	587	1716	0.438	751	829	0.5	0.8	3.729	A

13:30 - 13:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
2 - Southwell Road	388	97	903	865	0.448	388	438	0.8	0.8	7.546	A
3 - A6097	944	236	423	1718	0.549	944	868	1.2	1.2	4.649	A
4 - Nottingham Road	647	162	773	1116	0.580	647	593	1.4	1.4	7.687	A
1 - Epperstone By-Pass	752	188	589	1714	0.439	752	831	0.8	0.8	3.740	A

13:45 - 14:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
2 - Southwell Road	316	79	739	956	0.331	318	359	0.8	0.5	5.646	A
3 - A6097	770	193	346	1771	0.435	772	710	1.2	0.8	3.609	A
4 - Nottingham Road	529	132	633	1203	0.440	531	486	1.4	0.8	5.380	A
1 - Epperstone By-Pass	614	154	483	1793	0.342	615	681	0.8	0.5	3.059	A

14:00 - 14:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
2 - Southwell Road	265	66	618	1024	0.259	266	300	0.5	0.4	4.749	A
3 - A6097	645	161	290	1810	0.356	646	594	0.8	0.6	3.093	A

4 - Nottingham Road	443	111	529	1267	0.34 9	444	406	0.8	0.5	4.37 9	A
1 - Epperstone By-Pass	514	129	404	1852	0.27 8	515	569	0.5	0.4	2.69 4	A

Existing Layout - 2023, OP

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Junction 11	Standard Roundabout		2, 3, 4, 1	2.12	A

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	900	

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D4	2023	OP	ONE HOUR	22:45	00:15	15	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
2 - Southwell Road		ONE HOUR	✓	35	100.000
3 - A6097		ONE HOUR	✓	83	100.000
4 - Nottingham Road		ONE HOUR	✓	58	100.000
1 - Epperstone By-Pass		ONE HOUR	✓	67	100.000

Origin-Destination Data

Demand (PCU/hr)

	From	To			
		2 - Southwell Road	3 - A6097	4 - Nottingham Road	1 - Epperstone By-Pass
	2 - Southwell Road	0	10	16	9
	3 - A6097	11	0	24	48
	4 - Nottingham Road	18	23	0	17
	1 - Epperstone By-Pass	10	44	13	0

Vehicle Mix

Heavy Vehicle Percentages

		To			
		2 - Southwell Road	3 - A6097	4 - Nottingham Road	1 - Epperstone By-Pass
From	2 - Southwell Road	0	0	0	0
	3 - A6097	0	0	0	0
	4 - Nottingham Road	0	0	0	0
	1 - Epperstone By-Pass	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
2 - Southwell Road	0.03	2.81	0.0	A	32	48
3 - A6097	0.05	1.90	0.0	A	76	114
4 - Nottingham Road	0.04	2.42	0.0	A	53	80
1 - Epperstone By-Pass	0.03	1.77	0.0	A	61	92

Main Results for each time segment

22:45 - 23:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
2 - Southwell Road	26	7	60	1337	0.020	26	29	0.0	0.0	2.745	A
3 - A6097	62	16	29	1992	0.031	62	58	0.0	0.0	1.865	A
4 - Nottingham Road	44	11	51	1563	0.028	44	40	0.0	0.0	2.368	A
1 - Epperstone By-Pass	50	13	39	2123	0.024	50	56	0.0	0.0	1.735	A

23:00 - 23:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
2 - Southwell Road	31	8	72	1331	0.024	31	35	0.0	0.0	2.770	A
3 - A6097	75	19	34	1988	0.038	75	69	0.0	0.0	1.880	A
4 - Nottingham Road	52	13	61	1557	0.033	52	48	0.0	0.0	2.391	A
1 - Epperstone By-Pass	60	15	47	2117	0.028	60	66	0.0	0.0	1.749	A

23:15 - 23:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
2 - Southwell Road	39	10	88	1321	0.029	39	43	0.0	0.0	2.805	A
3 - A6097	91	23	42	1983	0.046	91	85	0.0	0.0	1.902	A
4 - Nottingham Road	64	16	75	1549	0.041	64	58	0.0	0.0	2.424	A
1 - Epperstone By-Pass	74	18	57	2110	0.035	74	81	0.0	0.0	1.767	A

23:30 - 23:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
2 - Southwell Road	39	10	88	1321	0.029	39	43	0.0	0.0	2.805	A
3 - A6097	91	23	42	1983	0.046	91	85	0.0	0.0	1.902	A
4 - Nottingham Road	64	16	75	1548	0.041	64	58	0.0	0.0	2.424	A
1 - Epperstone By-Pass	74	18	57	2110	0.035	74	81	0.0	0.0	1.767	A

23:45 - 00:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
2 - Southwell Road	31	8	72	1331	0.024	31	35	0.0	0.0	2.770	A
3 - A6097	75	19	34	1988	0.038	75	69	0.0	0.0	1.880	A
4 - Nottingham Road	52	13	61	1557	0.033	52	48	0.0	0.0	2.393	A
1 - Epperstone By-Pass	60	15	47	2117	0.028	60	67	0.0	0.0	1.749	A

00:00 - 00:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
2 - Southwell Road	26	7	60	1337	0.020	26	29	0.0	0.0	2.746	A
3 - A6097	62	16	29	1992	0.031	63	58	0.0	0.0	1.865	A
4 - Nottingham Road	44	11	51	1563	0.028	44	40	0.0	0.0	2.370	A
1 - Epperstone By-Pass	50	13	39	2123	0.024	50	56	0.0	0.0	1.736	A

Existing Layout - 2037, AM

Data Errors and Warnings

Severity	Area	Item	Description
----------	------	------	-------------

Warning	Demand Sets	D5 - 2037, AM	Time results are shown for central hour only. (Model is run for a 90 minute period.)
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Junction 11	Standard Roundabout		2, 3, 4, 1	40.22	E

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	-8	2 - Southwell Road

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Results for central hour only	Run automatically
D5	2037	AM	ONE HOUR	07:45	09:15	15	✓	✓

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
2 - Southwell Road		ONE HOUR	✓	417	100.000
3 - A6097		ONE HOUR	✓	1280	100.000
4 - Nottingham Road		ONE HOUR	✓	742	100.000
1 - Epperstone By-Pass		ONE HOUR	✓	1368	100.000

Origin-Destination Data

Demand (PCU/hr)

		To			
		2 - Southwell Road	3 - A6097	4 - Nottingham Road	1 - Epperstone By-Pass
From	2 - Southwell Road	0	82	260	75
	3 - A6097	127	0	323	830
	4 - Nottingham Road	209	290	1	242
	1 - Epperstone By-Pass	176	824	366	2

Vehicle Mix

Heavy Vehicle Percentages

From	To			
	2 - Southwell Road	3 - A6097	4 - Nottingham Road	1 - Epperstone By-Pass
2 - Southwell Road	0	0	0	0
3 - A6097	0	0	0	0
4 - Nottingham Road	0	0	0	0
1 - Epperstone By-Pass	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
2 - Southwell Road	1.00	109.06	13.9	F	417	417
3 - A6097	0.95	36.01	13.3	E	1280	1280
4 - Nottingham Road	0.91	38.62	8.2	E	742	742
1 - Epperstone By-Pass	0.92	24.06	9.5	C	1368	1368

Main Results for each time segment

08:00 - 08:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
2 - Southwell Road	375	94	1328	626	0.599	372	458	0.7	1.4	14.015	B
3 - A6097	1151	288	629	1574	0.731	1146	1071	1.4	2.6	8.305	A
4 - Nottingham Road	667	167	925	1021	0.653	664	850	1.0	1.8	9.982	A
1 - Epperstone By-Pass	1230	307	561	1735	0.709	1226	1028	1.3	2.4	7.005	A

08:15 - 08:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
2 - Southwell Road	459	115	1604	471	0.975	429	552	1.4	9.0	62.374	F
3 - A6097	1409	352	744	1494	0.943	1377	1289	2.6	10.8	25.553	D
4 - Nottingham Road	817	204	1109	907	0.900	797	1012	1.8	6.8	28.677	D
1 - Epperstone By-Pass	1506	377	674	1651	0.912	1482	1232	2.4	8.3	19.123	C

08:30 - 08:45

Arm	Total Demand	Junction	Circulating flow (PCU/hr)	Capacity	RFC	Throughput (PCU/hr)	Throughput (exit	Start queue	End queue	Delay (s)	Unsignalised level of service
-----	--------------	----------	---------------------------	----------	-----	---------------------	------------------	-------------	-----------	-----------	-------------------------------

	(PCU/hr)	Arrivals (PCU)		(PCU/hr)			side (PCU/hr)	(PCU)	(PCU)		
2 - Southwell Road	459	115	1627	459	1.001	440	561	9.0	13.9	109.060	F
3 - A6097	1409	352	758	1485	0.949	1399	1308	10.8	13.3	36.008	E
4 - Nottingham Road	817	204	1128	896	0.912	811	1030	6.8	8.2	38.619	E
1 - Epperstone By-Pass	1506	377	686	1642	0.917	1502	1253	8.3	9.5	24.057	C

08:45 - 09:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
2 - Southwell Road	375	94	1367	604	0.620	424	475	13.9	1.7	25.045	D
3 - A6097	1151	288	680	1539	0.748	1191	1111	13.3	3.1	11.471	B
4 - Nottingham Road	667	167	969	994	0.671	691	902	8.2	2.1	12.784	B
1 - Epperstone By-Pass	1230	307	584	1718	0.716	1257	1076	9.5	2.6	8.257	A

Existing Layout - 2037, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Junction 11	Standard Roundabout		2, 3, 4, 1	153.82	F

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	-20	4 - Nottingham Road

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D6	2037	PM	ONE HOUR	16:45	18:15	15	✓

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
2 - Southwell Road		ONE HOUR	✓	449	100.000
3 - A6097		ONE HOUR	✓	1511	100.000
4 - Nottingham Road		ONE HOUR	✓	870	100.000
1 - Epperstone By-Pass		ONE HOUR	✓	990	100.000

Origin-Destination Data

Demand (PCU/hr)

		To			
		2 - Southwell Road	3 - A6097	4 - Nottingham Road	1 - Epperstone By-Pass
From	2 - Southwell Road	0	142	170	137
	3 - A6097	159	1	316	1035
	4 - Nottingham Road	320	261	0	289
	1 - Epperstone By-Pass	188	660	141	1

Vehicle Mix

Heavy Vehicle Percentages

		To			
		2 - Southwell Road	3 - A6097	4 - Nottingham Road	1 - Epperstone By-Pass
From	2 - Southwell Road	0	0	0	0
	3 - A6097	0	0	0	0
	4 - Nottingham Road	0	0	0	0
	1 - Epperstone By-Pass	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
2 - Southwell Road	0.65	13.67	1.8	B	412	618
3 - A6097	1.00	59.28	27.4	F	1387	2080
4 - Nottingham Road	1.37	558.40	133.1	F	798	1197
1 - Epperstone By-Pass	0.65	6.14	1.8	A	908	1363

Main Results for each time segment

16:45 - 17:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
2 - Southwell Road	338	85	796	924	0.366	336	498	0.0	0.6	6.094	A

3 - A6097	1138	284	336	1778	0.640	1131	796	0.0	1.7	5.503	A
4 - Nottingham Road	655	164	997	976	0.671	647	469	0.0	2.0	10.697	B
1 - Epperstone By-Pass	745	186	552	1742	0.428	742	1093	0.0	0.7	3.591	A

17:00 - 17:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
2 - Southwell Road	404	101	949	839	0.481	402	591	0.6	0.9	8.221	A
3 - A6097	1358	340	402	1732	0.784	1351	949	1.7	3.5	9.294	A
4 - Nottingham Road	782	196	1192	855	0.914	760	561	2.0	7.4	32.420	D
1 - Epperstone By-Pass	890	222	651	1668	0.533	888	1302	0.7	1.1	4.607	A

17:15 - 17:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
2 - Southwell Road	494	124	1096	756	0.654	491	637	0.9	1.8	13.376	B
3 - A6097	1664	416	491	1670	0.996	1600	1095	3.5	19.5	35.356	E
4 - Nottingham Road	958	239	1416	717	1.337	713	675	7.4	68.6	205.981	F
1 - Epperstone By-Pass	1090	273	646	1672	0.652	1087	1483	1.1	1.8	6.125	A

17:30 - 17:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
2 - Southwell Road	494	124	1094	757	0.653	494	636	1.8	1.8	13.666	B
3 - A6097	1664	416	494	1668	0.997	1632	1094	19.5	27.4	59.283	F
4 - Nottingham Road	958	239	1443	700	1.368	700	684	68.6	133.1	502.621	F
1 - Epperstone By-Pass	1090	273	640	1676	0.650	1090	1502	1.8	1.8	6.140	A

17:45 - 18:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
2 - Southwell Road	404	101	964	830	0.486	407	616	1.8	1.0	8.575	A
3 - A6097	1358	340	406	1729	0.786	1452	964	27.4	3.9	17.151	C
4 - Nottingham Road	782	196	1274	805	0.972	799	585	133.1	128.9	558.404	F
1 - Epperstone By-Pass	890	222	687	1641	0.542	893	1385	1.8	1.2	4.826	A

18:00 - 18:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
2 - Southwell Road	338	85	894	870	0.389	339	616	1.0	0.6	6.806	A
3 - A6097	1138	284	339	1776	0.641	1146	894	3.9	1.8	5.785	A
4 - Nottingham Road	655	164	1011	968	0.677	961	474	128.9	52.5	342.469	F
1 - Epperstone By-Pass	745	186	763	1585	0.470	747	1208	1.2	0.9	4.301	A

Existing Layout - 2037, IP

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Junction 11	Standard Roundabout		2, 3, 4, 1	5.99	A

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	28	4 - Nottingham Road

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D7	2037	IP	ONE HOUR	12:45	14:15	15	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
2 - Southwell Road		ONE HOUR	✓	358	100.000
3 - A6097		ONE HOUR	✓	906	100.000
4 - Nottingham Road		ONE HOUR	✓	612	100.000
1 - Epperstone By-Pass		ONE HOUR	✓	711	100.000

Origin-Destination Data

Demand (PCU/hr)

	To				
		2 - Southwell Road	3 - A6097	4 - Nottingham Road	1 - Epperstone By-Pass
From	2 - Southwell Road	1	109	160	88
	3 - A6097	118	3	266	519
	4 - Nottingham Road	186	252	2	172
	1 - Epperstone By-Pass	100	475	135	1

Vehicle Mix

Heavy Vehicle Percentages

	To				
		2 - Southwell Road	3 - A6097	4 - Nottingham Road	1 - Epperstone By-Pass
From	2 - Southwell Road	0	0	0	0
	3 - A6097	0	0	0	0
	4 - Nottingham Road	0	0	0	0
	1 - Epperstone By-Pass	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
2 - Southwell Road	0.47	8.17	0.9	A	329	493
3 - A6097	0.58	5.01	1.4	A	831	1247
4 - Nottingham Road	0.61	8.51	1.6	A	562	842
1 - Epperstone By-Pass	0.46	3.96	0.9	A	652	979

Main Results for each time segment

12:45 - 13:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
2 - Southwell Road	270	67	651	1006	0.268	268	304	0.0	0.4	4.873	A
3 - A6097	682	171	290	1810	0.377	680	629	0.0	0.6	3.178	A
4 - Nottingham Road	461	115	548	1255	0.367	458	422	0.0	0.6	4.505	A
1 - Epperstone By-Pass	535	134	421	1839	0.291	534	585	0.0	0.4	2.754	A

13:00 - 13:15

Arm	Total Demand	Junction	Circulating flow (PCU/hr)	Capacity	RFC	Throughput (PCU/hr)	Throughput (exit	Start queue	End queue	Delay (s)	Unsignalised level of service
-----	--------------	----------	---------------------------	----------	-----	---------------------	------------------	-------------	-----------	-----------	-------------------------------

	(PCU/hr)	Arrivals (PCU)		(PCU/hr)			side (PCU/hr)	(PCU)	(PCU)		
2 - Southwell Road	322	80	779	934	0.345	321	364	0.4	0.5	5.870	A
3 - A6097	814	204	347	1770	0.460	813	753	0.6	0.8	3.759	A
4 - Nottingham Road	550	138	655	1188	0.463	549	505	0.6	0.9	5.622	A
1 - Epperstone By-Pass	639	160	504	1777	0.360	639	700	0.4	0.6	3.160	A

13:15 - 13:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
2 - Southwell Road	394	99	954	836	0.471	393	445	0.5	0.9	8.093	A
3 - A6097	998	249	425	1716	0.581	995	921	0.8	1.4	4.980	A
4 - Nottingham Road	674	168	802	1098	0.614	671	618	0.9	1.6	8.385	A
1 - Epperstone By-Pass	783	196	616	1694	0.462	782	856	0.6	0.9	3.942	A

13:30 - 13:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
2 - Southwell Road	394	99	956	835	0.472	394	446	0.9	0.9	8.166	A
3 - A6097	998	249	426	1716	0.581	997	924	1.4	1.4	5.013	A
4 - Nottingham Road	674	168	804	1096	0.615	674	620	1.6	1.6	8.513	A
1 - Epperstone By-Pass	783	196	619	1692	0.463	783	859	0.9	0.9	3.958	A

13:45 - 14:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
2 - Southwell Road	322	80	782	932	0.345	323	365	0.9	0.5	5.929	A
3 - A6097	814	204	349	1769	0.460	817	757	1.4	0.9	3.789	A
4 - Nottingham Road	550	138	658	1187	0.464	553	508	1.6	0.9	5.704	A
1 - Epperstone By-Pass	639	160	508	1775	0.360	640	704	0.9	0.6	3.178	A

14:00 - 14:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
2 - Southwell Road	270	67	654	1004	0.269	270	305	0.5	0.4	4.913	A
3 - A6097	682	171	292	1809	0.377	683	633	0.9	0.6	3.200	A

4 - Nottingham Road	461	115	550	1253	0.36 8	462	425	0.9	0.6	4.55 4	A
1 - Epperstone By-Pass	535	134	424	1837	0.29 1	536	588	0.6	0.4	2.76 7	A

Existing Layout - 2037, OP

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Junction 11	Standard Roundabout		2, 3, 4, 1	2.12	A

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	900	

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D8	2037	OP	ONE HOUR	22:45	00:15	15	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
2 - Southwell Road		ONE HOUR	✓	36	100.000
3 - A6097		ONE HOUR	✓	89	100.000
4 - Nottingham Road		ONE HOUR	✓	60	100.000
1 - Epperstone By-Pass		ONE HOUR	✓	69	100.000

Origin-Destination Data

Demand (PCU/hr)

From	To			
	2 - Southwell Road	3 - A6097	4 - Nottingham Road	1 - Epperstone By-Pass
2 - Southwell Road	0	11	16	9
3 - A6097	12	0	26	51
4 - Nottingham Road	18	25	0	17
1 - Epperstone By-Pass	10	46	13	0

Vehicle Mix

Heavy Vehicle Percentages

		To			
		2 - Southwell Road	3 - A6097	4 - Nottingham Road	1 - Epperstone By-Pass
From	2 - Southwell Road	0	0	0	0
	3 - A6097	0	0	0	0
	4 - Nottingham Road	0	0	0	0
	1 - Epperstone By-Pass	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
2 - Southwell Road	0.03	2.81	0.0	A	33	50
3 - A6097	0.05	1.91	0.1	A	82	123
4 - Nottingham Road	0.04	2.43	0.0	A	55	83
1 - Epperstone By-Pass	0.04	1.77	0.0	A	63	95

Main Results for each time segment

22:45 - 23:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
2 - Southwell Road	27	7	63	1335	0.020	27	30	0.0	0.0	2.750	A
3 - A6097	67	17	29	1992	0.034	67	62	0.0	0.0	1.869	A
4 - Nottingham Road	45	11	54	1561	0.029	45	41	0.0	0.0	2.373	A
1 - Epperstone By-Pass	52	13	41	2122	0.024	52	58	0.0	0.0	1.738	A

23:00 - 23:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
2 - Southwell Road	32	8	75	1329	0.024	32	36	0.0	0.0	2.776	A
3 - A6097	80	20	34	1988	0.040	80	74	0.0	0.0	1.885	A
4 - Nottingham Road	54	13	65	1555	0.035	54	49	0.0	0.0	2.398	A
1 - Epperstone By-Pass	62	16	49	2115	0.029	62	69	0.0	0.0	1.752	A

23:15 - 23:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
2 - Southwell Road	40	10	92	1319	0.030	40	44	0.0	0.0	2.813	A
3 - A6097	98	24	42	1983	0.049	98	90	0.0	0.1	1.909	A
4 - Nottingham Road	66	17	79	1546	0.043	66	61	0.0	0.0	2.432	A
1 - Epperstone By-Pass	76	19	61	2107	0.036	76	85	0.0	0.0	1.771	A

23:30 - 23:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
2 - Southwell Road	40	10	92	1319	0.030	40	44	0.0	0.0	2.813	A
3 - A6097	98	24	42	1983	0.049	98	90	0.1	0.1	1.909	A
4 - Nottingham Road	66	17	79	1546	0.043	66	61	0.0	0.0	2.432	A
1 - Epperstone By-Pass	76	19	61	2107	0.036	76	85	0.0	0.0	1.771	A

23:45 - 00:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
2 - Southwell Road	32	8	76	1328	0.024	32	36	0.0	0.0	2.777	A
3 - A6097	80	20	34	1988	0.040	80	74	0.1	0.0	1.886	A
4 - Nottingham Road	54	13	65	1555	0.035	54	49	0.0	0.0	2.400	A
1 - Epperstone By-Pass	62	16	49	2115	0.029	62	69	0.0	0.0	1.755	A

00:00 - 00:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
2 - Southwell Road	27	7	63	1335	0.020	27	30	0.0	0.0	2.753	A
3 - A6097	67	17	29	1992	0.034	67	62	0.0	0.0	1.869	A
4 - Nottingham Road	45	11	54	1561	0.029	45	41	0.0	0.0	2.375	A
1 - Epperstone By-Pass	52	13	41	2121	0.024	52	58	0.0	0.0	1.738	A

Existing Layout - 2037 final, AM

Data Errors and Warnings

Severity	Area	Item	Description
----------	------	------	-------------

Warning	Demand Sets	D9 - 2037 final, AM	Time results are shown for central hour only. (Model is run for a 90 minute period.)
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Junction 11	Standard Roundabout		2, 3, 4, 1	77.76	F

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	-13	2 - Southwell Road

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Results for central hour only	Run automatically
D9	2037 final	AM	ONE HOUR	07:45	09:15	15	✓	✓

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
2 - Southwell Road		ONE HOUR	✓	438	100.000
3 - A6097		ONE HOUR	✓	1321	100.000
4 - Nottingham Road		ONE HOUR	✓	809	100.000
1 - Epperstone By-Pass		ONE HOUR	✓	1442	100.000

Origin-Destination Data

Demand (PCU/hr)

		To			
		2 - Southwell Road	3 - A6097	4 - Nottingham Road	1 - Epperstone By-Pass
From	2 - Southwell Road	0	82	278	78
	3 - A6097	127	0	342	852
	4 - Nottingham Road	227	309	1	272
	1 - Epperstone By-Pass	183	855	404	0

Vehicle Mix

Heavy Vehicle Percentages

From	To			
	2 - Southwell Road	3 - A6097	4 - Nottingham Road	1 - Epperstone By-Pass
2 - Southwell Road	0	0	0	0
3 - A6097	0	0	0	0
4 - Nottingham Road	0	0	0	0
1 - Epperstone By-Pass	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
2 - Southwell Road	1.16	240.87	35.3	F	438	438
3 - A6097	0.99	56.88	22.5	F	1321	1321
4 - Nottingham Road	1.00	79.00	19.5	F	809	809
1 - Epperstone By-Pass	0.98	46.64	19.9	E	1442	1442

Main Results for each time segment

08:00 - 08:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
2 - Southwell Road	394	98	1403	584	0.675	389	480	0.8	2.0	18.114	C
3 - A6097	1188	297	679	1540	0.771	1181	1114	1.6	3.2	9.853	A
4 - Nottingham Road	727	182	945	1009	0.721	722	915	1.2	2.5	12.339	B
1 - Epperstone By-Pass	1296	324	593	1711	0.758	1290	1074	1.5	3.0	8.435	A

08:15 - 08:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
2 - Southwell Road	482	121	1670	434	1.110	417	568	2.0	18.3	109.085	F
3 - A6097	1454	364	771	1476	0.986	1401	1315	3.2	16.5	35.124	E
4 - Nottingham Road	891	223	1113	905	0.985	848	1060	2.5	13.1	45.887	E
1 - Epperstone By-Pass	1588	397	698	1633	0.972	1540	1263	3.0	14.8	29.671	D

08:30 - 08:45

Arm	Total Demand	Junction	Circulating flow (PCU/hr)	Capacity	RFC	Throughput (PCU/hr)	Throughput (exit	Start queue	End queue	Delay (s)	Unsignalised level of service
-----	--------------	----------	---------------------------	----------	-----	---------------------	------------------	-------------	-----------	-----------	-------------------------------

	(PCU/hr)	Arrivals (PCU)		(PCU/hr)			side (PCU/hr)	(PCU)	(PCU)		
2 - Southwell Road	482	121	1700	417	1.155	415	579	18.3	35.3	240.874	F
3 - A6097	1454	364	777	1472	0.988	1430	1337	16.5	22.5	56.881	F
4 - Nottingham Road	891	223	1134	892	0.999	865	1074	13.1	19.5	79.000	F
1 - Epperstone By-Pass	1588	397	712	1623	0.978	1567	1287	14.8	19.9	46.644	E

08:45 - 09:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
2 - Southwell Road	394	98	1492	534	0.737	517	516	35.3	4.3	146.461	F
3 - A6097	1188	297	803	1454	0.817	1258	1207	22.5	4.9	23.439	C
4 - Nottingham Road	727	182	1025	959	0.758	792	1037	19.5	3.4	28.150	D
1 - Epperstone By-Pass	1296	324	647	1671	0.776	1361	1170	19.9	3.6	13.872	B

Existing Layout - 2037 final, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Junction 11	Standard Roundabout		2, 3, 4, 1	297.69	F

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	-25	4 - Nottingham Road

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D10	2037 final	PM	ONE HOUR	16:45	18:15	15	✓

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
2 - Southwell Road		ONE HOUR	✓	477	100.000
3 - A6097		ONE HOUR	✓	1584	100.000
4 - Nottingham Road		ONE HOUR	✓	952	100.000
1 - Epperstone By-Pass		ONE HOUR	✓	1055	100.000

Origin-Destination Data

Demand (PCU/hr)

		To			
		2 - Southwell Road	3 - A6097	4 - Nottingham Road	1 - Epperstone By-Pass
From	2 - Southwell Road	0	145	188	144
	3 - A6097	162	1	336	1085
	4 - Nottingham Road	344	284	0	324
	1 - Epperstone By-Pass	198	691	165	1

Vehicle Mix

Heavy Vehicle Percentages

		To			
		2 - Southwell Road	3 - A6097	4 - Nottingham Road	1 - Epperstone By-Pass
From	2 - Southwell Road	0	0	0	0
	3 - A6097	0	0	0	0
	4 - Nottingham Road	0	0	0	0
	1 - Epperstone By-Pass	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
2 - Southwell Road	0.73	18.03	2.6	C	438	657
3 - A6097	1.07	127.88	69.2	F	1454	2180
4 - Nottingham Road	1.49	1042.62	229.7	F	874	1310
1 - Epperstone By-Pass	0.69	6.89	2.2	A	968	1452

Main Results for each time segment

16:45 - 17:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
2 - Southwell Road	359	90	854	892	0.403	356	524	0.0	0.7	6.686	A

3 - A6097	1193	298	373	1753	0.680	1184	837	0.0	2.1	6.244	A
4 - Nottingham Road	717	179	1041	949	0.755	705	515	0.0	2.9	14.165	B
1 - Epperstone By-Pass	794	199	587	1716	0.463	791	1159	0.0	0.9	3.878	A

17:00 - 17:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
2 - Southwell Road	429	107	1006	807	0.532	427	608	0.7	1.1	9.434	A
3 - A6097	1424	356	446	1702	0.837	1413	987	2.1	4.7	12.059	B
4 - Nottingham Road	856	214	1243	824	1.039	791	616	2.9	19.1	65.551	F
1 - Epperstone By-Pass	948	237	667	1656	0.573	947	1367	0.9	1.3	5.060	A

17:15 - 17:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
2 - Southwell Road	525	131	1154	724	0.726	520	639	1.1	2.5	17.208	C
3 - A6097	1744	436	544	1634	1.068	1605	1130	4.7	39.5	59.705	F
4 - Nottingham Road	1048	262	1423	713	1.471	712	726	19.1	103.3	322.380	F
1 - Epperstone By-Pass	1162	290	635	1680	0.691	1158	1500	1.3	2.2	6.844	A

17:30 - 17:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
2 - Southwell Road	525	131	1154	724	0.726	525	638	2.5	2.6	18.029	C
3 - A6097	1744	436	548	1631	1.069	1625	1131	39.5	69.2	127.885	F
4 - Nottingham Road	1048	262	1440	702	1.494	702	733	103.3	189.9	761.774	F
1 - Epperstone By-Pass	1162	290	630	1684	0.690	1162	1511	2.2	2.2	6.891	A

17:45 - 18:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
2 - Southwell Road	429	107	982	820	0.523	435	601	2.6	1.1	9.474	A
3 - A6097	1424	356	452	1697	0.839	1670	965	69.2	7.8	87.426	F
4 - Nottingham Road	856	214	1448	697	1.228	697	674	189.9	229.7	1042.625	F
1 - Epperstone By-Pass	948	237	631	1683	0.564	952	1513	2.2	1.3	4.952	A

18:00 - 18:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
2 - Southwell Road	359	90	924	853	0.421	361	609	1.1	0.7	7.340	A
3 - A6097	1193	298	376	1750	0.681	1215	909	7.8	2.2	6.995	A
4 - Nottingham Road	717	179	1067	933	0.768	929	524	229.7	176.5	787.556	F
1 - Epperstone By-Pass	794	199	738	1604	0.495	796	1258	1.3	1.0	4.462	A

Existing Layout - 2037 final, IP

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Junction 11	Standard Roundabout		2, 3, 4, 1	6.75	A

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	21	4 - Nottingham Road

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D11	2037 final	IP	ONE HOUR	12:45	14:15	15	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
2 - Southwell Road		ONE HOUR	✓	374	100.000
3 - A6097		ONE HOUR	✓	934	100.000
4 - Nottingham Road		ONE HOUR	✓	659	100.000
1 - Epperstone By-Pass		ONE HOUR	✓	750	100.000

Origin-Destination Data

Demand (PCU/hr)

	To				
		2 - Southwell Road	3 - A6097	4 - Nottingham Road	1 - Epperstone By-Pass
From	2 - Southwell Road	1	109	173	91
	3 - A6097	118	3	278	535
	4 - Nottingham Road	199	265	2	193
	1 - Epperstone By-Pass	103	491	155	1

Vehicle Mix

Heavy Vehicle Percentages

	To				
		2 - Southwell Road	3 - A6097	4 - Nottingham Road	1 - Epperstone By-Pass
From	2 - Southwell Road	0	0	0	0
	3 - A6097	0	0	0	0
	4 - Nottingham Road	0	0	0	0
	1 - Epperstone By-Pass	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
2 - Southwell Road	0.51	9.16	1.0	A	343	515
3 - A6097	0.61	5.46	1.5	A	857	1286
4 - Nottingham Road	0.67	10.05	2.0	B	605	907
1 - Epperstone By-Pass	0.49	4.26	1.0	A	688	1032

Main Results for each time segment

12:45 - 13:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
2 - Southwell Road	282	70	688	985	0.286	280	316	0.0	0.4	5.094	A
3 - A6097	703	176	317	1791	0.393	701	651	0.0	0.6	3.294	A
4 - Nottingham Road	496	124	562	1247	0.398	494	456	0.0	0.7	4.765	A
1 - Epperstone By-Pass	565	141	440	1825	0.309	563	615	0.0	0.4	2.849	A

13:00 - 13:15

Arm	Total Demand	Junction	Circulating flow (PCU/hr)	Capacity	RFC	Throughput (PCU/hr)	Throughput (exit	Start queue	End queue	Delay (s)	Unsignalised level of service
-----	--------------	----------	---------------------------	----------	-----	---------------------	------------------	-------------	-----------	-----------	-------------------------------

	(PCU/hr)	Arrivals (PCU)		(PCU/hr)			side (PCU/hr)	(PCU)	(PCU)		
2 - Southwell Road	336	84	823	909	0.370	335	378	0.4	0.6	6.267	A
3 - A6097	840	210	380	1748	0.480	839	779	0.6	0.9	3.954	A
4 - Nottingham Road	592	148	672	1178	0.503	591	546	0.7	1.0	6.119	A
1 - Epperstone By-Pass	674	169	527	1760	0.383	674	736	0.4	0.6	3.312	A

13:15 - 13:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
2 - Southwell Road	412	103	1007	806	0.511	410	462	0.6	1.0	9.047	A
3 - A6097	1028	257	464	1689	0.609	1026	953	0.9	1.5	5.407	A
4 - Nottingham Road	726	181	822	1085	0.669	722	668	1.0	2.0	9.813	A
1 - Epperstone By-Pass	826	206	644	1673	0.494	824	900	0.6	1.0	4.234	A

13:30 - 13:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
2 - Southwell Road	412	103	1010	805	0.512	412	463	1.0	1.0	9.159	A
3 - A6097	1028	257	466	1688	0.609	1028	956	1.5	1.5	5.457	A
4 - Nottingham Road	726	181	825	1083	0.670	725	669	2.0	2.0	10.045	B
1 - Epperstone By-Pass	826	206	647	1671	0.494	826	903	1.0	1.0	4.259	A

13:45 - 14:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
2 - Southwell Road	336	84	827	907	0.371	338	380	1.0	0.6	6.348	A
3 - A6097	840	210	382	1746	0.481	842	783	1.5	0.9	3.993	A
4 - Nottingham Road	592	148	675	1176	0.504	596	548	2.0	1.0	6.252	A
1 - Epperstone By-Pass	674	169	532	1757	0.384	676	740	1.0	0.6	3.332	A

14:00 - 14:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
2 - Southwell Road	282	70	692	983	0.286	282	318	0.6	0.4	5.145	A
3 - A6097	703	176	319	1790	0.393	704	655	0.9	0.7	3.319	A

4 - Nottingham Road	496	124	565	1245	0.39 9	498	459	1.0	0.7	4.83 0	A
1 - Epperstone By-Pass	565	141	444	1822	0.31 0	565	619	0.6	0.5	2.86 7	A

Existing Layout - 2037 final, OP

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Junction 11	Standard Roundabout		2, 3, 4, 1	2.13	A

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	900	

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D12	2037 final	OP	ONE HOUR	22:45	00:15	15	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
2 - Southwell Road		ONE HOUR	✓	37	100.000
3 - A6097		ONE HOUR	✓	91	100.000
4 - Nottingham Road		ONE HOUR	✓	64	100.000
1 - Epperstone By-Pass		ONE HOUR	✓	73	100.000

Origin-Destination Data

Demand (PCU/hr)

From	To			
	2 - Southwell Road	3 - A6097	4 - Nottingham Road	1 - Epperstone By-Pass
2 - Southwell Road	0	11	17	9
3 - A6097	12	0	27	52
4 - Nottingham Road	19	26	0	19
1 - Epperstone By-Pass	10	48	15	0

Vehicle Mix

Heavy Vehicle Percentages

		To			
		2 - Southwell Road	3 - A6097	4 - Nottingham Road	1 - Epperstone By-Pass
From	2 - Southwell Road	0	0	0	0
	3 - A6097	0	0	0	0
	4 - Nottingham Road	0	0	0	0
	1 - Epperstone By-Pass	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
2 - Southwell Road	0.03	2.82	0.0	A	34	51
3 - A6097	0.05	1.91	0.1	A	84	125
4 - Nottingham Road	0.05	2.44	0.0	A	59	88
1 - Epperstone By-Pass	0.04	1.78	0.0	A	67	100

Main Results for each time segment

22:45 - 23:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
2 - Southwell Road	28	7	67	1333	0.021	28	31	0.0	0.0	2.756	A
3 - A6097	69	17	31	1990	0.034	68	64	0.0	0.0	1.872	A
4 - Nottingham Road	48	12	55	1561	0.031	48	44	0.0	0.0	2.379	A
1 - Epperstone By-Pass	55	14	43	2120	0.026	55	60	0.0	0.0	1.742	A

23:00 - 23:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
2 - Southwell Road	33	8	80	1326	0.025	33	37	0.0	0.0	2.784	A
3 - A6097	82	20	37	1986	0.041	82	76	0.0	0.0	1.889	A
4 - Nottingham Road	58	14	66	1554	0.037	58	53	0.0	0.0	2.404	A
1 - Epperstone By-Pass	66	16	51	2114	0.031	66	72	0.0	0.0	1.756	A

23:15 - 23:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
2 - Southwell Road	41	10	98	1316	0.031	41	45	0.0	0.0	2.822	A
3 - A6097	100	25	45	1980	0.051	100	94	0.0	0.1	1.913	A
4 - Nottingham Road	70	18	80	1545	0.046	70	65	0.0	0.0	2.440	A
1 - Epperstone By-Pass	80	20	63	2106	0.038	80	88	0.0	0.0	1.776	A

23:30 - 23:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
2 - Southwell Road	41	10	98	1316	0.031	41	45	0.0	0.0	2.822	A
3 - A6097	100	25	45	1980	0.051	100	94	0.1	0.1	1.913	A
4 - Nottingham Road	70	18	80	1545	0.046	70	65	0.0	0.0	2.440	A
1 - Epperstone By-Pass	80	20	63	2106	0.038	80	88	0.0	0.0	1.776	A

23:45 - 00:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
2 - Southwell Road	33	8	80	1326	0.025	33	37	0.0	0.0	2.786	A
3 - A6097	82	20	37	1986	0.041	82	76	0.1	0.0	1.892	A
4 - Nottingham Road	58	14	66	1554	0.037	58	53	0.0	0.0	2.405	A
1 - Epperstone By-Pass	66	16	51	2114	0.031	66	72	0.0	0.0	1.756	A

00:00 - 00:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
2 - Southwell Road	28	7	67	1333	0.021	28	31	0.0	0.0	2.759	A
3 - A6097	69	17	31	1990	0.034	69	64	0.0	0.0	1.872	A
4 - Nottingham Road	48	12	55	1561	0.031	48	44	0.0	0.0	2.381	A
1 - Epperstone By-Pass	55	14	43	2120	0.026	55	60	0.0	0.0	1.744	A

Existing Layout - 2023LG, AM

Data Errors and Warnings

Severity	Area	Item	Description
----------	------	------	-------------

Warning	Demand Sets	D13 - 2023LG, AM	Time results are shown for central hour only. (Model is run for a 90 minute period.)
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Junction 11	Standard Roundabout		2, 3, 4, 1	15.46	C

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	1	2 - Southwell Road

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Results for central hour only	Run automatically
D13	2023LG	AM	ONE HOUR	07:45	09:15	15	✓	✓

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
2 - Southwell Road		ONE HOUR	✓	390	100.000
3 - A6097		ONE HOUR	✓	1151	100.000
4 - Nottingham Road		ONE HOUR	✓	668	100.000
1 - Epperstone By-Pass		ONE HOUR	✓	1252	100.000

Origin-Destination Data

Demand (PCU/hr)

		To			
		2 - Southwell Road	3 - A6097	4 - Nottingham Road	1 - Epperstone By-Pass
From	2 - Southwell Road	0	74	245	71
	3 - A6097	115	0	285	751
	4 - Nottingham Road	195	245	1	227
	1 - Epperstone By-Pass	166	740	344	2

Vehicle Mix

Heavy Vehicle Percentages

From	To			
	2 - Southwell Road	3 - A6097	4 - Nottingham Road	1 - Epperstone By-Pass
2 - Southwell Road	0	0	0	0
3 - A6097	0	0	0	0
4 - Nottingham Road	0	0	0	0
1 - Epperstone By-Pass	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
2 - Southwell Road	0.78	29.33	3.3	D	390	390
3 - A6097	0.84	14.91	5.0	B	1151	1151
4 - Nottingham Road	0.77	16.30	3.2	C	668	668
1 - Epperstone By-Pass	0.81	11.21	4.2	B	1252	1252

Main Results for each time segment

08:00 - 08:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
2 - Southwell Road	351	88	1194	701	0.500	349	427	0.6	1.0	10.178	B
3 - A6097	1035	259	594	1599	0.647	1032	949	1.1	1.8	6.316	A
4 - Nottingham Road	601	150	842	1073	0.560	599	784	0.8	1.2	7.557	A
1 - Epperstone By-Pass	1126	281	498	1782	0.632	1123	942	1.0	1.7	5.442	A

08:15 - 08:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
2 - Southwell Road	429	107	1456	554	0.775	421	520	1.0	3.1	25.591	D
3 - A6097	1267	317	721	1511	0.839	1255	1156	1.8	4.8	13.509	B
4 - Nottingham Road	735	184	1023	960	0.766	728	953	1.2	3.1	15.075	C
1 - Epperstone By-Pass	1378	345	606	1701	0.810	1369	1145	1.7	4.0	10.546	B

08:30 - 08:45

Arm	Total Demand	Junction	Circulating flow (PCU/hr)	Capacity	RFC	Throughput (PCU/hr)	Throughput (exit	Start queue	End queue	Delay (s)	Unsignalised level of service
-----	--------------	----------	---------------------------	----------	-----	---------------------	------------------	-------------	-----------	-----------	-------------------------------

	(PCU/hr)	Arrivals (PCU)		(PCU/hr)			side) (PCU/hr)	(PCU)	(PCU)		
2 - Southwell Road	429	107	1466	549	0.782	428	524	3.1	3.3	29.332	D
3 - A6097	1267	317	729	1505	0.842	1266	1165	4.8	5.0	14.905	B
4 - Nottingham Road	735	184	1033	954	0.771	735	962	3.1	3.2	16.296	C
1 - Epperstone By-Pass	1378	345	612	1697	0.812	1378	1156	4.0	4.2	11.212	B

08:45 - 09:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
2 - Southwell Road	351	88	1209	693	0.506	360	433	3.3	1.0	11.082	B
3 - A6097	1035	259	606	1590	0.651	1047	962	5.0	1.9	6.778	A
4 - Nottingham Road	601	150	855	1064	0.564	608	798	3.2	1.3	8.017	A
1 - Epperstone By-Pass	1126	281	506	1776	0.634	1135	957	4.2	1.8	5.702	A

Existing Layout - 2023LG, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Junction 11	Standard Roundabout		2, 3, 4, 1	67.50	F

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	-13	4 - Nottingham Road

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D14	2023LG	PM	ONE HOUR	16:45	18:15	15	✓

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
2 - Southwell Road		ONE HOUR	✓	418	100.000
3 - A6097		ONE HOUR	✓	1369	100.000
4 - Nottingham Road		ONE HOUR	✓	803	100.000
1 - Epperstone By-Pass		ONE HOUR	✓	908	100.000

Origin-Destination Data

Demand (PCU/hr)

		To			
		2 - Southwell Road	3 - A6097	4 - Nottingham Road	1 - Epperstone By-Pass
From	2 - Southwell Road	0	129	159	130
	3 - A6097	146	1	274	948
	4 - Nottingham Road	302	229	0	272
	1 - Epperstone By-Pass	178	597	132	1

Vehicle Mix

Heavy Vehicle Percentages

		To			
		2 - Southwell Road	3 - A6097	4 - Nottingham Road	1 - Epperstone By-Pass
From	2 - Southwell Road	0	0	0	0
	3 - A6097	0	0	0	0
	4 - Nottingham Road	0	0	0	0
	1 - Epperstone By-Pass	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
2 - Southwell Road	0.58	10.64	1.3	B	384	575
3 - A6097	0.89	19.08	7.6	C	1256	1884
4 - Nottingham Road	1.17	249.83	67.8	F	737	1105
1 - Epperstone By-Pass	0.60	5.45	1.5	A	833	1250

Main Results for each time segment

16:45 - 17:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
2 - Southwell Road	315	79	719	968	0.325	313	468	0.0	0.5	5.483	A

3 - A6097	1031	258	316	1792	0.575	1025	716	0.0	1.3	4.663	A
4 - Nottingham Road	605	151	918	1025	0.590	599	423	0.0	1.4	8.335	A
1 - Epperstone By-Pass	684	171	506	1776	0.385	681	1011	0.0	0.6	3.282	A

17:00 - 17:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
2 - Southwell Road	376	94	860	889	0.423	375	559	0.5	0.7	6.993	A
3 - A6097	1231	308	379	1749	0.704	1227	856	1.3	2.3	6.847	A
4 - Nottingham Road	722	180	1099	913	0.790	714	507	1.4	3.5	17.348	C
1 - Epperstone By-Pass	816	204	604	1703	0.479	815	1209	0.6	0.9	4.048	A

17:15 - 17:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
2 - Southwell Road	460	115	1018	800	0.575	458	638	0.7	1.3	10.450	B
3 - A6097	1507	377	463	1690	0.892	1488	1013	2.3	7.0	16.498	C
4 - Nottingham Road	884	221	1334	767	1.152	754	617	3.5	36.0	108.896	F
1 - Epperstone By-Pass	1000	250	658	1663	0.601	997	1430	0.9	1.5	5.393	A

17:30 - 17:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
2 - Southwell Road	460	115	1021	798	0.576	460	641	1.3	1.3	10.636	B
3 - A6097	1507	377	465	1689	0.893	1505	1016	7.0	7.6	19.076	C
4 - Nottingham Road	884	221	1348	759	1.165	757	622	36.0	67.8	249.834	F
1 - Epperstone By-Pass	1000	250	662	1660	0.602	1000	1443	1.5	1.5	5.453	A

17:45 - 18:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
2 - Southwell Road	376	94	912	859	0.437	378	628	1.3	0.8	7.512	A
3 - A6097	1231	308	381	1747	0.705	1251	909	7.6	2.4	7.551	A
4 - Nottingham Road	722	180	1119	901	0.802	888	513	67.8	26.3	193.773	F
1 - Epperstone By-Pass	816	204	721	1616	0.505	818	1286	1.5	1.0	4.522	A

18:00 - 18:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
2 - Southwell Road	315	79	752	949	0.332	316	509	0.8	0.5	5.695	A
3 - A6097	1031	258	319	1790	0.576	1035	749	2.4	1.4	4.795	A
4 - Nottingham Road	605	151	927	1020	0.593	704	427	26.3	1.5	15.520	C
1 - Epperstone By-Pass	684	171	577	1723	0.397	685	1054	1.0	0.7	3.470	A

Existing Layout - 2023LG, IP

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Junction 11	Standard Roundabout		2, 3, 4, 1	5.04	A

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	41	4 - Nottingham Road

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D15	2023LG	IP	ONE HOUR	12:45	14:15	15	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
2 - Southwell Road		ONE HOUR	✓	332	100.000
3 - A6097		ONE HOUR	✓	813	100.000
4 - Nottingham Road		ONE HOUR	✓	556	100.000
1 - Epperstone By-Pass		ONE HOUR	✓	648	100.000

Origin-Destination Data

Demand (PCU/hr)

	To				
		2 - Southwell Road	3 - A6097	4 - Nottingham Road	1 - Epperstone By-Pass
From	2 - Southwell Road	1	98	150	83
	3 - A6097	107	3	232	471
	4 - Nottingham Road	174	219	2	161
	1 - Epperstone By-Pass	94	427	126	1

Vehicle Mix

Heavy Vehicle Percentages

	To				
		2 - Southwell Road	3 - A6097	4 - Nottingham Road	1 - Epperstone By-Pass
From	2 - Southwell Road	0	0	0	0
	3 - A6097	0	0	0	0
	4 - Nottingham Road	0	0	0	0
	1 - Epperstone By-Pass	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
2 - Southwell Road	0.41	6.86	0.7	A	305	457
3 - A6097	0.52	4.29	1.1	A	746	1119
4 - Nottingham Road	0.54	6.82	1.1	A	510	765
1 - Epperstone By-Pass	0.41	3.51	0.7	A	595	892

Main Results for each time segment

12:45 - 13:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
2 - Southwell Road	250	62	584	1043	0.240	249	282	0.0	0.3	4.530	A
3 - A6097	612	153	272	1823	0.336	610	560	0.0	0.5	2.964	A
4 - Nottingham Road	419	105	500	1285	0.326	417	383	0.0	0.5	4.136	A
1 - Epperstone By-Pass	488	122	379	1870	0.261	486	537	0.0	0.4	2.599	A

13:00 - 13:15

Arm	Total Demand	Junction	Circulating flow (PCU/hr)	Capacity	RFC	Throughput (PCU/hr)	Throughput (exit	Start queue	End queue	Delay (s)	Unsignalised level of service
-----	--------------	----------	---------------------------	----------	-----	---------------------	------------------	-------------	-----------	-----------	-------------------------------

	(PCU/hr)	Arrivals (PCU)		(PCU/hr)			side (PCU/hr)	(PCU)	(PCU)		
2 - Southwell Road	298	75	699	979	0.305	298	338	0.3	0.4	5.283	A
3 - A6097	731	183	326	1785	0.409	730	671	0.5	0.7	3.411	A
4 - Nottingham Road	500	125	598	1224	0.408	499	458	0.5	0.7	4.961	A
1 - Epperstone By-Pass	583	146	454	1815	0.321	582	643	0.4	0.5	2.921	A

13:15 - 13:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
2 - Southwell Road	366	91	855	891	0.410	365	413	0.4	0.7	6.822	A
3 - A6097	895	224	399	1734	0.516	894	821	0.7	1.1	4.273	A
4 - Nottingham Road	612	153	732	1141	0.537	610	560	0.7	1.1	6.762	A
1 - Epperstone By-Pass	713	178	556	1739	0.410	713	787	0.5	0.7	3.503	A

13:30 - 13:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
2 - Southwell Road	366	91	857	890	0.411	366	414	0.7	0.7	6.857	A
3 - A6097	895	224	400	1734	0.516	895	822	1.1	1.1	4.291	A
4 - Nottingham Road	612	153	733	1140	0.537	612	562	1.1	1.1	6.818	A
1 - Epperstone By-Pass	713	178	557	1738	0.411	713	788	0.7	0.7	3.512	A

13:45 - 14:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
2 - Southwell Road	298	75	701	978	0.305	299	339	0.7	0.4	5.316	A
3 - A6097	731	183	327	1784	0.410	732	673	1.1	0.7	3.428	A
4 - Nottingham Road	500	125	600	1223	0.409	502	460	1.1	0.7	5.006	A
1 - Epperstone By-Pass	583	146	456	1813	0.321	583	645	0.7	0.5	2.931	A

14:00 - 14:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
2 - Southwell Road	250	62	586	1042	0.240	250	284	0.4	0.3	4.552	A
3 - A6097	612	153	274	1821	0.336	613	563	0.7	0.5	2.982	A

4 - Nottingham Road	419	105	502	1284	0.326	419	384	0.7	0.5	4.171	A
1 - Epperstone By-Pass	488	122	382	1868	0.261	488	540	0.5	0.4	2.610	A

Existing Layout - 2023LG, OP

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Junction 11	Standard Roundabout		2, 3, 4, 1	2.11	A

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	900	

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D16	2023LG	OP	ONE HOUR	22:45	00:15	15	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
2 - Southwell Road		ONE HOUR	✓	33	100.000
3 - A6097		ONE HOUR	✓	79	100.000
4 - Nottingham Road		ONE HOUR	✓	54	100.000
1 - Epperstone By-Pass		ONE HOUR	✓	63	100.000

Origin-Destination Data

Demand (PCU/hr)

From	To			
	2 - Southwell Road	3 - A6097	4 - Nottingham Road	1 - Epperstone By-Pass
2 - Southwell Road	0	10	15	8
3 - A6097	10	0	23	46
4 - Nottingham Road	17	21	0	16
1 - Epperstone By-Pass	9	42	12	0

Vehicle Mix

Heavy Vehicle Percentages

		To			
		2 - Southwell Road	3 - A6097	4 - Nottingham Road	1 - Epperstone By-Pass
From	2 - Southwell Road	0	0	0	0
	3 - A6097	0	0	0	0
	4 - Nottingham Road	0	0	0	0
	1 - Epperstone By-Pass	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
2 - Southwell Road	0.03	2.79	0.0	A	30	45
3 - A6097	0.04	1.90	0.0	A	72	109
4 - Nottingham Road	0.04	2.41	0.0	A	50	74
1 - Epperstone By-Pass	0.03	1.76	0.0	A	58	87

Main Results for each time segment

22:45 - 23:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
2 - Southwell Road	25	6	56	1339	0.019	25	27	0.0	0.0	2.738	A
3 - A6097	59	15	26	1993	0.030	59	55	0.0	0.0	1.860	A
4 - Nottingham Road	41	10	48	1565	0.026	41	38	0.0	0.0	2.361	A
1 - Epperstone By-Pass	47	12	36	2125	0.022	47	53	0.0	0.0	1.731	A

23:00 - 23:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
2 - Southwell Road	30	7	67	1333	0.022	30	32	0.0	0.0	2.761	A
3 - A6097	71	18	31	1990	0.036	71	66	0.0	0.0	1.875	A
4 - Nottingham Road	49	12	58	1559	0.031	49	45	0.0	0.0	2.382	A
1 - Epperstone By-Pass	57	14	43	2120	0.027	57	63	0.0	0.0	1.743	A

23:15 - 23:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
2 - Southwell Road	36	9	83	1325	0.027	36	40	0.0	0.0	2.793	A
3 - A6097	87	22	39	1985	0.044	87	80	0.0	0.0	1.895	A
4 - Nottingham Road	59	15	70	1551	0.038	59	55	0.0	0.0	2.412	A
1 - Epperstone By-Pass	69	17	53	2113	0.033	69	77	0.0	0.0	1.760	A

23:30 - 23:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
2 - Southwell Road	36	9	83	1325	0.027	36	40	0.0	0.0	2.793	A
3 - A6097	87	22	39	1985	0.044	87	80	0.0	0.0	1.895	A
4 - Nottingham Road	59	15	70	1551	0.038	59	55	0.0	0.0	2.412	A
1 - Epperstone By-Pass	69	17	53	2113	0.033	69	77	0.0	0.0	1.760	A

23:45 - 00:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
2 - Southwell Road	30	7	67	1333	0.022	30	32	0.0	0.0	2.761	A
3 - A6097	71	18	31	1990	0.036	71	66	0.0	0.0	1.875	A
4 - Nottingham Road	49	12	58	1559	0.031	49	45	0.0	0.0	2.384	A
1 - Epperstone By-Pass	57	14	43	2120	0.027	57	63	0.0	0.0	1.743	A

00:00 - 00:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
2 - Southwell Road	25	6	56	1339	0.019	25	27	0.0	0.0	2.738	A
3 - A6097	59	15	26	1993	0.030	60	55	0.0	0.0	1.860	A
4 - Nottingham Road	41	10	48	1565	0.026	41	38	0.0	0.0	2.363	A
1 - Epperstone By-Pass	47	12	36	2125	0.022	47	53	0.0	0.0	1.731	A

Existing Layout - 2037LG, AM

Data Errors and Warnings

Severity	Area	Item	Description
----------	------	------	-------------

Warning	Demand Sets	D17 - 2037LG, AM	Time results are shown for central hour only. (Model is run for a 90 minute period.)
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Junction 11	Standard Roundabout		2, 3, 4, 1	14.65	B

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	2	2 - Southwell Road

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Results for central hour only	Run automatically
D17	2037LG	AM	ONE HOUR	07:45	09:15	15	✓	✓

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
2 - Southwell Road		ONE HOUR	✓	373	100.000
3 - A6097		ONE HOUR	✓	1157	100.000
4 - Nottingham Road		ONE HOUR	✓	670	100.000
1 - Epperstone By-Pass		ONE HOUR	✓	1234	100.000

Origin-Destination Data

Demand (PCU/hr)

		To			
		2 - Southwell Road	3 - A6097	4 - Nottingham Road	1 - Epperstone By-Pass
From	2 - Southwell Road	0	74	232	67
	3 - A6097	115	0	293	749
	4 - Nottingham Road	187	265	1	217
	1 - Epperstone By-Pass	157	748	327	2

Vehicle Mix

Heavy Vehicle Percentages

From	To			
	2 - Southwell Road	3 - A6097	4 - Nottingham Road	1 - Epperstone By-Pass
2 - Southwell Road	0	0	0	0
3 - A6097	0	0	0	0
4 - Nottingham Road	0	0	0	0
1 - Epperstone By-Pass	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
2 - Southwell Road	0.76	26.88	2.9	D	373	373
3 - A6097	0.83	13.84	4.7	B	1157	1157
4 - Nottingham Road	0.77	16.17	3.2	C	670	670
1 - Epperstone By-Pass	0.81	10.88	4.0	B	1234	1234

Main Results for each time segment

08:00 - 08:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
2 - Southwell Road	335	84	1204	695	0.482	334	411	0.5	0.9	9.913	A
3 - A6097	1040	260	564	1620	0.642	1037	975	1.1	1.8	6.149	A
4 - Nottingham Road	602	151	836	1076	0.560	600	764	0.8	1.2	7.534	A
1 - Epperstone By-Pass	1109	277	509	1774	0.625	1107	928	1.0	1.6	5.377	A

08:15 - 08:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
2 - Southwell Road	411	103	1468	547	0.750	403	501	0.9	2.7	23.905	C
3 - A6097	1274	318	684	1536	0.829	1263	1187	1.8	4.5	12.703	B
4 - Nottingham Road	738	184	1018	964	0.766	730	930	1.2	3.1	14.997	B
1 - Epperstone By-Pass	1359	340	619	1692	0.803	1350	1129	1.6	3.9	10.271	B

08:30 - 08:45

Arm	Total Demand	Junction	Circulating flow (PCU/hr)	Capacity	RFC	Throughput (PCU/hr)	Throughput (exit	Start queue	End queue	Delay (s)	Unsignalised level of service
-----	--------------	----------	---------------------------	----------	-----	---------------------	------------------	-------------	-----------	-----------	-------------------------------

	(PCU/hr)	Arrivals (PCU)		(PCU/hr)			side) (PCU/hr)	(PCU)	(PCU)		
2 - Southwell Road	411	103	1478	542	0.758	410	505	2.7	2.9	26.878	D
3 - A6097	1274	318	692	1531	0.832	1273	1196	4.5	4.7	13.838	B
4 - Nottingham Road	738	184	1026	958	0.770	737	938	3.1	3.2	16.172	C
1 - Epperstone By-Pass	1359	340	625	1688	0.805	1358	1139	3.9	4.0	10.881	B

08:45 - 09:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
2 - Southwell Road	335	84	1218	688	0.488	343	417	2.9	1.0	10.679	B
3 - A6097	1040	260	574	1613	0.645	1052	987	4.7	1.9	6.545	A
4 - Nottingham Road	602	151	849	1068	0.564	610	777	3.2	1.3	7.974	A
1 - Epperstone By-Pass	1109	277	517	1768	0.627	1118	942	4.0	1.7	5.620	A

Existing Layout - 2037LG, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Junction 11	Standard Roundabout		2, 3, 4, 1	50.95	F

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	-11	4 - Nottingham Road

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D18	2037LG	PM	ONE HOUR	16:45	18:15	15	✓

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
2 - Southwell Road		ONE HOUR	✓	403	100.000
3 - A6097		ONE HOUR	✓	1363	100.000
4 - Nottingham Road		ONE HOUR	✓	779	100.000
1 - Epperstone By-Pass		ONE HOUR	✓	894	100.000

Origin-Destination Data

Demand (PCU/hr)

		To			
		2 - Southwell Road	3 - A6097	4 - Nottingham Road	1 - Epperstone By-Pass
From	2 - Southwell Road	0	128	152	123
	3 - A6097	143	1	286	933
	4 - Nottingham Road	285	236	0	258
	1 - Epperstone By-Pass	168	598	127	1

Vehicle Mix

Heavy Vehicle Percentages

		To			
		2 - Southwell Road	3 - A6097	4 - Nottingham Road	1 - Epperstone By-Pass
From	2 - Southwell Road	0	0	0	0
	3 - A6097	0	0	0	0
	4 - Nottingham Road	0	0	0	0
	1 - Epperstone By-Pass	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
2 - Southwell Road	0.56	10.36	1.3	B	370	555
3 - A6097	0.88	17.27	6.9	C	1251	1876
4 - Nottingham Road	1.11	183.16	48.2	F	715	1072
1 - Epperstone By-Pass	0.60	5.40	1.5	A	820	1231

Main Results for each time segment

16:45 - 17:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
2 - Southwell Road	303	76	721	966	0.314	302	446	0.0	0.5	5.403	A

3 - A6097	1026	257	302	1802	0.569	1021	721	0.0	1.3	4.580	A
4 - Nottingham Road	586	147	899	1037	0.566	581	423	0.0	1.3	7.817	A
1 - Epperstone Bypass	673	168	497	1783	0.378	671	984	0.0	0.6	3.230	A

17:00 - 17:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
2 - Southwell Road	362	91	863	887	0.408	361	533	0.5	0.7	6.839	A
3 - A6097	1225	306	362	1760	0.696	1222	863	1.3	2.2	6.635	A
4 - Nottingham Road	700	175	1076	927	0.755	694	507	1.3	2.9	15.022	C
1 - Epperstone Bypass	804	201	593	1711	0.470	803	1177	0.6	0.9	3.957	A

17:15 - 17:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
2 - Southwell Road	444	111	1030	793	0.559	441	619	0.7	1.2	10.164	B
3 - A6097	1501	375	442	1705	0.880	1484	1029	2.2	6.4	15.268	C
4 - Nottingham Road	858	214	1308	783	1.095	762	617	2.9	26.7	85.018	F
1 - Epperstone Bypass	984	246	667	1657	0.594	982	1404	0.9	1.4	5.319	A

17:30 - 17:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
2 - Southwell Road	444	111	1034	791	0.561	444	625	1.2	1.3	10.361	B
3 - A6097	1501	375	444	1703	0.881	1499	1034	6.4	6.9	17.272	C
4 - Nottingham Road	858	214	1321	776	1.106	772	622	26.7	48.2	183.156	F
1 - Epperstone Bypass	984	246	674	1651	0.596	984	1418	1.4	1.5	5.401	A

17:45 - 18:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
2 - Southwell Road	362	91	921	855	0.424	364	603	1.3	0.7	7.373	A
3 - A6097	1225	306	364	1759	0.697	1243	921	6.9	2.4	7.218	A
4 - Nottingham Road	700	175	1095	916	0.765	877	513	48.2	4.2	104.458	F
1 - Epperstone Bypass	804	201	718	1619	0.497	806	1254	1.5	1.0	4.439	A

18:00 - 18:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
2 - Southwell Road	303	76	730	962	0.316	305	454	0.7	0.5	5.489	A
3 - A6097	1026	257	304	1800	0.570	1030	730	2.4	1.3	4.699	A
4 - Nottingham Road	586	147	908	1032	0.568	598	427	4.2	1.3	8.502	A
1 - Epperstone By-Pass	673	168	509	1774	0.379	675	997	1.0	0.6	3.278	A

Existing Layout - 2037LG, IP

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Junction 11	Standard Roundabout		2, 3, 4, 1	4.95	A

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	42	4 - Nottingham Road

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D19	2037LG	IP	ONE HOUR	12:45	14:15	15	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
2 - Southwell Road		ONE HOUR	✓	320	100.000
3 - A6097		ONE HOUR	✓	818	100.000
4 - Nottingham Road		ONE HOUR	✓	550	100.000
1 - Epperstone By-Pass		ONE HOUR	✓	641	100.000

Origin-Destination Data

Demand (PCU/hr)

	To			
	2 - Southwell Road	3 - A6097	4 - Nottingham Road	1 - Epperstone By-Pass
From 2 - Southwell Road	1	98	143	78
From 3 - A6097	106	2	241	469
From 4 - Nottingham Road	166	229	1	154
From 1 - Epperstone By-Pass	89	430	121	1

Vehicle Mix

Heavy Vehicle Percentages

	To			
	2 - Southwell Road	3 - A6097	4 - Nottingham Road	1 - Epperstone By-Pass
From 2 - Southwell Road	0	0	0	0
From 3 - A6097	0	0	0	0
From 4 - Nottingham Road	0	0	0	0
From 1 - Epperstone By-Pass	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
2 - Southwell Road	0.40	6.73	0.7	A	294	440
3 - A6097	0.52	4.25	1.1	A	751	1126
4 - Nottingham Road	0.53	6.66	1.1	A	505	757
1 - Epperstone By-Pass	0.41	3.48	0.7	A	588	882

Main Results for each time segment

12:45 - 13:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
2 - Southwell Road	241	60	588	1041	0.231	240	272	0.0	0.3	4.487	A
3 - A6097	616	154	259	1832	0.336	614	569	0.0	0.5	2.950	A
4 - Nottingham Road	414	104	493	1289	0.321	412	380	0.0	0.5	4.097	A
1 - Epperstone By-Pass	483	121	379	1871	0.258	481	527	0.0	0.3	2.588	A

13:00 - 13:15

Arm	Total Demand	Junction	Circulating flow (PCU/hr)	Capacity	RFC	Throughput (PCU/hr)	Throughput (exit	Start queue	End queue	Delay (s)	Unsignalised level of service
-----	--------------	----------	---------------------------	----------	-----	---------------------	------------------	-------------	-----------	-----------	-------------------------------

	(PCU/hr)	Arrivals (PCU)		(PCU/hr)			side (PCU/hr)	(PCU)	(PCU)		
2 - Southwell Road	288	72	704	976	0.295	287	325	0.3	0.4	5.223	A
3 - A6097	735	184	310	1796	0.409	735	682	0.5	0.7	3.389	A
4 - Nottingham Road	494	124	590	1229	0.402	494	454	0.5	0.7	4.891	A
1 - Epperstone By-Pass	576	144	453	1815	0.317	576	630	0.3	0.5	2.905	A

13:15 - 13:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
2 - Southwell Road	352	88	862	888	0.397	351	398	0.4	0.7	6.701	A
3 - A6097	901	225	379	1748	0.515	899	834	0.7	1.1	4.233	A
4 - Nottingham Road	606	151	722	1147	0.528	604	556	0.7	1.1	6.606	A
1 - Epperstone By-Pass	706	176	555	1740	0.406	705	771	0.5	0.7	3.474	A

13:30 - 13:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
2 - Southwell Road	352	88	863	887	0.397	352	399	0.7	0.7	6.735	A
3 - A6097	901	225	380	1748	0.515	901	836	1.1	1.1	4.249	A
4 - Nottingham Road	606	151	723	1146	0.528	606	557	1.1	1.1	6.657	A
1 - Epperstone By-Pass	706	176	556	1739	0.406	706	773	0.7	0.7	3.483	A

13:45 - 14:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
2 - Southwell Road	288	72	706	975	0.295	289	326	0.7	0.4	5.255	A
3 - A6097	735	184	311	1796	0.410	737	684	1.1	0.7	3.404	A
4 - Nottingham Road	494	124	592	1228	0.403	496	456	1.1	0.7	4.931	A
1 - Epperstone By-Pass	576	144	455	1814	0.318	577	633	0.7	0.5	2.912	A

14:00 - 14:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
2 - Southwell Road	241	60	591	1039	0.232	241	273	0.4	0.3	4.515	A
3 - A6097	616	154	260	1831	0.336	617	572	0.7	0.5	2.968	A

4 - Nottingham Road	414	104	495	1288	0.32 2	415	381	0.7	0.5	4.12 9	A
1 - Epperstone By-Pass	483	121	381	1869	0.25 8	483	529	0.5	0.3	2.59 9	A

Existing Layout - 2037LG, OP

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Junction 11	Standard Roundabout		2, 3, 4, 1	2.10	A

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	900	

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D20	2037LG	OP	ONE HOUR	22:45	00:15	15	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
2 - Southwell Road		ONE HOUR	✓	32	100.000
3 - A6097		ONE HOUR	✓	80	100.000
4 - Nottingham Road		ONE HOUR	✓	53	100.000
1 - Epperstone By-Pass		ONE HOUR	✓	63	100.000

Origin-Destination Data

Demand (PCU/hr)

From	To			
	2 - Southwell Road	3 - A6097	4 - Nottingham Road	1 - Epperstone By-Pass
2 - Southwell Road	0	10	14	8
3 - A6097	10	0	24	46
4 - Nottingham Road	16	22	0	15
1 - Epperstone By-Pass	9	42	12	0

Vehicle Mix

Heavy Vehicle Percentages

		To			
		2 - Southwell Road	3 - A6097	4 - Nottingham Road	1 - Epperstone By-Pass
From	2 - Southwell Road	0	0	0	0
	3 - A6097	0	0	0	0
	4 - Nottingham Road	0	0	0	0
	1 - Epperstone By-Pass	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
2 - Southwell Road	0.03	2.79	0.0	A	29	44
3 - A6097	0.04	1.90	0.0	A	73	110
4 - Nottingham Road	0.04	2.41	0.0	A	49	73
1 - Epperstone By-Pass	0.03	1.76	0.0	A	58	87

Main Results for each time segment

22:45 - 23:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
2 - Southwell Road	24	6	57	1339	0.018	24	26	0.0	0.0	2.737	A
3 - A6097	60	15	26	1994	0.030	60	56	0.0	0.0	1.860	A
4 - Nottingham Road	40	10	48	1565	0.025	40	38	0.0	0.0	2.359	A
1 - Epperstone By-Pass	47	12	36	2125	0.022	47	52	0.0	0.0	1.731	A

23:00 - 23:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
2 - Southwell Road	29	7	68	1333	0.022	29	31	0.0	0.0	2.760	A
3 - A6097	72	18	31	1990	0.036	72	66	0.0	0.0	1.875	A
4 - Nottingham Road	48	12	58	1559	0.031	48	45	0.0	0.0	2.381	A
1 - Epperstone By-Pass	57	14	43	2120	0.027	57	62	0.0	0.0	1.743	A

23:15 - 23:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
2 - Southwell Road	35	9	84	1324	0.027	35	39	0.0	0.0	2.792	A
3 - A6097	88	22	37	1986	0.044	88	81	0.0	0.0	1.896	A
4 - Nottingham Road	58	15	70	1551	0.038	58	55	0.0	0.0	2.410	A
1 - Epperstone By-Pass	69	17	53	2113	0.033	69	76	0.0	0.0	1.760	A

23:30 - 23:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
2 - Southwell Road	35	9	84	1324	0.027	35	39	0.0	0.0	2.792	A
3 - A6097	88	22	37	1986	0.044	88	81	0.0	0.0	1.896	A
4 - Nottingham Road	58	15	70	1551	0.038	58	55	0.0	0.0	2.411	A
1 - Epperstone By-Pass	69	17	53	2113	0.033	69	76	0.0	0.0	1.760	A

23:45 - 00:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
2 - Southwell Road	29	7	68	1333	0.022	29	31	0.0	0.0	2.760	A
3 - A6097	72	18	31	1990	0.036	72	67	0.0	0.0	1.878	A
4 - Nottingham Road	48	12	58	1559	0.031	48	45	0.0	0.0	2.381	A
1 - Epperstone By-Pass	57	14	43	2120	0.027	57	62	0.0	0.0	1.746	A

00:00 - 00:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
2 - Southwell Road	24	6	57	1339	0.018	24	26	0.0	0.0	2.737	A
3 - A6097	60	15	26	1994	0.030	60	56	0.0	0.0	1.860	A
4 - Nottingham Road	40	10	48	1565	0.026	40	38	0.0	0.0	2.361	A
1 - Epperstone By-Pass	47	12	36	2125	0.022	47	52	0.0	0.0	1.734	A

Existing Layout - 2023HG, AM

Data Errors and Warnings

Severity	Area	Item	Description
----------	------	------	-------------

Warning	Demand Sets	D21 - 2023HG, AM	Time results are shown for central hour only. (Model is run for a 90 minute period.)
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Junction 11	Standard Roundabout		2, 3, 4, 1	46.00	E

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	-9	2 - Southwell Road

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Results for central hour only	Run automatically
D21	2023HG	AM	ONE HOUR	07:45	09:15	15	✓	✓

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
2 - Southwell Road		ONE HOUR	✓	436	100.000
3 - A6097		ONE HOUR	✓	1277	100.000
4 - Nottingham Road		ONE HOUR	✓	741	100.000
1 - Epperstone By-Pass		ONE HOUR	✓	1390	100.000

Origin-Destination Data

Demand (PCU/hr)

		To			
		2 - Southwell Road	3 - A6097	4 - Nottingham Road	1 - Epperstone By-Pass
From	2 - Southwell Road	0	82	274	80
	3 - A6097	128	0	316	833
	4 - Nottingham Road	218	270	1	252
	1 - Epperstone By-Pass	185	819	384	2

Vehicle Mix

Heavy Vehicle Percentages

From	To			
	2 - Southwell Road	3 - A6097	4 - Nottingham Road	1 - Epperstone By-Pass
2 - Southwell Road	0	0	0	0
3 - A6097	0	0	0	0
4 - Nottingham Road	0	0	0	0
1 - Epperstone By-Pass	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
2 - Southwell Road	1.04	132.72	18.4	F	436	436
3 - A6097	0.96	41.64	15.4	E	1277	1277
4 - Nottingham Road	0.91	39.37	8.3	E	741	741
1 - Epperstone By-Pass	0.93	26.35	10.5	D	1390	1390

Main Results for each time segment

08:00 - 08:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
2 - Southwell Road	392	98	1322	630	0.623	389	475	0.8	1.6	14.749	B
3 - A6097	1148	287	662	1551	0.740	1143	1048	1.4	2.7	8.697	A
4 - Nottingham Road	666	167	933	1016	0.656	663	872	1.0	1.8	10.089	B
1 - Epperstone By-Pass	1250	312	552	1742	0.717	1245	1044	1.4	2.5	7.183	A

08:15 - 08:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
2 - Southwell Road	480	120	1595	476	1.008	442	571	1.6	11.1	71.047	F
3 - A6097	1406	352	778	1471	0.956	1369	1259	2.7	12.1	28.223	D
4 - Nottingham Road	816	204	1113	904	0.902	796	1033	1.8	6.9	28.998	D
1 - Epperstone By-Pass	1530	383	662	1660	0.922	1504	1247	2.5	9.1	20.375	C

08:30 - 08:45

Arm	Total Demand	Junction	Circulating flow (PCU/hr)	Capacity	RFC	Throughput (PCU/hr)	Throughput (exit	Start queue	End queue	Delay (s)	Unsignalised level of service
-----	--------------	----------	---------------------------	----------	-----	---------------------	------------------	-------------	-----------	-----------	-------------------------------

	(PCU/hr)	Arrivals (PCU)		(PCU/hr)			side (PCU/hr)	(PCU)	(PCU)		
2 - Southwell Road	480	120	1618	463	1.036	451	581	11.1	18.4	132.725	F
3 - A6097	1406	352	791	1462	0.962	1393	1278	12.1	15.4	41.645	E
4 - Nottingham Road	816	204	1133	892	0.915	810	1050	6.9	8.3	39.365	E
1 - Epperstone By-Pass	1530	383	674	1651	0.927	1525	1269	9.1	10.5	26.347	D

08:45 - 09:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
2 - Southwell Road	392	98	1363	606	0.646	458	494	18.4	2.0	34.088	D
3 - A6097	1148	287	728	1506	0.762	1196	1092	15.4	3.4	13.301	B
4 - Nottingham Road	666	167	986	983	0.677	691	938	8.3	2.2	13.265	B
1 - Epperstone By-Pass	1250	312	576	1724	0.725	1281	1101	10.5	2.7	8.661	A

Existing Layout - 2023HG, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Junction 11	Standard Roundabout		2, 3, 4, 1	206.64	F

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	-23	4 - Nottingham Road

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D22	2023HG	PM	ONE HOUR	16:45	18:15	15	✓

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
2 - Southwell Road		ONE HOUR	✓	470	100.000
3 - A6097		ONE HOUR	✓	1534	100.000
4 - Nottingham Road		ONE HOUR	✓	904	100.000
1 - Epperstone By-Pass		ONE HOUR	✓	1017	100.000

Origin-Destination Data

Demand (PCU/hr)

		To			
		2 - Southwell Road	3 - A6097	4 - Nottingham Road	1 - Epperstone By-Pass
From	2 - Southwell Road	0	144	179	147
	3 - A6097	164	1	307	1062
	4 - Nottingham Road	340	257	0	307
	1 - Epperstone By-Pass	201	668	147	1

Vehicle Mix

Heavy Vehicle Percentages

		To			
		2 - Southwell Road	3 - A6097	4 - Nottingham Road	1 - Epperstone By-Pass
From	2 - Southwell Road	0	0	0	0
	3 - A6097	0	0	0	0
	4 - Nottingham Road	0	0	0	0
	1 - Epperstone By-Pass	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
2 - Southwell Road	0.68	14.97	2.1	B	431	647
3 - A6097	1.02	81.33	40.3	F	1408	2111
4 - Nottingham Road	1.45	744.25	177.9	F	830	1244
1 - Epperstone By-Pass	0.67	6.36	2.0	A	933	1400

Main Results for each time segment

16:45 - 17:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
2 - Southwell Road	354	88	803	920	0.384	351	526	0.0	0.6	6.302	A

3 - A6097	1155	289	355	1765	0.654	1147	800	0.0	1.9	5.762	A
4 - Nottingham Road	681	170	1028	957	0.711	671	474	0.0	2.3	12.227	B
1 - Epperstone By-Pass	766	191	567	1731	0.442	763	1133	0.0	0.8	3.705	A

17:00 - 17:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
2 - Southwell Road	423	106	953	836	0.505	421	618	0.6	1.0	8.638	A
3 - A6097	1379	345	425	1716	0.803	1371	950	1.9	3.9	10.189	B
4 - Nottingham Road	813	203	1229	832	0.976	775	567	2.3	11.8	46.040	E
1 - Epperstone By-Pass	914	229	659	1662	0.550	913	1345	0.8	1.2	4.792	A

17:15 - 17:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
2 - Southwell Road	517	129	1096	756	0.684	513	655	1.0	2.1	14.557	B
3 - A6097	1689	422	519	1651	1.023	1601	1090	3.9	25.8	43.465	E
4 - Nottingham Road	995	249	1442	700	1.421	699	677	11.8	86.0	265.921	F
1 - Epperstone By-Pass	1120	280	634	1681	0.666	1117	1507	1.2	2.0	6.343	A

17:30 - 17:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
2 - Southwell Road	517	129	1094	757	0.683	517	653	2.1	2.1	14.972	B
3 - A6097	1689	422	522	1649	1.024	1631	1090	25.8	40.3	81.334	F
4 - Nottingham Road	995	249	1468	685	1.454	684	685	86.0	163.7	637.859	F
1 - Epperstone By-Pass	1120	280	627	1686	0.664	1120	1525	2.0	2.0	6.360	A

17:45 - 18:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
2 - Southwell Road	423	106	952	837	0.505	427	628	2.1	1.0	8.863	A
3 - A6097	1379	345	429	1713	0.805	1522	949	40.3	4.5	30.277	D
4 - Nottingham Road	813	203	1352	756	1.075	756	600	163.7	177.9	744.247	F
1 - Epperstone By-Pass	914	229	663	1659	0.551	917	1445	2.0	1.2	4.871	A

18:00 - 18:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
2 - Southwell Road	354	88	884	875	0.404	355	630	1.0	0.7	6.942	A
3 - A6097	1155	289	358	1763	0.655	1165	881	4.5	1.9	6.123	A
4 - Nottingham Road	681	170	1044	947	0.718	942	479	177.9	112.5	555.964	F
1 - Epperstone By-Pass	766	191	748	1596	0.480	767	1238	1.2	0.9	4.346	A

Existing Layout - 2023HG, IP

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Junction 11	Standard Roundabout		2, 3, 4, 1	6.12	A

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	27	4 - Nottingham Road

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D23	2023HG	IP	ONE HOUR	12:45	14:15	15	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
2 - Southwell Road		ONE HOUR	✓	370	100.000
3 - A6097		ONE HOUR	✓	902	100.000
4 - Nottingham Road		ONE HOUR	✓	619	100.000
1 - Epperstone By-Pass		ONE HOUR	✓	720	100.000

Origin-Destination Data

Demand (PCU/hr)

	To			
	2 - Southwell Road	3 - A6097	4 - Nottingham Road	1 - Epperstone By-Pass
From 2 - Southwell Road	1	109	168	92
From 3 - A6097	119	3	258	522
From 4 - Nottingham Road	195	242	2	180
From 1 - Epperstone By-Pass	105	473	141	1

Vehicle Mix

Heavy Vehicle Percentages

	To			
	2 - Southwell Road	3 - A6097	4 - Nottingham Road	1 - Epperstone By-Pass
From 2 - Southwell Road	0	0	0	0
From 3 - A6097	0	0	0	0
From 4 - Nottingham Road	0	0	0	0
From 1 - Epperstone By-Pass	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
2 - Southwell Road	0.49	8.35	0.9	A	340	509
3 - A6097	0.58	5.08	1.4	A	828	1242
4 - Nottingham Road	0.62	8.79	1.6	A	568	852
1 - Epperstone By-Pass	0.47	4.00	0.9	A	661	991

Main Results for each time segment

12:45 - 13:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
2 - Southwell Road	279	70	647	1008	0.276	277	315	0.0	0.4	4.914	A
3 - A6097	679	170	304	1801	0.377	677	620	0.0	0.6	3.196	A
4 - Nottingham Road	466	117	554	1252	0.372	464	427	0.0	0.6	4.555	A
1 - Epperstone By-Pass	542	136	421	1839	0.295	540	596	0.0	0.4	2.768	A

13:00 - 13:15

Arm	Total Demand	Junction	Circulating flow (PCU/hr)	Capacity	RFC	Throughput (PCU/hr)	Throughput (exit	Start queue	End queue	Delay (s)	Unsignalised level of service
-----	--------------	----------	---------------------------	----------	-----	---------------------	------------------	-------------	-----------	-----------	-------------------------------

	(PCU/hr)	Arrivals (PCU)		(PCU/hr)			side (PCU/hr)	(PCU)	(PCU)		
2 - Southwell Road	333	83	774	937	0.355	332	377	0.4	0.5	5.946	A
3 - A6097	811	203	363	1759	0.461	810	742	0.6	0.8	3.790	A
4 - Nottingham Road	556	139	663	1184	0.470	555	511	0.6	0.9	5.716	A
1 - Epperstone By-Pass	647	162	504	1777	0.364	647	714	0.4	0.6	3.182	A

13:15 - 13:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
2 - Southwell Road	407	102	947	840	0.485	406	461	0.5	0.9	8.263	A
3 - A6097	993	248	445	1703	0.583	991	908	0.8	1.4	5.043	A
4 - Nottingham Road	682	170	811	1092	0.624	679	625	0.9	1.6	8.643	A
1 - Epperstone By-Pass	793	198	616	1694	0.468	792	873	0.6	0.9	3.985	A

13:30 - 13:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
2 - Southwell Road	407	102	949	839	0.486	407	462	0.9	0.9	8.346	A
3 - A6097	993	248	446	1702	0.584	993	910	1.4	1.4	5.079	A
4 - Nottingham Road	682	170	813	1091	0.625	681	626	1.6	1.6	8.786	A
1 - Epperstone By-Pass	793	198	619	1692	0.468	793	875	0.9	0.9	4.002	A

13:45 - 14:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
2 - Southwell Road	333	83	777	935	0.356	334	379	0.9	0.6	6.007	A
3 - A6097	811	203	365	1758	0.461	813	746	1.4	0.9	3.818	A
4 - Nottingham Road	556	139	665	1182	0.471	559	513	1.6	0.9	5.809	A
1 - Epperstone By-Pass	647	162	508	1775	0.365	648	717	0.9	0.6	3.201	A

14:00 - 14:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
2 - Southwell Road	279	70	650	1006	0.277	279	317	0.6	0.4	4.955	A
3 - A6097	679	170	306	1799	0.377	680	624	0.9	0.6	3.218	A

4 - Nottingham Road	466	117	557	1250	0.37 3	467	429	0.9	0.6	4.60 7	A
1 - Epperstone By-Pass	542	136	424	1837	0.29 5	543	600	0.6	0.4	2.78 4	A

Existing Layout - 2023HG, OP

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Junction 11	Standard Roundabout		2, 3, 4, 1	2.12	A

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	900	

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D24	2023HG	OP	ONE HOUR	22:45	00:15	15	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
2 - Southwell Road		ONE HOUR	✓	36	100.000
3 - A6097		ONE HOUR	✓	88	100.000
4 - Nottingham Road		ONE HOUR	✓	61	100.000
1 - Epperstone By-Pass		ONE HOUR	✓	70	100.000

Origin-Destination Data

Demand (PCU/hr)

From	To			
	2 - Southwell Road	3 - A6097	4 - Nottingham Road	1 - Epperstone By-Pass
2 - Southwell Road	0	11	16	9
3 - A6097	12	0	25	51
4 - Nottingham Road	19	24	0	18
1 - Epperstone By-Pass	10	46	14	0

Vehicle Mix

Heavy Vehicle Percentages

		To			
		2 - Southwell Road	3 - A6097	4 - Nottingham Road	1 - Epperstone By-Pass
From	2 - Southwell Road	0	0	0	0
	3 - A6097	0	0	0	0
	4 - Nottingham Road	0	0	0	0
	1 - Epperstone By-Pass	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
2 - Southwell Road	0.03	2.81	0.0	A	33	50
3 - A6097	0.05	1.91	0.1	A	81	121
4 - Nottingham Road	0.04	2.43	0.0	A	56	84
1 - Epperstone By-Pass	0.04	1.77	0.0	A	64	96

Main Results for each time segment

22:45 - 23:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
2 - Southwell Road	27	7	63	1335	0.020	27	31	0.0	0.0	2.750	A
3 - A6097	66	17	29	1991	0.033	66	61	0.0	0.0	1.869	A
4 - Nottingham Road	46	11	54	1561	0.029	46	41	0.0	0.0	2.375	A
1 - Epperstone By-Pass	53	13	41	2122	0.025	53	59	0.0	0.0	1.739	A

23:00 - 23:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
2 - Southwell Road	32	8	75	1329	0.024	32	37	0.0	0.0	2.776	A
3 - A6097	79	20	35	1987	0.040	79	73	0.0	0.0	1.885	A
4 - Nottingham Road	55	14	65	1555	0.035	55	49	0.0	0.0	2.399	A
1 - Epperstone By-Pass	63	16	49	2115	0.030	63	70	0.0	0.0	1.753	A

23:15 - 23:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
2 - Southwell Road	40	10	92	1319	0.030	40	45	0.0	0.0	2.813	A
3 - A6097	97	24	43	1982	0.049	97	89	0.0	0.1	1.908	A
4 - Nottingham Road	67	17	79	1546	0.043	67	61	0.0	0.0	2.434	A
1 - Epperstone By-Pass	77	19	61	2107	0.037	77	86	0.0	0.0	1.772	A

23:30 - 23:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
2 - Southwell Road	40	10	92	1319	0.030	40	45	0.0	0.0	2.813	A
3 - A6097	97	24	43	1982	0.049	97	89	0.1	0.1	1.908	A
4 - Nottingham Road	67	17	79	1546	0.043	67	61	0.0	0.0	2.434	A
1 - Epperstone By-Pass	77	19	61	2107	0.037	77	86	0.0	0.0	1.772	A

23:45 - 00:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
2 - Southwell Road	32	8	76	1328	0.024	32	37	0.0	0.0	2.779	A
3 - A6097	79	20	35	1987	0.040	79	73	0.1	0.0	1.885	A
4 - Nottingham Road	55	14	65	1555	0.035	55	49	0.0	0.0	2.401	A
1 - Epperstone By-Pass	63	16	49	2115	0.030	63	70	0.0	0.0	1.755	A

00:00 - 00:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
2 - Southwell Road	27	7	63	1335	0.020	27	31	0.0	0.0	2.753	A
3 - A6097	66	17	29	1991	0.033	66	61	0.0	0.0	1.872	A
4 - Nottingham Road	46	11	54	1561	0.029	46	41	0.0	0.0	2.375	A
1 - Epperstone By-Pass	53	13	41	2121	0.025	53	59	0.0	0.0	1.742	A

Existing Layout - 2037HG, AM

Data Errors and Warnings

Severity	Area	Item	Description
----------	------	------	-------------

Warning	Demand Sets	D25 - 2037HG, AM	Time results are shown for central hour only. (Model is run for a 90 minute period.)
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Junction 11	Standard Roundabout		2, 3, 4, 1	200.38	F

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	-20	2 - Southwell Road

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Results for central hour only	Run automatically
D25	2037HG	AM	ONE HOUR	07:45	09:15	15	✓	✓

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
2 - Southwell Road		ONE HOUR	✓	482	100.000
3 - A6097		ONE HOUR	✓	1444	100.000
4 - Nottingham Road		ONE HOUR	✓	881	100.000
1 - Epperstone By-Pass		ONE HOUR	✓	1577	100.000

Origin-Destination Data

Demand (PCU/hr)

		To			
		2 - Southwell Road	3 - A6097	4 - Nottingham Road	1 - Epperstone By-Pass
From	2 - Southwell Road	0	90	306	86
	3 - A6097	140	0	372	932
	4 - Nottingham Road	249	334	1	297
	1 - Epperstone By-Pass	202	931	442	2

Vehicle Mix

Heavy Vehicle Percentages

From	To			
	2 - Southwell Road	3 - A6097	4 - Nottingham Road	1 - Epperstone By-Pass
2 - Southwell Road	0	0	0	0
3 - A6097	0	0	0	0
4 - Nottingham Road	0	0	0	0
1 - Epperstone By-Pass	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
2 - Southwell Road	1.34	595.69	77.5	F	482	482
3 - A6097	1.08	146.21	71.6	F	1444	1444
4 - Nottingham Road	1.11	193.93	55.7	F	881	881
1 - Epperstone By-Pass	1.07	132.75	71.4	F	1577	1577

Main Results for each time segment

08:00 - 08:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
2 - Southwell Road	433	108	1523	517	0.838	421	525	1.2	4.2	34.237	D
3 - A6097	1298	325	739	1498	0.867	1284	1205	2.2	5.7	15.849	C
4 - Nottingham Road	792	198	1030	956	0.828	781	993	1.6	4.3	19.523	C
1 - Epperstone By-Pass	1418	354	642	1675	0.847	1406	1169	2.1	5.1	12.848	B

08:15 - 08:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
2 - Southwell Road	531	133	1719	407	1.305	401	589	4.2	36.5	203.906	F
3 - A6097	1590	397	777	1472	1.080	1449	1344	5.7	40.9	68.602	F
4 - Nottingham Road	970	242	1150	882	1.100	864	1076	4.3	30.9	87.651	F
1 - Epperstone By-Pass	1736	434	713	1622	1.070	1595	1300	5.1	40.4	61.403	F

08:30 - 08:45

Arm	Total Demand	Junction	Circulating flow (PCU/hr)	Capacity	RFC	Throughput (PCU/hr)	Throughput (exit	Start queue	End queue	Delay (s)	Unsignalised level of service
-----	--------------	----------	---------------------------	----------	-----	---------------------	------------------	-------------	-----------	-----------	-------------------------------

	(PCU/hr)	Arrivals (PCU)		(PCU/hr)			side (PCU/hr)	(PCU)	(PCU)		
2 - Southwell Road	531	133	1737	397	1.337	396	595	36.5	70.1	496.740	F
3 - A6097	1590	397	777	1472	1.080	1467	1356	40.9	71.6	146.211	F
4 - Nottingham Road	970	242	1162	874	1.110	871	1082	30.9	55.7	190.166	F
1 - Epperstone By-Pass	1736	434	719	1617	1.074	1612	1313	40.4	71.4	132.752	F

08:45 - 09:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
2 - Southwell Road	433	108	1723	404	1.071	404	590	70.1	77.5	595.692	F
3 - A6097	1298	325	779	1470	0.883	1450	1347	71.6	33.7	133.499	F
4 - Nottingham Road	792	198	1150	881	0.899	866	1079	55.7	37.2	193.930	F
1 - Epperstone By-Pass	1418	354	715	1621	0.875	1599	1302	71.4	26.2	113.222	F

Existing Layout - 2037HG, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Junction 11	Standard Roundabout		2, 3, 4, 1	634.45	F

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	-33	4 - Nottingham Road

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D26	2037HG	PM	ONE HOUR	16:45	18:15	15	✓

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
2 - Southwell Road		ONE HOUR	✓	535	100.000
3 - A6097		ONE HOUR	✓	1770	100.000
4 - Nottingham Road		ONE HOUR	✓	1067	100.000
1 - Epperstone By-Pass		ONE HOUR	✓	1180	100.000

Origin-Destination Data

Demand (PCU/hr)

		To			
		2 - Southwell Road	3 - A6097	4 - Nottingham Road	1 - Epperstone By-Pass
From	2 - Southwell Road	0	162	210	163
	3 - A6097	182	1	373	1214
	4 - Nottingham Road	388	316	0	363
	1 - Epperstone By-Pass	223	772	184	1

Vehicle Mix

Heavy Vehicle Percentages

		To			
		2 - Southwell Road	3 - A6097	4 - Nottingham Road	1 - Epperstone By-Pass
From	2 - Southwell Road	0	0	0	0
	3 - A6097	0	0	0	0
	4 - Nottingham Road	0	0	0	0
	1 - Epperstone By-Pass	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
2 - Southwell Road	0.89	43.52	6.6	E	491	736
3 - A6097	1.23	405.56	193.3	F	1624	2436
4 - Nottingham Road	1.66	2001.76	392.9	F	979	1469
1 - Epperstone By-Pass	0.77	9.35	3.3	A	1083	1624

Main Results for each time segment

16:45 - 17:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
2 - Southwell Road	403	101	946	840	0.479	399	584	0.0	0.9	8.099	A

3 - A6097	1333	333	417	1722	0.774	1319	929	0.0	3.3	8.683	A
4 - Nottingham Road	803	201	1164	873	0.920	773	573	0.0	7.7	30.002	D
1 - Epperstone By-Pass	888	222	646	1672	0.531	884	1290	0.0	1.1	4.544	A

17:00 - 17:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
2 - Southwell Road	481	120	1078	766	0.628	478	629	0.9	1.6	12.371	B
3 - A6097	1591	398	499	1665	0.956	1554	1057	3.3	12.6	26.339	D
4 - Nottingham Road	959	240	1373	743	1.290	739	680	7.7	62.7	186.644	F
1 - Epperstone By-Pass	1061	265	648	1670	0.635	1058	1464	1.1	1.7	5.863	A

17:15 - 17:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
2 - Southwell Road	589	147	1259	665	0.886	572	665	1.6	5.8	34.253	D
3 - A6097	1949	487	602	1593	1.223	1589	1230	12.6	102.6	138.650	F
4 - Nottingham Road	1175	294	1430	708	1.659	708	761	62.7	179.4	624.286	F
1 - Epperstone By-Pass	1299	325	631	1683	0.772	1293	1506	1.7	3.2	9.094	A

17:30 - 17:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
2 - Southwell Road	589	147	1264	662	0.890	586	666	5.8	6.6	43.516	E
3 - A6097	1949	487	612	1586	1.229	1586	1237	102.6	193.3	337.404	F
4 - Nottingham Road	1175	294	1431	707	1.661	707	767	179.4	296.3	1217.717	F
1 - Epperstone By-Pass	1299	325	631	1683	0.772	1299	1508	3.2	3.3	9.345	A

17:45 - 18:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
2 - Southwell Road	481	120	1072	770	0.625	501	623	6.6	1.7	14.292	B
3 - A6097	1591	398	516	1653	0.963	1644	1056	193.3	180.1	405.564	F
4 - Nottingham Road	959	240	1451	695	1.381	695	709	296.3	362.4	1729.051	F
1 - Epperstone By-Pass	1061	265	628	1685	0.630	1067	1518	3.3	1.7	5.886	A

18:00 - 18:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
2 - Southwell Road	403	101	925	852	0.473	406	592	1.7	0.9	8.132	A
3 - A6097	1333	333	423	1718	0.776	1708	908	180.1	86.1	281.879	F
4 - Nottingham Road	803	201	1473	681	1.179	681	658	362.4	392.9	2001.759	F
1 - Epperstone By-Pass	888	222	626	1687	0.527	891	1528	1.7	1.1	4.538	A

Existing Layout - 2037HG, IP

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Junction 11	Standard Roundabout		2, 3, 4, 1	8.92	A

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	11	4 - Nottingham Road

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D27	2037HG	IP	ONE HOUR	12:45	14:15	15	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
2 - Southwell Road		ONE HOUR	✓	411	100.000
3 - A6097		ONE HOUR	✓	1021	100.000
4 - Nottingham Road		ONE HOUR	✓	720	100.000
1 - Epperstone By-Pass		ONE HOUR	✓	820	100.000

Origin-Destination Data

Demand (PCU/hr)

	To			
	2 - Southwell Road	3 - A6097	4 - Nottingham Road	1 - Epperstone By-Pass
From 2 - Southwell Road	1	120	190	100
From 3 - A6097	130	3	303	585
From 4 - Nottingham Road	219	288	2	211
From 1 - Epperstone By-Pass	114	536	169	1

Vehicle Mix

Heavy Vehicle Percentages

	To			
	2 - Southwell Road	3 - A6097	4 - Nottingham Road	1 - Epperstone By-Pass
From 2 - Southwell Road	0	0	0	0
From 3 - A6097	0	0	0	0
From 4 - Nottingham Road	0	0	0	0
From 1 - Epperstone By-Pass	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
2 - Southwell Road	0.60	11.92	1.5	B	377	566
3 - A6097	0.68	6.75	2.1	A	937	1405
4 - Nottingham Road	0.77	14.77	3.2	B	661	991
1 - Epperstone By-Pass	0.56	4.98	1.2	A	752	1129

Main Results for each time segment

12:45 - 13:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
2 - Southwell Road	309	77	749	951	0.325	308	348	0.0	0.5	5.579	A
3 - A6097	769	192	347	1771	0.434	766	710	0.0	0.8	3.572	A
4 - Nottingham Road	542	136	615	1214	0.447	539	498	0.0	0.8	5.311	A
1 - Epperstone By-Pass	617	154	481	1794	0.344	615	672	0.0	0.5	3.048	A

13:00 - 13:15

Arm	Total Demand	Junction	Circulating flow (PCU/hr)	Capacity	RFC	Throughput (PCU/hr)	Throughput (exit	Start queue	End queue	Delay (s)	Unsignalised level of service
-----	--------------	----------	---------------------------	----------	-----	---------------------	------------------	-------------	-----------	-----------	-------------------------------

	(PCU/hr)	Arrivals (PCU)		(PCU/hr)			side (PCU/hr)	(PCU)	(PCU)		
2 - Southwell Road	369	92	897	868	0.426	368	416	0.5	0.7	7.191	A
3 - A6097	918	229	415	1723	0.533	916	850	0.8	1.1	4.455	A
4 - Nottingham Road	647	162	736	1138	0.569	645	596	0.8	1.3	7.270	A
1 - Epperstone By-Pass	737	184	576	1724	0.428	736	805	0.5	0.7	3.642	A

13:15 - 13:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
2 - Southwell Road	453	113	1095	756	0.598	450	508	0.7	1.4	11.624	B
3 - A6097	1124	281	507	1659	0.678	1120	1038	1.1	2.1	6.637	A
4 - Nottingham Road	793	198	900	1037	0.764	786	728	1.3	3.0	13.953	B
1 - Epperstone By-Pass	903	226	703	1630	0.554	901	983	0.7	1.2	4.925	A

13:30 - 13:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
2 - Southwell Road	453	113	1100	754	0.600	452	511	1.4	1.5	11.920	B
3 - A6097	1124	281	510	1657	0.678	1124	1042	2.1	2.1	6.747	A
4 - Nottingham Road	793	198	903	1035	0.766	792	731	3.0	3.2	14.767	B
1 - Epperstone By-Pass	903	226	708	1626	0.555	903	987	1.2	1.2	4.977	A

13:45 - 14:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
2 - Southwell Road	369	92	903	865	0.427	372	420	1.5	0.8	7.357	A
3 - A6097	918	229	419	1721	0.533	922	856	2.1	1.2	4.525	A
4 - Nottingham Road	647	162	740	1136	0.570	655	600	3.2	1.4	7.593	A
1 - Epperstone By-Pass	737	184	584	1718	0.429	739	811	1.2	0.8	3.685	A

14:00 - 14:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
2 - Southwell Road	309	77	754	948	0.326	310	350	0.8	0.5	5.656	A
3 - A6097	769	192	350	1769	0.435	770	715	1.2	0.8	3.612	A

4 - Nottingham Road	542	136	619	1211	0.44 8	544	501	1.4	0.8	5.41 3	A
1 - Epperstone By-Pass	617	154	486	1791	0.34 5	618	677	0.8	0.5	3.07 1	A

Existing Layout - 2037HG, OP

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Junction 11	Standard Roundabout		2, 3, 4, 1	2.15	A

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	900	

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D28	2037HG	OP	ONE HOUR	22:45	00:15	15	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
2 - Southwell Road		ONE HOUR	✓	41	100.000
3 - A6097		ONE HOUR	✓	100	100.000
4 - Nottingham Road		ONE HOUR	✓	70	100.000
1 - Epperstone By-Pass		ONE HOUR	✓	80	100.000

Origin-Destination Data

Demand (PCU/hr)

	From	To			
		2 - Southwell Road	3 - A6097	4 - Nottingham Road	1 - Epperstone By-Pass
	2 - Southwell Road	0	12	19	10
	3 - A6097	13	0	30	57
	4 - Nottingham Road	21	28	0	21
	1 - Epperstone By-Pass	11	52	17	0

Vehicle Mix

Heavy Vehicle Percentages

		To			
		2 - Southwell Road	3 - A6097	4 - Nottingham Road	1 - Epperstone By-Pass
From	2 - Southwell Road	0	0	0	0
	3 - A6097	0	0	0	0
	4 - Nottingham Road	0	0	0	0
	1 - Epperstone By-Pass	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
2 - Southwell Road	0.03	2.84	0.0	A	38	56
3 - A6097	0.06	1.93	0.1	A	92	138
4 - Nottingham Road	0.05	2.46	0.1	A	64	96
1 - Epperstone By-Pass	0.04	1.79	0.0	A	73	110

Main Results for each time segment

22:45 - 23:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
2 - Southwell Road	31	8	73	1330	0.023	31	34	0.0	0.0	2.770	A
3 - A6097	75	19	35	1988	0.038	75	69	0.0	0.0	1.881	A
4 - Nottingham Road	53	13	60	1558	0.034	53	50	0.0	0.0	2.391	A
1 - Epperstone By-Pass	60	15	47	2118	0.028	60	66	0.0	0.0	1.748	A

23:00 - 23:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
2 - Southwell Road	37	9	87	1322	0.028	37	40	0.0	0.0	2.800	A
3 - A6097	90	22	41	1983	0.045	90	83	0.0	0.0	1.900	A
4 - Nottingham Road	63	16	72	1550	0.041	63	59	0.0	0.0	2.419	A
1 - Epperstone By-Pass	72	18	56	2111	0.034	72	79	0.0	0.0	1.764	A

23:15 - 23:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
2 - Southwell Road	45	11	107	1311	0.034	45	50	0.0	0.0	2.843	A
3 - A6097	110	28	51	1976	0.056	110	101	0.0	0.1	1.928	A
4 - Nottingham Road	77	19	88	1540	0.050	77	73	0.0	0.1	2.459	A
1 - Epperstone By-Pass	88	22	68	2101	0.042	88	97	0.0	0.0	1.787	A

23:30 - 23:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
2 - Southwell Road	45	11	107	1311	0.034	45	50	0.0	0.0	2.843	A
3 - A6097	110	28	51	1976	0.056	110	101	0.1	0.1	1.928	A
4 - Nottingham Road	77	19	88	1540	0.050	77	73	0.1	0.1	2.459	A
1 - Epperstone By-Pass	88	22	68	2101	0.042	88	97	0.0	0.0	1.787	A

23:45 - 00:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
2 - Southwell Road	37	9	87	1322	0.028	37	40	0.0	0.0	2.803	A
3 - A6097	90	22	41	1983	0.045	90	83	0.1	0.0	1.900	A
4 - Nottingham Road	63	16	72	1550	0.041	63	59	0.1	0.0	2.420	A
1 - Epperstone By-Pass	72	18	56	2111	0.034	72	79	0.0	0.0	1.767	A

00:00 - 00:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
2 - Southwell Road	31	8	73	1330	0.023	31	34	0.0	0.0	2.772	A
3 - A6097	75	19	35	1988	0.038	75	69	0.0	0.0	1.884	A
4 - Nottingham Road	53	13	60	1558	0.034	53	50	0.0	0.0	2.393	A
1 - Epperstone By-Pass	60	15	47	2117	0.028	60	66	0.0	0.0	1.751	A

Junctions 9

ARCADY 9 - Roundabout Module

Version: 9.5.1.7462
© Copyright TRL Limited, 2019

For sales and distribution information, program advice and maintenance, contact TRL:
+44 (0)1344 379777 software@trl.co.uk www.trlsoftware.co.uk

The users of this computer program for the solution of an engineering problem are in no way relieved of their responsibility for the correctness of the solution

Filename: Junction 6 (Lowdham Proposed) 45-50 ICD test final_V4.j9

Path: L:\DATA\Projects\CH_TP\60625845_A614 MRN DfT responses\08_Models\Junction Models\6-Lowdham

Report generation date: 04/12/2020 10:19:03

- »Proposed Layout - 2023, AM
- »Proposed Layout - 2023, PM
- »Proposed Layout - 2023, IP
- »Proposed Layout - 2023, OP
- »Proposed Layout - 2037, AM
- »Proposed Layout - 2037, PM
- »Proposed Layout - 2037, IP
- »Proposed Layout - 2037, OP
- »Proposed Layout - 2037 final, AM
- »Proposed Layout - 2037 final, PM
- »Proposed Layout - 2037 final, IP
- »Proposed Layout - 2037 final, OP
- »Proposed Layout - 2023LG, AM
- »Proposed Layout - 2023LG, PM
- »Proposed Layout - 2023LG, IP
- »Proposed Layout - 2023LG, OP
- »Proposed Layout - 2037LG, AM
- »Proposed Layout - 2037LG, PM
- »Proposed Layout - 2037LG, IP
- »Proposed Layout - 2037LG, OP
- »Proposed Layout - 2023HG, AM
- »Proposed Layout - 2023HG, PM
- »Proposed Layout - 2023HG, IP
- »Proposed Layout - 2023HG, OP
- »Proposed Layout - 2037HG, AM
- »Proposed Layout - 2037HG, PM
- »Proposed Layout - 2037HG, IP
- »Proposed Layout - 2037HG, OP

Summary of junction performance

	AM					PM					IP					OP								
	Se t ID	Qu e u e (P)	De l a y (s)	R F C	L O S	Jun ctio n	Se t ID	Qu e u e (P)	De l a y (s)	R F C	L O S	Jun ctio n	Se t ID	Qu e u e (P)	De l a y (s)	R F C	L O S	Jun ctio n	Se t ID	Qu e u e (P)	De l a y (s)	R F C	L O S	Jun ctio n

		CU			Delay (s)		CU			Delay (s)		CU			Delay (s)		CU			Delay (s)				
Proposed Layout - 2023																								
1 - Epperstone By-Pass	D1	5.4	13.77	0.85	B	12.35	D2	1.9	6.59	0.66	A	11.39	D3	0.7	3.60	0.43	A	3.75	D4	0.0	1.87	0.03	A	1.86
2 - Southwell Road		2.1	16.77	0.68	C			1.1	8.41	0.53	A			0.6	5.48	0.37	A			0.0	2.46	0.03	A	
3 - A6097		5.2	14.55	0.85	B			8.0	18.97	0.90	C			1.1	4.07	0.52	A			0.0	1.90	0.04	A	
4 - Nottingham Road		0.7	3.30	0.42	A			1.4	5.49	0.59	A			0.4	2.44	0.31	A			0.0	1.41	0.02	A	
Proposed Layout - 2037																								
1 - Epperstone By-Pass	D5	7.9	19.83	0.90	C	17.09	D6	2.2	7.20	0.69	A	15.12	D7	0.8	3.79	0.45	A	3.97	D8	0.0	1.87	0.04	A	1.86
2 - Southwell Road		2.8	22.48	0.74	C			1.2	9.17	0.56	A			0.6	5.81	0.39	A			0.0	2.47	0.03	A	
3 - A6097		7.5	20.26	0.89	C			11.9	27.40	0.94	D			1.2	4.34	0.55	A			0.1	1.91	0.05	A	
4 - Nottingham Road		0.8	3.55	0.45	A			1.5	5.88	0.61	A			0.5	2.53	0.32	A			0.0	1.42	0.02	A	
Proposed Layout - 2037 final																								
1 - Epperstone By-Pass	D9	16.5	39.49	0.96	E	30.55	D10	2.9	9.19	0.75	A	29.51	D11	0.9	4.07	0.48	A	4.24	D12	0.0	1.88	0.04	A	1.86
2 - Southwell Road		4.9	39.31	0.85	E			1.7	11.55	0.63	B			0.7	6.32	0.42	A			0.0	2.47	0.03	A	
3 - A6097		13.0	34.19	0.95	D			30.2	61.76	1.00	F			1.3	4.67	0.57	A			0.1	1.91	0.05	A	
4 - Nottingham Road		1.0	3.90	0.49	A			2.1	7.37	0.68	A			0.5	2.66	0.35	A			0.0	1.42	0.03	A	
Proposed Layout - 2023LG																								
1 - Epperstone By-Pass	D13	3.8	10.03	0.79	B	9.12	D14	1.5	5.63	0.61	A	8.18	D15	0.7	3.39	0.40	A	3.52	D16	0.0	1.86	0.03	A	1.85
2 - Southwell Road		1.5	12.65	0.60	B			0.9	7.29	0.48	A			0.5	5.10	0.34	A			0.0	2.45	0.02	A	
3 - A6097		3.6	10.46	0.79	B			5.0	12.23	0.84	B			0.9	3.79	0.49	A			0.0	1.90	0.04	A	
4 - Nottingham Road		0.6	3.06	0.38	A			1.1	4.64	0.53	A			0.4	2.34	0.28	A			0.0	1.41	0.02	A	
Proposed Layout - 2037LG																								
1 - Epperstone By-Pass	D17	3.6	9.76	0.79	A	8.75	D18	1.5	5.41	0.60	A	7.75	D19	0.7	3.36	0.40	A	3.48	D20	0.0	1.86	0.03	A	1.85
2 - Southwell Road		1.4	12.16	0.58	B			0.9	7.08	0.47	A			0.5	5.03	0.33	A			0.0	2.45	0.02	A	
3 - A6097		3.4	9.89	0.78	A			4.6	11.41	0.83	B			0.9	3.75	0.48	A			0.0	1.90	0.04	A	
4 - Nottingham Road		0.6	3.05	0.38	A			1.0	4.37	0.51	A			0.4	2.32	0.28	A			0.0	1.41	0.02	A	

Proposed Layout - 2023HG																								
1 - Epperstone By-Pass		8.6	21.55	0.91	C			2.4	7.92	0.71	A			0.8	3.83	0.46	A			0.0	1.87	0.04	A	
2 - Southwell Road	D2 1	3.2	24.85	0.77	C	19.01	D2 2	1.4	9.92	0.59	A	19.12	D2 3	0.7	5.90	0.40	A	4.02	D2 4	0.0	2.47	0.03	A	1.86
3 - A6097		8.5	23.23	0.91	C			16.3	36.71	0.96	E			1.2	4.39	0.55	A			0.1	1.91	0.05	A	
4 - Nottingham Road		0.8	3.57	0.45	A			1.8	6.65	0.65	A			0.5	2.56	0.33	A			0.0	1.41	0.03	A	
Proposed Layout - 2037HG																								
1 - Epperstone By-Pass		75.4	139.08	1.08	F			6.2	18.09	0.87	C			1.2	4.71	0.54	A			0.0	1.89	0.04	A	
2 - Southwell Road	D2 5	13.9	96.55	0.99	F	97.32	D2 6	3.4	21.74	0.78	C	102.90	D2 7	0.9	7.56	0.49	A	4.98	D2 8	0.0	2.49	0.03	A	1.87
3 - A6097		52.7	108.61	1.05	F			137.1	239.88	1.15	F			1.7	5.60	0.64	A			0.1	1.93	0.05	A	
4 - Nottingham Road		1.2	4.48	0.55	A			3.2	10.18	0.77	B			0.6	2.94	0.39	A			0.0	1.42	0.03	A	

There are warnings associated with one or more model runs - see the 'Data Errors and Warnings' tables for each Analysis or Demand Set.

Values shown are the highest values encountered over all time segments. Delay is the maximum value of average delay per arriving vehicle. Junction LOS and Junction Delay are demand-weighted averages.

File summary

File Description

Title	A6097/ A612 rdbt 45/50m ICD - final
Location	Lowdham
Site number	Junction 11
Date	04/04/2013
Version	
Status	45-50m ICD
Identifier	
Client	
Jobnumber	90372
Enumerator	T Nichol
Description	

Units

Distance units	Speed units	Traffic units input	Traffic units results	Flow units	Average delay units	Total delay units	Rate of delay units
m	kph	PCU	PCU	perHour	s	-Min	perMin

Analysis Options

Vehicle length (m)	Calculate Queue Percentiles	Calculate detailed queueing delay	Calculate residual capacity	RFC Threshold	Average Delay threshold (s)	Queue threshold (PCU)
5.75				0.85	36.00	20.00

Demand Set Summary

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Results for central hour only	Run automatically
D1	2023	AM	ONE HOUR	07:45	09:15	15	✓	✓
D2	2023	PM	ONE HOUR	16:45	18:15	15		✓
D3	2023	IP	ONE HOUR	12:15	13:45	15		✓
D4	2023	OP	ONE HOUR	22:45	00:15	15		✓
D5	2037	AM	ONE HOUR	07:45	09:15	15	✓	✓
D6	2037	PM	ONE HOUR	16:45	18:15	15		✓
D7	2037	IP	ONE HOUR	12:15	13:45	15		✓
D8	2037	OP	ONE HOUR	22:45	00:15	15		✓
D9	2037 final	AM	ONE HOUR	07:45	09:15	15	✓	✓
D10	2037 final	PM	ONE HOUR	16:45	18:15	15		✓
D11	2037 final	IP	ONE HOUR	12:15	13:45	15		✓
D12	2037 final	OP	ONE HOUR	22:45	00:15	15		✓
D13	2023LG	AM	ONE HOUR	07:45	09:15	15	✓	✓
D14	2023LG	PM	ONE HOUR	16:45	18:15	15		✓
D15	2023LG	IP	ONE HOUR	12:15	13:45	15		✓
D16	2023LG	OP	ONE HOUR	22:45	00:15	15		✓
D17	2037LG	AM	ONE HOUR	07:45	09:15	15	✓	✓
D18	2037LG	PM	ONE HOUR	16:45	18:15	15		✓
D19	2037LG	IP	ONE HOUR	12:15	13:45	15		✓
D20	2037LG	OP	ONE HOUR	22:45	00:15	15		✓
D21	2023HG	AM	ONE HOUR	07:45	09:15	15	✓	✓
D22	2023HG	PM	ONE HOUR	16:45	18:15	15		✓
D23	2023HG	IP	ONE HOUR	12:15	13:45	15		✓
D24	2023HG	OP	ONE HOUR	22:45	00:15	15		✓
D25	2037HG	AM	ONE HOUR	07:45	09:15	15	✓	✓
D26	2037HG	PM	ONE HOUR	16:45	18:15	15		✓
D27	2037HG	IP	ONE HOUR	12:15	13:45	15		✓
D28	2037HG	OP	ONE HOUR	22:45	00:15	15		✓

Analysis Set Details

ID	Name	Include in report	Network flow scaling factor (%)	Network capacity scaling factor (%)
A1	Proposed Layout	✓	100.000	100.000

Proposed Layout - 2023, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Demand Sets	D1 - 2023, AM	Time results are shown for central hour only. (Model is run for a 90 minute period.)
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Junction 6	Standard Roundabout		1, 2, 3, 4	12.35	B

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Name	Description
1	Epperstone By-Pass	
2	Southwell Road	
3	A6097	
4	Nottingham Road	

Roundabout Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	I' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit only
1 - Epperstone By-Pass	7.20	7.20	0.0	29.0	45.0	35.0	
2 - Southwell Road	3.50	7.00	10.0	43.0	50.0	35.0	
3 - A6097	7.00	7.00	0.0	22.0	45.0	30.0	
4 - Nottingham Road	7.00	10.50	20.0	50.0	50.0	45.0	

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Arm	Final slope	Final intercept (PCU/hr)
1 - Epperstone By-Pass	0.720	2177
2 - Southwell Road	0.587	1574
3 - A6097	0.713	2130
4 - Nottingham Road	0.798	2737

The slope and intercept shown above include any corrections and adjustments.

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Results for central hour only	Run automatically
D1	2023	AM	ONE HOUR	07:45	09:15	15	✓	✓

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1 - Epperstone By-Pass		ONE HOUR	✓	1320	100.000
2 - Southwell Road		ONE HOUR	✓	412	100.000
3 - A6097		ONE HOUR	✓	1214	100.000
4 - Nottingham Road		ONE HOUR	✓	705	100.000

Origin-Destination Data

Demand (PCU/hr)

	To			
	1 - Epperstone By-Pass	2 - Southwell Road	3 - A6097	4 - Nottingham Road
From 1 - Epperstone By-Pass	2	175	779	364
From 2 - Southwell Road	75	0	78	259
From 3 - A6097	792	122	0	300
From 4 - Nottingham Road	240	206	258	1

Vehicle Mix

Heavy Vehicle Percentages

	To			
	1 - Epperstone By-Pass	2 - Southwell Road	3 - A6097	4 - Nottingham Road
From 1 - Epperstone By-Pass	0	0	0	0
From 2 - Southwell Road	0	0	0	0
From 3 - A6097	0	0	0	0
From 4 - Nottingham Road	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
1 - Epperstone By-Pass	0.85	13.77	5.4	B	1320	1320
2 - Southwell Road	0.68	16.77	2.1	C	412	412
3 - A6097	0.85	14.55	5.2	B	1214	1214
4 - Nottingham Road	0.42	3.30	0.7	A	705	705

Main Results for each time segment

08:00 - 08:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Epperstone By-Pass	1187	297	527	1797	0.660	1184	995	1.1	1.9	5.838	A
2 - Southwell Road	370	93	1259	835	0.444	369	451	0.5	0.8	7.709	A
3 - A6097	1091	273	628	1682	0.649	1088	1000	1.1	1.8	6.031	A
4 - Nottingham Road	634	158	888	2028	0.313	633	828	0.3	0.5	2.581	A

08:15 - 08:30

Arm	Total Demand	Junction	Circulating flow (PCU/hr)	Capacity	RFC	Throughput (PCU/hr)	Throughput (exit	Start queue	End queue	Delay (s)	Unsignalised level of service
-----	--------------	----------	---------------------------	----------	-----	---------------------	------------------	-------------	-----------	-----------	-------------------------------

	(PCU/hr)	Arrivals (PCU)		(PCU/hr)			side) (PCU/hr)	(PCU)	(PCU)		
1 - Epperstone Bypass	1453	363	644	1713	0.849	1440	1212	1.9	5.1	12.662	B
2 - Southwell Road	454	113	1534	673	0.674	449	551	0.8	2.0	15.720	C
3 - A6097	1337	334	764	1585	0.843	1324	1219	1.8	4.9	13.204	B
4 - Nottingham Road	776	194	1081	1874	0.414	775	1008	0.5	0.7	3.272	A

08:30 - 08:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Epperstone Bypass	1453	363	646	1711	0.849	1452	1220	5.1	5.4	13.771	B
2 - Southwell Road	454	113	1545	667	0.680	453	554	2.0	2.1	16.772	C
3 - A6097	1337	334	771	1580	0.846	1336	1227	4.9	5.2	14.546	B
4 - Nottingham Road	776	194	1090	1867	0.416	776	1017	0.7	0.7	3.300	A

08:45 - 09:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Epperstone Bypass	1187	297	530	1795	0.661	1200	1007	5.4	2.0	6.180	A
2 - Southwell Road	370	93	1274	826	0.448	375	456	2.1	0.8	8.071	A
3 - A6097	1091	273	638	1675	0.651	1105	1012	5.2	1.9	6.444	A
4 - Nottingham Road	634	158	902	2017	0.314	635	841	0.7	0.5	2.607	A

Proposed Layout - 2023, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Junction 6	Standard Roundabout		1, 2, 3, 4	11.39	B

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D2	2023	PM	ONE HOUR	16:45	18:15	15	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1 - Epperstone By-Pass		ONE HOUR	✓	963	100.000
2 - Southwell Road		ONE HOUR	✓	444	100.000
3 - A6097		ONE HOUR	✓	1451	100.000
4 - Nottingham Road		ONE HOUR	✓	854	100.000

Origin-Destination Data

Demand (PCU/hr)

		To			
		1 - Epperstone By-Pass	2 - Southwell Road	3 - A6097	4 - Nottingham Road
From	1 - Epperstone By-Pass	1	190	633	139
	2 - Southwell Road	138	0	137	169
	3 - A6097	1005	155	1	290
	4 - Nottingham Road	290	321	243	0

Vehicle Mix

Heavy Vehicle Percentages

		To			
		1 - Epperstone By-Pass	2 - Southwell Road	3 - A6097	4 - Nottingham Road
From	1 - Epperstone By-Pass	0	0	0	0
	2 - Southwell Road	0	0	0	0
	3 - A6097	0	0	0	0
	4 - Nottingham Road	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
1 - Epperstone By-Pass	0.66	6.59	1.9	A	884	1325
2 - Southwell Road	0.53	8.41	1.1	A	407	611
3 - A6097	0.90	18.97	8.0	C	1331	1997
4 - Nottingham Road	0.59	5.49	1.4	A	784	1175

Main Results for each time segment

16:45 - 17:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Epperstone Bypass	725	181	540	1788	0.406	722	1075	0.0	0.7	3.370	A
2 - Southwell Road	334	84	763	1126	0.297	333	500	0.0	0.4	4.526	A
3 - A6097	1092	273	335	1892	0.578	1087	761	0.0	1.4	4.446	A
4 - Nottingham Road	643	161	974	1960	0.328	641	448	0.0	0.5	2.726	A

17:00 - 17:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Epperstone Bypass	866	216	646	1711	0.506	864	1286	0.7	1.0	4.243	A
2 - Southwell Road	399	100	913	1038	0.384	398	598	0.4	0.6	5.618	A
3 - A6097	1304	326	401	1844	0.707	1300	910	1.4	2.4	6.570	A
4 - Nottingham Road	768	192	1165	1807	0.425	767	536	0.5	0.7	3.457	A

17:15 - 17:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Epperstone Bypass	1060	265	789	1609	0.659	1057	1563	1.0	1.9	6.481	A
2 - Southwell Road	489	122	1116	919	0.532	487	729	0.6	1.1	8.293	A
3 - A6097	1598	399	490	1781	0.897	1577	1113	2.4	7.4	16.302	C
4 - Nottingham Road	940	235	1415	1608	0.585	938	653	0.7	1.4	5.351	A

17:30 - 17:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Epperstone Bypass	1060	265	792	1606	0.660	1060	1577	1.9	1.9	6.592	A
2 - Southwell Road	489	122	1120	917	0.533	489	733	1.1	1.1	8.406	A
3 - A6097	1598	399	492	1779	0.898	1595	1116	7.4	8.0	18.974	C
4 - Nottingham Road	940	235	1429	1596	0.589	940	658	1.4	1.4	5.487	A

17:45 - 18:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Epperstone By-Pass	866	216	651	1708	0.507	869	1306	1.9	1.0	4.312	A
2 - Southwell Road	399	100	918	1035	0.386	401	603	1.1	0.6	5.694	A
3 - A6097	1304	326	404	1842	0.708	1326	915	8.0	2.5	7.261	A
4 - Nottingham Road	768	192	1187	1790	0.429	770	543	1.4	0.8	3.540	A

18:00 - 18:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Epperstone By-Pass	725	181	543	1786	0.406	726	1083	1.0	0.7	3.402	A
2 - Southwell Road	334	84	767	1124	0.297	335	503	0.6	0.4	4.567	A
3 - A6097	1092	273	337	1890	0.578	1097	765	2.5	1.4	4.563	A
4 - Nottingham Road	643	161	982	1953	0.329	644	452	0.8	0.5	2.752	A

Proposed Layout - 2023, IP

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Junction 6	Standard Roundabout		1, 2, 3, 4	3.75	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D3	2023	IP	ONE HOUR	12:15	13:45	15	✓

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1 - Epperstone By-Pass		ONE HOUR	✓	683	100.000
2 - Southwell Road		ONE HOUR	✓	352	100.000
3 - A6097		ONE HOUR	✓	857	100.000
4 - Nottingham Road		ONE HOUR	✓	588	100.000

Origin-Destination Data

Demand (PCU/hr)

		To			
		1 - Epperstone By-Pass	2 - Southwell Road	3 - A6097	4 - Nottingham Road
From	1 - Epperstone By-Pass	1	99	450	133
	2 - Southwell Road	88	1	104	159
	3 - A6097	496	113	3	245
	4 - Nottingham Road	170	185	231	2

Vehicle Mix

Heavy Vehicle Percentages

		To			
		1 - Epperstone By-Pass	2 - Southwell Road	3 - A6097	4 - Nottingham Road
From	1 - Epperstone By-Pass	0	0	0	0
	2 - Southwell Road	0	0	0	0
	3 - A6097	0	0	0	0
	4 - Nottingham Road	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
1 - Epperstone By-Pass	0.43	3.60	0.7	A	627	940
2 - Southwell Road	0.37	5.48	0.6	A	323	485
3 - A6097	0.52	4.07	1.1	A	786	1180
4 - Nottingham Road	0.31	2.44	0.4	A	540	809

Main Results for each time segment

12:15 - 12:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Epperstone By-Pass	514	129	402	1887	0.272	513	567	0.0	0.4	2.616	A

2 - Southwell Road	265	66	616	1213	0.218	264	299	0.0	0.3	3.791	A
3 - A6097	645	161	288	1925	0.335	643	592	0.0	0.5	2.808	A
4 - Nottingham Road	443	111	527	2317	0.191	442	404	0.0	0.2	1.919	A

12:30 - 12:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Epperstone By-Pass	614	154	481	1831	0.335	613	678	0.4	0.5	2.955	A
2 - Southwell Road	316	79	737	1142	0.277	316	358	0.3	0.4	4.357	A
3 - A6097	770	193	345	1885	0.409	770	708	0.5	0.7	3.228	A
4 - Nottingham Road	529	132	630	2234	0.237	528	484	0.2	0.3	2.110	A

12:45 - 13:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Epperstone By-Pass	752	188	588	1753	0.429	751	830	0.5	0.7	3.589	A
2 - Southwell Road	388	97	902	1045	0.371	387	438	0.4	0.6	5.463	A
3 - A6097	944	236	422	1829	0.516	942	867	0.7	1.1	4.050	A
4 - Nottingham Road	647	162	772	2121	0.305	647	592	0.3	0.4	2.442	A

13:00 - 13:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Epperstone By-Pass	752	188	589	1753	0.429	752	831	0.7	0.7	3.597	A
2 - Southwell Road	388	97	903	1044	0.371	388	438	0.6	0.6	5.481	A
3 - A6097	944	236	423	1829	0.516	944	868	1.1	1.1	4.065	A
4 - Nottingham Road	647	162	773	2120	0.305	647	593	0.4	0.4	2.443	A

13:15 - 13:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Epperstone By-Pass	614	154	482	1830	0.336	615	680	0.7	0.5	2.964	A
2 - Southwell Road	316	79	738	1141	0.277	317	358	0.6	0.4	4.374	A
3 - A6097	770	193	346	1884	0.409	772	709	1.1	0.7	3.243	A
4 - Nottingham Road	529	132	632	2232	0.237	529	486	0.4	0.3	2.113	A

13:30 - 13:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Epperstone By-Pass	514	129	403	1887	0.273	515	569	0.5	0.4	2.626	A
2 - Southwell Road	265	66	618	1212	0.219	265	300	0.4	0.3	3.805	A
3 - A6097	645	161	289	1924	0.335	646	594	0.7	0.5	2.817	A
4 - Nottingham Road	443	111	529	2315	0.191	443	406	0.3	0.2	1.924	A

Proposed Layout - 2023, OP

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Junction 6	Standard Roundabout		1, 2, 3, 4	1.86	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D4	2023	OP	ONE HOUR	22:45	00:15	15	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1 - Epperstone By-Pass		ONE HOUR	✓	67	100.000
2 - Southwell Road		ONE HOUR	✓	35	100.000
3 - A6097		ONE HOUR	✓	83	100.000
4 - Nottingham Road		ONE HOUR	✓	58	100.000

Origin-Destination Data

Demand (PCU/hr)

	To			
	1 - Epperstone By-Pass	2 - Southwell Road	3 - A6097	4 - Nottingham Road
From 1 - Epperstone By-Pass	0	10	44	13
2 - Southwell Road	9	0	10	16
3 - A6097	48	11	0	24
4 - Nottingham Road	17	18	23	0

Vehicle Mix

Heavy Vehicle Percentages

	To			
	1 - Epperstone By-Pass	2 - Southwell Road	3 - A6097	4 - Nottingham Road
From 1 - Epperstone By-Pass	0	1	10	2
2 - Southwell Road	1	0	1	2
3 - A6097	10	1	0	2
4 - Nottingham Road	1	1	5	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
1 - Epperstone By-Pass	0.03	1.87	0.0	A	61	92
2 - Southwell Road	0.03	2.46	0.0	A	32	48
3 - A6097	0.04	1.90	0.0	A	76	114
4 - Nottingham Road	0.02	1.41	0.0	A	53	80

Main Results for each time segment

22:45 - 23:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Epperstone By-Pass	50	13	39	2149	0.023	50	56	0.0	0.0	1.834	A
2 - Southwell Road	26	7	60	1539	0.017	26	29	0.0	0.0	2.413	A
3 - A6097	62	16	29	2110	0.030	62	58	0.0	0.0	1.868	A
4 - Nottingham Road	44	11	51	2696	0.016	44	40	0.0	0.0	1.391	A

23:00 - 23:15

Arm	Total Demand	Junction	Circulating flow (PCU/hr)	Capacity	RFC	Throughput (PCU/hr)	Throughput (exit	Start queue	End queue	Delay (s)	Unsignalised level of service
-----	--------------	----------	---------------------------	----------	-----	---------------------	------------------	-------------	-----------	-----------	-------------------------------

	(PCU/hr)	Arrivals (PCU)		(PCU/hr)			side (PCU/hr)	(PCU)	(PCU)		
1 - Epperstone Bypass	60	15	47	2143	0.028	60	67	0.0	0.0	1.847	A
2 - Southwell Road	31	8	72	1532	0.021	31	35	0.0	0.0	2.433	A
3 - A6097	75	19	34	2106	0.035	75	69	0.0	0.0	1.883	A
4 - Nottingham Road	52	13	61	2688	0.019	52	48	0.0	0.0	1.399	A

23:15 - 23:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Epperstone Bypass	74	18	57	2136	0.035	74	81	0.0	0.0	1.866	A
2 - Southwell Road	39	10	88	1523	0.025	39	43	0.0	0.0	2.460	A
3 - A6097	91	23	42	2101	0.044	91	85	0.0	0.0	1.904	A
4 - Nottingham Road	64	16	75	2677	0.024	64	58	0.0	0.0	1.411	A

23:30 - 23:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Epperstone Bypass	74	18	57	2136	0.035	74	81	0.0	0.0	1.866	A
2 - Southwell Road	39	10	88	1523	0.025	39	43	0.0	0.0	2.460	A
3 - A6097	91	23	42	2101	0.044	91	85	0.0	0.0	1.904	A
4 - Nottingham Road	64	16	75	2677	0.024	64	58	0.0	0.0	1.411	A

23:45 - 00:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Epperstone Bypass	60	15	47	2143	0.028	60	67	0.0	0.0	1.847	A
2 - Southwell Road	31	8	72	1532	0.021	31	35	0.0	0.0	2.435	A
3 - A6097	75	19	34	2106	0.035	75	69	0.0	0.0	1.883	A
4 - Nottingham Road	52	13	61	2688	0.019	52	48	0.0	0.0	1.399	A

00:00 - 00:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Epperstone Bypass	50	13	39	2149	0.023	50	56	0.0	0.0	1.834	A
2 - Southwell Road	26	7	60	1539	0.017	26	29	0.0	0.0	2.414	A

3 - A6097	62	16	29	2110	0.03 0	63	58	0.0	0.0	1.87 1	A
4 - Nottingham Road	44	11	51	2696	0.01 6	44	40	0.0	0.0	1.39 1	A

Proposed Layout - 2037, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Demand Sets	D5 - 2037, AM	Time results are shown for central hour only. (Model is run for a 90 minute period.)
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Junction 6	Standard Roundabout		1, 2, 3, 4	17.09	C

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Results for central hour only	Run automatically
D5	2037	AM	ONE HOUR	07:45	09:15	15	✓	✓

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1 - Epperstone By-Pass		ONE HOUR	✓	1368	100.000
2 - Southwell Road		ONE HOUR	✓	417	100.000
3 - A6097		ONE HOUR	✓	1280	100.000
4 - Nottingham Road		ONE HOUR	✓	742	100.000

Origin-Destination Data

Demand (PCU/hr)

	To			
	1 - Epperstone By-Pass	2 - Southwell Road	3 - A6097	4 - Nottingham Road
From 1 - Epperstone By-Pass	2	176	824	366
From 2 - Southwell Road	75	0	82	260
From 3 - A6097	830	127	0	323
From 4 - Nottingham Road	242	209	290	1

Vehicle Mix

Heavy Vehicle Percentages

	To			
	1 - Epperstone By-Pass	2 - Southwell Road	3 - A6097	4 - Nottingham Road
From 1 - Epperstone By-Pass	0	0	0	0
From 2 - Southwell Road	0	0	0	0
From 3 - A6097	0	0	0	0
From 4 - Nottingham Road	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
1 - Epperstone By-Pass	0.90	19.83	7.9	C	1368	1368
2 - Southwell Road	0.74	22.48	2.8	C	417	417
3 - A6097	0.89	20.26	7.5	C	1280	1280
4 - Nottingham Road	0.45	3.55	0.8	A	742	742

Main Results for each time segment

08:00 - 08:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Epperstone By-Pass	1230	307	563	1771	0.694	1226	1030	1.3	2.2	6.555	A
2 - Southwell Road	375	94	1330	794	0.472	373	459	0.5	0.9	8.541	A
3 - A6097	1151	288	631	1681	0.685	1147	1072	1.2	2.1	6.699	A
4 - Nottingham Road	667	167	927	1998	0.334	666	851	0.4	0.5	2.703	A

08:15 - 08:30

Arm	Total Demand	Junction	Circulating flow (PCU/hr)	Capacity	RFC	Throughput (PCU/hr)	Throughput (exit	Start queue	End queue	Delay (s)	Unsignalised level of service
-----	--------------	----------	---------------------------	----------	-----	---------------------	------------------	-------------	-----------	-----------	-------------------------------

	(PCU/hr)	Arrivals (PCU)		(PCU/hr)			side) (PCU/hr)	(PCU)	(PCU)		
1 - Epperstone By-Pass	1506	377	688	1682	0.896	1486	1251	2.2	7.3	16.918	C
2 - Southwell Road	459	115	1615	626	0.733	452	559	0.9	2.5	20.023	C
3 - A6097	1409	352	764	1585	0.889	1390	1303	2.1	6.8	17.055	C
4 - Nottingham Road	817	204	1123	1841	0.444	816	1032	0.5	0.8	3.510	A

08:30 - 08:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Epperstone By-Pass	1506	377	690	1680	0.897	1504	1263	7.3	7.9	19.826	C
2 - Southwell Road	459	115	1631	617	0.744	458	563	2.5	2.8	22.482	C
3 - A6097	1409	352	774	1579	0.893	1407	1315	6.8	7.5	20.256	C
4 - Nottingham Road	817	204	1136	1830	0.446	817	1044	0.8	0.8	3.552	A

08:45 - 09:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Epperstone By-Pass	1230	307	567	1769	0.695	1252	1048	7.9	2.3	7.251	A
2 - Southwell Road	375	94	1353	780	0.481	382	466	2.8	0.9	9.207	A
3 - A6097	1151	288	645	1671	0.689	1172	1090	7.5	2.3	7.505	A
4 - Nottingham Road	667	167	947	1982	0.337	668	870	0.8	0.5	2.745	A

Proposed Layout - 2037, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Junction 6	Standard Roundabout		1, 2, 3, 4	15.12	C

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D6	2037	PM	ONE HOUR	16:45	18:15	15	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1 - Epperstone By-Pass		ONE HOUR	✓	990	100.000
2 - Southwell Road		ONE HOUR	✓	449	100.000
3 - A6097		ONE HOUR	✓	1511	100.000
4 - Nottingham Road		ONE HOUR	✓	870	100.000

Origin-Destination Data

Demand (PCU/hr)

		To			
		1 - Epperstone By-Pass	2 - Southwell Road	3 - A6097	4 - Nottingham Road
From	1 - Epperstone By-Pass	1	188	660	141
	2 - Southwell Road	137	0	142	170
	3 - A6097	1035	159	1	316
	4 - Nottingham Road	289	320	261	0

Vehicle Mix

Heavy Vehicle Percentages

		To			
		1 - Epperstone By-Pass	2 - Southwell Road	3 - A6097	4 - Nottingham Road
From	1 - Epperstone By-Pass	0	0	0	0
	2 - Southwell Road	0	0	0	0
	3 - A6097	0	0	0	0
	4 - Nottingham Road	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
1 - Epperstone By-Pass	0.69	7.20	2.2	A	908	1363
2 - Southwell Road	0.56	9.17	1.2	A	412	618
3 - A6097	0.94	27.40	11.9	D	1387	2080
4 - Nottingham Road	0.61	5.88	1.5	A	798	1197

Main Results for each time segment

16:45 - 17:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Epperstone Bypass	745	186	556	1776	0.420	742	1095	0.0	0.7	3.471	A
2 - Southwell Road	338	85	798	1106	0.306	336	500	0.0	0.4	4.668	A
3 - A6097	1138	284	336	1890	0.602	1132	798	0.0	1.5	4.708	A
4 - Nottingham Road	655	164	998	1940	0.338	653	470	0.0	0.5	2.788	A

17:00 - 17:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Epperstone Bypass	890	222	665	1698	0.524	889	1310	0.7	1.1	4.439	A
2 - Southwell Road	404	101	955	1014	0.398	403	598	0.4	0.7	5.885	A
3 - A6097	1358	340	403	1843	0.737	1353	955	1.5	2.7	7.277	A
4 - Nottingham Road	782	196	1194	1784	0.438	781	562	0.5	0.8	3.587	A

17:15 - 17:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Epperstone Bypass	1090	273	811	1593	0.684	1086	1587	1.1	2.1	7.042	A
2 - Southwell Road	494	124	1167	889	0.556	492	729	0.7	1.2	9.020	A
3 - A6097	1664	416	492	1779	0.935	1633	1167	2.7	10.4	21.200	C
4 - Nottingham Road	958	239	1443	1585	0.604	955	682	0.8	1.5	5.684	A

17:30 - 17:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Epperstone Bypass	1090	273	815	1590	0.686	1090	1606	2.1	2.2	7.197	A
2 - Southwell Road	494	124	1171	887	0.558	494	734	1.2	1.2	9.173	A
3 - A6097	1664	416	494	1778	0.936	1658	1171	10.4	11.9	27.405	D
4 - Nottingham Road	958	239	1463	1569	0.610	958	689	1.5	1.5	5.883	A

17:45 - 18:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Epperstone Bypass	890	222	672	1693	0.526	894	1341	2.2	1.1	4.529	A
2 - Southwell Road	404	101	961	1010	0.400	406	605	1.2	0.7	5.981	A
3 - A6097	1358	340	406	1841	0.738	1394	961	11.9	2.9	8.671	A
4 - Nottingham Road	782	196	1227	1757	0.445	785	573	1.5	0.8	3.716	A

18:00 - 18:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Epperstone Bypass	745	186	559	1774	0.420	747	1105	1.1	0.7	3.511	A
2 - Southwell Road	338	85	803	1103	0.306	339	503	0.7	0.4	4.716	A
3 - A6097	1138	284	339	1889	0.602	1143	803	2.9	1.5	4.862	A
4 - Nottingham Road	655	164	1008	1932	0.339	656	474	0.8	0.5	2.822	A

Proposed Layout - 2037, IP

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Junction 6	Standard Roundabout		1, 2, 3, 4	3.97	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D7	2037	IP	ONE HOUR	12:15	13:45	15	✓

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1 - Epperstone By-Pass		ONE HOUR	✓	711	100.000
2 - Southwell Road		ONE HOUR	✓	358	100.000
3 - A6097		ONE HOUR	✓	906	100.000
4 - Nottingham Road		ONE HOUR	✓	612	100.000

Origin-Destination Data

Demand (PCU/hr)

		To			
		1 - Epperstone By-Pass	2 - Southwell Road	3 - A6097	4 - Nottingham Road
From	1 - Epperstone By-Pass	1	100	475	135
	2 - Southwell Road	88	1	109	160
	3 - A6097	519	118	3	266
	4 - Nottingham Road	172	186	252	2

Vehicle Mix

Heavy Vehicle Percentages

		To			
		1 - Epperstone By-Pass	2 - Southwell Road	3 - A6097	4 - Nottingham Road
From	1 - Epperstone By-Pass	0	0	0	0
	2 - Southwell Road	0	0	0	0
	3 - A6097	0	0	0	0
	4 - Nottingham Road	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
1 - Epperstone By-Pass	0.45	3.79	0.8	A	652	979
2 - Southwell Road	0.39	5.81	0.6	A	329	493
3 - A6097	0.55	4.34	1.2	A	831	1247
4 - Nottingham Road	0.32	2.53	0.5	A	562	842

Main Results for each time segment

12:15 - 12:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Epperstone By-Pass	535	134	422	1873	0.286	534	585	0.0	0.4	2.684	A

2 - Southwell Road	270	67	652	1192	0.226	268	304	0.0	0.3	3.894	A
3 - A6097	682	171	290	1923	0.355	680	630	0.0	0.5	2.890	A
4 - Nottingham Road	461	115	548	2300	0.200	460	422	0.0	0.2	1.955	A

12:30 - 12:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Epperstone By-Pass	639	160	505	1813	0.353	639	701	0.4	0.5	3.063	A
2 - Southwell Road	322	80	780	1117	0.288	321	364	0.3	0.4	4.525	A
3 - A6097	814	204	347	1883	0.433	814	754	0.5	0.8	3.364	A
4 - Nottingham Road	550	138	656	2214	0.249	550	506	0.2	0.3	2.163	A

12:45 - 13:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Epperstone By-Pass	783	196	618	1732	0.452	782	857	0.5	0.8	3.784	A
2 - Southwell Road	394	99	954	1014	0.389	393	445	0.4	0.6	5.792	A
3 - A6097	998	249	425	1827	0.546	996	922	0.8	1.2	4.322	A
4 - Nottingham Road	674	168	802	2097	0.321	673	619	0.3	0.5	2.527	A

13:00 - 13:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Epperstone By-Pass	783	196	619	1731	0.452	783	859	0.8	0.8	3.795	A
2 - Southwell Road	394	99	956	1013	0.389	394	446	0.6	0.6	5.814	A
3 - A6097	998	249	426	1827	0.546	997	924	1.2	1.2	4.342	A
4 - Nottingham Road	674	168	804	2096	0.322	674	620	0.5	0.5	2.531	A

13:15 - 13:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Epperstone By-Pass	639	160	506	1812	0.353	640	703	0.8	0.5	3.073	A
2 - Southwell Road	322	80	781	1115	0.289	323	365	0.6	0.4	4.545	A
3 - A6097	814	204	349	1882	0.433	816	755	1.2	0.8	3.383	A
4 - Nottingham Road	550	138	658	2212	0.249	551	507	0.5	0.3	2.168	A

13:30 - 13:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Epperstone By-Pass	535	134	423	1872	0.286	536	588	0.5	0.4	2.697	A
2 - Southwell Road	270	67	654	1190	0.226	270	305	0.4	0.3	3.913	A
3 - A6097	682	171	292	1922	0.355	683	632	0.8	0.6	2.906	A
4 - Nottingham Road	461	115	550	2298	0.201	461	424	0.3	0.3	1.960	A

Proposed Layout - 2037, OP

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Junction 6	Standard Roundabout		1, 2, 3, 4	1.86	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D8	2037	OP	ONE HOUR	22:45	00:15	15	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1 - Epperstone By-Pass		ONE HOUR	✓	69	100.000
2 - Southwell Road		ONE HOUR	✓	36	100.000
3 - A6097		ONE HOUR	✓	89	100.000
4 - Nottingham Road		ONE HOUR	✓	60	100.000

Origin-Destination Data

Demand (PCU/hr)

	To			
	1 - Epperstone By-Pass	2 - Southwell Road	3 - A6097	4 - Nottingham Road
From 1 - Epperstone By-Pass	0	10	46	13
From 2 - Southwell Road	9	0	11	16
From 3 - A6097	51	12	0	26
From 4 - Nottingham Road	17	18	25	0

Vehicle Mix

Heavy Vehicle Percentages

	To			
	1 - Epperstone By-Pass	2 - Southwell Road	3 - A6097	4 - Nottingham Road
From 1 - Epperstone By-Pass	0	1	10	2
From 2 - Southwell Road	1	0	1	2
From 3 - A6097	10	1	0	2
From 4 - Nottingham Road	1	1	5	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
1 - Epperstone By-Pass	0.04	1.87	0.0	A	63	95
2 - Southwell Road	0.03	2.47	0.0	A	33	50
3 - A6097	0.05	1.91	0.1	A	82	123
4 - Nottingham Road	0.02	1.42	0.0	A	55	83

Main Results for each time segment

22:45 - 23:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Epperstone By-Pass	52	13	41	2147	0.024	52	58	0.0	0.0	1.838	A
2 - Southwell Road	27	7	63	1537	0.018	27	30	0.0	0.0	2.417	A
3 - A6097	67	17	29	2110	0.032	67	62	0.0	0.0	1.871	A
4 - Nottingham Road	45	11	54	2694	0.017	45	41	0.0	0.0	1.394	A

23:00 - 23:15

Arm	Total Demand	Junction	Circulating flow (PCU/hr)	Capacity	RFC	Throughput (PCU/hr)	Throughput (exit	Start queue	End queue	Delay (s)	Unsignalised level of service
-----	--------------	----------	---------------------------	----------	-----	---------------------	------------------	-------------	-----------	-----------	-------------------------------

	(PCU/hr)	Arrivals (PCU)		(PCU/hr)			side (PCU/hr)	(PCU)	(PCU)		
1 - Epperstone Bypass	62	16	49	2141	0.029	62	69	0.0	0.0	1.852	A
2 - Southwell Road	32	8	75	1530	0.021	32	36	0.0	0.0	2.437	A
3 - A6097	80	20	34	2106	0.038	80	74	0.0	0.0	1.887	A
4 - Nottingham Road	54	13	65	2686	0.020	54	49	0.0	0.0	1.403	A

23:15 - 23:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Epperstone Bypass	76	19	61	2133	0.036	76	85	0.0	0.0	1.872	A
2 - Southwell Road	40	10	92	1520	0.026	40	44	0.0	0.0	2.466	A
3 - A6097	98	24	42	2101	0.047	98	90	0.0	0.1	1.909	A
4 - Nottingham Road	66	17	79	2674	0.025	66	61	0.0	0.0	1.416	A

23:30 - 23:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Epperstone Bypass	76	19	61	2133	0.036	76	85	0.0	0.0	1.872	A
2 - Southwell Road	40	10	92	1520	0.026	40	44	0.0	0.0	2.466	A
3 - A6097	98	24	42	2101	0.047	98	90	0.1	0.1	1.909	A
4 - Nottingham Road	66	17	79	2674	0.025	66	61	0.0	0.0	1.416	A

23:45 - 00:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Epperstone Bypass	62	16	49	2141	0.029	62	69	0.0	0.0	1.855	A
2 - Southwell Road	32	8	76	1530	0.021	32	36	0.0	0.0	2.437	A
3 - A6097	80	20	34	2106	0.038	80	74	0.1	0.0	1.887	A
4 - Nottingham Road	54	13	65	2686	0.020	54	49	0.0	0.0	1.403	A

00:00 - 00:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Epperstone Bypass	52	13	41	2147	0.024	52	58	0.0	0.0	1.838	A
2 - Southwell Road	27	7	63	1537	0.018	27	30	0.0	0.0	2.419	A

3 - A6097	67	17	29	2110	0.03 2	67	62	0.0	0.0	1.87 1	A
4 - Nottingham Road	45	11	54	2694	0.01 7	45	41	0.0	0.0	1.39 6	A

Proposed Layout - 2037 final, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Demand Sets	D9 - 2037 final, AM	Time results are shown for central hour only. (Model is run for a 90 minute period.)
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Junction 6	Standard Roundabout		1, 2, 3, 4	30.55	D

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Results for central hour only	Run automatically
D9	2037 final	AM	ONE HOUR	07:45	09:15	15	✓	✓

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1 - Epperstone By-Pass		ONE HOUR	✓	1444	100.000
2 - Southwell Road		ONE HOUR	✓	438	100.000
3 - A6097		ONE HOUR	✓	1321	100.000
4 - Nottingham Road		ONE HOUR	✓	809	100.000

Origin-Destination Data

Demand (PCU/hr)

	To			
	1 - Epperstone By-Pass	2 - Southwell Road	3 - A6097	4 - Nottingham Road
From 1 - Epperstone By-Pass	2	183	855	404
From 2 - Southwell Road	78	0	82	278
From 3 - A6097	852	127	0	342
From 4 - Nottingham Road	272	227	309	1

Vehicle Mix

Heavy Vehicle Percentages

	To			
	1 - Epperstone By-Pass	2 - Southwell Road	3 - A6097	4 - Nottingham Road
From 1 - Epperstone By-Pass	0	0	0	0
From 2 - Southwell Road	0	0	0	0
From 3 - A6097	0	0	0	0
From 4 - Nottingham Road	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
1 - Epperstone By-Pass	0.96	39.49	16.5	E	1444	1444
2 - Southwell Road	0.85	39.31	4.9	E	438	438
3 - A6097	0.95	34.19	13.0	D	1321	1321
4 - Nottingham Road	0.49	3.90	1.0	A	809	809

Main Results for each time segment

08:00 - 08:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Epperstone By-Pass	1298	325	596	1748	0.743	1293	1079	1.5	2.8	7.825	A
2 - Southwell Road	394	98	1407	748	0.526	392	481	0.6	1.1	10.051	B
3 - A6097	1188	297	683	1643	0.723	1183	1116	1.3	2.5	7.735	A
4 - Nottingham Road	727	182	948	1980	0.367	727	917	0.4	0.6	2.870	A

08:15 - 08:30

Arm	Total Demand	Junction	Circulating flow (PCU/hr)	Capacity	RFC	Throughput (PCU/hr)	Throughput (exit	Start queue	End queue	Delay (s)	Unsignalised level of service
-----	--------------	----------	---------------------------	----------	-----	---------------------	------------------	-------------	-----------	-----------	-------------------------------

	(PCU/hr)	Arrivals (PCU)		(PCU/hr)			side) (PCU/hr)	(PCU)	(PCU)		
1 - Epperstone By-Pass	1590	397	727	1653	0.962	1548	1302	2.8	13.4	27.137	D
2 - Southwell Road	482	121	1692	581	0.831	470	582	1.1	4.1	29.932	D
3 - A6097	1454	364	818	1547	0.940	1422	1344	2.5	10.6	24.363	C
4 - Nottingham Road	891	223	1140	1827	0.487	889	1101	0.6	0.9	3.826	A

08:30 - 08:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Epperstone By-Pass	1590	397	730	1651	0.963	1577	1319	13.4	16.5	39.493	E
2 - Southwell Road	482	121	1719	565	0.853	479	589	4.1	4.9	39.311	E
3 - A6097	1454	364	834	1536	0.947	1445	1364	10.6	13.0	34.192	D
4 - Nottingham Road	891	223	1158	1813	0.491	891	1120	0.9	1.0	3.905	A

08:45 - 09:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Epperstone By-Pass	1298	325	602	1743	0.745	1352	1112	16.5	3.0	10.420	B
2 - Southwell Road	394	98	1460	717	0.549	408	494	4.9	1.3	12.192	B
3 - A6097	1188	297	713	1622	0.732	1228	1155	13.0	2.8	10.038	B
4 - Nottingham Road	727	182	985	1951	0.373	729	956	1.0	0.6	2.950	A

Proposed Layout - 2037 final, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Junction 6	Standard Roundabout		1, 2, 3, 4	29.51	D

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D10	2037 final	PM	ONE HOUR	16:45	18:15	15	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1 - Epperstone By-Pass		ONE HOUR	✓	1055	100.000
2 - Southwell Road		ONE HOUR	✓	477	100.000
3 - A6097		ONE HOUR	✓	1584	100.000
4 - Nottingham Road		ONE HOUR	✓	952	100.000

Origin-Destination Data

Demand (PCU/hr)

		To			
		1 - Epperstone By-Pass	2 - Southwell Road	3 - A6097	4 - Nottingham Road
From	1 - Epperstone By-Pass	1	198	691	165
	2 - Southwell Road	144	0	145	188
	3 - A6097	1085	162	1	336
	4 - Nottingham Road	324	344	284	0

Vehicle Mix

Heavy Vehicle Percentages

		To			
		1 - Epperstone By-Pass	2 - Southwell Road	3 - A6097	4 - Nottingham Road
From	1 - Epperstone By-Pass	0	0	0	0
	2 - Southwell Road	0	0	0	0
	3 - A6097	0	0	0	0
	4 - Nottingham Road	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
1 - Epperstone By-Pass	0.75	9.19	2.9	A	968	1452
2 - Southwell Road	0.63	11.55	1.7	B	438	657
3 - A6097	1.00	61.76	30.2	F	1454	2180
4 - Nottingham Road	0.68	7.37	2.1	A	874	1310

Main Results for each time segment

16:45 - 17:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Epperstone Bypass	794	199	593	1750	0.454	791	1164	0.0	0.8	3.743	A
2 - Southwell Road	359	90	856	1072	0.335	357	528	0.0	0.5	5.025	A
3 - A6097	1193	298	373	1864	0.640	1186	840	0.0	1.7	5.250	A
4 - Nottingham Road	717	179	1043	1905	0.376	714	516	0.0	0.6	3.017	A

17:00 - 17:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Epperstone Bypass	948	237	709	1666	0.569	947	1391	0.8	1.3	4.991	A
2 - Southwell Road	429	107	1025	973	0.441	428	631	0.5	0.8	6.592	A
3 - A6097	1424	356	447	1812	0.786	1417	1006	1.7	3.5	8.955	A
4 - Nottingham Road	856	214	1246	1742	0.491	854	617	0.6	1.0	4.048	A

17:15 - 17:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Epperstone Bypass	1162	290	861	1557	0.746	1155	1660	1.3	2.8	8.839	A
2 - Southwell Road	525	131	1251	840	0.625	522	765	0.8	1.6	11.208	B
3 - A6097	1744	436	545	1742	1.001	1674	1228	3.5	21.1	35.857	E
4 - Nottingham Road	1048	262	1477	1558	0.673	1044	741	1.0	2.0	6.951	A

17:30 - 17:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Epperstone Bypass	1162	290	867	1552	0.748	1161	1686	2.8	2.9	9.186	A
2 - Southwell Road	525	131	1257	836	0.628	525	771	1.6	1.7	11.554	B
3 - A6097	1744	436	548	1739	1.003	1707	1234	21.1	30.2	61.762	F
4 - Nottingham Road	1048	262	1505	1536	0.682	1048	751	2.0	2.1	7.365	A

17:45 - 18:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Epperstone By-Pass	948	237	725	1655	0.573	955	1472	2.9	1.4	5.184	A
2 - Southwell Road	429	107	1033	968	0.443	432	646	1.7	0.8	6.765	A
3 - A6097	1424	356	451	1809	0.787	1529	1014	30.2	3.9	17.534	C
4 - Nottingham Road	856	214	1336	1670	0.512	860	644	2.1	1.1	4.464	A

18:00 - 18:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Epperstone By-Pass	794	199	598	1746	0.455	796	1177	1.4	0.8	3.796	A
2 - Southwell Road	359	90	862	1068	0.336	360	532	0.8	0.5	5.093	A
3 - A6097	1193	298	376	1862	0.640	1201	846	3.9	1.8	5.513	A
4 - Nottingham Road	717	179	1056	1894	0.378	719	521	1.1	0.6	3.065	A

Proposed Layout - 2037 final, IP

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Junction 6	Standard Roundabout		1, 2, 3, 4	4.24	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D11	2037 final	IP	ONE HOUR	12:15	13:45	15	✓

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1 - Epperstone By-Pass		ONE HOUR	✓	750	100.000
2 - Southwell Road		ONE HOUR	✓	374	100.000
3 - A6097		ONE HOUR	✓	934	100.000
4 - Nottingham Road		ONE HOUR	✓	659	100.000

Origin-Destination Data

Demand (PCU/hr)

		To			
		1 - Epperstone By-Pass	2 - Southwell Road	3 - A6097	4 - Nottingham Road
From	1 - Epperstone By-Pass	1	103	491	155
	2 - Southwell Road	91	1	109	173
	3 - A6097	535	118	3	278
	4 - Nottingham Road	193	199	265	2

Vehicle Mix

Heavy Vehicle Percentages

		To			
		1 - Epperstone By-Pass	2 - Southwell Road	3 - A6097	4 - Nottingham Road
From	1 - Epperstone By-Pass	0	0	0	0
	2 - Southwell Road	0	0	0	0
	3 - A6097	0	0	0	0
	4 - Nottingham Road	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
1 - Epperstone By-Pass	0.48	4.07	0.9	A	688	1032
2 - Southwell Road	0.42	6.32	0.7	A	343	515
3 - A6097	0.57	4.67	1.3	A	857	1286
4 - Nottingham Road	0.35	2.66	0.5	A	605	907

Main Results for each time segment

12:15 - 12:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Epperstone By-Pass	565	141	442	1859	0.304	563	615	0.0	0.4	2.774	A

2 - Southwell Road	282	70	688	1170	0.241	280	316	0.0	0.3	4.039	A
3 - A6097	703	176	317	1904	0.369	701	652	0.0	0.6	2.987	A
4 - Nottingham Road	496	124	562	2289	0.217	495	456	0.0	0.3	2.006	A

12:30 - 12:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Epperstone By-Pass	674	169	528	1796	0.375	674	736	0.4	0.6	3.204	A
2 - Southwell Road	336	84	824	1091	0.308	336	378	0.3	0.4	4.765	A
3 - A6097	840	210	380	1860	0.452	839	780	0.6	0.8	3.523	A
4 - Nottingham Road	592	148	673	2200	0.269	592	546	0.3	0.4	2.238	A

12:45 - 13:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Epperstone By-Pass	826	206	647	1711	0.483	824	901	0.6	0.9	4.054	A
2 - Southwell Road	412	103	1008	982	0.419	411	463	0.4	0.7	6.286	A
3 - A6097	1028	257	465	1799	0.572	1026	954	0.8	1.3	4.647	A
4 - Nottingham Road	726	181	823	2080	0.349	725	668	0.4	0.5	2.655	A

13:00 - 13:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Epperstone By-Pass	826	206	647	1711	0.483	826	903	0.9	0.9	4.068	A
2 - Southwell Road	412	103	1010	982	0.420	412	464	0.7	0.7	6.317	A
3 - A6097	1028	257	466	1798	0.572	1028	956	1.3	1.3	4.675	A
4 - Nottingham Road	726	181	825	2079	0.349	726	669	0.5	0.5	2.659	A

13:15 - 13:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Epperstone By-Pass	674	169	529	1796	0.376	676	739	0.9	0.6	3.219	A
2 - Southwell Road	336	84	826	1090	0.309	337	379	0.7	0.4	4.792	A
3 - A6097	840	210	381	1858	0.452	842	782	1.3	0.8	3.546	A
4 - Nottingham Road	592	148	675	2198	0.269	593	548	0.5	0.4	2.244	A

13:30 - 13:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Epperstone By-Pass	565	141	443	1858	0.304	565	618	0.6	0.4	2.786	A
2 - Southwell Road	282	70	691	1169	0.241	282	317	0.4	0.3	4.064	A
3 - A6097	703	176	319	1903	0.370	704	654	0.8	0.6	3.007	A
4 - Nottingham Road	496	124	565	2286	0.217	496	458	0.4	0.3	2.013	A

Proposed Layout - 2037 final, OP

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Junction 6	Standard Roundabout		1, 2, 3, 4	1.86	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D12	2037 final	OP	ONE HOUR	22:45	00:15	15	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1 - Epperstone By-Pass		ONE HOUR	✓	73	100.000
2 - Southwell Road		ONE HOUR	✓	37	100.000
3 - A6097		ONE HOUR	✓	91	100.000
4 - Nottingham Road		ONE HOUR	✓	64	100.000

Origin-Destination Data

Demand (PCU/hr)

	To			
	1 - Epperstone By-Pass	2 - Southwell Road	3 - A6097	4 - Nottingham Road
From 1 - Epperstone By-Pass	0	10	48	15
2 - Southwell Road	9	0	11	17
3 - A6097	52	12	0	27
4 - Nottingham Road	19	19	26	0

Vehicle Mix

Heavy Vehicle Percentages

	To			
	1 - Epperstone By-Pass	2 - Southwell Road	3 - A6097	4 - Nottingham Road
From 1 - Epperstone By-Pass	0	1	10	2
2 - Southwell Road	1	0	1	2
3 - A6097	10	1	0	2
4 - Nottingham Road	1	1	5	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
1 - Epperstone By-Pass	0.04	1.88	0.0	A	67	100
2 - Southwell Road	0.03	2.47	0.0	A	34	51
3 - A6097	0.05	1.91	0.1	A	84	125
4 - Nottingham Road	0.03	1.42	0.0	A	59	88

Main Results for each time segment

22:45 - 23:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Epperstone By-Pass	55	14	43	2146	0.026	55	60	0.0	0.0	1.840	A
2 - Southwell Road	28	7	67	1535	0.018	28	31	0.0	0.0	2.422	A
3 - A6097	69	17	31	2108	0.032	68	64	0.0	0.0	1.874	A
4 - Nottingham Road	48	12	55	2693	0.018	48	44	0.0	0.0	1.395	A

23:00 - 23:15

Arm	Total Demand	Junction	Circulating flow (PCU/hr)	Capacity	RFC	Throughput (PCU/hr)	Throughput (exit	Start queue	End queue	Delay (s)	Unsignalised level of service
-----	--------------	----------	---------------------------	----------	-----	---------------------	------------------	-------------	-----------	-----------	-------------------------------

	(PCU/hr)	Arrivals (PCU)		(PCU/hr)			side (PCU/hr)	(PCU)	(PCU)		
1 - Epperstone Bypass	66	16	51	2140	0.031	66	72	0.0	0.0	1.855	A
2 - Southwell Road	33	8	80	1528	0.022	33	37	0.0	0.0	2.443	A
3 - A6097	82	20	37	2104	0.039	82	76	0.0	0.0	1.890	A
4 - Nottingham Road	58	14	66	2685	0.021	58	53	0.0	0.0	1.405	A

23:15 - 23:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Epperstone Bypass	80	20	63	2132	0.038	80	88	0.0	0.0	1.876	A
2 - Southwell Road	41	10	98	1517	0.027	41	45	0.0	0.0	2.473	A
3 - A6097	100	25	45	2098	0.048	100	94	0.0	0.1	1.913	A
4 - Nottingham Road	70	18	80	2673	0.026	70	65	0.0	0.0	1.418	A

23:30 - 23:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Epperstone Bypass	80	20	63	2132	0.038	80	88	0.0	0.0	1.876	A
2 - Southwell Road	41	10	98	1517	0.027	41	45	0.0	0.0	2.473	A
3 - A6097	100	25	45	2098	0.048	100	94	0.1	0.1	1.913	A
4 - Nottingham Road	70	18	80	2673	0.026	70	65	0.0	0.0	1.418	A

23:45 - 00:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Epperstone Bypass	66	16	51	2140	0.031	66	72	0.0	0.0	1.858	A
2 - Southwell Road	33	8	80	1527	0.022	33	37	0.0	0.0	2.445	A
3 - A6097	82	20	37	2104	0.039	82	76	0.1	0.0	1.890	A
4 - Nottingham Road	58	14	66	2685	0.021	58	53	0.0	0.0	1.405	A

00:00 - 00:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Epperstone Bypass	55	14	43	2146	0.026	55	60	0.0	0.0	1.840	A
2 - Southwell Road	28	7	67	1535	0.018	28	31	0.0	0.0	2.422	A

3 - A6097	69	17	31	2108	0.03 2	69	64	0.0	0.0	1.87 4	A
4 - Nottingham Road	48	12	55	2693	0.01 8	48	44	0.0	0.0	1.39 7	A

Proposed Layout - 2023LG, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Demand Sets	D13 - 2023LG, AM	Time results are shown for central hour only. (Model is run for a 90 minute period.)
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Junction 6	Standard Roundabout		1, 2, 3, 4	9.12	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Results for central hour only	Run automatically
D13	2023LG	AM	ONE HOUR	07:45	09:15	15	✓	✓

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1 - Epperstone By-Pass		ONE HOUR	✓	1252	100.000
2 - Southwell Road		ONE HOUR	✓	390	100.000
3 - A6097		ONE HOUR	✓	1151	100.000
4 - Nottingham Road		ONE HOUR	✓	668	100.000

Origin-Destination Data

Demand (PCU/hr)

	To			
	1 - Epperstone By-Pass	2 - Southwell Road	3 - A6097	4 - Nottingham Road
From 1 - Epperstone By-Pass	2	166	740	344
From 2 - Southwell Road	71	0	74	245
From 3 - A6097	751	115	0	285
From 4 - Nottingham Road	227	195	245	1

Vehicle Mix

Heavy Vehicle Percentages

	To			
	1 - Epperstone By-Pass	2 - Southwell Road	3 - A6097	4 - Nottingham Road
From 1 - Epperstone By-Pass	0	0	0	0
From 2 - Southwell Road	0	0	0	0
From 3 - A6097	0	0	0	0
From 4 - Nottingham Road	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
1 - Epperstone By-Pass	0.79	10.03	3.8	B	1252	1252
2 - Southwell Road	0.60	12.65	1.5	B	390	390
3 - A6097	0.79	10.46	3.6	B	1151	1151
4 - Nottingham Road	0.38	3.06	0.6	A	668	668

Main Results for each time segment

08:00 - 08:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Epperstone By-Pass	1126	281	499	1817	0.619	1123	943	1.0	1.6	5.169	A
2 - Southwell Road	351	88	1195	873	0.402	350	427	0.4	0.7	6.872	A
3 - A6097	1035	259	595	1706	0.606	1032	950	0.9	1.5	5.323	A
4 - Nottingham Road	601	150	842	2065	0.291	600	785	0.3	0.4	2.458	A

08:15 - 08:30

Arm	Total Demand	Junction	Circulating flow (PCU/hr)	Capacity	RFC	Throughput (PCU/hr)	Throughput (exit	Start queue	End queue	Delay (s)	Unsignalised level of service
-----	--------------	----------	---------------------------	----------	-----	---------------------	------------------	-------------	-----------	-----------	-------------------------------

	(PCU/hr)	Arrivals (PCU)		(PCU/hr)			side) (PCU/hr)	(PCU)	(PCU)		
1 - Epperstone By-Pass	1378	345	611	1737	0.794	1370	1151	1.6	3.7	9.608	A
2 - Southwell Road	429	107	1459	718	0.598	426	522	0.7	1.4	12.232	B
3 - A6097	1267	317	725	1613	0.786	1259	1160	1.5	3.5	9.958	A
4 - Nottingham Road	735	184	1027	1917	0.384	735	957	0.4	0.6	3.043	A

08:30 - 08:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Epperstone By-Pass	1378	345	612	1736	0.794	1378	1157	3.7	3.8	10.030	B
2 - Southwell Road	429	107	1466	713	0.602	429	524	1.4	1.5	12.655	B
3 - A6097	1267	317	730	1610	0.787	1267	1166	3.5	3.6	10.458	B
4 - Nottingham Road	735	184	1034	1912	0.385	735	963	0.6	0.6	3.058	A

08:45 - 09:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Epperstone By-Pass	1126	281	501	1816	0.620	1134	951	3.8	1.7	5.341	A
2 - Southwell Road	351	88	1205	867	0.405	354	430	1.5	0.7	7.059	A
3 - A6097	1035	259	601	1702	0.608	1043	958	3.6	1.6	5.526	A
4 - Nottingham Road	601	150	851	2058	0.292	601	793	0.6	0.4	2.474	A

Proposed Layout - 2023LG, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Junction 6	Standard Roundabout		1, 2, 3, 4	8.18	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D14	2023LG	PM	ONE HOUR	16:45	18:15	15	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1 - Epperstone By-Pass		ONE HOUR	✓	908	100.000
2 - Southwell Road		ONE HOUR	✓	418	100.000
3 - A6097		ONE HOUR	✓	1369	100.000
4 - Nottingham Road		ONE HOUR	✓	803	100.000

Origin-Destination Data

Demand (PCU/hr)

		To			
		1 - Epperstone By-Pass	2 - Southwell Road	3 - A6097	4 - Nottingham Road
From	1 - Epperstone By-Pass	1	178	597	132
	2 - Southwell Road	130	0	129	159
	3 - A6097	948	146	1	274
	4 - Nottingham Road	272	302	229	0

Vehicle Mix

Heavy Vehicle Percentages

		To			
		1 - Epperstone By-Pass	2 - Southwell Road	3 - A6097	4 - Nottingham Road
From	1 - Epperstone By-Pass	0	0	0	0
	2 - Southwell Road	0	0	0	0
	3 - A6097	0	0	0	0
	4 - Nottingham Road	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
1 - Epperstone By-Pass	0.61	5.63	1.5	A	833	1250
2 - Southwell Road	0.48	7.29	0.9	A	384	575
3 - A6097	0.84	12.23	5.0	B	1256	1884
4 - Nottingham Road	0.53	4.64	1.1	A	737	1105

Main Results for each time segment

16:45 - 17:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Epperstone By-Pass	684	171	509	1810	0.378	681	1013	0.0	0.6	3.181	A
2 - Southwell Road	315	79	720	1151	0.273	313	470	0.0	0.4	4.286	A
3 - A6097	1031	258	316	1905	0.541	1026	717	0.0	1.2	4.076	A
4 - Nottingham Road	605	151	919	2004	0.302	603	424	0.0	0.4	2.566	A

17:00 - 17:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Epperstone By-Pass	816	204	609	1738	0.470	815	1212	0.6	0.9	3.894	A
2 - Southwell Road	376	94	862	1068	0.352	375	562	0.4	0.5	5.189	A
3 - A6097	1231	308	379	1860	0.662	1228	858	1.2	1.9	5.663	A
4 - Nottingham Road	722	180	1100	1859	0.388	721	507	0.4	0.6	3.161	A

17:15 - 17:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Epperstone By-Pass	1000	250	744	1641	0.609	997	1478	0.9	1.5	5.569	A
2 - Southwell Road	460	115	1054	955	0.482	459	687	0.5	0.9	7.228	A
3 - A6097	1507	377	463	1800	0.837	1496	1050	1.9	4.8	11.425	B
4 - Nottingham Road	884	221	1340	1667	0.530	882	619	0.6	1.1	4.575	A

17:30 - 17:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Epperstone By-Pass	1000	250	746	1639	0.610	1000	1487	1.5	1.5	5.628	A
2 - Southwell Road	460	115	1057	954	0.483	460	689	0.9	0.9	7.293	A
3 - A6097	1507	377	465	1799	0.838	1507	1053	4.8	5.0	12.226	B
4 - Nottingham Road	884	221	1349	1660	0.533	884	622	1.1	1.1	4.639	A

17:45 - 18:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Epperstone Bypass	816	204	612	1736	0.470	819	1224	1.5	0.9	3.936	A
2 - Southwell Road	376	94	866	1066	0.352	377	565	0.9	0.5	5.239	A
3 - A6097	1231	308	381	1859	0.662	1243	862	5.0	2.0	5.949	A
4 - Nottingham Road	722	180	1112	1849	0.390	724	511	1.1	0.6	3.203	A

18:00 - 18:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Epperstone Bypass	684	171	511	1809	0.378	685	1020	0.9	0.6	3.205	A
2 - Southwell Road	315	79	724	1149	0.274	315	472	0.5	0.4	4.321	A
3 - A6097	1031	258	318	1903	0.541	1034	721	2.0	1.2	4.155	A
4 - Nottingham Road	605	151	926	1998	0.303	605	426	0.6	0.4	2.587	A

Proposed Layout - 2023LG, IP

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Junction 6	Standard Roundabout		1, 2, 3, 4	3.52	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D15	2023LG	IP	ONE HOUR	12:15	13:45	15	✓

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1 - Epperstone By-Pass		ONE HOUR	✓	648	100.000
2 - Southwell Road		ONE HOUR	✓	332	100.000
3 - A6097		ONE HOUR	✓	813	100.000
4 - Nottingham Road		ONE HOUR	✓	556	100.000

Origin-Destination Data

Demand (PCU/hr)

		To			
		1 - Epperstone By-Pass	2 - Southwell Road	3 - A6097	4 - Nottingham Road
From	1 - Epperstone By-Pass	1	94	427	126
	2 - Southwell Road	83	1	98	150
	3 - A6097	471	107	3	232
	4 - Nottingham Road	161	174	219	2

Vehicle Mix

Heavy Vehicle Percentages

		To			
		1 - Epperstone By-Pass	2 - Southwell Road	3 - A6097	4 - Nottingham Road
From	1 - Epperstone By-Pass	0	0	0	0
	2 - Southwell Road	0	0	0	0
	3 - A6097	0	0	0	0
	4 - Nottingham Road	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
1 - Epperstone By-Pass	0.40	3.39	0.7	A	595	892
2 - Southwell Road	0.34	5.10	0.5	A	305	457
3 - A6097	0.49	3.79	0.9	A	746	1119
4 - Nottingham Road	0.28	2.34	0.4	A	510	765

Main Results for each time segment

12:15 - 12:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Epperstone By-Pass	488	122	380	1903	0.256	486	537	0.0	0.3	2.539	A

2 - Southwell Road	250	62	584	1231	0.203	249	282	0.0	0.3	3.661	A
3 - A6097	612	153	272	1936	0.316	610	561	0.0	0.5	2.711	A
4 - Nottingham Road	419	105	500	2338	0.179	418	383	0.0	0.2	1.874	A

12:30 - 12:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Epperstone By-Pass	583	146	455	1849	0.315	582	643	0.3	0.5	2.841	A
2 - Southwell Road	298	75	699	1164	0.256	298	338	0.3	0.3	4.155	A
3 - A6097	731	183	326	1898	0.385	730	671	0.5	0.6	3.081	A
4 - Nottingham Road	500	125	598	2260	0.221	500	458	0.2	0.3	2.045	A

12:45 - 13:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Epperstone By-Pass	713	178	557	1776	0.402	713	787	0.5	0.7	3.382	A
2 - Southwell Road	366	91	856	1072	0.341	365	414	0.3	0.5	5.087	A
3 - A6097	895	224	399	1846	0.485	894	822	0.6	0.9	3.776	A
4 - Nottingham Road	612	153	732	2153	0.284	612	561	0.3	0.4	2.336	A

13:00 - 13:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Epperstone By-Pass	713	178	557	1776	0.402	713	788	0.7	0.7	3.388	A
2 - Southwell Road	366	91	857	1071	0.341	366	414	0.5	0.5	5.099	A
3 - A6097	895	224	400	1845	0.485	895	822	0.9	0.9	3.787	A
4 - Nottingham Road	612	153	733	2152	0.284	612	562	0.4	0.4	2.337	A

13:15 - 13:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Epperstone By-Pass	583	146	455	1849	0.315	583	645	0.7	0.5	2.846	A
2 - Southwell Road	298	75	700	1163	0.257	299	338	0.5	0.3	4.169	A
3 - A6097	731	183	327	1897	0.385	732	672	0.9	0.6	3.094	A
4 - Nottingham Road	500	125	600	2258	0.221	500	459	0.4	0.3	2.047	A

13:30 - 13:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Epperstone By-Pass	488	122	381	1902	0.256	488	540	0.5	0.3	2.548	A
2 - Southwell Road	250	62	586	1230	0.203	250	283	0.3	0.3	3.677	A
3 - A6097	612	153	274	1935	0.316	613	563	0.6	0.5	2.724	A
4 - Nottingham Road	419	105	502	2336	0.179	419	384	0.3	0.2	1.876	A

Proposed Layout - 2023LG, OP

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Junction 6	Standard Roundabout		1, 2, 3, 4	1.85	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D16	2023LG	OP	ONE HOUR	22:45	00:15	15	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1 - Epperstone By-Pass		ONE HOUR	✓	63	100.000
2 - Southwell Road		ONE HOUR	✓	33	100.000
3 - A6097		ONE HOUR	✓	79	100.000
4 - Nottingham Road		ONE HOUR	✓	54	100.000

Origin-Destination Data

Demand (PCU/hr)

	To			
	1 - Epperstone By-Pass	2 - Southwell Road	3 - A6097	4 - Nottingham Road
From 1 - Epperstone By-Pass	0	9	42	12
2 - Southwell Road	8	0	10	15
3 - A6097	46	10	0	23
4 - Nottingham Road	16	17	21	0

Vehicle Mix

Heavy Vehicle Percentages

	To			
	1 - Epperstone By-Pass	2 - Southwell Road	3 - A6097	4 - Nottingham Road
From 1 - Epperstone By-Pass	0	1	10	2
2 - Southwell Road	1	0	1	2
3 - A6097	10	1	0	2
4 - Nottingham Road	1	1	5	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
1 - Epperstone By-Pass	0.03	1.86	0.0	A	58	87
2 - Southwell Road	0.02	2.45	0.0	A	30	45
3 - A6097	0.04	1.90	0.0	A	72	109
4 - Nottingham Road	0.02	1.41	0.0	A	50	74

Main Results for each time segment

22:45 - 23:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Epperstone By-Pass	47	12	36	2151	0.022	47	53	0.0	0.0	1.831	A
2 - Southwell Road	25	6	56	1541	0.016	25	27	0.0	0.0	2.407	A
3 - A6097	59	15	26	2112	0.028	59	55	0.0	0.0	1.865	A
4 - Nottingham Road	41	10	48	2699	0.015	41	38	0.0	0.0	1.387	A

23:00 - 23:15

Arm	Total Demand	Junction	Circulating flow (PCU/hr)	Capacity	RFC	Throughput (PCU/hr)	Throughput (exit	Start queue	End queue	Delay (s)	Unsignalised level of service
-----	--------------	----------	---------------------------	----------	-----	---------------------	------------------	-------------	-----------	-----------	-------------------------------

	(PCU/hr)	Arrivals (PCU)		(PCU/hr)			side (PCU/hr)	(PCU)	(PCU)		
1 - Epperstone Bypass	57	14	43	2146	0.026	57	63	0.0	0.0	1.843	A
2 - Southwell Road	30	7	67	1535	0.019	30	32	0.0	0.0	2.425	A
3 - A6097	71	18	31	2108	0.034	71	66	0.0	0.0	1.878	A
4 - Nottingham Road	49	12	58	2691	0.018	49	45	0.0	0.0	1.395	A

23:15 - 23:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Epperstone Bypass	69	17	53	2139	0.032	69	77	0.0	0.0	1.861	A
2 - Southwell Road	36	9	83	1526	0.024	36	40	0.0	0.0	2.451	A
3 - A6097	87	22	39	2103	0.041	87	80	0.0	0.0	1.898	A
4 - Nottingham Road	59	15	70	2681	0.022	59	55	0.0	0.0	1.407	A

23:30 - 23:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Epperstone Bypass	69	17	53	2139	0.032	69	77	0.0	0.0	1.861	A
2 - Southwell Road	36	9	83	1526	0.024	36	40	0.0	0.0	2.451	A
3 - A6097	87	22	39	2103	0.041	87	80	0.0	0.0	1.898	A
4 - Nottingham Road	59	15	70	2681	0.022	59	55	0.0	0.0	1.407	A

23:45 - 00:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Epperstone Bypass	57	14	43	2146	0.026	57	63	0.0	0.0	1.843	A
2 - Southwell Road	30	7	67	1535	0.019	30	32	0.0	0.0	2.426	A
3 - A6097	71	18	31	2108	0.034	71	66	0.0	0.0	1.879	A
4 - Nottingham Road	49	12	58	2691	0.018	49	45	0.0	0.0	1.395	A

00:00 - 00:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Epperstone Bypass	47	12	36	2151	0.022	47	53	0.0	0.0	1.831	A
2 - Southwell Road	25	6	56	1541	0.016	25	27	0.0	0.0	2.409	A

3 - A6097	59	15	26	2112	0.028	60	55	0.0	0.0	1.868	A
4 - Nottingham Road	41	10	48	2699	0.015	41	38	0.0	0.0	1.390	A

Proposed Layout - 2037LG, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Demand Sets	D17 - 2037LG, AM	Time results are shown for central hour only. (Model is run for a 90 minute period.)
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Junction 6	Standard Roundabout		1, 2, 3, 4	8.75	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Results for central hour only	Run automatically
D17	2037LG	AM	ONE HOUR	07:45	09:15	15	✓	✓

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1 - Epperstone By-Pass		ONE HOUR	✓	1234	100.000
2 - Southwell Road		ONE HOUR	✓	373	100.000
3 - A6097		ONE HOUR	✓	1157	100.000
4 - Nottingham Road		ONE HOUR	✓	670	100.000

Origin-Destination Data

Demand (PCU/hr)

	To			
	1 - Epperstone By-Pass	2 - Southwell Road	3 - A6097	4 - Nottingham Road
From 1 - Epperstone By-Pass	2	157	748	327
From 2 - Southwell Road	67	0	74	232
From 3 - A6097	749	115	0	293
From 4 - Nottingham Road	217	187	265	1

Vehicle Mix

Heavy Vehicle Percentages

	To			
	1 - Epperstone By-Pass	2 - Southwell Road	3 - A6097	4 - Nottingham Road
From 1 - Epperstone By-Pass	0	0	0	0
From 2 - Southwell Road	0	0	0	0
From 3 - A6097	0	0	0	0
From 4 - Nottingham Road	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
1 - Epperstone By-Pass	0.79	9.76	3.6	A	1234	1234
2 - Southwell Road	0.58	12.16	1.4	B	373	373
3 - A6097	0.78	9.89	3.4	A	1157	1157
4 - Nottingham Road	0.38	3.05	0.6	A	670	670

Main Results for each time segment

08:00 - 08:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Epperstone By-Pass	1109	277	510	1809	0.613	1107	929	1.0	1.6	5.107	A
2 - Southwell Road	335	84	1205	867	0.387	334	412	0.4	0.6	6.752	A
3 - A6097	1040	260	564	1728	0.602	1038	975	0.9	1.5	5.199	A
4 - Nottingham Road	602	151	837	2069	0.291	602	765	0.3	0.4	2.453	A

08:15 - 08:30

Arm	Total Demand	Junction	Circulating flow (PCU/hr)	Capacity	RFC	Throughput (PCU/hr)	Throughput (exit	Start queue	End queue	Delay (s)	Unsignalised level of service
-----	--------------	----------	---------------------------	----------	-----	---------------------	------------------	-------------	-----------	-----------	-------------------------------

	(PCU/hr)	Arrivals (PCU)		(PCU/hr)			side) (PCU/hr)	(PCU)	(PCU)		
1 - Epperstone Bypass	1359	340	624	1727	0.787	1351	1134	1.6	3.5	9.371	A
2 - Southwell Road	411	103	1472	710	0.578	408	503	0.6	1.3	11.796	B
3 - A6097	1274	318	688	1640	0.777	1267	1191	1.5	3.3	9.465	A
4 - Nottingham Road	738	184	1021	1922	0.384	737	933	0.4	0.6	3.036	A

08:30 - 08:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Epperstone Bypass	1359	340	625	1726	0.787	1358	1139	3.5	3.6	9.755	A
2 - Southwell Road	411	103	1478	706	0.582	411	505	1.3	1.4	12.163	B
3 - A6097	1274	318	692	1637	0.778	1274	1197	3.3	3.4	9.888	A
4 - Nottingham Road	738	184	1027	1917	0.385	738	939	0.6	0.6	3.051	A

08:45 - 09:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Epperstone Bypass	1109	277	512	1808	0.614	1117	936	3.6	1.6	5.271	A
2 - Southwell Road	335	84	1215	861	0.389	338	415	1.4	0.6	6.920	A
3 - A6097	1040	260	570	1724	0.603	1048	983	3.4	1.5	5.379	A
4 - Nottingham Road	602	151	845	2063	0.292	603	773	0.6	0.4	2.469	A

Proposed Layout - 2037LG, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Junction 6	Standard Roundabout		1, 2, 3, 4	7.75	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D18	2037LG	PM	ONE HOUR	16:45	18:15	15	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1 - Epperstone By-Pass		ONE HOUR	✓	894	100.000
2 - Southwell Road		ONE HOUR	✓	403	100.000
3 - A6097		ONE HOUR	✓	1363	100.000
4 - Nottingham Road		ONE HOUR	✓	779	100.000

Origin-Destination Data

Demand (PCU/hr)

		To			
		1 - Epperstone By-Pass	2 - Southwell Road	3 - A6097	4 - Nottingham Road
From	1 - Epperstone By-Pass	1	168	598	127
	2 - Southwell Road	123	0	128	152
	3 - A6097	933	143	1	286
	4 - Nottingham Road	258	285	236	0

Vehicle Mix

Heavy Vehicle Percentages

		To			
		1 - Epperstone By-Pass	2 - Southwell Road	3 - A6097	4 - Nottingham Road
From	1 - Epperstone By-Pass	0	0	0	0
	2 - Southwell Road	0	0	0	0
	3 - A6097	0	0	0	0
	4 - Nottingham Road	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
1 - Epperstone By-Pass	0.60	5.41	1.5	A	820	1231
2 - Southwell Road	0.47	7.08	0.9	A	370	555
3 - A6097	0.83	11.41	4.6	B	1251	1876
4 - Nottingham Road	0.51	4.37	1.0	A	715	1072

Main Results for each time segment

16:45 - 17:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Epperstone Bypass	673	168	499	1817	0.370	671	986	0.0	0.6	3.132	A
2 - Southwell Road	303	76	723	1150	0.264	302	447	0.0	0.4	4.238	A
3 - A6097	1026	257	302	1915	0.536	1022	722	0.0	1.1	4.010	A
4 - Nottingham Road	586	147	900	2019	0.291	585	424	0.0	0.4	2.509	A

17:00 - 17:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Epperstone Bypass	804	201	597	1747	0.460	803	1180	0.6	0.8	3.810	A
2 - Southwell Road	362	91	865	1067	0.340	362	535	0.4	0.5	5.102	A
3 - A6097	1225	306	362	1872	0.654	1222	865	1.1	1.9	5.514	A
4 - Nottingham Road	700	175	1077	1877	0.373	700	507	0.4	0.6	3.055	A

17:15 - 17:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Epperstone Bypass	984	246	730	1651	0.596	982	1440	0.8	1.5	5.360	A
2 - Southwell Road	444	111	1058	953	0.465	442	654	0.5	0.9	7.024	A
3 - A6097	1501	375	442	1815	0.827	1490	1058	1.9	4.5	10.756	B
4 - Nottingham Road	858	214	1314	1688	0.508	856	619	0.6	1.0	4.316	A

17:30 - 17:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Epperstone Bypass	984	246	732	1650	0.597	984	1447	1.5	1.5	5.411	A
2 - Southwell Road	444	111	1060	952	0.466	444	656	0.9	0.9	7.084	A
3 - A6097	1501	375	444	1814	0.827	1500	1060	4.5	4.6	11.408	B
4 - Nottingham Road	858	214	1322	1682	0.510	858	622	1.0	1.0	4.367	A

17:45 - 18:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Epperstone By-Pass	804	201	600	1745	0.461	806	1191	1.5	0.9	3.847	A
2 - Southwell Road	362	91	868	1065	0.340	364	538	0.9	0.5	5.145	A
3 - A6097	1225	306	364	1871	0.655	1236	868	4.6	1.9	5.761	A
4 - Nottingham Road	700	175	1089	1868	0.375	702	511	1.0	0.6	3.091	A

18:00 - 18:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Epperstone By-Pass	673	168	501	1816	0.371	674	993	0.9	0.6	3.155	A
2 - Southwell Road	303	76	726	1148	0.264	304	450	0.5	0.4	4.268	A
3 - A6097	1026	257	304	1914	0.536	1029	726	1.9	1.2	4.084	A
4 - Nottingham Road	586	147	907	2013	0.291	587	426	0.6	0.4	2.525	A

Proposed Layout - 2037LG, IP

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Junction 6	Standard Roundabout		1, 2, 3, 4	3.48	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D19	2037LG	IP	ONE HOUR	12:15	13:45	15	✓

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1 - Epperstone By-Pass		ONE HOUR	✓	641	100.000
2 - Southwell Road		ONE HOUR	✓	320	100.000
3 - A6097		ONE HOUR	✓	818	100.000
4 - Nottingham Road		ONE HOUR	✓	550	100.000

Origin-Destination Data

Demand (PCU/hr)

		To			
		1 - Epperstone By-Pass	2 - Southwell Road	3 - A6097	4 - Nottingham Road
From	1 - Epperstone By-Pass	1	89	430	121
	2 - Southwell Road	78	1	98	143
	3 - A6097	469	106	2	241
	4 - Nottingham Road	154	166	229	1

Vehicle Mix

Heavy Vehicle Percentages

		To			
		1 - Epperstone By-Pass	2 - Southwell Road	3 - A6097	4 - Nottingham Road
From	1 - Epperstone By-Pass	0	0	0	0
	2 - Southwell Road	0	0	0	0
	3 - A6097	0	0	0	0
	4 - Nottingham Road	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
1 - Epperstone By-Pass	0.40	3.36	0.7	A	588	882
2 - Southwell Road	0.33	5.03	0.5	A	294	440
3 - A6097	0.48	3.75	0.9	A	751	1126
4 - Nottingham Road	0.28	2.32	0.4	A	505	757

Main Results for each time segment

12:15 - 12:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Epperstone By-Pass	483	121	379	1904	0.254	481	527	0.0	0.3	2.528	A

2 - Southwell Road	241	60	589	1229	0.196	240	272	0.0	0.2	3.637	A
3 - A6097	616	154	259	1946	0.316	614	570	0.0	0.5	2.699	A
4 - Nottingham Road	414	104	493	2344	0.177	413	380	0.0	0.2	1.864	A

12:30 - 12:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Epperstone By-Pass	576	144	454	1850	0.311	576	631	0.3	0.5	2.825	A
2 - Southwell Road	288	72	704	1161	0.248	287	325	0.2	0.3	4.118	A
3 - A6097	735	184	310	1909	0.385	735	682	0.5	0.6	3.063	A
4 - Nottingham Road	494	124	590	2266	0.218	494	454	0.2	0.3	2.031	A

12:45 - 13:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Epperstone By-Pass	706	176	556	1777	0.397	705	772	0.5	0.7	3.358	A
2 - Southwell Road	352	88	862	1068	0.330	352	398	0.3	0.5	5.021	A
3 - A6097	901	225	379	1860	0.484	899	835	0.6	0.9	3.742	A
4 - Nottingham Road	606	151	722	2161	0.280	605	556	0.3	0.4	2.314	A

13:00 - 13:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Epperstone By-Pass	706	176	556	1776	0.397	706	773	0.7	0.7	3.361	A
2 - Southwell Road	352	88	863	1068	0.330	352	399	0.5	0.5	5.033	A
3 - A6097	901	225	380	1860	0.484	901	836	0.9	0.9	3.753	A
4 - Nottingham Road	606	151	723	2160	0.280	606	557	0.4	0.4	2.315	A

13:15 - 13:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Epperstone By-Pass	576	144	454	1850	0.312	577	632	0.7	0.5	2.832	A
2 - Southwell Road	288	72	706	1160	0.248	288	326	0.5	0.3	4.134	A
3 - A6097	735	184	311	1909	0.385	737	683	0.9	0.6	3.073	A
4 - Nottingham Road	494	124	592	2265	0.218	495	456	0.4	0.3	2.034	A

13:30 - 13:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Epperstone By-Pass	483	121	380	1903	0.254	483	529	0.5	0.3	2.535	A
2 - Southwell Road	241	60	591	1228	0.196	241	273	0.3	0.2	3.653	A
3 - A6097	616	154	260	1945	0.317	616	572	0.6	0.5	2.710	A
4 - Nottingham Road	414	104	495	2342	0.177	414	381	0.3	0.2	1.869	A

Proposed Layout - 2037LG, OP

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Junction 6	Standard Roundabout		1, 2, 3, 4	1.85	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D20	2037LG	OP	ONE HOUR	22:45	00:15	15	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1 - Epperstone By-Pass		ONE HOUR	✓	63	100.000
2 - Southwell Road		ONE HOUR	✓	32	100.000
3 - A6097		ONE HOUR	✓	80	100.000
4 - Nottingham Road		ONE HOUR	✓	53	100.000

Origin-Destination Data

Demand (PCU/hr)

	To			
	1 - Epperstone By-Pass	2 - Southwell Road	3 - A6097	4 - Nottingham Road
From 1 - Epperstone By-Pass	0	9	42	12
2 - Southwell Road	8	0	10	14
3 - A6097	46	10	0	24
4 - Nottingham Road	15	16	22	0

Vehicle Mix

Heavy Vehicle Percentages

	To			
	1 - Epperstone By-Pass	2 - Southwell Road	3 - A6097	4 - Nottingham Road
From 1 - Epperstone By-Pass	0	1	10	2
2 - Southwell Road	1	0	1	2
3 - A6097	10	1	0	2
4 - Nottingham Road	1	1	5	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
1 - Epperstone By-Pass	0.03	1.86	0.0	A	58	87
2 - Southwell Road	0.02	2.45	0.0	A	29	44
3 - A6097	0.04	1.90	0.0	A	73	110
4 - Nottingham Road	0.02	1.41	0.0	A	49	73

Main Results for each time segment

22:45 - 23:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Epperstone By-Pass	47	12	36	2151	0.022	47	52	0.0	0.0	1.831	A
2 - Southwell Road	24	6	57	1541	0.016	24	26	0.0	0.0	2.406	A
3 - A6097	60	15	26	2112	0.029	60	56	0.0	0.0	1.864	A
4 - Nottingham Road	40	10	48	2699	0.015	40	38	0.0	0.0	1.388	A

23:00 - 23:15

Arm	Total Demand	Junction	Circulating flow (PCU/hr)	Capacity	RFC	Throughput (PCU/hr)	Throughput (exit	Start queue	End queue	Delay (s)	Unsignalised level of service
-----	--------------	----------	---------------------------	----------	-----	---------------------	------------------	-------------	-----------	-----------	-------------------------------

	(PCU/hr)	Arrivals (PCU)		(PCU/hr)			side (PCU/hr)	(PCU)	(PCU)		
1 - Epperstone Bypass	57	14	43	2146	0.026	57	62	0.0	0.0	1.843	A
2 - Southwell Road	29	7	68	1534	0.019	29	31	0.0	0.0	2.424	A
3 - A6097	72	18	31	2109	0.034	72	67	0.0	0.0	1.878	A
4 - Nottingham Road	48	12	58	2691	0.018	48	45	0.0	0.0	1.396	A

23:15 - 23:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Epperstone Bypass	69	17	53	2139	0.032	69	76	0.0	0.0	1.861	A
2 - Southwell Road	35	9	84	1525	0.023	35	39	0.0	0.0	2.450	A
3 - A6097	88	22	37	2104	0.042	88	81	0.0	0.0	1.897	A
4 - Nottingham Road	58	15	70	2681	0.022	58	55	0.0	0.0	1.408	A

23:30 - 23:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Epperstone Bypass	69	17	53	2139	0.032	69	76	0.0	0.0	1.861	A
2 - Southwell Road	35	9	84	1525	0.023	35	39	0.0	0.0	2.450	A
3 - A6097	88	22	37	2104	0.042	88	81	0.0	0.0	1.897	A
4 - Nottingham Road	58	15	70	2681	0.022	58	55	0.0	0.0	1.408	A

23:45 - 00:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Epperstone Bypass	57	14	43	2146	0.026	57	62	0.0	0.0	1.846	A
2 - Southwell Road	29	7	68	1534	0.019	29	31	0.0	0.0	2.426	A
3 - A6097	72	18	31	2109	0.034	72	67	0.0	0.0	1.881	A
4 - Nottingham Road	48	12	58	2691	0.018	48	45	0.0	0.0	1.399	A

00:00 - 00:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Epperstone Bypass	47	12	36	2151	0.022	47	52	0.0	0.0	1.833	A
2 - Southwell Road	24	6	57	1541	0.016	24	26	0.0	0.0	2.409	A

3 - A6097	60	15	26	2112	0.029	60	56	0.0	0.0	1.867	A
4 - Nottingham Road	40	10	48	2699	0.015	40	38	0.0	0.0	1.388	A

Proposed Layout - 2023HG, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Demand Sets	D21 - 2023HG, AM	Time results are shown for central hour only. (Model is run for a 90 minute period.)
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Junction 6	Standard Roundabout		1, 2, 3, 4	19.01	C

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Results for central hour only	Run automatically
D21	2023HG	AM	ONE HOUR	07:45	09:15	15	✓	✓

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1 - Epperstone By-Pass		ONE HOUR	✓	1390	100.000
2 - Southwell Road		ONE HOUR	✓	436	100.000
3 - A6097		ONE HOUR	✓	1277	100.000
4 - Nottingham Road		ONE HOUR	✓	741	100.000

Origin-Destination Data

Demand (PCU/hr)

	To			
	1 - Epperstone By-Pass	2 - Southwell Road	3 - A6097	4 - Nottingham Road
From 1 - Epperstone By-Pass	2	185	819	384
From 2 - Southwell Road	80	0	82	274
From 3 - A6097	833	128	0	316
From 4 - Nottingham Road	252	218	270	1

Vehicle Mix

Heavy Vehicle Percentages

	To			
	1 - Epperstone By-Pass	2 - Southwell Road	3 - A6097	4 - Nottingham Road
From 1 - Epperstone By-Pass	0	0	0	0
From 2 - Southwell Road	0	0	0	0
From 3 - A6097	0	0	0	0
From 4 - Nottingham Road	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
1 - Epperstone By-Pass	0.91	21.55	8.6	C	1390	1390
2 - Southwell Road	0.77	24.85	3.2	C	436	436
3 - A6097	0.91	23.23	8.5	C	1277	1277
4 - Nottingham Road	0.45	3.57	0.8	A	741	741

Main Results for each time segment

08:00 - 08:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Epperstone By-Pass	1250	312	554	1778	0.703	1246	1046	1.3	2.3	6.712	A
2 - Southwell Road	392	98	1323	797	0.492	390	476	0.5	0.9	8.810	A
3 - A6097	1148	287	664	1657	0.693	1144	1050	1.2	2.2	6.965	A
4 - Nottingham Road	666	167	934	1991	0.335	666	873	0.4	0.5	2.714	A

08:15 - 08:30

Arm	Total Demand	Junction	Circulating flow (PCU/hr)	Capacity	RFC	Throughput (PCU/hr)	Throughput (exit	Start queue	End queue	Delay (s)	Unsignalised level of service
-----	--------------	----------	---------------------------	----------	-----	---------------------	------------------	-------------	-----------	-----------	-------------------------------

	(PCU/hr)	Arrivals (PCU)		(PCU/hr)			side) (PCU/hr)	(PCU)	(PCU)		
1 - Epperstone Bypass	1530	383	676	1690	0.906	1508	1269	2.3	7.9	17.976	C
2 - Southwell Road	480	120	1605	632	0.760	472	579	0.9	2.9	21.635	C
3 - A6097	1406	352	803	1557	0.903	1384	1274	2.2	7.6	18.842	C
4 - Nottingham Road	816	204	1131	1835	0.445	815	1057	0.5	0.8	3.527	A

08:30 - 08:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Epperstone Bypass	1530	383	679	1688	0.907	1527	1282	7.9	8.6	21.546	C
2 - Southwell Road	480	120	1622	622	0.772	479	584	2.9	3.2	24.854	C
3 - A6097	1406	352	814	1550	0.907	1402	1287	7.6	8.5	23.226	C
4 - Nottingham Road	816	204	1145	1823	0.448	816	1071	0.8	0.8	3.574	A

08:45 - 09:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Epperstone Bypass	1250	312	558	1775	0.704	1274	1067	8.6	2.4	7.531	A
2 - Southwell Road	392	98	1349	782	0.501	401	483	3.2	1.0	9.630	A
3 - A6097	1148	287	680	1645	0.698	1173	1069	8.5	2.4	7.994	A
4 - Nottingham Road	666	167	958	1973	0.338	667	895	0.8	0.5	2.762	A

Proposed Layout - 2023HG, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Junction 6	Standard Roundabout		1, 2, 3, 4	19.12	C

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D22	2023HG	PM	ONE HOUR	16:45	18:15	15	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1 - Epperstone By-Pass		ONE HOUR	✓	1017	100.000
2 - Southwell Road		ONE HOUR	✓	470	100.000
3 - A6097		ONE HOUR	✓	1534	100.000
4 - Nottingham Road		ONE HOUR	✓	904	100.000

Origin-Destination Data

Demand (PCU/hr)

		To			
		1 - Epperstone By-Pass	2 - Southwell Road	3 - A6097	4 - Nottingham Road
From	1 - Epperstone By-Pass	1	201	668	147
	2 - Southwell Road	147	0	144	179
	3 - A6097	1062	164	1	307
	4 - Nottingham Road	307	340	257	0

Vehicle Mix

Heavy Vehicle Percentages

		To			
		1 - Epperstone By-Pass	2 - Southwell Road	3 - A6097	4 - Nottingham Road
From	1 - Epperstone By-Pass	0	0	0	0
	2 - Southwell Road	0	0	0	0
	3 - A6097	0	0	0	0
	4 - Nottingham Road	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
1 - Epperstone By-Pass	0.71	7.92	2.4	A	933	1400
2 - Southwell Road	0.59	9.92	1.4	A	431	647
3 - A6097	0.96	36.71	16.3	E	1408	2111
4 - Nottingham Road	0.65	6.65	1.8	A	830	1244

Main Results for each time segment

16:45 - 17:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Epperstone By-Pass	766	191	572	1765	0.434	763	1136	0.0	0.8	3.581	A
2 - Southwell Road	354	88	805	1101	0.321	352	529	0.0	0.5	4.792	A
3 - A6097	1155	289	355	1877	0.615	1149	802	0.0	1.6	4.899	A
4 - Nottingham Road	681	170	1030	1915	0.355	678	474	0.0	0.5	2.905	A

17:00 - 17:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Epperstone By-Pass	914	229	684	1684	0.543	913	1359	0.8	1.2	4.653	A
2 - Southwell Road	423	106	964	1008	0.419	422	632	0.5	0.7	6.124	A
3 - A6097	1379	345	425	1827	0.755	1373	960	1.6	3.0	7.838	A
4 - Nottingham Road	813	203	1231	1754	0.463	811	567	0.5	0.9	3.813	A

17:15 - 17:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Epperstone By-Pass	1120	280	832	1577	0.710	1115	1640	1.2	2.4	7.703	A
2 - Southwell Road	517	129	1178	883	0.586	515	770	0.7	1.4	9.711	A
3 - A6097	1689	422	519	1760	0.960	1648	1173	3.0	13.3	25.730	D
4 - Nottingham Road	995	249	1480	1556	0.640	992	687	0.9	1.7	6.345	A

17:30 - 17:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Epperstone By-Pass	1120	280	838	1574	0.712	1120	1662	2.4	2.4	7.920	A
2 - Southwell Road	517	129	1182	880	0.588	517	775	1.4	1.4	9.918	A
3 - A6097	1689	422	522	1758	0.961	1677	1178	13.3	16.3	36.709	E
4 - Nottingham Road	995	249	1505	1536	0.648	995	695	1.7	1.8	6.648	A

17:45 - 18:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Epperstone By-Pass	914	229	693	1678	0.545	919	1402	2.4	1.2	4.777	A
2 - Southwell Road	423	106	970	1005	0.421	425	642	1.4	0.7	6.241	A
3 - A6097	1379	345	429	1825	0.756	1431	967	16.3	3.2	10.304	B
4 - Nottingham Road	813	203	1279	1716	0.473	816	581	1.8	0.9	4.015	A

18:00 - 18:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Epperstone By-Pass	766	191	575	1762	0.434	767	1147	1.2	0.8	3.623	A
2 - Southwell Road	354	88	810	1099	0.322	355	532	0.7	0.5	4.847	A
3 - A6097	1155	289	358	1875	0.616	1161	807	3.2	1.6	5.085	A
4 - Nottingham Road	681	170	1041	1906	0.357	682	478	0.9	0.6	2.945	A

Proposed Layout - 2023HG, IP

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Junction 6	Standard Roundabout		1, 2, 3, 4	4.02	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D23	2023HG	IP	ONE HOUR	12:15	13:45	15	✓

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1 - Epperstone By-Pass		ONE HOUR	✓	720	100.000
2 - Southwell Road		ONE HOUR	✓	370	100.000
3 - A6097		ONE HOUR	✓	902	100.000
4 - Nottingham Road		ONE HOUR	✓	619	100.000

Origin-Destination Data

Demand (PCU/hr)

		To			
		1 - Epperstone By-Pass	2 - Southwell Road	3 - A6097	4 - Nottingham Road
From	1 - Epperstone By-Pass	1	105	473	141
	2 - Southwell Road	92	1	109	168
	3 - A6097	522	119	3	258
	4 - Nottingham Road	180	195	242	2

Vehicle Mix

Heavy Vehicle Percentages

		To			
		1 - Epperstone By-Pass	2 - Southwell Road	3 - A6097	4 - Nottingham Road
From	1 - Epperstone By-Pass	0	0	0	0
	2 - Southwell Road	0	0	0	0
	3 - A6097	0	0	0	0
	4 - Nottingham Road	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
1 - Epperstone By-Pass	0.46	3.83	0.8	A	661	991
2 - Southwell Road	0.40	5.90	0.7	A	340	509
3 - A6097	0.55	4.39	1.2	A	828	1242
4 - Nottingham Road	0.33	2.56	0.5	A	568	852

Main Results for each time segment

12:15 - 12:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Epperstone By-Pass	542	136	422	1873	0.289	540	597	0.0	0.4	2.698	A

2 - Southwell Road	279	70	647	1194	0.233	277	315	0.0	0.3	3.921	A
3 - A6097	679	170	304	1914	0.355	677	621	0.0	0.5	2.905	A
4 - Nottingham Road	466	117	554	2295	0.203	465	427	0.0	0.3	1.966	A

12:30 - 12:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Epperstone By-Pass	647	162	505	1813	0.357	647	714	0.4	0.6	3.084	A
2 - Southwell Road	333	83	774	1120	0.297	332	377	0.3	0.4	4.567	A
3 - A6097	811	203	364	1871	0.433	810	743	0.5	0.8	3.389	A
4 - Nottingham Road	556	139	663	2208	0.252	556	511	0.3	0.3	2.179	A

12:45 - 13:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Epperstone By-Pass	793	198	618	1732	0.458	792	874	0.6	0.8	3.824	A
2 - Southwell Road	407	102	948	1018	0.400	406	462	0.4	0.7	5.878	A
3 - A6097	993	248	445	1813	0.548	991	909	0.8	1.2	4.373	A
4 - Nottingham Road	682	170	811	2090	0.326	681	625	0.3	0.5	2.554	A

13:00 - 13:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Epperstone By-Pass	793	198	619	1731	0.458	793	875	0.8	0.8	3.835	A
2 - Southwell Road	407	102	949	1017	0.401	407	462	0.7	0.7	5.903	A
3 - A6097	993	248	446	1812	0.548	993	911	1.2	1.2	4.393	A
4 - Nottingham Road	682	170	813	2089	0.326	682	626	0.5	0.5	2.558	A

13:15 - 13:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Epperstone By-Pass	647	162	506	1812	0.357	648	716	0.8	0.6	3.094	A
2 - Southwell Road	333	83	776	1119	0.297	334	378	0.7	0.4	4.592	A
3 - A6097	811	203	365	1870	0.434	813	745	1.2	0.8	3.411	A
4 - Nottingham Road	556	139	665	2206	0.252	557	513	0.5	0.3	2.184	A

13:30 - 13:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Epperstone By-Pass	542	136	423	1872	0.290	543	599	0.6	0.4	2.711	A
2 - Southwell Road	279	70	650	1193	0.234	279	317	0.4	0.3	3.942	A
3 - A6097	679	170	305	1913	0.355	680	623	0.8	0.6	2.921	A
4 - Nottingham Road	466	117	556	2293	0.203	466	429	0.3	0.3	1.972	A

Proposed Layout - 2023HG, OP

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Junction 6	Standard Roundabout		1, 2, 3, 4	1.86	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D24	2023HG	OP	ONE HOUR	22:45	00:15	15	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1 - Epperstone By-Pass		ONE HOUR	✓	70	100.000
2 - Southwell Road		ONE HOUR	✓	36	100.000
3 - A6097		ONE HOUR	✓	88	100.000
4 - Nottingham Road		ONE HOUR	✓	61	100.000

Origin-Destination Data

Demand (PCU/hr)

	To				
		1 - Epperstone By-Pass	2 - Southwell Road	3 - A6097	4 - Nottingham Road
From	1 - Epperstone By-Pass	0	10	46	14
	2 - Southwell Road	9	0	11	16
	3 - A6097	51	12	0	25
	4 - Nottingham Road	18	19	24	0

Vehicle Mix

Heavy Vehicle Percentages

	To				
		1 - Epperstone By-Pass	2 - Southwell Road	3 - A6097	4 - Nottingham Road
From	1 - Epperstone By-Pass	0	1	10	2
	2 - Southwell Road	1	0	1	2
	3 - A6097	10	1	0	2
	4 - Nottingham Road	1	1	5	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
1 - Epperstone By-Pass	0.04	1.87	0.0	A	64	96
2 - Southwell Road	0.03	2.47	0.0	A	33	50
3 - A6097	0.05	1.91	0.1	A	81	121
4 - Nottingham Road	0.03	1.41	0.0	A	56	84

Main Results for each time segment

22:45 - 23:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Epperstone By-Pass	53	13	41	2147	0.025	53	59	0.0	0.0	1.837	A
2 - Southwell Road	27	7	63	1537	0.018	27	31	0.0	0.0	2.417	A
3 - A6097	66	17	29	2110	0.031	66	61	0.0	0.0	1.872	A
4 - Nottingham Road	46	11	54	2694	0.017	46	41	0.0	0.0	1.393	A

23:00 - 23:15

Arm	Total Demand	Junction	Circulating flow (PCU/hr)	Capacity	RFC	Throughput (PCU/hr)	Throughput (exit	Start queue	End queue	Delay (s)	Unsignalised level of service
-----	--------------	----------	---------------------------	----------	-----	---------------------	------------------	-------------	-----------	-----------	-------------------------------

	(PCU/hr)	Arrivals (PCU)		(PCU/hr)			side (PCU/hr)	(PCU)	(PCU)		
1 - Epperstone Bypass	63	16	49	2141	0.029	63	70	0.0	0.0	1.851	A
2 - Southwell Road	32	8	75	1530	0.021	32	37	0.0	0.0	2.437	A
3 - A6097	79	20	35	2105	0.038	79	73	0.0	0.0	1.888	A
4 - Nottingham Road	55	14	65	2686	0.020	55	49	0.0	0.0	1.402	A

23:15 - 23:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Epperstone Bypass	77	19	61	2133	0.036	77	86	0.0	0.0	1.871	A
2 - Southwell Road	40	10	92	1520	0.026	40	45	0.0	0.0	2.466	A
3 - A6097	97	24	43	2100	0.046	97	89	0.0	0.1	1.910	A
4 - Nottingham Road	67	17	79	2674	0.025	67	61	0.0	0.0	1.415	A

23:30 - 23:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Epperstone Bypass	77	19	61	2133	0.036	77	86	0.0	0.0	1.871	A
2 - Southwell Road	40	10	92	1520	0.026	40	45	0.0	0.0	2.466	A
3 - A6097	97	24	43	2100	0.046	97	89	0.1	0.1	1.910	A
4 - Nottingham Road	67	17	79	2674	0.025	67	61	0.0	0.0	1.415	A

23:45 - 00:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Epperstone Bypass	63	16	49	2141	0.029	63	70	0.0	0.0	1.854	A
2 - Southwell Road	32	8	76	1530	0.021	32	37	0.0	0.0	2.437	A
3 - A6097	79	20	35	2105	0.038	79	73	0.1	0.0	1.891	A
4 - Nottingham Road	55	14	65	2686	0.020	55	49	0.0	0.0	1.402	A

00:00 - 00:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Epperstone Bypass	53	13	41	2147	0.025	53	59	0.0	0.0	1.840	A
2 - Southwell Road	27	7	63	1537	0.018	27	31	0.0	0.0	2.417	A

3 - A6097	66	17	29	2109	0.03 1	66	61	0.0	0.0	1.87 2	A
4 - Nottingham Road	46	11	54	2694	0.01 7	46	41	0.0	0.0	1.39 3	A

Proposed Layout - 2037HG, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Demand Sets	D25 - 2037HG, AM	Time results are shown for central hour only. (Model is run for a 90 minute period.)
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Junction 6	Standard Roundabout		1, 2, 3, 4	97.32	F

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Results for central hour only	Run automatically
D25	2037HG	AM	ONE HOUR	07:45	09:15	15	✓	✓

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1 - Epperstone By-Pass		ONE HOUR	✓	1577	100.000
2 - Southwell Road		ONE HOUR	✓	482	100.000
3 - A6097		ONE HOUR	✓	1444	100.000
4 - Nottingham Road		ONE HOUR	✓	881	100.000

Origin-Destination Data

Demand (PCU/hr)

	To				
		1 - Epperstone By-Pass	2 - Southwell Road	3 - A6097	4 - Nottingham Road
From	1 - Epperstone By-Pass	2	202	931	442
	2 - Southwell Road	86	0	90	306
	3 - A6097	932	140	0	372
	4 - Nottingham Road	297	249	334	1

Vehicle Mix

Heavy Vehicle Percentages

	To				
		1 - Epperstone By-Pass	2 - Southwell Road	3 - A6097	4 - Nottingham Road
From	1 - Epperstone By-Pass	0	0	0	0
	2 - Southwell Road	0	0	0	0
	3 - A6097	0	0	0	0
	4 - Nottingham Road	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
1 - Epperstone By-Pass	1.08	139.08	75.4	F	1577	1577
2 - Southwell Road	0.99	96.55	13.9	F	482	482
3 - A6097	1.05	108.61	52.7	F	1444	1444
4 - Nottingham Road	0.55	4.48	1.2	A	881	881

Main Results for each time segment

08:00 - 08:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Epperstone By-Pass	1418	354	649	1709	0.829	1407	1177	1.9	4.5	11.548	B
2 - Southwell Road	433	108	1528	677	0.640	430	529	0.8	1.7	14.334	B
3 - A6097	1298	325	747	1598	0.812	1289	1211	1.8	4.1	11.328	B
4 - Nottingham Road	792	198	1035	1911	0.415	791	1000	0.5	0.7	3.212	A

08:15 - 08:30

Arm	Total Demand	Junction	Circulating flow (PCU/hr)	Capacity	RFC	Throughput (PCU/hr)	Throughput (exit	Start queue	End queue	Delay (s)	Unsignalised level of service
-----	--------------	----------	---------------------------	----------	-----	---------------------	------------------	-------------	-----------	-----------	-------------------------------

	(PCU/hr)	Arrivals (PCU)		(PCU/hr)			side) (PCU/hr)	(PCU)	(PCU)		
1 - Epperstone Bypass	1736	434	786	1611	1.078	1585	1376	4.5	42.4	63.272	F
2 - Southwell Road	531	133	1750	547	0.971	500	621	1.7	9.4	56.803	F
3 - A6097	1590	397	854	1522	1.045	1484	1396	4.1	30.5	52.503	F
4 - Nottingham Road	970	242	1193	1785	0.544	968	1145	0.7	1.2	4.399	A

08:30 - 08:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Epperstone Bypass	1736	434	788	1609	1.079	1604	1389	42.4	75.4	139.078	F
2 - Southwell Road	531	133	1768	536	0.990	513	625	9.4	13.9	96.552	F
3 - A6097	1590	397	870	1510	1.053	1501	1411	30.5	52.7	108.613	F
4 - Nottingham Road	970	242	1208	1773	0.547	970	1163	1.2	1.2	4.482	A

08:45 - 09:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Epperstone Bypass	1418	354	669	1695	0.837	1673	1307	75.4	11.6	98.335	F
2 - Southwell Road	433	108	1760	541	0.801	470	582	13.9	4.8	59.761	F
3 - A6097	1298	325	854	1522	0.853	1478	1376	52.7	7.9	75.188	F
4 - Nottingham Road	792	198	1183	1793	0.442	794	1148	1.2	0.8	3.607	A

Proposed Layout - 2037HG, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Junction 6	Standard Roundabout		1, 2, 3, 4	102.90	F

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D26	2037HG	PM	ONE HOUR	16:45	18:15	15	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1 - Epperstone By-Pass		ONE HOUR	✓	1180	100.000
2 - Southwell Road		ONE HOUR	✓	535	100.000
3 - A6097		ONE HOUR	✓	1770	100.000
4 - Nottingham Road		ONE HOUR	✓	1067	100.000

Origin-Destination Data

Demand (PCU/hr)

		To			
		1 - Epperstone By-Pass	2 - Southwell Road	3 - A6097	4 - Nottingham Road
From	1 - Epperstone By-Pass	1	223	772	184
	2 - Southwell Road	163	0	162	210
	3 - A6097	1214	182	1	373
	4 - Nottingham Road	363	388	316	0

Vehicle Mix

Heavy Vehicle Percentages

		To			
		1 - Epperstone By-Pass	2 - Southwell Road	3 - A6097	4 - Nottingham Road
From	1 - Epperstone By-Pass	0	0	0	0
	2 - Southwell Road	0	0	0	0
	3 - A6097	0	0	0	0
	4 - Nottingham Road	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
1 - Epperstone By-Pass	0.87	18.09	6.2	C	1083	1624
2 - Southwell Road	0.78	21.74	3.4	C	491	736
3 - A6097	1.15	239.88	137.1	F	1624	2436
4 - Nottingham Road	0.77	10.18	3.2	B	979	1469

Main Results for each time segment

16:45 - 17:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Epperstone By-Pass	888	222	665	1698	0.523	884	1302	0.0	1.1	4.400	A
2 - Southwell Road	403	101	955	1014	0.397	400	594	0.0	0.7	5.842	A
3 - A6097	1333	333	418	1833	0.727	1322	937	0.0	2.6	6.919	A
4 - Nottingham Road	803	201	1166	1806	0.445	800	574	0.0	0.8	3.556	A

17:00 - 17:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Epperstone By-Pass	1061	265	794	1605	0.661	1058	1551	1.1	1.9	6.535	A
2 - Southwell Road	481	120	1142	904	0.532	479	709	0.7	1.1	8.439	A
3 - A6097	1591	398	500	1774	0.897	1572	1121	2.6	7.4	16.447	C
4 - Nottingham Road	959	240	1388	1629	0.589	957	684	0.8	1.4	5.333	A

17:15 - 17:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Epperstone By-Pass	1299	325	945	1496	0.868	1284	1732	1.9	5.8	15.889	C
2 - Southwell Road	589	147	1388	759	0.776	581	841	1.1	3.2	19.348	C
3 - A6097	1949	487	606	1698	1.148	1687	1362	7.4	72.9	94.388	F
4 - Nottingham Road	1175	294	1509	1532	0.767	1168	784	1.4	3.1	9.700	A

17:30 - 17:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Epperstone By-Pass	1299	325	950	1493	0.870	1298	1740	5.8	6.2	18.086	C
2 - Southwell Road	589	147	1401	752	0.784	588	846	3.2	3.4	21.738	C
3 - A6097	1949	487	613	1693	1.151	1692	1376	72.9	137.1	227.538	F
4 - Nottingham Road	1175	294	1516	1527	0.769	1174	790	3.1	3.2	10.175	B

17:45 - 18:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Epperstone By-Pass	1061	265	818	1588	0.668	1077	1681	6.2	2.1	7.279	A
2 - Southwell Road	481	120	1161	893	0.539	490	735	3.4	1.2	9.120	A
3 - A6097	1591	398	510	1766	0.901	1754	1140	137.1	96.5	239.876	F
4 - Nottingham Road	959	240	1534	1512	0.634	965	730	3.2	1.8	6.647	A

18:00 - 18:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Epperstone By-Pass	888	222	708	1667	0.533	892	1569	2.1	1.2	4.668	A
2 - Southwell Road	403	101	963	1009	0.399	405	637	1.2	0.7	5.982	A
3 - A6097	1333	333	422	1829	0.728	1707	946	96.5	3.0	80.690	F
4 - Nottingham Road	803	201	1471	1563	0.514	806	658	1.8	1.1	4.777	A

Proposed Layout - 2037HG, IP

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Junction 6	Standard Roundabout		1, 2, 3, 4	4.98	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D27	2037HG	IP	ONE HOUR	12:15	13:45	15	✓

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1 - Epperstone By-Pass		ONE HOUR	✓	820	100.000
2 - Southwell Road		ONE HOUR	✓	411	100.000
3 - A6097		ONE HOUR	✓	1021	100.000
4 - Nottingham Road		ONE HOUR	✓	720	100.000

Origin-Destination Data

Demand (PCU/hr)

		To			
		1 - Epperstone By-Pass	2 - Southwell Road	3 - A6097	4 - Nottingham Road
From	1 - Epperstone By-Pass	1	114	536	169
	2 - Southwell Road	100	1	120	190
	3 - A6097	585	130	3	303
	4 - Nottingham Road	211	219	288	2

Vehicle Mix

Heavy Vehicle Percentages

		To			
		1 - Epperstone By-Pass	2 - Southwell Road	3 - A6097	4 - Nottingham Road
From	1 - Epperstone By-Pass	0	0	0	0
	2 - Southwell Road	0	0	0	0
	3 - A6097	0	0	0	0
	4 - Nottingham Road	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
1 - Epperstone By-Pass	0.54	4.71	1.2	A	752	1129
2 - Southwell Road	0.49	7.56	0.9	A	377	566
3 - A6097	0.64	5.60	1.7	A	937	1405
4 - Nottingham Road	0.39	2.94	0.6	A	661	991

Main Results for each time segment

12:15 - 12:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Epperstone By-Pass	617	154	483	1829	0.338	615	673	0.0	0.5	2.960	A

2 - Southwell Road	309	77	750	1134	0.273	308	348	0.0	0.4	4.349	A
3 - A6097	769	192	347	1883	0.408	766	711	0.0	0.7	3.215	A
4 - Nottingham Road	542	136	615	2246	0.241	541	498	0.0	0.3	2.110	A

12:30 - 12:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Epperstone By-Pass	737	184	578	1761	0.419	736	805	0.5	0.7	3.510	A
2 - Southwell Road	369	92	897	1048	0.353	369	417	0.4	0.5	5.298	A
3 - A6097	918	229	416	1834	0.500	917	850	0.7	1.0	3.919	A
4 - Nottingham Road	647	162	736	2150	0.301	647	596	0.3	0.4	2.395	A

12:45 - 13:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Epperstone By-Pass	903	226	707	1668	0.541	901	985	0.7	1.2	4.684	A
2 - Southwell Road	453	113	1098	930	0.487	451	510	0.5	0.9	7.497	A
3 - A6097	1124	281	508	1768	0.636	1121	1041	1.0	1.7	5.543	A
4 - Nottingham Road	793	198	900	2018	0.393	792	729	0.4	0.6	2.934	A

13:00 - 13:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Epperstone By-Pass	903	226	708	1667	0.542	903	988	1.2	1.2	4.711	A
2 - Southwell Road	453	113	1100	929	0.487	452	511	0.9	0.9	7.562	A
3 - A6097	1124	281	510	1767	0.636	1124	1043	1.7	1.7	5.600	A
4 - Nottingham Road	793	198	903	2016	0.393	793	731	0.6	0.6	2.941	A

13:15 - 13:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Epperstone By-Pass	737	184	579	1760	0.419	739	809	1.2	0.7	3.531	A
2 - Southwell Road	369	92	900	1046	0.353	371	418	0.9	0.6	5.348	A
3 - A6097	918	229	418	1833	0.501	921	853	1.7	1.0	3.960	A
4 - Nottingham Road	647	162	740	2147	0.302	648	599	0.6	0.4	2.404	A

13:30 - 13:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Epperstone By-Pass	617	154	485	1828	0.338	618	676	0.7	0.5	2.977	A
2 - Southwell Road	309	77	753	1132	0.273	310	350	0.6	0.4	4.382	A
3 - A6097	769	192	349	1881	0.409	770	714	1.0	0.7	3.242	A
4 - Nottingham Road	542	136	618	2244	0.242	543	501	0.4	0.3	2.118	A

Proposed Layout - 2037HG, OP

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Junction 6	Standard Roundabout		1, 2, 3, 4	1.87	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D28	2037HG	OP	ONE HOUR	22:45	00:15	15	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1 - Epperstone By-Pass		ONE HOUR	✓	80	100.000
2 - Southwell Road		ONE HOUR	✓	41	100.000
3 - A6097		ONE HOUR	✓	100	100.000
4 - Nottingham Road		ONE HOUR	✓	70	100.000

Origin-Destination Data

Demand (PCU/hr)

	To			
	1 - Epperstone By-Pass	2 - Southwell Road	3 - A6097	4 - Nottingham Road
From 1 - Epperstone By-Pass	0	11	52	17
From 2 - Southwell Road	10	0	12	19
From 3 - A6097	57	13	0	30
From 4 - Nottingham Road	21	21	28	0

Vehicle Mix

Heavy Vehicle Percentages

	To			
	1 - Epperstone By-Pass	2 - Southwell Road	3 - A6097	4 - Nottingham Road
From 1 - Epperstone By-Pass	0	1	10	2
From 2 - Southwell Road	1	0	1	2
From 3 - A6097	10	1	0	2
From 4 - Nottingham Road	1	1	5	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
1 - Epperstone By-Pass	0.04	1.89	0.0	A	73	110
2 - Southwell Road	0.03	2.49	0.0	A	38	56
3 - A6097	0.05	1.93	0.1	A	92	138
4 - Nottingham Road	0.03	1.42	0.0	A	64	96

Main Results for each time segment

22:45 - 23:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Epperstone By-Pass	60	15	47	2143	0.028	60	66	0.0	0.0	1.846	A
2 - Southwell Road	31	8	73	1532	0.020	31	34	0.0	0.0	2.433	A
3 - A6097	75	19	35	2106	0.036	75	69	0.0	0.0	1.883	A
4 - Nottingham Road	53	13	60	2689	0.020	53	50	0.0	0.0	1.399	A

23:00 - 23:15

Arm	Total Demand	Junction	Circulating flow (PCU/hr)	Capacity	RFC	Throughput (PCU/hr)	Throughput (exit	Start queue	End queue	Delay (s)	Unsignalised level of service
-----	--------------	----------	---------------------------	----------	-----	---------------------	------------------	-------------	-----------	-----------	-------------------------------

	(PCU/hr)	Arrivals (PCU)		(PCU/hr)			side (PCU/hr)	(PCU)	(PCU)		
1 - Epperstone Bypass	72	18	56	2137	0.034	72	79	0.0	0.0	1.863	A
2 - Southwell Road	37	9	87	1523	0.024	37	40	0.0	0.0	2.456	A
3 - A6097	90	22	41	2101	0.043	90	83	0.0	0.0	1.901	A
4 - Nottingham Road	63	16	72	2680	0.023	63	59	0.0	0.0	1.410	A

23:15 - 23:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Epperstone Bypass	88	22	68	2128	0.041	88	97	0.0	0.0	1.885	A
2 - Southwell Road	45	11	107	1512	0.030	45	50	0.0	0.0	2.489	A
3 - A6097	110	28	51	2094	0.053	110	101	0.0	0.1	1.927	A
4 - Nottingham Road	77	19	88	2667	0.029	77	73	0.0	0.0	1.425	A

23:30 - 23:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Epperstone Bypass	88	22	68	2128	0.041	88	97	0.0	0.0	1.886	A
2 - Southwell Road	45	11	107	1512	0.030	45	50	0.0	0.0	2.490	A
3 - A6097	110	28	51	2094	0.053	110	101	0.1	0.1	1.927	A
4 - Nottingham Road	77	19	88	2667	0.029	77	73	0.0	0.0	1.425	A

23:45 - 00:00

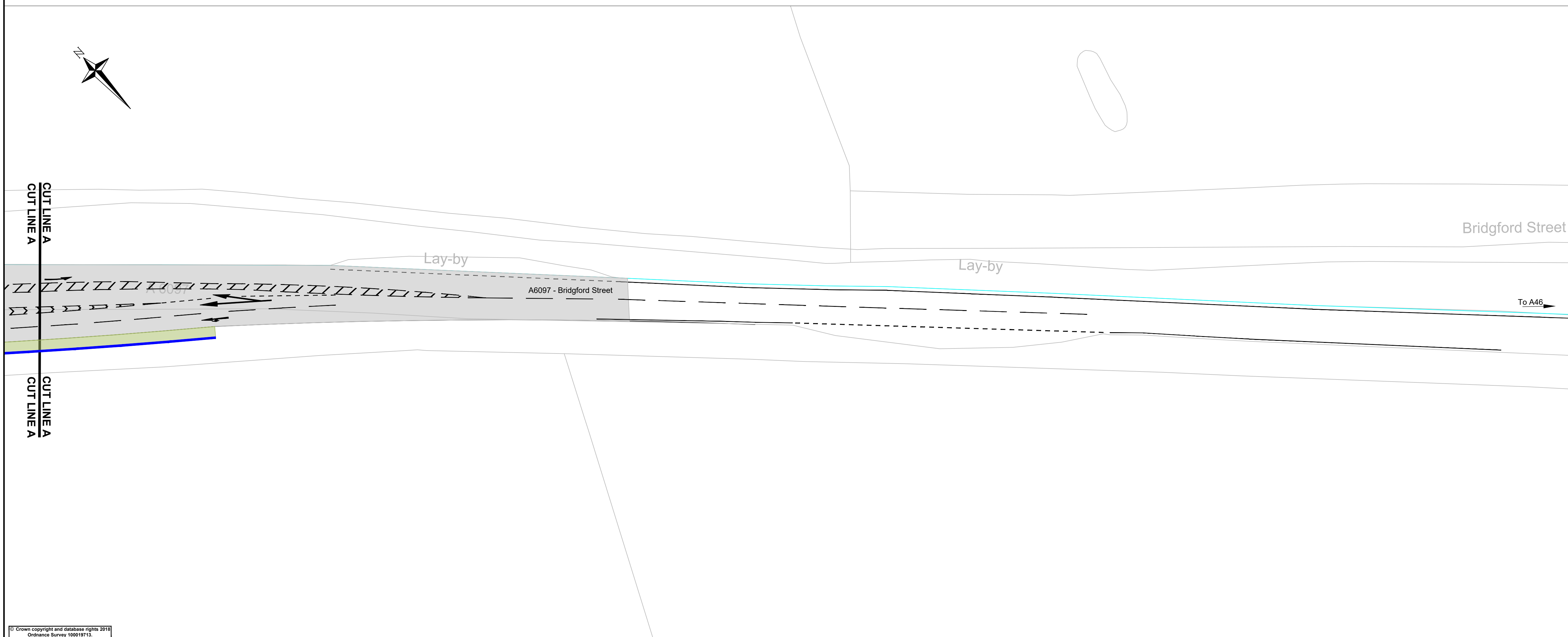
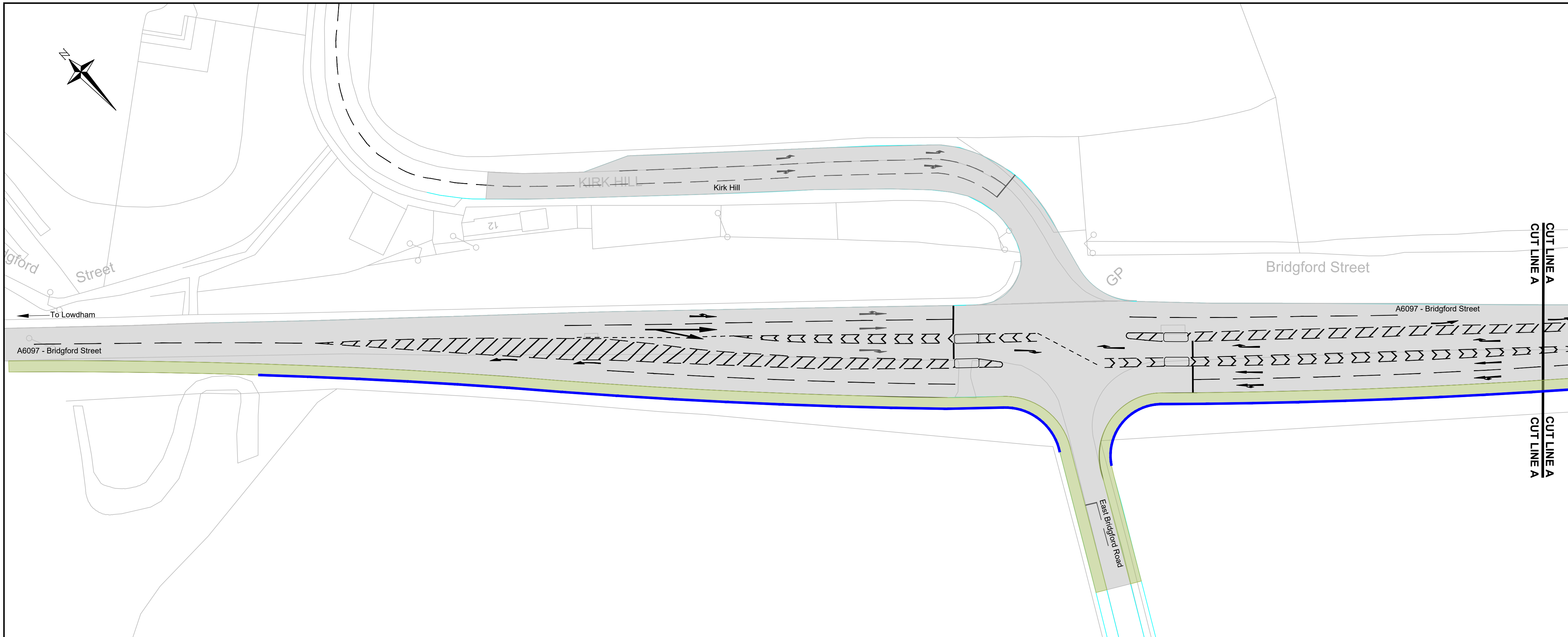
Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Epperstone Bypass	72	18	56	2137	0.034	72	79	0.0	0.0	1.866	A
2 - Southwell Road	37	9	87	1523	0.024	37	40	0.0	0.0	2.456	A
3 - A6097	90	22	41	2101	0.043	90	83	0.1	0.0	1.904	A
4 - Nottingham Road	63	16	72	2680	0.023	63	59	0.0	0.0	1.412	A

00:00 - 00:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Epperstone Bypass	60	15	47	2143	0.028	60	66	0.0	0.0	1.846	A
2 - Southwell Road	31	8	73	1532	0.020	31	34	0.0	0.0	2.433	A

3 - A6097	75	19	35	2106	0.03 6	75	69	0.0	0.0	1.88 6	A
4 - Nottingham Road	53	13	60	2689	0.02 0	53	50	0.0	0.0	1.40 2	A

Appendix D Kirk Hill LINSIG Results



- NOTES**
1. This drawing is to be read in conjunction with all other relevant drawings, details and specifications.
 2. Do not scale from this drawing.
 3. All measurements are given in metres unless otherwise stated.
 4. For accident data refer to Feasibility Study document.
 5. Refer to drawing HW 30676/014 for statutory undertakers information.

- KEY**
- Proposed carriageway
 - Proposed grass verge
 - Proposed retaining wall

Rev.	Description	Drawn	Ch'kd	Auth	Date
Project					
A6097 Gunthorpe - East Bridgford					
Status		Project No.			
For Info		30676			
Drawing Title					
Proposed Improvements to Kirk Hill Junction					
Scale		Drawn		Date	
1:500@A1		JD			
		Auth		Date	
		JD			
Drawing No.		Traced		Rev.	
HW 30676/006		JD		0	

in partnership with

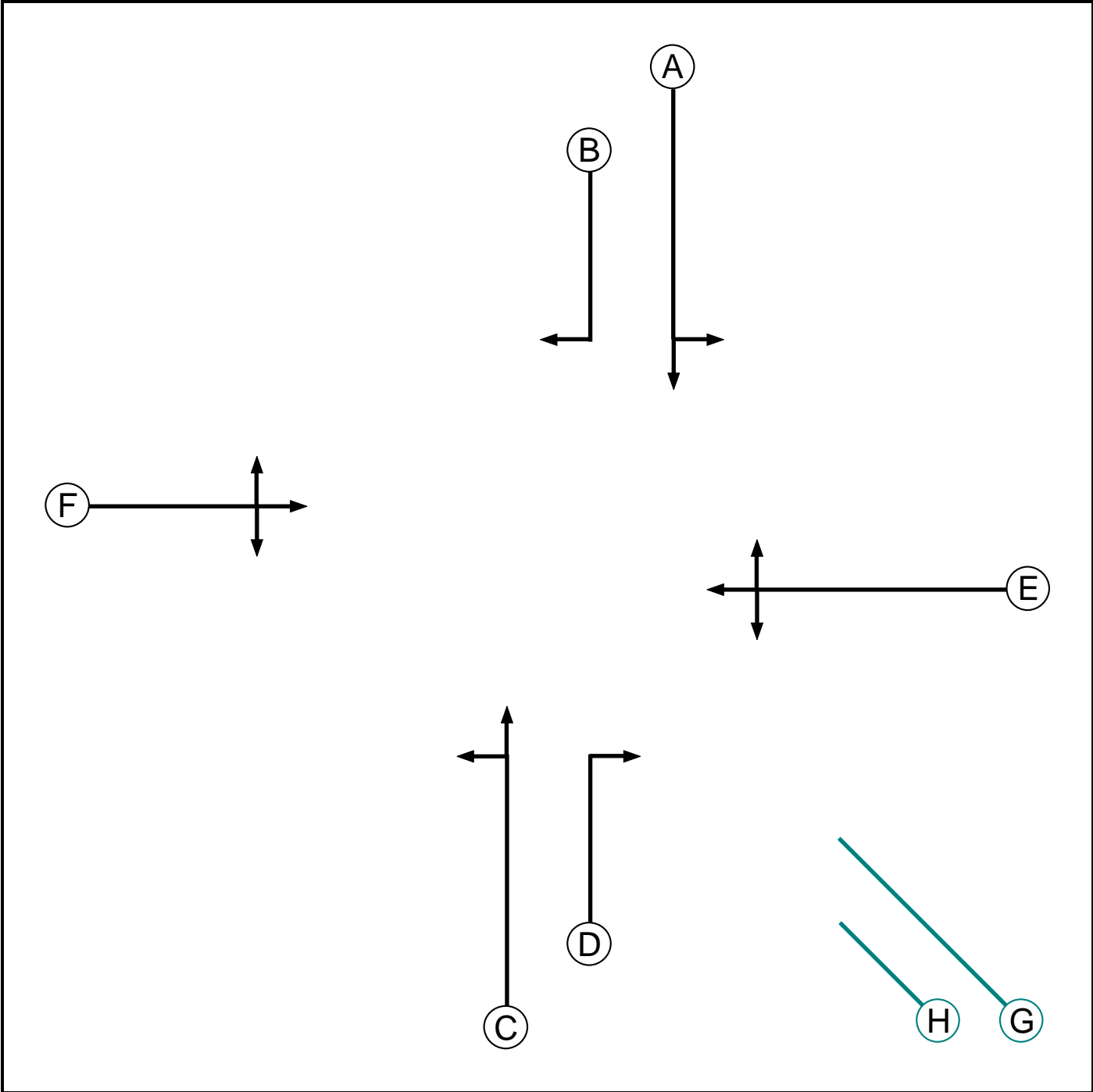
via **Nottinghamshire County Council**

www.viam.co.uk Tel 0115 804 2100
 Bilsthorpe Depot, Bilsthorpe Business Park, Bilsthorpe, Nottinghamshire, NG22 8ST

© Via East Midlands Limited Registered in England no.09903246

<Enter Report 1 Title Here>

Phase Diagram



Network Results

Scenario 1: 'am 2023' (FG1: 'am 2023', Plan 1: 'all stages')

Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network: A6097/ KIRK HILL Existing	-	-	-		-	-	-	-	-	-	112.3%	115	0	5	122.0	-	-
Unnamed Junction	-	-	-		-	-	-	-	-	-	112.3%	115	0	5	122.0	-	-
1/1	A6097 NTH Left Ahead	U	A		1	70	-	1263	1900	1124	112.3%	-	-	-	89.8	256.0	120.4
1/2	A6097 NTH Right	U	B		1	7	-	63	1800	120	52.5%	-	-	-	1.5	85.2	2.6
2/1	KIRK HILL Right Left Ahead	O	E		1	19	-	213	1800	196	108.9%	106	0	5	16.6	281.2	20.5
3/1	A6097 STH Ahead Left	U	C		1	70	-	988	1900	1124	87.9%	-	-	-	9.2	33.4	31.4
3/2	A6097 STH Right	U	D		1	7	-	6	1800	120	5.0%	-	-	-	0.1	68.5	0.2
4/1	NEWTON LANE Left Ahead Right	O	F		1	19	-	162	1800	300	54.0%	9	0	0	2.6	58.7	5.5
5/1	A6097N exit	U	-		-	-	-	1226	1800	1800	67.6%	-	-	-	1.3	3.7	26.7
6/1	KH exit	U	-		-	-	-	114	1800	1800	5.9%	-	-	-	0.0	1.1	0.0
7/1	A6097S exit	U	-		-	-	-	1233	1800	1800	61.1%	-	-	-	0.8	2.6	0.8
8/1	NL exit	U	-		-	-	-	122	1800	1800	6.5%	-	-	-	0.0	1.1	0.0
		C1	PRC for Signalled Lanes (%):		-24.8		Total Delay for Signalled Lanes (pcuHr):		119.88		Cycle Time (s):		120				
			PRC Over All Lanes (%):		-24.8		Total Delay Over All Lanes(pcuHr):		121.99								

Scenario 2: 'pm 2023' (FG2: 'pm 2023', Plan 1: 'all stages')

Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network: A6097/ KIRK HILL Existing	-	-	-		-	-	-	-	-	-	101.5%	84	0	21	62.6	-	-
Unnamed Junction	-	-	-		-	-	-	-	-	-	101.5%	84	0	21	62.6	-	-
1/1	A6097 NTH Left Ahead	U	A		1	62	-	1012	1900	997	101.5%	-	-	-	28.8	102.3	54.2
1/2	A6097 NTH Right	U	B		1	7	-	60	1800	120	50.0%	-	-	-	1.4	83.6	2.4
2/1	KIRK HILL Right Left Ahead	O	E		1	27	-	163	1800	175	93.3%	77	0	21	6.4	141.8	9.5
3/1	A6097 STH Ahead Left	U	C		1	62	-	975	1900	997	97.7%	-	-	-	18.5	68.3	42.7
3/2	A6097 STH Right	U	D		1	7	-	5	1800	120	4.2%	-	-	-	0.1	68.4	0.2
4/1	NEWTON LANE Left Ahead Right	O	F		1	27	-	314	1800	420	74.8%	7	0	0	5.2	59.3	11.1
5/1	A6097N exit	U	-		-	-	-	1320	1800	1800	73.3%	-	-	-	1.6	4.5	29.9
6/1	KH exit	U	-		-	-	-	122	1800	1800	6.7%	-	-	-	0.0	1.1	0.0
7/1	A6097S exit	U	-		-	-	-	978	1800	1800	53.6%	-	-	-	0.6	2.2	0.6
8/1	NL exit	U	-		-	-	-	109	1800	1800	6.1%	-	-	-	0.0	1.1	0.0
		C1	PRC for Signalled Lanes (%):		-12.7		Total Delay for Signalled Lanes (pcuHr):		60.33		Cycle Time (s):		120				
			PRC Over All Lanes (%):		-12.7		Total Delay Over All Lanes (pcuHr):		62.61								

Scenario 3: 'pm 2023+suppressed' (FG3: 'pm 2023 + suppressed', Plan 1: 'all stages')

Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network: A6097/ KIRK HILL Existing	-	-	-		-	-	-	-	-	-	142.9%	72	0	35	399.6	-	-
Unnamed Junction	-	-	-		-	-	-	-	-	-	142.9%	72	0	35	399.6	-	-
1/1	A6097 NTH Left Ahead	U	A		1	63	-	1179	1900	1013	116.3%	-	-	-	104.6	319.3	131.1
1/2	A6097 NTH Right	U	B		1	7	-	60	1800	120	50.0%	-	-	-	1.4	83.6	2.4
2/1	KIRK HILL Right Left Ahead	O	E		1	26	-	214	1800	150	142.9%	65	0	35	40.8	686.2	44.4
3/1	A6097 STH Ahead Left	U	C		1	63	-	1428	1900	1013	140.9%	-	-	-	244.7	617.0	270.5
3/2	A6097 STH Right	U	D		1	7	-	5	1800	120	4.2%	-	-	-	0.1	68.4	0.2
4/1	NEWTON LANE Left Ahead Right	O	F		1	26	-	314	1800	405	77.5%	7	0	0	5.5	62.7	11.4
5/1	A6097N exit	U	-		-	-	-	1818	1800	1800	75.7%	-	-	-	1.9	4.9	31.9
6/1	KH exit	U	-		-	-	-	122	1800	1800	6.3%	-	-	-	0.0	1.1	0.0
7/1	A6097S exit	U	-		-	-	-	1151	1800	1800	54.8%	-	-	-	0.6	2.2	0.6
8/1	NL exit	U	-		-	-	-	109	1800	1800	5.2%	-	-	-	0.0	1.1	0.0
C1			PRC for Signalled Lanes (%):		-58.7		Total Delay for Signalled Lanes (pcuHr):		397.04		Cycle Time (s):		120				
			PRC Over All Lanes (%):		-58.7		Total Delay Over All Lanes(pcuHr):		399.58								

Scenario 4: 'ip 2023' (FG4: 'ip 2023', Plan 1: 'all stages')

Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network: A6097/ KIRK HILL Existing	-	-	-		-	-	-	-	-	-	58.3%	66	0	0	12.0	-	-
Unnamed Junction	-	-	-		-	-	-	-	-	-	58.3%	66	0	0	12.0	-	-
1/1	A6097 NTH Left Ahead	U	A		1	75	-	690	1900	1203	57.3%	-	-	-	3.1	16.2	13.9
1/2	A6097 NTH Right	U	B		1	7	-	44	1800	120	36.7%	-	-	-	0.9	77.1	1.7
2/1	KIRK HILL Right Left Ahead	O	E		1	14	-	122	1800	211	57.8%	60	0	0	2.4	70.7	4.5
3/1	A6097 STH Ahead Left	U	C		1	75	-	701	1900	1203	58.3%	-	-	-	3.2	16.4	14.1
3/2	A6097 STH Right	U	D		1	7	-	19	1800	120	15.8%	-	-	-	0.4	70.7	0.7
4/1	NEWTON LANE Left Ahead Right	O	F		1	14	-	74	1800	225	32.9%	6	0	0	1.2	59.8	2.5
5/1	A6097N exit	U	-		-	-	-	796	1800	1800	44.2%	-	-	-	0.4	1.9	10.0
6/1	KH exit	U	-		-	-	-	97	1800	1800	5.4%	-	-	-	0.0	1.1	0.0
7/1	A6097S exit	U	-		-	-	-	677	1800	1800	37.6%	-	-	-	0.3	1.6	0.3
8/1	NL exit	U	-		-	-	-	80	1800	1800	4.4%	-	-	-	0.0	1.0	0.0
		C1	PRC for Signalled Lanes (%):				54.5	Total Delay for Signalled Lanes (pcuHr):				11.23	Cycle Time (s): 120				
			PRC Over All Lanes (%):				54.5	Total Delay Over All Lanes(pcuHr):				12.00					

Scenario 5: 'op 2023' (FG5: 'op 2023', Plan 1: 'all stages')

Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)			
Network: A6097/ KIRK HILL Existing	-	-	-		-	-	-	-	-	-	4.8%	6	0	0	0.7	-	-			
Unnamed Junction	-	-	-		-	-	-	-	-	-	4.8%	6	0	0	0.7	-	-			
1/1	A6097 NTH Left Ahead	U	A		1	76	-	59	1900	1219	4.8%	-	-	-	0.2	9.5	0.7			
1/2	A6097 NTH Right	U	B		1	7	-	4	1800	120	3.3%	-	-	-	0.1	68.2	0.1			
2/1	KIRK HILL Right Left Ahead	O	E		1	13	-	10	1800	210	4.8%	5	0	0	0.2	56.3	0.3			
3/1	A6097 STH Ahead Left	U	C		1	76	-	59	1900	1219	4.8%	-	-	-	0.2	9.5	0.7			
3/2	A6097 STH Right	U	D		1	7	-	2	1800	120	1.7%	-	-	-	0.0	68.0	0.1			
4/1	NEWTON LANE Left Ahead Right	O	F		1	13	-	7	1800	210	3.3%	1	0	0	0.1	56.1	0.2			
5/1	A6097N exit	U	-		-	-	-	67	1800	1800	3.7%	-	-	-	0.0	1.0	0.0			
6/1	KH exit	U	-		-	-	-	9	1800	1800	0.5%	-	-	-	0.0	1.0	0.0			
7/1	A6097S exit	U	-		-	-	-	58	1800	1800	3.2%	-	-	-	0.0	1.0	0.0			
8/1	NL exit	U	-		-	-	-	7	1800	1800	0.4%	-	-	-	0.0	1.0	0.0			
		C1	PRC for Signalled Lanes (%):		1759.7		PRC Over All Lanes (%):		1759.7		Total Delay for Signalled Lanes (pcuHr):		0.69		Total Delay Over All Lanes(pcuHr):		0.73		Cycle Time (s): 120	

Scenario 6: 'am 2037' (FG6: 'am 2037', Plan 1: 'all stages')

Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network: A6097/ KIRK HILL Existing	-	-	-		-	-	-	-	-	-	123.6%	111	0	12	203.1	-	-
Unnamed Junction	-	-	-		-	-	-	-	-	-	123.6%	111	0	12	203.1	-	-
1/1	A6097 NTH Left Ahead	U	A		1	70	-	1390	1900	1124	123.6%	-	-	-	159.3	412.7	190.7
1/2	A6097 NTH Right	U	B		1	7	-	68	1800	120	56.7%	-	-	-	1.7	88.1	2.8
2/1	KIRK HILL Right Left Ahead	O	E		1	19	-	222	1800	194	114.4%	100	0	12	21.8	352.8	25.7
3/1	A6097 STH Ahead Left	U	C		1	70	-	1073	1900	1124	95.4%	-	-	-	14.8	49.8	41.4
3/2	A6097 STH Right	U	D		1	7	-	6	1800	120	5.0%	-	-	-	0.1	68.5	0.2
4/1	NEWTON LANE Left Ahead Right	O	F		1	19	-	170	1800	300	56.7%	11	0	0	2.8	59.7	5.8
5/1	A6097N exit	U	-		-	-	-	1323	1800	1800	72.6%	-	-	-	1.7	4.6	33.0
6/1	KH exit	U	-		-	-	-	119	1800	1800	5.8%	-	-	-	0.0	1.1	0.0
7/1	A6097S exit	U	-		-	-	-	1359	1800	1800	61.3%	-	-	-	0.8	2.6	0.8
8/1	NL exit	U	-		-	-	-	128	1800	1800	6.7%	-	-	-	0.0	1.1	0.0
		C1	PRC for Signalled Lanes (%):		-37.4		Total Delay for Signalled Lanes (pcuHr):		200.53		Cycle Time (s):		120				
			PRC Over All Lanes (%):		-37.4		Total Delay Over All Lanes (pcuHr):		203.06								

Scenario 7: 'pm 2037' (FG7: 'pm 2037', Plan 1: 'all stages')

Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network: A6097/ KIRK HILL Existing	-	-	-		-	-	-	-	-	-	108.6%	77	0	26	109.1	-	-
Unnamed Junction	-	-	-		-	-	-	-	-	-	108.6%	77	0	26	109.1	-	-
1/1	A6097 NTH Left Ahead	U	A		1	61	-	1053	1900	982	107.3%	-	-	-	54.4	185.9	79.4
1/2	A6097 NTH Right	U	B		1	7	-	66	1800	120	55.0%	-	-	-	1.6	86.9	2.7
2/1	KIRK HILL Right Left Ahead	O	E		1	28	-	169	1800	156	108.6%	71	0	26	13.6	289.9	16.7
3/1	A6097 STH Ahead Left	U	C		1	61	-	1003	1900	982	102.2%	-	-	-	31.4	112.7	56.2
3/2	A6097 STH Right	U	D		1	7	-	3	1800	120	2.5%	-	-	-	0.1	68.1	0.1
4/1	NEWTON LANE Left Ahead Right	O	F		1	28	-	338	1800	435	77.7%	6	0	0	5.7	60.4	12.2
5/1	A6097N exit	U	-		-	-	-	1384	1800	1800	75.2%	-	-	-	1.8	4.8	30.8
6/1	KH exit	U	-		-	-	-	125	1800	1800	6.7%	-	-	-	0.0	1.1	0.0
7/1	A6097S exit	U	-		-	-	-	1011	1800	1800	52.4%	-	-	-	0.5	2.1	0.5
8/1	NL exit	U	-		-	-	-	112	1800	1800	6.0%	-	-	-	0.0	1.1	0.0
		C1	PRC for Signalled Lanes (%):		-20.6		Total Delay for Signalled Lanes (pcuHr):		106.70		Cycle Time (s):		120				
			PRC Over All Lanes (%):		-20.6		Total Delay Over All Lanes (pcuHr):		109.13								

Scenario 8: 'pm 2037+suppressed' (FG8: 'pm 2037 + suppressed', Plan 1: 'all stages')

Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network: A6097/ KIRK HILL Existing	-	-	-		-	-	-	-	-	-	149.2%	77	0	30	478.7	-	-
Unnamed Junction	-	-	-		-	-	-	-	-	-	149.2%	77	0	30	478.7	-	-
1/1	A6097 NTH Left Ahead	U	A		1	61	-	1220	1900	982	124.3%	-	-	-	144.7	427.0	170.3
1/2	A6097 NTH Right	U	B		1	7	-	66	1800	120	55.0%	-	-	-	1.6	86.9	2.7
2/1	KIRK HILL Right Left Ahead	O	E		1	28	-	220	1800	147	149.2%	71	0	30	45.5	744.4	49.2
3/1	A6097 STH Ahead Left	U	C		1	61	-	1456	1900	982	148.3%	-	-	-	278.7	689.1	303.0
3/2	A6097 STH Right	U	D		1	7	-	3	1800	120	2.5%	-	-	-	0.1	68.1	0.1
4/1	NEWTON LANE Left Ahead Right	O	F		1	28	-	338	1800	435	77.7%	6	0	0	5.7	60.4	12.2
5/1	A6097N exit	U	-		-	-	-	1882	1800	1800	75.5%	-	-	-	1.8	4.9	30.9
6/1	KH exit	U	-		-	-	-	125	1800	1800	6.2%	-	-	-	0.0	1.1	0.0
7/1	A6097S exit	U	-		-	-	-	1184	1800	1800	52.8%	-	-	-	0.6	2.1	0.6
8/1	NL exit	U	-		-	-	-	112	1800	1800	5.4%	-	-	-	0.0	1.1	0.0
C1			PRC for Signalled Lanes (%):		-65.8		Total Delay for Signalled Lanes (pcuHr):		476.21		Cycle Time (s):		120				
			PRC Over All Lanes (%):		-65.8		Total Delay Over All Lanes (pcuHr):		478.67								

Scenario 9: 'ip 2037' (FG9: 'ip 2037', Plan 1: 'all stages')

Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network: A6097/ KIRK HILLexisting	-	-	-		-	-	-	-	-	-	64.8%	75	0	0	14.1	-	-
Unnamed Junction	-	-	-		-	-	-	-	-	-	64.8%	75	0	0	14.1	-	-
1/1	A6097 NTH Left Ahead	U	A		1	75	-	777	1900	1203	64.6%	-	-	-	3.9	17.9	16.9
1/2	A6097 NTH Right	U	B		1	7	-	48	1800	120	40.0%	-	-	-	1.0	78.5	1.9
2/1	KIRK HILL Right Left Ahead	O	E		1	14	-	130	1800	201	64.8%	67	0	0	2.8	76.3	5.0
3/1	A6097 STH Ahead Left	U	C		1	75	-	775	1900	1203	64.4%	-	-	-	3.8	17.8	16.8
3/2	A6097 STH Right	U	D		1	7	-	19	1800	120	15.8%	-	-	-	0.4	70.7	0.7
4/1	NEWTON LANE Left Ahead Right	O	F		1	14	-	79	1800	225	35.1%	8	0	0	1.3	60.3	2.7
5/1	A6097N exit	U	-		-	-	-	880	1800	1800	48.9%	-	-	-	0.5	2.1	12.7
6/1	KH exit	U	-		-	-	-	98	1800	1800	5.4%	-	-	-	0.0	1.1	0.0
7/1	A6097S exit	U	-		-	-	-	766	1800	1800	42.6%	-	-	-	0.4	1.7	0.4
8/1	NL exit	U	-		-	-	-	84	1800	1800	4.7%	-	-	-	0.0	1.0	0.0
		C1	PRC for Signalled Lanes (%):				38.8	Total Delay for Signalled Lanes (pcuHr):				13.19	Cycle Time (s): 120				
			PRC Over All Lanes (%):				38.8	Total Delay Over All Lanes(pcuHr):				14.13					

Scenario 10: 'op 2027' (FG10: 'op 2037', Plan 1: 'all stages')

Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network: A6097/ KIRK HILL Existing	-	-	-		-	-	-	-	-	-	5.5%	7	0	0	0.8	-	-
Unnamed Junction	-	-	-		-	-	-	-	-	-	5.5%	7	0	0	0.8	-	-
1/1	A6097 NTH Left Ahead	U	A		1	75	-	66	1900	1203	5.5%	-	-	-	0.2	10.0	0.9
1/2	A6097 NTH Right	U	B		1	7	-	4	1800	120	3.3%	-	-	-	0.1	68.2	0.1
2/1	KIRK HILL Right Left Ahead	O	E		1	14	-	12	1800	225	5.3%	6	0	0	0.2	54.8	0.4
3/1	A6097 STH Ahead Left	U	C		1	75	-	66	1900	1203	5.5%	-	-	-	0.2	10.0	0.9
3/2	A6097 STH Right	U	D		1	7	-	2	1800	120	1.7%	-	-	-	0.0	68.0	0.1
4/1	NEWTON LANE Left Ahead Right	O	F		1	14	-	7	1800	225	3.1%	1	0	0	0.1	54.6	0.2
5/1	A6097N exit	U	-		-	-	-	75	1800	1800	4.2%	-	-	-	0.0	1.0	0.0
6/1	KH exit	U	-		-	-	-	9	1800	1800	0.5%	-	-	-	0.0	1.0	0.0
7/1	A6097S exit	U	-		-	-	-	66	1800	1800	3.7%	-	-	-	0.0	1.0	0.0
8/1	NL exit	U	-		-	-	-	7	1800	1800	0.4%	-	-	-	0.0	1.0	0.0
C1			PRC for Signalled Lanes (%):		1540.9		Total Delay for Signalled Lanes (pcuHr):		0.77		Cycle Time (s):		120				
			PRC Over All Lanes (%):		1540.9		Total Delay Over All Lanes(pcuHr):		0.81								

Scenario 11: 'am 2023LG' (FG11: 'am 2023LG', Plan 1: 'all stages')

Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network: A6097/ KIRK HILL Existing	-	-	-		-	-	-	-	-	-	106.1%	108	0	15	78.3	-	-
Unnamed Junction	-	-	-		-	-	-	-	-	-	106.1%	108	0	15	78.3	-	-
1/1	A6097 NTH Left Ahead	U	A		1	71	-	1210	1900	1140	106.1%	-	-	-	54.0	160.7	84.8
1/2	A6097 NTH Right	U	B		1	7	-	60	1800	120	50.0%	-	-	-	1.4	83.6	2.4
2/1	KIRK HILL Right Left Ahead	O	E		1	18	-	193	1800	190	101.7%	99	0	15	10.8	201.2	14.3
3/1	A6097 STH Ahead Left	U	C		1	71	-	947	1900	1140	83.1%	-	-	-	7.4	28.2	27.4
3/2	A6097 STH Right	U	D		1	7	-	6	1800	120	5.0%	-	-	-	0.1	68.5	0.2
4/1	NEWTON LANE Left Ahead Right	O	F		1	18	-	155	1800	285	54.4%	9	0	0	2.6	60.2	5.3
5/1	A6097N exit	U	-		-	-	-	1175	1800	1800	65.2%	-	-	-	1.1	3.4	23.5
6/1	KH exit	U	-		-	-	-	109	1800	1800	5.8%	-	-	-	0.0	1.1	0.0
7/1	A6097S exit	U	-		-	-	-	1171	1800	1800	61.4%	-	-	-	0.8	2.6	0.8
8/1	NL exit	U	-		-	-	-	116	1800	1800	6.4%	-	-	-	0.0	1.1	0.0
		C1	PRC for Signalled Lanes (%):		-17.9		Total Delay for Signalled Lanes (pcuHr):		76.34		Cycle Time (s):		120				
			PRC Over All Lanes (%):		-17.9		Total Delay Over All Lanes(pcuHr):		78.30								

Scenario 12: 'pm 2023LG+suppressed' (FG12: 'pm 2023LG + suppressed', Plan 1: 'all stages')

Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network: A6097/ KIRK HILL Existing	-	-	-		-	-	-	-	-	-	134.5%	84	0	33	318.4	-	-
Unnamed Junction	-	-	-		-	-	-	-	-	-	134.5%	84	0	33	318.4	-	-
1/1	A6097 NTH Left Ahead	U	A		1	63	-	1123	1900	1013	110.8%	-	-	-	74.3	238.3	100.6
1/2	A6097 NTH Right	U	B		1	7	-	60	1800	120	50.0%	-	-	-	1.4	83.6	2.4
2/1	KIRK HILL Right Left Ahead	O	E		1	26	-	204	1800	165	123.6%	77	0	33	27.0	476.4	30.6
3/1	A6097 STH Ahead Left	U	C		1	63	-	1363	1900	1013	134.5%	-	-	-	208.1	549.6	233.8
3/2	A6097 STH Right	U	D		1	7	-	2	1800	120	1.7%	-	-	-	0.0	68.0	0.1
4/1	NEWTON LANE Left Ahead Right	O	F		1	26	-	299	1800	405	73.8%	7	0	0	5.0	59.8	10.6
5/1	A6097N exit	U	-		-	-	-	1734	1800	1800	75.6%	-	-	-	1.9	4.9	31.9
6/1	KH exit	U	-		-	-	-	110	1800	1800	5.8%	-	-	-	0.0	1.1	0.0
7/1	A6097S exit	U	-		-	-	-	1100	1800	1800	55.0%	-	-	-	0.6	2.2	21.6
8/1	NL exit	U	-		-	-	-	107	1800	1800	5.4%	-	-	-	0.0	1.1	0.0
		C1	PRC for Signalled Lanes (%):		-49.5		Total Delay for Signalled Lanes (pcuHr):		315.82		Cycle Time (s):		120				
			PRC Over All Lanes (%):		-49.5		Total Delay Over All Lanes(pcuHr):		318.35								

Scenario 13: 'ip 2023LG' (FG13: 'ip 2023LG', Plan 1: 'all stages')

Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network: A6097/ KIRK HILL Existing	-	-	-		-	-	-	-	-	-	55.7%	63	0	0	11.2	-	-
Unnamed Junction	-	-	-		-	-	-	-	-	-	55.7%	63	0	0	11.2	-	-
1/1	A6097 NTH Left Ahead	U	A		1	75	-	660	1900	1203	54.8%	-	-	-	2.9	15.7	12.9
1/2	A6097 NTH Right	U	B		1	7	-	42	1800	120	35.0%	-	-	-	0.9	76.5	1.6
2/1	KIRK HILL Right Left Ahead	O	E		1	14	-	117	1800	212	55.3%	57	0	0	2.3	69.3	4.3
3/1	A6097 STH Ahead Left	U	C		1	75	-	670	1900	1203	55.7%	-	-	-	2.9	15.8	13.1
3/2	A6097 STH Right	U	D		1	7	-	18	1800	120	15.0%	-	-	-	0.4	70.5	0.7
4/1	NEWTON LANE Left Ahead Right	O	F		1	14	-	70	1800	225	31.1%	6	0	0	1.2	59.4	2.3
5/1	A6097N exit	U	-		-	-	-	760	1800	1800	42.2%	-	-	-	0.4	1.8	9.0
6/1	KH exit	U	-		-	-	-	92	1800	1800	5.1%	-	-	-	0.0	1.1	0.0
7/1	A6097S exit	U	-		-	-	-	648	1800	1800	36.0%	-	-	-	0.3	1.6	0.3
8/1	NL exit	U	-		-	-	-	77	1800	1800	4.3%	-	-	-	0.0	1.0	0.0
		C1	PRC for Signalled Lanes (%):		61.6		61.6		Total Delay for Signalled Lanes (pcuHr):			10.47		Cycle Time (s): 120			
			PRC Over All Lanes (%):		61.6					Total Delay Over All Lanes(pcuHr):			11.18				

Scenario 14: 'op 2023LG' (FG14: 'op 2023LG', Plan 1: 'all stages')

Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network: A6097/ KIRK HILL Existing	-	-	-		-	-	-	-	-	-	4.7%	6	0	0	0.7	-	-
Unnamed Junction	-	-	-		-	-	-	-	-	-	4.7%	6	0	0	0.7	-	-
1/1	A6097 NTH Left Ahead	U	A		1	75	-	56	1900	1203	4.7%	-	-	-	0.2	9.9	0.7
1/2	A6097 NTH Right	U	B		1	7	-	4	1800	120	3.3%	-	-	-	0.1	68.2	0.1
2/1	KIRK HILL Right Left Ahead	O	E		1	14	-	10	1800	225	4.4%	5	0	0	0.2	54.7	0.3
3/1	A6097 STH Ahead Left	U	C		1	75	-	57	1900	1203	4.7%	-	-	-	0.2	9.9	0.7
3/2	A6097 STH Right	U	D		1	7	-	2	1800	120	1.7%	-	-	-	0.0	68.0	0.1
4/1	NEWTON LANE Left Ahead Right	O	F		1	14	-	6	1800	225	2.7%	1	0	0	0.1	54.6	0.2
5/1	A6097N exit	U	-		-	-	-	65	1800	1800	3.6%	-	-	-	0.0	1.0	0.0
6/1	KH exit	U	-		-	-	-	8	1800	1800	0.4%	-	-	-	0.0	1.0	0.0
7/1	A6097S exit	U	-		-	-	-	55	1800	1800	3.1%	-	-	-	0.0	1.0	0.0
8/1	NL exit	U	-		-	-	-	7	1800	1800	0.4%	-	-	-	0.0	1.0	0.0
		C1	PRC for Signalled Lanes (%):		1800.0		1800.0		Total Delay for Signalled Lanes (pcuHr):			0.67		Cycle Time (s):		120	
			PRC Over All Lanes (%):		1800.0				Total Delay Over All Lanes(pcuHr):			0.71					

Scenario 15: 'am 2037LG' (FG15: 'am 2037LG', Plan 1: 'all stages')

Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network: A6097/ KIRK HILL Existing	-	-	-		-	-	-	-	-	-	112.0%	111	0	12	116.4	-	-
Unnamed Junction	-	-	-		-	-	-	-	-	-	112.0%	111	0	12	116.4	-	-
1/1	A6097 NTH Left Ahead	U	A		1	71	-	1277	1900	1140	112.0%	-	-	-	88.8	250.3	120.0
1/2	A6097 NTH Right	U	B		1	7	-	62	1800	120	51.7%	-	-	-	1.5	84.6	2.5
2/1	KIRK HILL Right Left Ahead	O	E		1	18	-	202	1800	194	104.3%	101	0	12	12.8	228.8	16.5
3/1	A6097 STH Ahead Left	U	C		1	71	-	987	1900	1140	86.6%	-	-	-	8.6	31.3	30.2
3/2	A6097 STH Right	U	D		1	7	-	5	1800	120	4.2%	-	-	-	0.1	68.4	0.2
4/1	NEWTON LANE Left Ahead Right	O	F		1	18	-	154	1800	285	54.0%	10	0	0	2.6	60.1	5.3
5/1	A6097N exit	U	-		-	-	-	1215	1800	1800	67.2%	-	-	-	1.2	3.7	26.1
6/1	KH exit	U	-		-	-	-	107	1800	1800	5.5%	-	-	-	0.0	1.1	0.0
7/1	A6097S exit	U	-		-	-	-	1249	1800	1800	62.1%	-	-	-	0.8	2.6	0.8
8/1	NL exit	U	-		-	-	-	116	1800	1800	6.3%	-	-	-	0.0	1.1	0.0
		C1	PRC for Signalled Lanes (%):		-24.5		Total Delay for Signalled Lanes (pcuHr):		114.34		Cycle Time (s):		120				
			PRC Over All Lanes (%):		-24.5		Total Delay Over All Lanes(pcuHr):		116.45								

Scenario 16: 'pm 2037LG+suppressed' (FG16: 'pm 2037LG + suppressed', Plan 1: 'all stages')

Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network: A6097/ KIRK HILL Existing	-	-	-		-	-	-	-	-	-	132.1%	88	0	28	299.7	-	-
Unnamed Junction	-	-	-		-	-	-	-	-	-	132.1%	88	0	28	299.7	-	-
1/1	A6097 NTH Left Ahead	U	A		1	62	-	1105	1900	997	110.8%	-	-	-	73.2	238.4	98.9
1/2	A6097 NTH Right	U	B		1	7	-	63	1800	120	52.5%	-	-	-	1.5	85.2	2.6
2/1	KIRK HILL Right Left Ahead	O	E		1	27	-	199	1800	162	122.7%	83	0	28	25.7	465.8	29.2
3/1	A6097 STH Ahead Left	U	C		1	62	-	1318	1900	997	132.1%	-	-	-	191.8	523.8	216.9
3/2	A6097 STH Right	U	D		1	7	-	3	1800	120	2.5%	-	-	-	0.1	68.1	0.1
4/1	NEWTON LANE Left Ahead Right	O	F		1	27	-	306	1800	420	72.9%	5	0	0	4.9	57.9	10.7
5/1	A6097N exit	U	-		-	-	-	1705	1800	1800	75.6%	-	-	-	1.9	4.9	31.5
6/1	KH exit	U	-		-	-	-	110	1800	1800	5.8%	-	-	-	0.0	1.1	0.0
7/1	A6097S exit	U	-		-	-	-	1074	1800	1800	53.8%	-	-	-	0.6	2.2	0.6
8/1	NL exit	U	-		-	-	-	105	1800	1800	5.4%	-	-	-	0.0	1.1	0.0
		C1	PRC for Signalled Lanes (%):		-46.8		Total Delay for Signalled Lanes (pcuHr):		297.15		Cycle Time (s):		120				
			PRC Over All Lanes (%):		-46.8		Total Delay Over All Lanes(pcuHr):		299.65								

Scenario 17: 'ip 2037LG' (FG17: 'ip 2037LG', Plan 1: 'all stages')

Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network: A6097/ KIRK HILL Existing	-	-	-		-	-	-	-	-	-	59.3%	68	0	0	12.1	-	-
Unnamed Junction	-	-	-		-	-	-	-	-	-	59.3%	68	0	0	12.1	-	-
1/1	A6097 NTH Left Ahead	U	A		1	75	-	713	1900	1203	59.3%	-	-	-	3.3	16.6	14.6
1/2	A6097 NTH Right	U	B		1	7	-	44	1800	120	36.7%	-	-	-	0.9	77.1	1.7
2/1	KIRK HILL Right Left Ahead	O	E		1	14	-	118	1800	208	56.6%	61	0	0	2.3	70.4	4.3
3/1	A6097 STH Ahead Left	U	C		1	75	-	710	1900	1203	59.0%	-	-	-	3.3	16.5	14.5
3/2	A6097 STH Right	U	D		1	7	-	17	1800	120	14.2%	-	-	-	0.3	70.2	0.6
4/1	NEWTON LANE Left Ahead Right	O	F		1	14	-	71	1800	225	31.6%	7	0	0	1.2	59.5	2.4
5/1	A6097N exit	U	-		-	-	-	805	1800	1800	44.7%	-	-	-	0.4	1.9	10.4
6/1	KH exit	U	-		-	-	-	88	1800	1800	4.9%	-	-	-	0.0	1.1	0.0
7/1	A6097S exit	U	-		-	-	-	703	1800	1800	39.1%	-	-	-	0.3	1.6	0.3
8/1	NL exit	U	-		-	-	-	77	1800	1800	4.3%	-	-	-	0.0	1.0	0.0
		C1	PRC for Signalled Lanes (%):		51.9		Total Delay for Signalled Lanes (pcuHr):		11.29		Cycle Time (s):		120				
			PRC Over All Lanes (%):		51.9		Total Delay Over All Lanes(pcuHr):		12.09								

Scenario 18: 'op 2027LG' (FG18: 'op 2037LG', Plan 1: 'all stages')

Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network: A6097/ KIRK HILL Existing	-	-	-		-	-	-	-	-	-	5.0%	6	0	0	0.7	-	-
Unnamed Junction	-	-	-		-	-	-	-	-	-	5.0%	6	0	0	0.7	-	-
1/1	A6097 NTH Left Ahead	U	A		1	76	-	61	1900	1219	5.0%	-	-	-	0.2	9.5	0.8
1/2	A6097 NTH Right	U	B		1	7	-	4	1800	120	3.3%	-	-	-	0.1	68.2	0.1
2/1	KIRK HILL Right Left Ahead	O	E		1	13	-	10	1800	210	4.8%	5	0	0	0.2	56.3	0.3
3/1	A6097 STH Ahead Left	U	C		1	76	-	60	1900	1219	4.9%	-	-	-	0.2	9.5	0.8
3/2	A6097 STH Right	U	D		1	7	-	1	1800	120	0.8%	-	-	-	0.0	67.9	0.0
4/1	NEWTON LANE Left Ahead Right	O	F		1	13	-	6	1800	210	2.9%	1	0	0	0.1	56.1	0.2
5/1	A6097N exit	U	-		-	-	-	68	1800	1800	3.8%	-	-	-	0.0	1.0	0.0
6/1	KH exit	U	-		-	-	-	7	1800	1800	0.4%	-	-	-	0.0	1.0	0.0
7/1	A6097S exit	U	-		-	-	-	60	1800	1800	3.3%	-	-	-	0.0	1.0	0.0
8/1	NL exit	U	-		-	-	-	7	1800	1800	0.4%	-	-	-	0.0	1.0	0.0
		C1	PRC for Signalled Lanes (%):		1698.8		Total Delay for Signalled Lanes (pcuHr):		0.67		Cycle Time (s):		120				
			PRC Over All Lanes (%):		1698.8		Total Delay Over All Lanes(pcuHr):		0.71								

Scenario 19: 'am 2023HG' (FG19: 'am 2023HG', Plan 1: 'all stages')

Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network: A6097/ KIRK HILL Existing	-	-	-		-	-	-	-	-	-	117.1%	109	0	11	157.7	-	-
Unnamed Junction	-	-	-		-	-	-	-	-	-	117.1%	109	0	11	157.7	-	-
1/1	A6097 NTH Left Ahead	U	A		1	70	-	1316	1900	1124	117.1%	-	-	-	118.6	324.4	149.5
1/2	A6097 NTH Right	U	B		1	7	-	66	1800	120	55.0%	-	-	-	1.6	86.9	2.7
2/1	KIRK HILL Right Left Ahead	O	E		1	19	-	223	1800	196	113.7%	100	0	11	21.2	342.5	25.2
3/1	A6097 STH Ahead Left	U	C		1	70	-	1029	1900	1124	91.5%	-	-	-	11.1	39.0	35.2
3/2	A6097 STH Right	U	D		1	7	-	6	1800	120	5.0%	-	-	-	0.1	68.5	0.2
4/1	NEWTON LANE Left Ahead Right	O	F		1	19	-	169	1800	300	56.3%	9	0	0	2.8	59.6	5.8
5/1	A6097N exit	U	-		-	-	-	1277	1800	1800	70.1%	-	-	-	1.5	4.1	29.7
6/1	KH exit	U	-		-	-	-	119	1800	1800	6.0%	-	-	-	0.0	1.1	0.0
7/1	A6097S exit	U	-		-	-	-	1285	1800	1800	61.1%	-	-	-	0.8	2.6	0.8
8/1	NL exit	U	-		-	-	-	128	1800	1800	6.7%	-	-	-	0.0	1.1	0.0
		C1	PRC for Signalled Lanes (%):		-30.1		Total Delay for Signalled Lanes (pcuHr):		155.44		Cycle Time (s):		120				
			PRC Over All Lanes (%):		-30.1		Total Delay Over All Lanes (pcuHr):		157.74								

Scenario 20: 'pm 2023HG+suppressed' (FG20: 'pm 2023HG + suppressed', Plan 1: 'all stages')

Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network: A6097/ KIRK HILL Existing	-	-	-		-	-	-	-	-	-	149.7%	72	0	35	487.8	-	-
Unnamed Junction	-	-	-		-	-	-	-	-	-	149.7%	72	0	35	487.8	-	-
1/1	A6097 NTH Left Ahead	U	A		1	62	-	1229	1900	997	123.2%	-	-	-	140.9	412.6	167.0
1/2	A6097 NTH Right	U	B		1	7	-	66	1800	120	55.0%	-	-	-	1.6	86.9	2.7
2/1	KIRK HILL Right Left Ahead	O	E		1	27	-	224	1800	150	149.7%	65	0	35	46.6	748.7	50.3
3/1	A6097 STH Ahead Left	U	C		1	62	-	1493	1900	997	149.7%	-	-	-	290.5	700.5	315.5
3/2	A6097 STH Right	U	D		1	7	-	2	1800	120	1.7%	-	-	-	0.0	68.0	0.1
4/1	NEWTON LANE Left Ahead Right	O	F		1	27	-	329	1800	420	78.3%	7	0	0	5.7	62.2	12.0
5/1	A6097N exit	U	-		-	-	-	1902	1800	1800	75.5%	-	-	-	1.8	4.9	31.4
6/1	KH exit	U	-		-	-	-	122	1800	1800	6.1%	-	-	-	0.0	1.1	0.0
7/1	A6097S exit	U	-		-	-	-	1202	1800	1800	54.0%	-	-	-	0.6	2.2	20.1
8/1	NL exit	U	-		-	-	-	117	1800	1800	5.6%	-	-	-	0.0	1.1	0.0
		C1	PRC for Signalled Lanes (%):		-66.4		Total Delay for Signalled Lanes (pcuHr):		485.30		Cycle Time (s):		120				
			PRC Over All Lanes (%):		-66.4		Total Delay Over All Lanes(pcuHr):		487.79								

Scenario 21: 'ip 2023HG' (FG21: 'ip 2023HG', Plan 1: 'all stages')

Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network: A6097/ KIRK HILL Existing	-	-	-		-	-	-	-	-	-	60.8%	69	0	0	12.9	-	-
Unnamed Junction	-	-	-		-	-	-	-	-	-	60.8%	69	0	0	12.9	-	-
1/1	A6097 NTH Left Ahead	U	A		1	75	-	720	1900	1203	59.8%	-	-	-	3.3	16.7	14.7
1/2	A6097 NTH Right	U	B		1	7	-	46	1800	120	38.3%	-	-	-	1.0	77.8	1.8
2/1	KIRK HILL Right Left Ahead	O	E		1	14	-	128	1800	211	60.6%	63	0	0	2.6	72.4	4.8
3/1	A6097 STH Ahead Left	U	C		1	75	-	732	1900	1203	60.8%	-	-	-	3.4	16.9	15.2
3/2	A6097 STH Right	U	D		1	7	-	20	1800	120	16.7%	-	-	-	0.4	70.9	0.7
4/1	NEWTON LANE Left Ahead Right	O	F		1	14	-	77	1800	225	34.2%	6	0	0	1.3	60.1	2.6
5/1	A6097N exit	U	-		-	-	-	832	1800	1800	46.2%	-	-	-	0.5	2.0	11.1
6/1	KH exit	U	-		-	-	-	101	1800	1800	5.6%	-	-	-	0.0	1.1	0.0
7/1	A6097S exit	U	-		-	-	-	706	1800	1800	39.2%	-	-	-	0.3	1.6	0.3
8/1	NL exit	U	-		-	-	-	84	1800	1800	4.7%	-	-	-	0.0	1.0	0.0
		C1	PRC for Signalled Lanes (%):		48.0		48.0		Total Delay for Signalled Lanes (pcuHr):			12.03		Cycle Time (s): 120			
			PRC Over All Lanes (%):		48.0					Total Delay Over All Lanes(pcuHr):			12.87				

Scenario 22: 'op 2023HG' (FG21: 'ip 2023HG', Plan 1: 'all stages')

Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network: A6097/ KIRK HILL Existing	-	-	-		-	-	-	-	-	-	60.8%	69	0	0	12.1	-	-
Unnamed Junction	-	-	-		-	-	-	-	-	-	60.8%	69	0	0	12.1	-	-
1/1	A6097 NTH Left Ahead	U	A		1	75	-	620	1900	1203	51.5%	-	-	-	2.6	15.1	11.7
1/2	A6097 NTH Right	U	B		1	7	-	46	1800	120	38.3%	-	-	-	1.0	77.8	1.8
2/1	KIRK HILL Right Left Ahead	O	E		1	14	-	128	1800	211	60.6%	63	0	0	2.6	72.4	4.8
3/1	A6097 STH Ahead Left	U	C		1	75	-	732	1900	1203	60.8%	-	-	-	3.4	16.9	15.2
3/2	A6097 STH Right	U	D		1	7	-	20	1800	120	16.7%	-	-	-	0.4	70.9	0.7
4/1	NEWTON LANE Left Ahead Right	O	F		1	14	-	77	1800	225	34.2%	6	0	0	1.3	60.1	2.6
5/1	A6097N exit	U	-		-	-	-	832	1800	1800	46.2%	-	-	-	0.5	2.0	11.1
6/1	KH exit	U	-		-	-	-	101	1800	1800	5.6%	-	-	-	0.0	1.1	0.0
7/1	A6097S exit	U	-		-	-	-	606	1800	1800	33.7%	-	-	-	0.3	1.5	0.3
8/1	NL exit	U	-		-	-	-	84	1800	1800	4.7%	-	-	-	0.0	1.0	0.0
		C1	PRC for Signalled Lanes (%):		48.0		48.0		Total Delay for Signalled Lanes (pcuHr):			11.28		Cycle Time (s): 120			
			PRC Over All Lanes (%):		48.0					Total Delay Over All Lanes(pcuHr):			12.05				

Scenario 23: 'am 2037HG' (FG23: 'am 2037HG', Plan 1: 'all stages')

Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network: A6097/ KIRK HILL Existing	-	-	-		-	-	-	-	-	-	134.8%	99	0	17	308.3	-	-
Unnamed Junction	-	-	-		-	-	-	-	-	-	134.8%	99	0	17	308.3	-	-
1/1	A6097 NTH Left Ahead	U	A		1	70	-	1503	1900	1124	133.7%	-	-	-	222.1	532.0	254.1
1/2	A6097 NTH Right	U	B		1	7	-	74	1800	120	61.7%	-	-	-	1.9	92.4	3.2
2/1	KIRK HILL Right Left Ahead	O	E		1	19	-	242	1800	179	134.8%	87	0	17	40.4	600.8	44.5
3/1	A6097 STH Ahead Left	U	C		1	70	-	1159	1900	1124	103.1%	-	-	-	37.7	117.3	67.6
3/2	A6097 STH Right	U	D		1	7	-	7	1800	120	5.8%	-	-	-	0.1	68.7	0.2
4/1	NEWTON LANE Left Ahead Right	O	F		1	19	-	186	1800	300	62.0%	12	0	0	3.2	62.0	6.5
5/1	A6097N exit	U	-		-	-	-	1431	1800	1800	75.6%	-	-	-	2.0	5.2	35.7
6/1	KH exit	U	-		-	-	-	131	1800	1800	6.1%	-	-	-	0.0	1.1	0.0
7/1	A6097S exit	U	-		-	-	-	1469	1800	1800	61.2%	-	-	-	0.8	2.6	0.8
8/1	NL exit	U	-		-	-	-	140	1800	1800	6.9%	-	-	-	0.0	1.1	0.0
		C1	PRC for Signalled Lanes (%):		-49.8		Total Delay for Signalled Lanes (pcuHr):		305.50		Cycle Time (s):		120				
			PRC Over All Lanes (%):		-49.8		Total Delay Over All Lanes (pcuHr):		308.32								

Scenario 24: 'pm 2037HG+suppressed' (FG24: 'pm 2037HG + suppressed', Plan 1: 'all stages')

Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network: A6097/ KIRK HILL Existing	-	-	-		-	-	-	-	-	-	167.8%	76	0	32	666.4	-	-
Unnamed Junction	-	-	-		-	-	-	-	-	-	167.8%	76	0	32	666.4	-	-
1/1	A6097 NTH Left Ahead	U	A		1	59	-	1329	1900	950	139.9%	-	-	-	223.4	605.2	248.2
1/2	A6097 NTH Right	U	B		1	7	-	75	1800	120	62.5%	-	-	-	1.9	93.2	3.2
2/1	KIRK HILL Right Left Ahead	O	E		1	30	-	241	1800	148	163.2%	69	0	32	57.4	857.5	61.4
3/1	A6097 STH Ahead Left	U	C		1	59	-	1594	1900	950	167.8%	-	-	-	375.1	847.1	397.8
3/2	A6097 STH Right	U	D		1	7	-	3	1800	120	2.5%	-	-	-	0.1	68.1	0.1
4/1	NEWTON LANE Left Ahead Right	O	F		1	30	-	370	1800	465	79.6%	7	0	0	6.1	59.8	13.4
5/1	A6097N exit	U	-		-	-	-	2059	1800	1800	75.1%	-	-	-	1.8	4.8	29.8
6/1	KH exit	U	-		-	-	-	134	1800	1800	6.3%	-	-	-	0.0	1.1	0.0
7/1	A6097S exit	U	-		-	-	-	1294	1800	1800	51.3%	-	-	-	0.5	2.1	0.5
8/1	NL exit	U	-		-	-	-	125	1800	1800	5.9%	-	-	-	0.0	1.1	0.0
		C1	PRC for Signalled Lanes (%):		-86.4		Total Delay for Signalled Lanes (pcuHr):		664.04		Cycle Time (s):		120				
			PRC Over All Lanes (%):		-86.4		Total Delay Over All Lanes(pcuHr):		666.42								

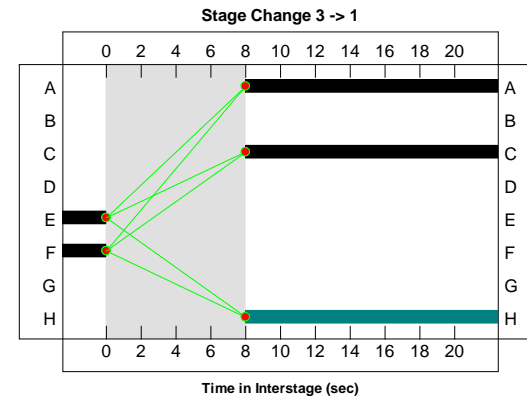
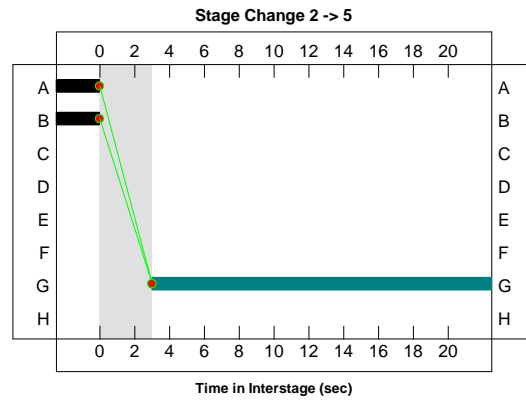
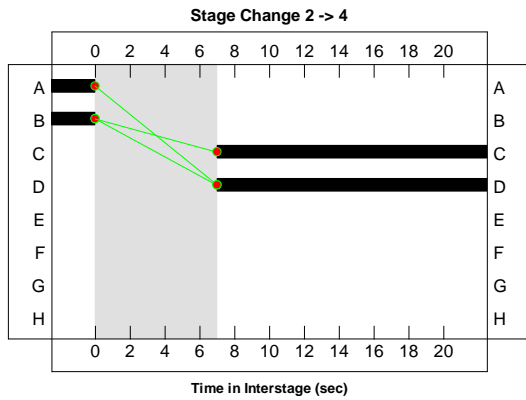
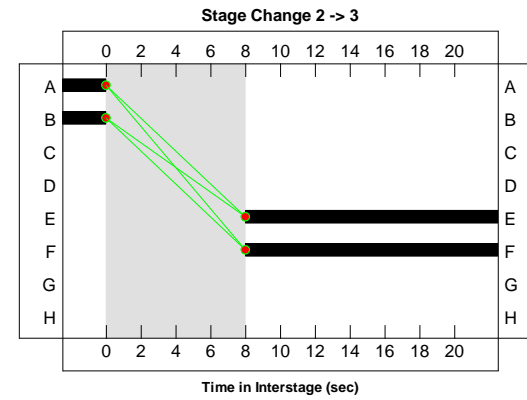
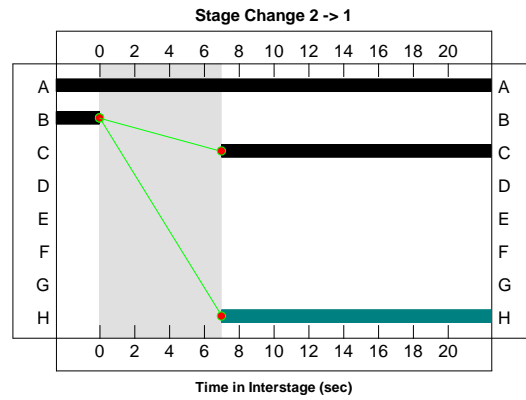
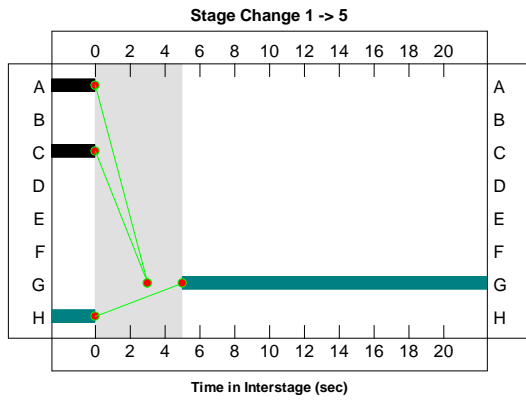
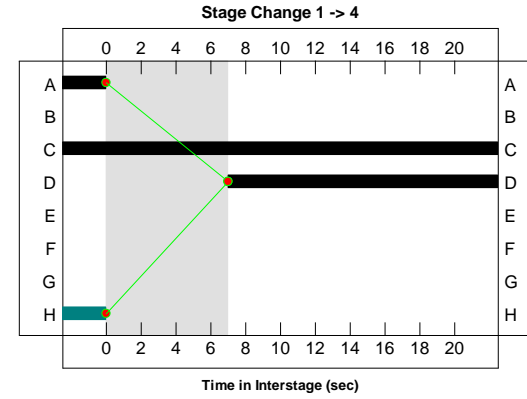
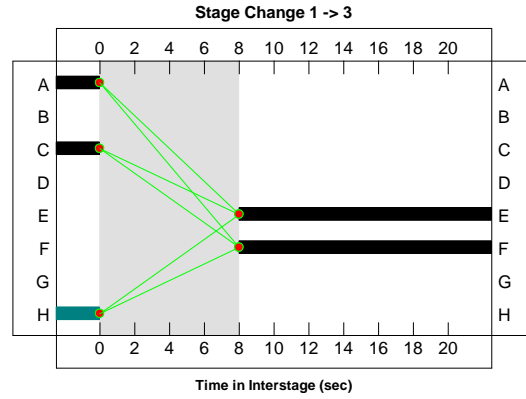
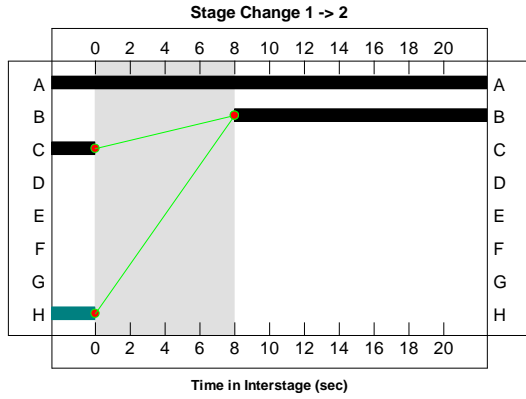
Scenario 25: 'ip 2037HG' (FG25: 'ip 2037HG', Plan 1: 'all stages')

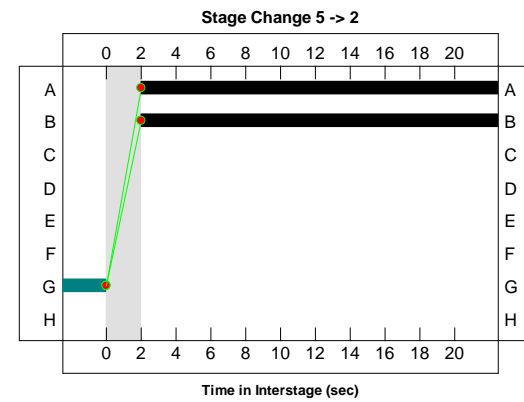
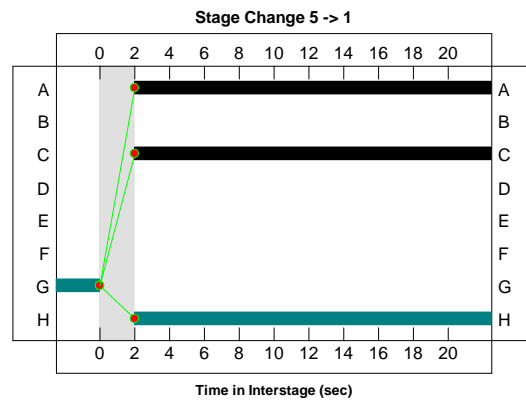
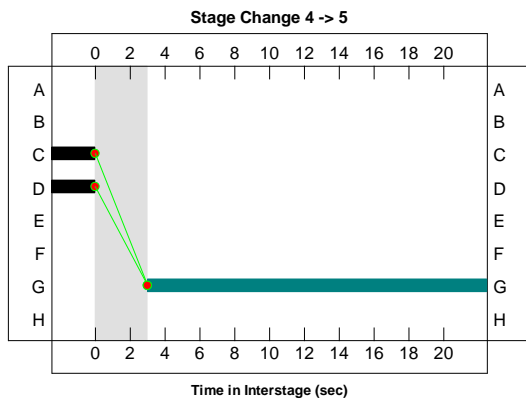
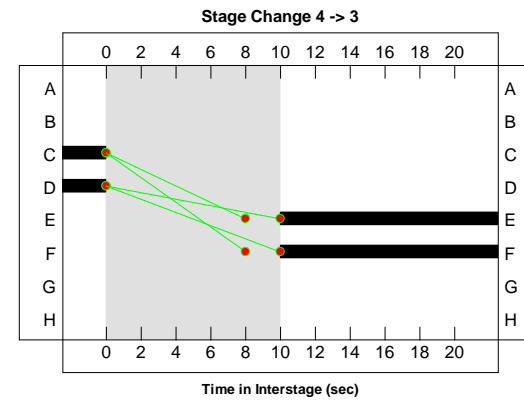
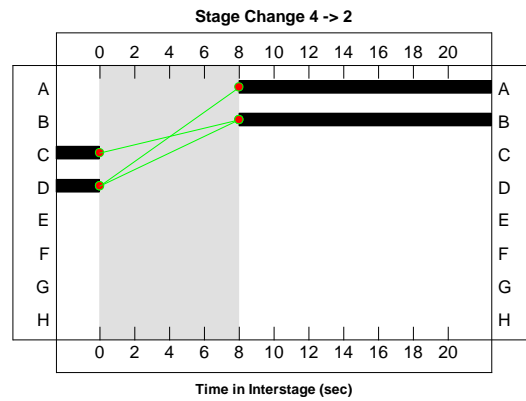
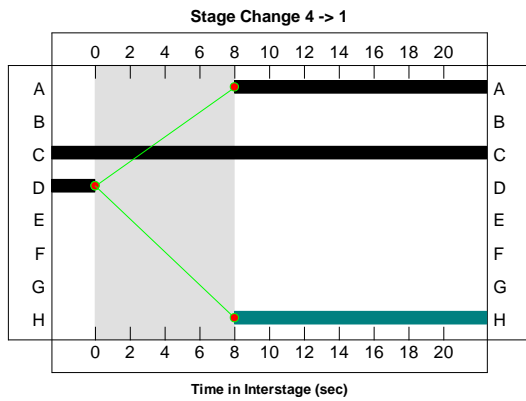
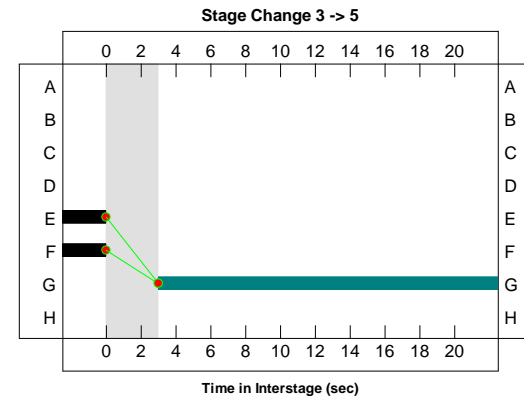
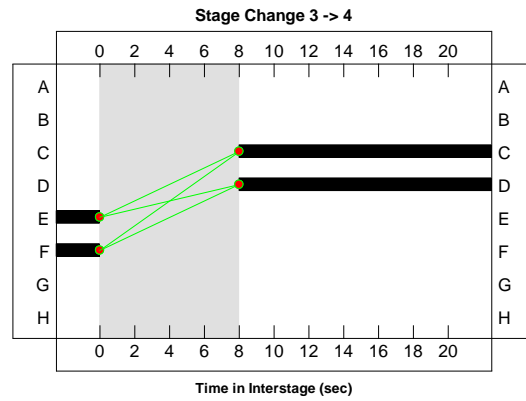
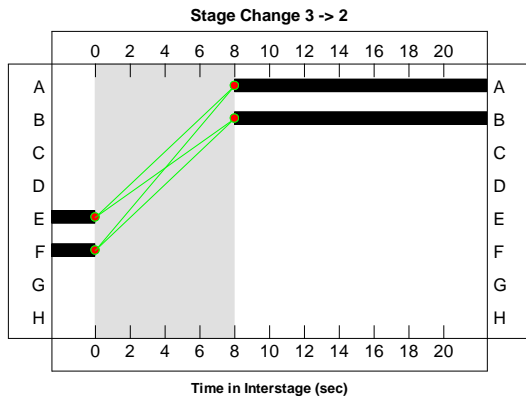
Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network: A6097/ KIRK HILL Existing	-	-	-		-	-	-	-	-	-	70.8%	82	0	0	16.6	-	-
Unnamed Junction	-	-	-		-	-	-	-	-	-	70.8%	82	0	0	16.6	-	-
1/1	A6097 NTH Left Ahead	U	A		1	74	-	841	1900	1187	70.8%	-	-	-	4.7	20.3	19.9
1/2	A6097 NTH Right	U	B		1	7	-	52	1800	120	43.3%	-	-	-	1.2	80.0	2.0
2/1	KIRK HILL Right Left Ahead	O	E		1	15	-	143	1800	216	66.2%	73	0	0	3.0	74.9	5.5
3/1	A6097 STH Ahead Left	U	C		1	74	-	841	1900	1187	70.8%	-	-	-	4.7	20.3	19.9
3/2	A6097 STH Right	U	D		1	7	-	21	1800	120	17.5%	-	-	-	0.4	71.1	0.8
4/1	NEWTON LANE Left Ahead Right	O	F		1	15	-	87	1800	240	36.3%	9	0	0	1.4	59.1	2.9
5/1	A6097N exit	U	-		-	-	-	955	1800	1800	53.1%	-	-	-	0.6	2.4	16.1
6/1	KH exit	U	-		-	-	-	108	1800	1800	6.0%	-	-	-	0.0	1.1	0.0
7/1	A6097S exit	U	-		-	-	-	829	1800	1800	46.1%	-	-	-	0.4	1.9	0.4
8/1	NL exit	U	-		-	-	-	93	1800	1800	5.2%	-	-	-	0.0	1.1	0.0
		C1	PRC for Signalled Lanes (%):		27.1		27.1		Total Delay for Signalled Lanes (pcuHr):			15.46		Cycle Time (s): 120			
			PRC Over All Lanes (%):		27.1					Total Delay Over All Lanes(pcuHr):			16.58				

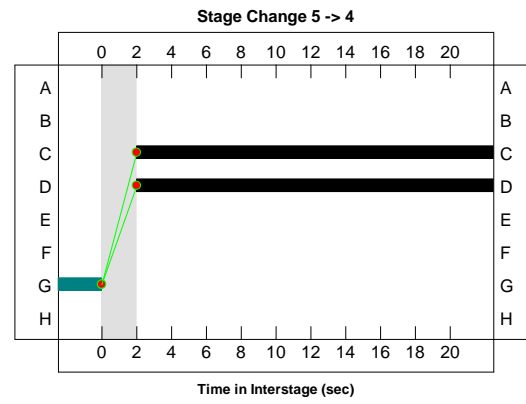
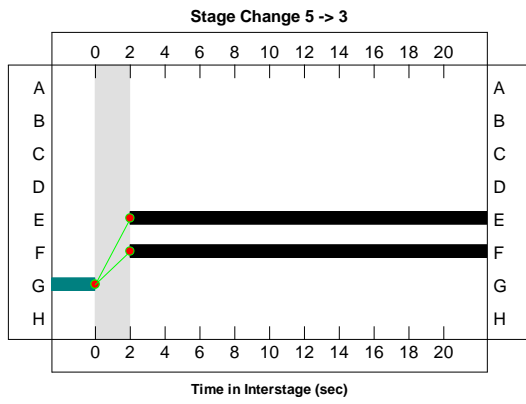
Scenario 26: 'op 2027HG' (FG26: 'op 2037HG', Plan 1: 'all stages')

Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network: A6097/ KIRK HILL Existing	-	-	-		-	-	-	-	-	-	5.8%	7	0	0	0.9	-	-
Unnamed Junction	-	-	-		-	-	-	-	-	-	5.8%	7	0	0	0.9	-	-
1/1	A6097 NTH Left Ahead	U	A		1	76	-	71	1900	1219	5.8%	-	-	-	0.2	9.6	0.9
1/2	A6097 NTH Right	U	B		1	7	-	5	1800	120	4.2%	-	-	-	0.1	68.4	0.2
2/1	KIRK HILL Right Left Ahead	O	E		1	13	-	12	1800	210	5.7%	6	0	0	0.2	56.4	0.4
3/1	A6097 STH Ahead Left	U	C		1	76	-	71	1900	1219	5.8%	-	-	-	0.2	9.6	0.9
3/2	A6097 STH Right	U	D		1	7	-	2	1800	120	1.7%	-	-	-	0.0	68.0	0.1
4/1	NEWTON LANE Left Ahead Right	O	F		1	13	-	8	1800	210	3.8%	1	0	0	0.1	56.2	0.3
5/1	A6097N exit	U	-		-	-	-	81	1800	1800	4.5%	-	-	-	0.0	1.0	0.0
6/1	KH exit	U	-		-	-	-	9	1800	1800	0.5%	-	-	-	0.0	1.0	0.0
7/1	A6097S exit	U	-		-	-	-	71	1800	1800	3.9%	-	-	-	0.0	1.0	0.0
8/1	NL exit	U	-		-	-	-	8	1800	1800	0.4%	-	-	-	0.0	1.0	0.0
		C1	PRC for Signalled Lanes (%):		1445.4		Total Delay for Signalled Lanes (pcuHr):		0.82		Cycle Time (s):		120				
			PRC Over All Lanes (%):		1445.4		Total Delay Over All Lanes(pcuHr):		0.87								

Interstage Diagram

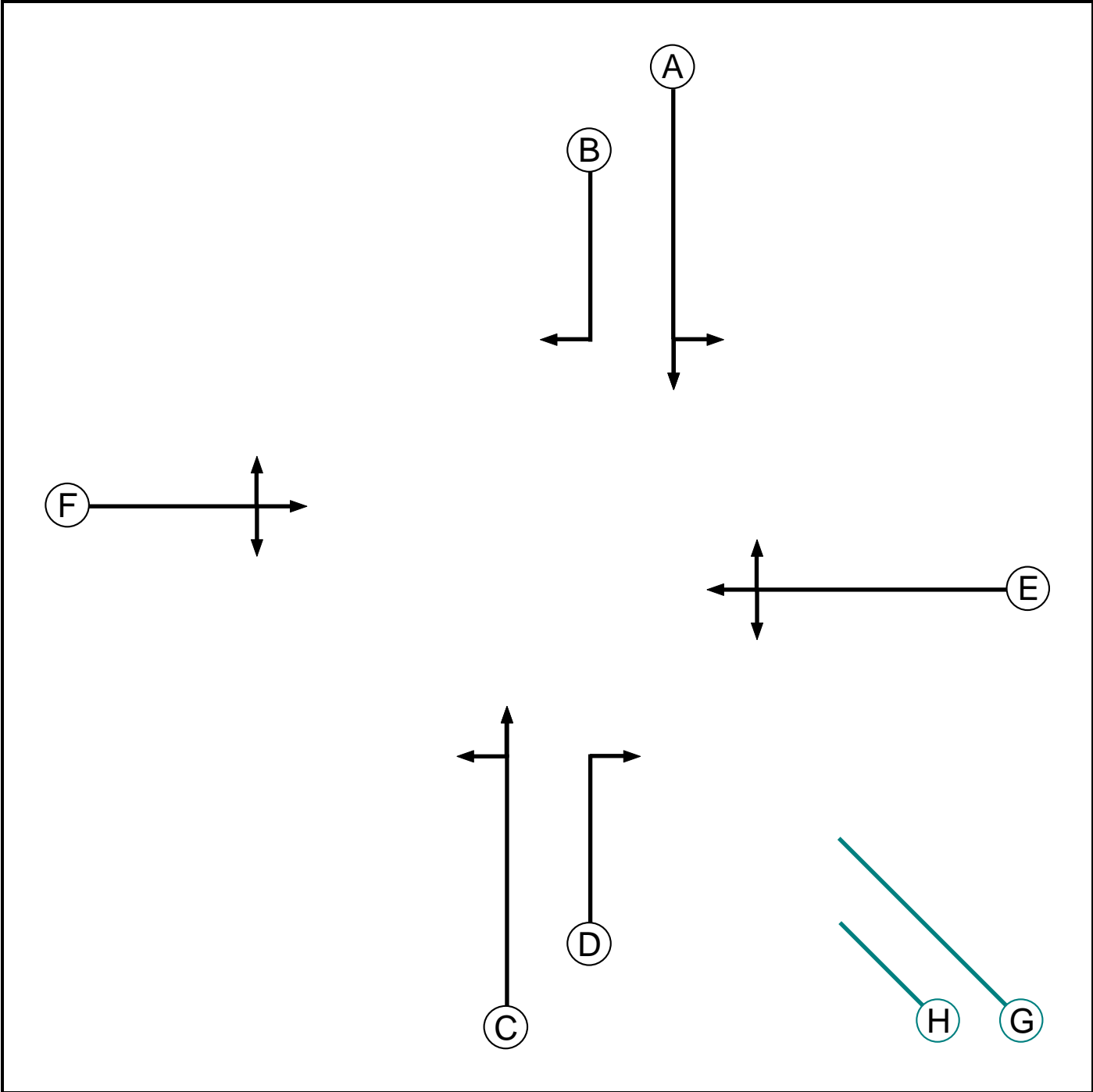






<Enter Report 1 Title Here>

Phase Diagram



Network Results

Scenario 1: 'am 2023' (FG1: 'am 2023', Plan 1: 'all stages')

Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network: A6097/ Kirk Hill 2 lanes A6097, 1 lane side roads running together	-	-	-		-	-	-	-	-	-	66.9%	130	0	0	21.8	-	-
A6097/ Kirk Hill	-	-	-		-	-	-	-	-	-	66.9%	130	0	0	21.8	-	-
1/1	A6097 NTH Left Ahead	U	A		1	62	-	642	1900	997	64.4%	-	-	-	4.5	25.5	16.2
1/2+1/3	A6097 NTH Ahead Right	U	A B		1	62:7	-	684	1900:1800	1022	66.9%	-	-	-	5.4	28.7	16.4
2/1	KIRK HILL Right Left Ahead	O	E		1	27	-	213	1800	331	64.4%	121	0	0	3.6	60.2	7.5
3/1	A6097 STH Ahead Left	U	C		1	62	-	494	1900	997	49.5%	-	-	-	3.0	21.9	11.1
3/2	A6097 STH Ahead	U	C		1	62	-	494	1900	997	49.5%	-	-	-	3.0	21.9	11.1
3/3	A6097 STH Right	U	D		1	7	-	6	1800	120	5.0%	-	-	-	0.1	68.5	0.2
4/1	NEWTON LANE Left Ahead Right	O	F		1	27	-	162	1800	420	38.6%	9	0	0	2.1	45.7	4.9
5/1	A6097N exit	U	-		-	-	-	1226	Inf	Inf	0.0%	-	-	-	0.0	0.0	0.0
6/1	KH exit	U	-		-	-	-	114	1800	1800	6.3%	-	-	-	0.0	1.1	0.0
7/1	A6097S exit	U	-		-	-	-	1233	Inf	Inf	0.0%	-	-	-	0.0	0.0	0.0
8/1	NL exit	U	-		-	-	-	122	1800	1800	6.8%	-	-	-	0.0	1.1	0.0
C1					PRC for Signalled Lanes (%):		34.5	Total Delay for Signalled Lanes (pcuHr):				21.72	Cycle Time (s): 120				
					PRC Over All Lanes (%):		34.5	Total Delay Over All Lanes(pcuHr):				21.79					

Scenario 2: 'pm 2023' (FG2: 'pm 2023', Plan 1: 'all stages')

Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network: A6097/ Kirk Hill 2 lanes A6097, 1 lane side roads running together	-	-	-		-	-	-	-	-	-	61.0%	105	0	0	23.0	-	-
A6097/ Kirk Hill	-	-	-		-	-	-	-	-	-	61.0%	105	0	0	23.0	-	-
1/1	A6097 NTH Left Ahead	U	A		1	55	-	513	1900	887	57.9%	-	-	-	4.0	28.2	13.1
1/2+1/3	A6097 NTH Ahead Right	U	A B		1	55:7	-	559	1900:1800	916	61.0%	-	-	-	4.9	31.5	13.2
2/1	KIRK HILL Right Left Ahead	O	E		1	34	-	163	1800	295	55.3%	98	0	0	2.6	57.4	5.6
3/1	A6097 STH Ahead Left	U	C		1	55	-	488	1900	887	55.0%	-	-	-	3.7	27.5	12.3
3/2	A6097 STH Ahead	U	C		1	55	-	487	1900	887	54.9%	-	-	-	3.7	27.4	12.2
3/3	A6097 STH Right	U	D		1	7	-	5	1800	120	4.2%	-	-	-	0.1	68.4	0.2
4/1	NEWTON LANE Left Ahead Right	O	F		1	34	-	314	1800	525	59.8%	7	0	0	3.9	44.9	9.6
5/1	A6097N exit	U	-		-	-	-	1320	Inf	Inf	0.0%	-	-	-	0.0	0.0	0.0
6/1	KH exit	U	-		-	-	-	122	1800	1800	6.8%	-	-	-	0.0	1.1	0.0
7/1	A6097S exit	U	-		-	-	-	978	Inf	Inf	0.0%	-	-	-	0.0	0.0	0.0
8/1	NL exit	U	-		-	-	-	109	1800	1800	6.1%	-	-	-	0.0	1.1	0.0

C1

PRC for Signalled Lanes (%): 47.5
PRC Over All Lanes (%): 47.5

Total Delay for Signalled Lanes (pcuHr): 22.96
Total Delay Over All Lanes(pcuHr): 23.03

Cycle Time (s): 120

Scenario 3: 'pm 2023+suppressed' (FG3: 'pm 2023 + suppressed', Plan 1: 'all stages')

Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network: A6097/ Kirk Hill 2 lanes A6097, 1 lane side roads running together	-	-	-		-	-	-	-	-	-	79.3%	150	0	0	34.0	-	-
A6097/ Kirk Hill	-	-	-		-	-	-	-	-	-	79.3%	150	0	0	34.0	-	-
1/1	A6097 NTH Left Ahead	U	A		1	56	-	601	1900	903	66.6%	-	-	-	5.0	30.1	16.3
1/2+1/3	A6097 NTH Ahead Right	U	A B		1	56:7	-	638	1900:1800	928	68.7%	-	-	-	5.8	32.9	16.5
2/1	KIRK HILL Right Left Ahead	O	E		1	33	-	214	1800	270	79.3%	143	0	0	4.7	79.2	8.6
3/1	A6097 STH Ahead Left	U	C		1	56	-	714	1900	903	79.1%	-	-	-	7.1	35.9	21.7
3/2	A6097 STH Ahead	U	C		1	56	-	714	1900	903	79.1%	-	-	-	7.1	35.9	21.7
3/3	A6097 STH Right	U	D		1	7	-	5	1800	120	4.2%	-	-	-	0.1	68.4	0.2
4/1	NEWTON LANE Left Ahead Right	O	F		1	33	-	314	1800	510	61.6%	7	0	0	4.1	46.4	9.9
5/1	A6097N exit	U	-		-	-	-	1818	Inf	Inf	0.0%	-	-	-	0.0	0.0	0.0
6/1	KH exit	U	-		-	-	-	122	1800	1800	6.8%	-	-	-	0.0	1.1	0.0
7/1	A6097S exit	U	-		-	-	-	1151	Inf	Inf	0.0%	-	-	-	0.0	0.0	0.0
8/1	NL exit	U	-		-	-	-	109	1800	1800	6.1%	-	-	-	0.0	1.1	0.0
C1				PRC for Signalled Lanes (%):	13.5	Total Delay for Signalled Lanes (pcuHr):				33.94	Cycle Time (s): 120						
				PRC Over All Lanes (%):	13.5	Total Delay Over All Lanes(pcuHr):				34.01							

Scenario 4: 'ip 2023' (FG4: 'ip 2023', Plan 1: 'all stages')

Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network: A6097/ Kirk Hill 2 lanes A6097, 1 lane side roads running together	-	-	-		-	-	-	-	-	-	35.5%	66	0	0	10.4	-	-
A6097/ Kirk Hill	-	-	-		-	-	-	-	-	-	35.5%	66	0	0	10.4	-	-
1/1	A6097 NTH Left Ahead	U	A		1	66	-	347	1900	1061	32.7%	-	-	-	1.6	16.8	6.4
1/2+1/3	A6097 NTH Ahead Right	U	A B		1	66:8	-	387	1900:1800	1091	35.5%	-	-	-	2.3	21.2	6.4
2/1	KIRK HILL Right Left Ahead	O	E		1	23	-	122	1800	346	35.2%	60	0	0	1.7	50.4	3.7
3/1	A6097 STH Ahead Left	U	C		1	65	-	351	1900	1045	33.6%	-	-	-	1.7	17.5	6.7
3/2	A6097 STH Ahead	U	C		1	65	-	350	1900	1045	33.5%	-	-	-	1.7	17.5	6.7
3/3	A6097 STH Right	U	D		1	7	-	19	1800	120	15.8%	-	-	-	0.4	70.7	0.7
4/1	NEWTON LANE Left Ahead Right	O	F		1	23	-	74	1800	360	20.6%	6	0	0	1.0	46.3	2.2
5/1	A6097N exit	U	-		-	-	-	796	Inf	Inf	0.0%	-	-	-	0.0	0.0	0.0
6/1	KH exit	U	-		-	-	-	97	1800	1800	5.4%	-	-	-	0.0	1.1	0.0
7/1	A6097S exit	U	-		-	-	-	677	Inf	Inf	0.0%	-	-	-	0.0	0.0	0.0
8/1	NL exit	U	-		-	-	-	80	1800	1800	4.4%	-	-	-	0.0	1.0	0.0

C1

PRC for Signalled Lanes (%): 153.8
PRC Over All Lanes (%): 153.8

Total Delay for Signalled Lanes (pcuHr): 10.34
Total Delay Over All Lanes(pcuHr): 10.40

Cycle Time (s): 120

Scenario 5: 'op 2023' (FG5: 'op 2023', Plan 1: 'all stages')

Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network: A6097/ Kirk Hill 2 lanes A6097, 1 lane side roads running together	-	-	-		-	-	-	-	-	-	3.1%	6	0	0	0.7	-	-
A6097/ Kirk Hill	-	-	-		-	-	-	-	-	-	3.1%	6	0	0	0.7	-	-
1/1	A6097 NTH Left Ahead	U	A		1	68	-	28	1900	1092	2.6%	-	-	-	0.1	12.7	0.4
1/2+1/3	A6097 NTH Ahead Right	U	A B		1	68:8	-	35	1900:1800	1123	3.1%	-	-	-	0.2	17.4	0.5
2/1	KIRK HILL Right Left Ahead	O	E		1	21	-	10	1800	330	3.0%	5	0	0	0.1	46.1	0.3
3/1	A6097 STH Ahead Left	U	C		1	67	-	27	1900	1077	2.5%	-	-	-	0.1	13.2	0.4
3/2	A6097 STH Ahead	U	C		1	67	-	32	1900	1077	3.0%	-	-	-	0.1	13.2	0.5
3/3	A6097 STH Right	U	D		1	7	-	2	1800	120	1.7%	-	-	-	0.0	68.0	0.1
4/1	NEWTON LANE Left Ahead Right	O	F		1	21	-	7	1800	330	2.1%	1	0	0	0.1	46.0	0.2
5/1	A6097N exit	U	-		-	-	-	67	Inf	Inf	0.0%	-	-	-	0.0	0.0	0.0
6/1	KH exit	U	-		-	-	-	9	1800	1800	0.5%	-	-	-	0.0	1.0	0.0
7/1	A6097S exit	U	-		-	-	-	58	Inf	Inf	0.0%	-	-	-	0.0	0.0	0.0
8/1	NL exit	U	-		-	-	-	7	1800	1800	0.4%	-	-	-	0.0	1.0	0.0

C1

PRC for Signalled Lanes (%): 2787.7
PRC Over All Lanes (%): 2787.7

Total Delay for Signalled Lanes (pcuHr): 0.74
Total Delay Over All Lanes(pcuHr): 0.74

Cycle Time (s): 120

Scenario 6: 'am 2037' (FG6: 'am 2037', Plan 1: 'all stages')

Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network: A6097/ Kirk Hill 2 lanes A6097, 1 lane side roads running together	-	-	-		-	-	-	-	-	-	72.1%	139	0	0	24.5	-	-
A6097/ Kirk Hill	-	-	-		-	-	-	-	-	-	72.1%	139	0	0	24.5	-	-
1/1	A6097 NTH Left Ahead	U	A		1	63	-	710	1900	1013	70.1%	-	-	-	5.3	26.8	18.7
1/2+1/3	A6097 NTH Ahead Right	U	A B		1	63:7	-	748	1900:1800	1037	72.1%	-	-	-	6.2	29.8	18.9
2/1	KIRK HILL Right Left Ahead	O	E		1	26	-	222	1800	314	70.7%	128	0	0	4.1	65.9	8.1
3/1	A6097 STH Ahead Left	U	C		1	63	-	536	1900	1013	52.9%	-	-	-	3.3	22.0	12.2
3/2	A6097 STH Ahead	U	C		1	63	-	537	1900	1013	53.0%	-	-	-	3.3	22.0	12.2
3/3	A6097 STH Right	U	D		1	7	-	6	1800	120	5.0%	-	-	-	0.1	68.5	0.2
4/1	NEWTON LANE Left Ahead Right	O	F		1	26	-	170	1800	405	42.0%	11	0	0	2.2	47.4	5.2
5/1	A6097N exit	U	-		-	-	-	1323	Inf	Inf	0.0%	-	-	-	0.0	0.0	0.0
6/1	KH exit	U	-		-	-	-	119	1800	1800	6.6%	-	-	-	0.0	1.1	0.0
7/1	A6097S exit	U	-		-	-	-	1359	Inf	Inf	0.0%	-	-	-	0.0	0.0	0.0
8/1	NL exit	U	-		-	-	-	128	1800	1800	7.1%	-	-	-	0.0	1.1	0.0

C1

PRC for Signalled Lanes (%): 24.8
PRC Over All Lanes (%): 24.8

Total Delay for Signalled Lanes (pcuHr): 24.44
Total Delay Over All Lanes(pcuHr): 24.52

Cycle Time (s): 120

Scenario 7: 'pm 2037' (FG7: 'pm 2037', Plan 1: 'all stages')

Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network: A6097/ Kirk Hill 2 lanes A6097, 1 lane side roads running together	-	-	-		-	-	-	-	-	-	64.4%	112	0	0	24.8	-	-
A6097/ Kirk Hill	-	-	-		-	-	-	-	-	-	64.4%	112	0	0	24.8	-	-
1/1	A6097 NTH Left Ahead	U	A		1	55	-	536	1900	887	60.5%	-	-	-	4.3	28.9	14.0
1/2+1/3	A6097 NTH Ahead Right	U	A B		1	55:7	-	583	1900:1800	918	63.5%	-	-	-	5.2	32.4	14.1
2/1	KIRK HILL Right Left Ahead	O	E		1	34	-	169	1800	274	61.6%	106	0	0	3.0	63.0	6.0
3/1	A6097 STH Ahead Left	U	C		1	55	-	502	1900	887	56.6%	-	-	-	3.9	27.9	12.6
3/2	A6097 STH Ahead	U	C		1	55	-	501	1900	887	56.5%	-	-	-	3.9	27.8	12.6
3/3	A6097 STH Right	U	D		1	7	-	3	1800	120	2.5%	-	-	-	0.1	68.1	0.1
4/1	NEWTON LANE Left Ahead Right	O	F		1	34	-	338	1800	525	64.4%	6	0	0	4.4	46.6	10.7
5/1	A6097N exit	U	-		-	-	-	1384	Inf	Inf	0.0%	-	-	-	0.0	0.0	0.0
6/1	KH exit	U	-		-	-	-	125	1800	1800	6.9%	-	-	-	0.0	1.1	0.0
7/1	A6097S exit	U	-		-	-	-	1011	Inf	Inf	0.0%	-	-	-	0.0	0.0	0.0
8/1	NL exit	U	-		-	-	-	112	1800	1800	6.2%	-	-	-	0.0	1.1	0.0

C1

PRC for Signalled Lanes (%): 39.8
PRC Over All Lanes (%): 39.8

Total Delay for Signalled Lanes (pcuHr): 24.69
Total Delay Over All Lanes(pcuHr): 24.76

Cycle Time (s): 120

Scenario 8: 'pm 2037+suppressed' (FG8: 'pm 2037 + suppressed', Plan 1: 'all stages')

Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network: A6097/ Kirk Hill 2 lanes A6097, 1 lane side roads running together	-	-	-		-	-	-	-	-	-	83.6%	153	0	4	38.3	-	-
A6097/ Kirk Hill	-	-	-		-	-	-	-	-	-	83.6%	153	0	4	38.3	-	-
1/1	A6097 NTH Left Ahead	U	A		1	54	-	624	1900	871	71.7%	-	-	-	5.8	33.4	17.9
1/2+1/3	A6097 NTH Ahead Right	U	A B		1	54:7	-	662	1900:1800	898	73.7%	-	-	-	6.7	36.3	18.0
2/1	KIRK HILL Right Left Ahead	O	E		1	35	-	220	1800	271	81.3%	147	0	4	5.0	81.7	9.0
3/1	A6097 STH Ahead Left	U	C		1	54	-	728	1900	871	83.6%	-	-	-	8.2	40.7	23.7
3/2	A6097 STH Ahead	U	C		1	54	-	728	1900	871	83.6%	-	-	-	8.2	40.7	23.7
3/3	A6097 STH Right	U	D		1	7	-	3	1800	120	2.5%	-	-	-	0.1	68.1	0.1
4/1	NEWTON LANE Left Ahead Right	O	F		1	35	-	338	1800	540	62.6%	6	0	0	4.2	45.0	10.5
5/1	A6097N exit	U	-		-	-	-	1882	Inf	Inf	0.0%	-	-	-	0.0	0.0	0.0
6/1	KH exit	U	-		-	-	-	125	1800	1800	6.9%	-	-	-	0.0	1.1	0.0
7/1	A6097S exit	U	-		-	-	-	1184	Inf	Inf	0.0%	-	-	-	0.0	0.0	0.0
8/1	NL exit	U	-		-	-	-	112	1800	1800	6.2%	-	-	-	0.0	1.1	0.0

C1

PRC for Signalled Lanes (%): 7.7
PRC Over All Lanes (%): 7.7

Total Delay for Signalled Lanes (pcuHr): 38.21
Total Delay Over All Lanes(pcuHr): 38.28

Cycle Time (s): 120

Scenario 9: 'ip 2037' (FG9: 'ip 2037', Plan 1: 'all stages')

Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)	
Network: A6097/ Kirk Hill 2 lanes A6097, 1 lane side roads running together	-	-	-		-	-	-	-	-	-	39.6%	75	0	0	11.4	-	-	
A6097/ Kirk Hill	-	-	-		-	-	-	-	-	-	39.6%	75	0	0	11.4	-	-	
1/1	A6097 NTH Left Ahead	U	A		1	67	-	392	1900	1077	36.4%	-	-	-	1.8	16.8	7.4	
1/2+1/3	A6097 NTH Ahead Right	U	A B		1	67:7	-	433	1900:1800	1104	39.2%	-	-	-	2.6	21.2	7.3	
2/1	KIRK HILL Right Left Ahead	O	E		1	22	-	130	1800	329	39.6%	67	0	0	1.9	52.8	4.1	
3/1	A6097 STH Ahead Left	U	C		1	67	-	388	1900	1077	36.0%	-	-	-	1.8	16.8	7.3	
3/2	A6097 STH Ahead	U	C		1	67	-	387	1900	1077	35.9%	-	-	-	1.8	16.8	7.3	
3/3	A6097 STH Right	U	D		1	7	-	19	1800	120	15.8%	-	-	-	0.4	70.7	0.7	
4/1	NEWTON LANE Left Ahead Right	O	F		1	22	-	79	1800	345	22.9%	8	0	0	1.0	47.8	2.4	
5/1	A6097N exit	U	-		-	-	-	880	Inf	Inf	0.0%	-	-	-	0.0	0.0	0.0	
6/1	KH exit	U	-		-	-	-	98	1800	1800	5.4%	-	-	-	0.0	1.1	0.0	
7/1	A6097S exit	U	-		-	-	-	766	Inf	Inf	0.0%	-	-	-	0.0	0.0	0.0	
8/1	NL exit	U	-		-	-	-	84	1800	1800	4.7%	-	-	-	0.0	1.0	0.0	
C1					PRC for Signalled Lanes (%): 127.5			Total Delay for Signalled Lanes (pcuHr): 11.32			Cycle Time (s): 120							
					PRC Over All Lanes (%): 127.5			Total Delay Over All Lanes(pcuHr): 11.37										

Scenario 10: 'op 2037' (FG10: 'op 2037', Plan 1: 'all stages')

Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network: A6097/ Kirk Hill 2 lanes A6097, 1 lane side roads running together	-	-	-		-	-	-	-	-	-	3.7%	7	0	0	0.8	-	-
A6097/ Kirk Hill	-	-	-		-	-	-	-	-	-	3.7%	7	0	0	0.8	-	-
1/1	A6097 NTH Left Ahead	U	A		1	68	-	29	1900	1092	2.7%	-	-	-	0.1	12.7	0.4
1/2+1/3	A6097 NTH Ahead Right	U	A B		1	68:7	-	41	1900:1800	1118	3.7%	-	-	-	0.2	16.8	0.6
2/1	KIRK HILL Right Left Ahead	O	E		1	21	-	12	1800	330	3.6%	6	0	0	0.2	46.1	0.3
3/1	A6097 STH Ahead Left	U	C		1	68	-	31	1900	1092	2.8%	-	-	-	0.1	12.7	0.5
3/2	A6097 STH Ahead	U	C		1	68	-	35	1900	1092	3.2%	-	-	-	0.1	12.8	0.5
3/3	A6097 STH Right	U	D		1	7	-	2	1800	120	1.7%	-	-	-	0.0	68.0	0.1
4/1	NEWTON LANE Left Ahead Right	O	F		1	21	-	7	1800	330	2.1%	1	0	0	0.1	46.0	0.2
5/1	A6097N exit	U	-		-	-	-	75	Inf	Inf	0.0%	-	-	-	0.0	0.0	0.0
6/1	KH exit	U	-		-	-	-	9	1800	1800	0.5%	-	-	-	0.0	1.0	0.0
7/1	A6097S exit	U	-		-	-	-	66	Inf	Inf	0.0%	-	-	-	0.0	0.0	0.0
8/1	NL exit	U	-		-	-	-	7	1800	1800	0.4%	-	-	-	0.0	1.0	0.0

C1

PRC for Signalled Lanes (%): 2354.3
PRC Over All Lanes (%): 2354.3

Total Delay for Signalled Lanes (pcuHr): 0.81
Total Delay Over All Lanes(pcuHr): 0.81

Cycle Time (s): 120

Scenario 11: 'am 2023LG' (FG11: 'am 2023LG', Plan 1: 'all stages')

Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network: A6097/ Kirk Hill 2 lanes A6097, 1 lane side roads running together	-	-	-		-	-	-	-	-	-	63.1%	125	0	0	19.9	-	-
A6097/ Kirk Hill	-	-	-		-	-	-	-	-	-	63.1%	125	0	0	19.9	-	-
1/1	A6097 NTH Left Ahead	U	A		1	63	-	615	1900	1013	60.7%	-	-	-	4.1	23.8	14.8
1/2+1/3	A6097 NTH Ahead Right	U	A B		1	63:7	-	655	1900:1800	1038	63.1%	-	-	-	4.9	27.0	14.9
2/1	KIRK HILL Right Left Ahead	O	E		1	26	-	193	1800	310	62.3%	116	0	0	3.3	60.9	6.8
3/1	A6097 STH Ahead Left	U	C		1	63	-	473	1900	1013	46.7%	-	-	-	2.7	20.7	10.2
3/2	A6097 STH Ahead	U	C		1	63	-	474	1900	1013	46.8%	-	-	-	2.7	20.7	10.2
3/3	A6097 STH Right	U	D		1	7	-	6	1800	120	5.0%	-	-	-	0.1	68.5	0.2
4/1	NEWTON LANE Left Ahead Right	O	F		1	26	-	155	1800	405	38.3%	9	0	0	2.0	46.6	4.7
5/1	A6097N exit	U	-		-	-	-	1175	Inf	Inf	0.0%	-	-	-	0.0	0.0	0.0
6/1	KH exit	U	-		-	-	-	109	1800	1800	6.1%	-	-	-	0.0	1.1	0.0
7/1	A6097S exit	U	-		-	-	-	1171	Inf	Inf	0.0%	-	-	-	0.0	0.0	0.0
8/1	NL exit	U	-		-	-	-	116	1800	1800	6.4%	-	-	-	0.0	1.1	0.0
C1					PRC for Signalled Lanes (%):		42.6	Total Delay for Signalled Lanes (pcuHr):				19.83	Cycle Time (s): 120				
					PRC Over All Lanes (%):		42.6	Total Delay Over All Lanes(pcuHr):				19.89					

Scenario 12: 'pm 2023LG+suppressed' (FG12: 'pm 2023LG + suppressed', Plan 1: 'all stages')

Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network: A6097/ Kirk Hill 2 lanes A6097, 1 lane side roads running together	-	-	-		-	-	-	-	-	-	75.6%	143	0	0	30.3	-	-
A6097/ Kirk Hill	-	-	-		-	-	-	-	-	-	75.6%	143	0	0	30.3	-	-
1/1	A6097 NTH Left Ahead	U	A		1	57	-	571	1900	918	62.2%	-	-	-	4.5	28.1	14.8
1/2+1/3	A6097 NTH Ahead Right	U	A B		1	57:7	-	612	1900:1800	945	64.8%	-	-	-	5.3	31.1	14.9
2/1	KIRK HILL Right Left Ahead	O	E		1	32	-	204	1800	270	75.6%	136	0	0	4.2	74.7	8.0
3/1	A6097 STH Ahead Left	U	C		1	57	-	682	1900	918	74.3%	-	-	-	6.2	32.5	19.6
3/2	A6097 STH Ahead	U	C		1	57	-	681	1900	918	74.2%	-	-	-	6.1	32.5	19.6
3/3	A6097 STH Right	U	D		1	7	-	2	1800	120	1.7%	-	-	-	0.0	68.0	0.1
4/1	NEWTON LANE Left Ahead Right	O	F		1	32	-	299	1800	495	60.4%	7	0	0	3.9	46.9	9.4
5/1	A6097N exit	U	-		-	-	-	1734	Inf	Inf	0.0%	-	-	-	0.0	0.0	0.0
6/1	KH exit	U	-		-	-	-	110	1800	1800	6.1%	-	-	-	0.0	1.1	0.0
7/1	A6097S exit	U	-		-	-	-	1100	Inf	Inf	0.0%	-	-	-	0.0	0.0	0.0
8/1	NL exit	U	-		-	-	-	107	1800	1800	5.9%	-	-	-	0.0	1.1	0.0

C1

PRC for Signalled Lanes (%): 19.1
PRC Over All Lanes (%): 19.1

Total Delay for Signalled Lanes (pcuHr): 30.21
Total Delay Over All Lanes(pcuHr): 30.28

Cycle Time (s): 120

Scenario 13: 'ip 2023LG' (FG13: 'ip 2023LG', Plan 1: 'all stages')

Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network: A6097/ Kirk Hill 2 lanes A6097, 1 lane side roads running together	-	-	-		-	-	-	-	-	-	33.9%	63	0	0	9.8	-	-
A6097/ Kirk Hill	-	-	-		-	-	-	-	-	-	33.9%	63	0	0	9.8	-	-
1/1	A6097 NTH Left Ahead	U	A		1	66	-	332	1900	1061	31.3%	-	-	-	1.5	16.7	6.1
1/2+1/3	A6097 NTH Ahead Right	U	A B		1	66:8	-	370	1900:1800	1091	33.9%	-	-	-	2.2	21.0	6.1
2/1	KIRK HILL Right Left Ahead	O	E		1	23	-	117	1800	347	33.7%	57	0	0	1.6	50.1	3.6
3/1	A6097 STH Ahead Left	U	C		1	65	-	335	1900	1045	32.1%	-	-	-	1.6	17.3	6.3
3/2	A6097 STH Ahead	U	C		1	65	-	335	1900	1045	32.1%	-	-	-	1.6	17.3	6.3
3/3	A6097 STH Right	U	D		1	7	-	18	1800	120	15.0%	-	-	-	0.4	70.5	0.7
4/1	NEWTON LANE Left Ahead Right	O	F		1	23	-	70	1800	360	19.4%	6	0	0	0.9	46.2	2.0
5/1	A6097N exit	U	-		-	-	-	760	Inf	Inf	0.0%	-	-	-	0.0	0.0	0.0
6/1	KH exit	U	-		-	-	-	92	1800	1800	5.1%	-	-	-	0.0	1.1	0.0
7/1	A6097S exit	U	-		-	-	-	648	Inf	Inf	0.0%	-	-	-	0.0	0.0	0.0
8/1	NL exit	U	-		-	-	-	77	1800	1800	4.3%	-	-	-	0.0	1.0	0.0

C1

PRC for Signalled Lanes (%): 165.4
PRC Over All Lanes (%): 165.4

Total Delay for Signalled Lanes (pcuHr): 9.79
Total Delay Over All Lanes(pcuHr): 9.84

Cycle Time (s): 120

Scenario 14: 'op 2023LG' (FG14: 'op 2023LG', Plan 1: 'all stages')

Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network: A6097/ Kirk Hill 2 lanes A6097, 1 lane side roads running together	-	-	-		-	-	-	-	-	-	2.9%	6	0	0	0.7	-	-
A6097/ Kirk Hill	-	-	-		-	-	-	-	-	-	2.9%	6	0	0	0.7	-	-
1/1	A6097 NTH Left Ahead	U	A		1	67	-	29	1900	1077	2.7%	-	-	-	0.1	13.2	0.4
1/2+1/3	A6097 NTH Ahead Right	U	A B		1	67:7	-	31	1900:1800	1088	2.8%	-	-	-	0.2	18.5	0.4
2/1	KIRK HILL Right Left Ahead	O	E		1	22	-	10	1800	345	2.9%	5	0	0	0.1	45.0	0.3
3/1	A6097 STH Ahead Left	U	C		1	67	-	26	1900	1077	2.4%	-	-	-	0.1	13.2	0.4
3/2	A6097 STH Ahead	U	C		1	67	-	31	1900	1077	2.9%	-	-	-	0.1	13.2	0.5
3/3	A6097 STH Right	U	D		1	7	-	2	1800	120	1.7%	-	-	-	0.0	68.0	0.1
4/1	NEWTON LANE Left Ahead Right	O	F		1	22	-	6	1800	345	1.7%	1	0	0	0.1	44.9	0.2
5/1	A6097N exit	U	-		-	-	-	65	Inf	Inf	0.0%	-	-	-	0.0	0.0	0.0
6/1	KH exit	U	-		-	-	-	8	1800	1800	0.4%	-	-	-	0.0	1.0	0.0
7/1	A6097S exit	U	-		-	-	-	55	Inf	Inf	0.0%	-	-	-	0.0	0.0	0.0
8/1	NL exit	U	-		-	-	-	7	1800	1800	0.4%	-	-	-	0.0	1.0	0.0
C1		PRC for Signalled Lanes (%):		3005.0		Total Delay for Signalled Lanes (pcuHr):		0.71		Cycle Time (s):		120					
		PRC Over All Lanes (%):		3005.0		Total Delay Over All Lanes(pcuHr):		0.72									

Scenario 15: 'am 2037LG' (FG15: 'am 2037LG', Plan 1: 'all stages')

Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network: A6097/ Kirk Hill 2 lanes A6097, 1 lane side roads running together	-	-	-		-	-	-	-	-	-	66.4%	127	0	0	21.1	-	-
A6097/ Kirk Hill	-	-	-		-	-	-	-	-	-	66.4%	127	0	0	21.1	-	-
1/1	A6097 NTH Left Ahead	U	A		1	63	-	650	1900	1013	64.1%	-	-	-	4.5	24.8	16.2
1/2+1/3	A6097 NTH Ahead Right	U	A B		1	63:7	-	689	1900:1800	1037	66.4%	-	-	-	5.3	27.9	16.4
2/1	KIRK HILL Right Left Ahead	O	E		1	26	-	202	1800	329	61.5%	117	0	0	3.3	59.5	7.0
3/1	A6097 STH Ahead Left	U	C		1	63	-	494	1900	1013	48.8%	-	-	-	2.9	21.1	10.8
3/2	A6097 STH Ahead	U	C		1	63	-	493	1900	1013	48.7%	-	-	-	2.9	21.1	10.7
3/3	A6097 STH Right	U	D		1	7	-	5	1800	120	4.2%	-	-	-	0.1	68.4	0.2
4/1	NEWTON LANE Left Ahead Right	O	F		1	26	-	154	1800	405	38.0%	10	0	0	2.0	46.6	4.6
5/1	A6097N exit	U	-		-	-	-	1215	Inf	Inf	0.0%	-	-	-	0.0	0.0	0.0
6/1	KH exit	U	-		-	-	-	107	1800	1800	5.9%	-	-	-	0.0	1.1	0.0
7/1	A6097S exit	U	-		-	-	-	1249	Inf	Inf	0.0%	-	-	-	0.0	0.0	0.0
8/1	NL exit	U	-		-	-	-	116	1800	1800	6.4%	-	-	-	0.0	1.1	0.0

C1

PRC for Signalled Lanes (%): 35.5
PRC Over All Lanes (%): 35.5

Total Delay for Signalled Lanes (pcuHr): 21.03
Total Delay Over All Lanes(pcuHr): 21.10

Cycle Time (s): 120

Scenario 16: 'pm 2037LG+suppressed' (FG16: 'pm 2037LG + suppressed', Plan 1: 'all stages')

Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network: A6097/ Kirk Hill 2 lanes A6097, 1 lane side roads running together	-	-	-		-	-	-	-	-	-	73.2%	142	0	0	29.8	-	-
A6097/ Kirk Hill	-	-	-		-	-	-	-	-	-	73.2%	142	0	0	29.8	-	-
1/1	A6097 NTH Left Ahead	U	A		1	56	-	563	1900	903	62.4%	-	-	-	4.5	28.8	14.7
1/2+1/3	A6097 NTH Ahead Right	U	A B		1	56:7	-	605	1900:1800	931	65.0%	-	-	-	5.4	32.0	14.8
2/1	KIRK HILL Right Left Ahead	O	E		1	33	-	199	1800	272	73.2%	137	0	0	4.0	72.1	7.6
3/1	A6097 STH Ahead Left	U	C		1	56	-	659	1900	903	73.0%	-	-	-	6.0	32.6	18.9
3/2	A6097 STH Ahead	U	C		1	56	-	659	1900	903	73.0%	-	-	-	6.0	32.6	18.9
3/3	A6097 STH Right	U	D		1	7	-	3	1800	120	2.5%	-	-	-	0.1	68.1	0.1
4/1	NEWTON LANE Left Ahead Right	O	F		1	33	-	306	1800	510	60.0%	5	0	0	3.9	45.9	9.5
5/1	A6097N exit	U	-		-	-	-	1705	Inf	Inf	0.0%	-	-	-	0.0	0.0	0.0
6/1	KH exit	U	-		-	-	-	110	1800	1800	6.1%	-	-	-	0.0	1.1	0.0
7/1	A6097S exit	U	-		-	-	-	1074	Inf	Inf	0.0%	-	-	-	0.0	0.0	0.0
8/1	NL exit	U	-		-	-	-	105	1800	1800	5.8%	-	-	-	0.0	1.1	0.0

C1

PRC for Signalled Lanes (%): 22.9
PRC Over All Lanes (%): 22.9

Total Delay for Signalled Lanes (pcuHr): 29.76
Total Delay Over All Lanes(pcuHr): 29.82

Cycle Time (s): 120

Scenario 17: 'ip 2037LG' (FG17: 'ip 2037LG', Plan 1: 'all stages')

Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network: A6097/ Kirk Hill 2 lanes A6097, 1 lane side roads running together	-	-	-		-	-	-	-	-	-	36.0%	68	0	0	10.3	-	-
A6097/ Kirk Hill	-	-	-		-	-	-	-	-	-	36.0%	68	0	0	10.3	-	-
1/1	A6097 NTH Left Ahead	U	A		1	67	-	359	1900	1077	33.3%	-	-	-	1.6	16.4	6.6
1/2+1/3	A6097 NTH Ahead Right	U	A B		1	67:8	-	398	1900:1800	1106	36.0%	-	-	-	2.3	20.7	6.5
2/1	KIRK HILL Right Left Ahead	O	E		1	22	-	118	1800	328	35.9%	61	0	0	1.7	51.8	3.7
3/1	A6097 STH Ahead Left	U	C		1	66	-	355	1900	1061	33.5%	-	-	-	1.7	16.9	6.7
3/2	A6097 STH Ahead	U	C		1	66	-	355	1900	1061	33.5%	-	-	-	1.7	16.9	6.7
3/3	A6097 STH Right	U	D		1	7	-	17	1800	120	14.2%	-	-	-	0.3	70.2	0.6
4/1	NEWTON LANE Left Ahead Right	O	F		1	22	-	71	1800	345	20.6%	7	0	0	0.9	47.4	2.1
5/1	A6097N exit	U	-		-	-	-	805	Inf	Inf	0.0%	-	-	-	0.0	0.0	0.0
6/1	KH exit	U	-		-	-	-	88	1800	1800	4.9%	-	-	-	0.0	1.1	0.0
7/1	A6097S exit	U	-		-	-	-	703	Inf	Inf	0.0%	-	-	-	0.0	0.0	0.0
8/1	NL exit	U	-		-	-	-	77	1800	1800	4.3%	-	-	-	0.0	1.0	0.0

C1

PRC for Signalled Lanes (%): 150.1
PRC Over All Lanes (%): 150.1

Total Delay for Signalled Lanes (pcuHr): 10.23
Total Delay Over All Lanes(pcuHr): 10.28

Cycle Time (s): 120

Scenario 18: 'op 2037LG' (FG18: 'op 2037LG', Plan 1: 'all stages')

Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network: A6097/ Kirk Hill 2 lanes A6097, 1 lane side roads running together	-	-	-		-	-	-	-	-	-	3.3%	6	0	0	0.7	-	-
A6097/ Kirk Hill	-	-	-		-	-	-	-	-	-	3.3%	6	0	0	0.7	-	-
1/1	A6097 NTH Left Ahead	U	A		1	69	-	28	1900	1108	2.5%	-	-	-	0.1	12.3	0.4
1/2+1/3	A6097 NTH Ahead Right	U	A B		1	69:8	-	37	1900:1800	1137	3.3%	-	-	-	0.2	16.7	0.5
2/1	KIRK HILL Right Left Ahead	O	E		1	20	-	10	1800	315	3.2%	5	0	0	0.1	47.1	0.3
3/1	A6097 STH Ahead Left	U	C		1	68	-	28	1900	1092	2.6%	-	-	-	0.1	12.7	0.4
3/2	A6097 STH Ahead	U	C		1	68	-	32	1900	1092	2.9%	-	-	-	0.1	12.7	0.5
3/3	A6097 STH Right	U	D		1	7	-	1	1800	120	0.8%	-	-	-	0.0	67.9	0.0
4/1	NEWTON LANE Left Ahead Right	O	F		1	20	-	6	1800	315	1.9%	1	0	0	0.1	47.1	0.2
5/1	A6097N exit	U	-		-	-	-	68	Inf	Inf	0.0%	-	-	-	0.0	0.0	0.0
6/1	KH exit	U	-		-	-	-	7	1800	1800	0.4%	-	-	-	0.0	1.0	0.0
7/1	A6097S exit	U	-		-	-	-	60	Inf	Inf	0.0%	-	-	-	0.0	0.0	0.0
8/1	NL exit	U	-		-	-	-	7	1800	1800	0.4%	-	-	-	0.0	1.0	0.0

C1

PRC for Signalled Lanes (%): 2665.4
PRC Over All Lanes (%): 2665.4

Total Delay for Signalled Lanes (pcuHr): 0.71
Total Delay Over All Lanes(pcuHr): 0.71

Cycle Time (s): 120

Scenario 19: 'am 2023HG' (FG19: 'am 2023HG', Plan 1: 'all stages')

Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network: A6097/ Kirk Hill 2 lanes A6097, 1 lane side roads running together	-	-	-		-	-	-	-	-	-	69.6%	135	0	0	23.3	-	-
A6097/ Kirk Hill	-	-	-		-	-	-	-	-	-	69.6%	135	0	0	23.3	-	-
1/1	A6097 NTH Left Ahead	U	A		1	62	-	671	1900	997	67.3%	-	-	-	4.9	26.4	17.4
1/2+1/3	A6097 NTH Ahead Right	U	A B		1	62:7	-	711	1900:1800	1022	69.6%	-	-	-	5.8	29.6	17.6
2/1	KIRK HILL Right Left Ahead	O	E		1	27	-	223	1800	331	67.3%	126	0	0	3.8	62.0	7.9
3/1	A6097 STH Ahead Left	U	C		1	62	-	515	1900	997	51.6%	-	-	-	3.2	22.3	11.7
3/2	A6097 STH Ahead	U	C		1	62	-	514	1900	997	51.5%	-	-	-	3.2	22.3	11.7
3/3	A6097 STH Right	U	D		1	7	-	6	1800	120	5.0%	-	-	-	0.1	68.5	0.2
4/1	NEWTON LANE Left Ahead Right	O	F		1	27	-	169	1800	420	40.2%	9	0	0	2.2	46.1	5.1
5/1	A6097N exit	U	-		-	-	-	1277	Inf	Inf	0.0%	-	-	-	0.0	0.0	0.0
6/1	KH exit	U	-		-	-	-	119	1800	1800	6.6%	-	-	-	0.0	1.1	0.0
7/1	A6097S exit	U	-		-	-	-	1285	Inf	Inf	0.0%	-	-	-	0.0	0.0	0.0
8/1	NL exit	U	-		-	-	-	128	1800	1800	7.1%	-	-	-	0.0	1.1	0.0

C1

PRC for Signalled Lanes (%): 29.4
PRC Over All Lanes (%): 29.4

Total Delay for Signalled Lanes (pcuHr): 23.25
Total Delay Over All Lanes(pcuHr): 23.32

Cycle Time (s): 120

Scenario 20: 'pm 2023HG+suppressed' (FG20: 'pm 2023HG + suppressed', Plan 1: 'all stages')

Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network: A6097/ Kirk Hill 2 lanes A6097, 1 lane side roads running together	-	-	-		-	-	-	-	-	-	84.2%	152	0	5	38.6	-	-
A6097/ Kirk Hill	-	-	-		-	-	-	-	-	-	84.2%	152	0	5	38.6	-	-
1/1	A6097 NTH Left Ahead	U	A		1	55	-	628	1900	887	70.8%	-	-	-	5.7	32.4	17.8
1/2+1/3	A6097 NTH Ahead Right	U	A B		1	55:7	-	667	1900:1800	914	73.0%	-	-	-	6.5	35.3	17.9
2/1	KIRK HILL Right Left Ahead	O	E		1	34	-	224	1800	270	83.1%	145	0	5	5.3	85.1	9.5
3/1	A6097 STH Ahead Left	U	C		1	55	-	746	1900	887	84.1%	-	-	-	8.4	40.4	24.3
3/2	A6097 STH Ahead	U	C		1	55	-	747	1900	887	84.2%	-	-	-	8.4	40.6	24.4
3/3	A6097 STH Right	U	D		1	7	-	2	1800	120	1.7%	-	-	-	0.0	68.0	0.1
4/1	NEWTON LANE Left Ahead Right	O	F		1	34	-	329	1800	525	62.7%	7	0	0	4.2	45.9	10.3
5/1	A6097N exit	U	-		-	-	-	1902	Inf	Inf	0.0%	-	-	-	0.0	0.0	0.0
6/1	KH exit	U	-		-	-	-	122	1800	1800	6.8%	-	-	-	0.0	1.1	0.0
7/1	A6097S exit	U	-		-	-	-	1202	Inf	Inf	0.0%	-	-	-	0.0	0.0	0.0
8/1	NL exit	U	-		-	-	-	117	1800	1800	6.5%	-	-	-	0.0	1.1	0.0

C1

PRC for Signalled Lanes (%): 6.8
PRC Over All Lanes (%): 6.8

Total Delay for Signalled Lanes (pcuHr): 38.52
Total Delay Over All Lanes(pcuHr): 38.59

Cycle Time (s): 120

Scenario 21: 'ip 2023HG' (FG21: 'ip 2023HG', Plan 1: 'all stages')

Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network: A6097/ Kirk Hill 2 lanes A6097, 1 lane side roads running together	-	-	-		-	-	-	-	-	-	37.0%	69	0	0	11.0	-	-
A6097/ Kirk Hill	-	-	-		-	-	-	-	-	-	37.0%	69	0	0	11.0	-	-
1/1	A6097 NTH Left Ahead	U	A		1	66	-	363	1900	1061	34.2%	-	-	-	1.7	17.1	6.8
1/2+1/3	A6097 NTH Ahead Right	U	A B		1	66:8	-	403	1900:1800	1091	36.9%	-	-	-	2.4	21.4	6.7
2/1	KIRK HILL Right Left Ahead	O	E		1	23	-	128	1800	346	37.0%	63	0	0	1.8	50.9	4.0
3/1	A6097 STH Ahead Left	U	C		1	65	-	366	1900	1045	35.0%	-	-	-	1.8	17.7	7.0
3/2	A6097 STH Ahead	U	C		1	65	-	366	1900	1045	35.0%	-	-	-	1.8	17.7	7.0
3/3	A6097 STH Right	U	D		1	7	-	20	1800	120	16.7%	-	-	-	0.4	70.9	0.7
4/1	NEWTON LANE Left Ahead Right	O	F		1	23	-	77	1800	360	21.4%	6	0	0	1.0	46.5	2.3
5/1	A6097N exit	U	-		-	-	-	832	Inf	Inf	0.0%	-	-	-	0.0	0.0	0.0
6/1	KH exit	U	-		-	-	-	101	1800	1800	5.6%	-	-	-	0.0	1.1	0.0
7/1	A6097S exit	U	-		-	-	-	706	Inf	Inf	0.0%	-	-	-	0.0	0.0	0.0
8/1	NL exit	U	-		-	-	-	84	1800	1800	4.7%	-	-	-	0.0	1.0	0.0

C1

PRC for Signalled Lanes (%): 143.3
PRC Over All Lanes (%): 143.3

Total Delay for Signalled Lanes (pcuHr): 10.91
Total Delay Over All Lanes(pcuHr): 10.97

Cycle Time (s): 120

Scenario 22: 'op 2023HG' (FG22: 'op 2023HG', Plan 1: 'all stages')

Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network: A6097/ Kirk Hill 2 lanes A6097, 1 lane side roads running together	-	-	-		-	-	-	-	-	-	3.3%	6	0	0	0.8	-	-
A6097/ Kirk Hill	-	-	-		-	-	-	-	-	-	3.3%	6	0	0	0.8	-	-
1/1	A6097 NTH Left Ahead	U	A		1	67	-	29	1900	1077	2.7%	-	-	-	0.1	13.2	0.4
1/2+1/3	A6097 NTH Ahead Right	U	A B		1	67:8	-	36	1900:1800	1106	3.3%	-	-	-	0.2	17.6	0.5
2/1	KIRK HILL Right Left Ahead	O	E		1	22	-	11	1800	345	3.2%	5	0	0	0.1	45.0	0.3
3/1	A6097 STH Ahead Left	U	C		1	66	-	29	1900	1061	2.7%	-	-	-	0.1	13.7	0.4
3/2	A6097 STH Ahead	U	C		1	66	-	33	1900	1061	3.1%	-	-	-	0.1	13.7	0.5
3/3	A6097 STH Right	U	D		1	7	-	2	1800	120	1.7%	-	-	-	0.0	68.0	0.1
4/1	NEWTON LANE Left Ahead Right	O	F		1	22	-	7	1800	345	2.0%	1	0	0	0.1	44.9	0.2
5/1	A6097N exit	U	-		-	-	-	70	Inf	Inf	0.0%	-	-	-	0.0	0.0	0.0
6/1	KH exit	U	-		-	-	-	9	1800	1800	0.5%	-	-	-	0.0	1.0	0.0
7/1	A6097S exit	U	-		-	-	-	61	Inf	Inf	0.0%	-	-	-	0.0	0.0	0.0
8/1	NL exit	U	-		-	-	-	7	1800	1800	0.4%	-	-	-	0.0	1.0	0.0

C1

PRC for Signalled Lanes (%): 2665.7
PRC Over All Lanes (%): 2665.7

Total Delay for Signalled Lanes (pcuHr): 0.78
Total Delay Over All Lanes(pcuHr): 0.79

Cycle Time (s): 120

Scenario 23: 'am 2037HG' (FG23: 'am 2037HG', Plan 1: 'all stages')

Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network: A6097/ Kirk Hill 2 lanes A6097, 1 lane side roads running together	-	-	-		-	-	-	-	-	-	78.9%	151	0	0	29.1	-	-
A6097/ Kirk Hill	-	-	-		-	-	-	-	-	-	78.9%	151	0	0	29.1	-	-
1/1	A6097 NTH Left Ahead	U	A		1	62	-	771	1900	997	77.3%	-	-	-	6.6	30.6	22.0
1/2+1/3	A6097 NTH Ahead Right	U	A B		1	62:7	-	806	1900:1800	1022	78.9%	-	-	-	7.5	33.6	22.4
2/1	KIRK HILL Right Left Ahead	O	E		1	27	-	242	1800	314	77.0%	139	0	0	4.8	71.1	9.3
3/1	A6097 STH Ahead Left	U	C		1	62	-	580	1900	997	58.1%	-	-	-	3.8	23.8	13.9
3/2	A6097 STH Ahead	U	C		1	62	-	579	1900	997	58.0%	-	-	-	3.8	23.8	13.7
3/3	A6097 STH Right	U	D		1	7	-	7	1800	120	5.8%	-	-	-	0.1	68.7	0.2
4/1	NEWTON LANE Left Ahead Right	O	F		1	27	-	186	1800	420	44.3%	12	0	0	2.4	47.0	5.7
5/1	A6097N exit	U	-		-	-	-	1431	Inf	Inf	0.0%	-	-	-	0.0	0.0	0.0
6/1	KH exit	U	-		-	-	-	131	1800	1800	7.3%	-	-	-	0.0	1.1	0.0
7/1	A6097S exit	U	-		-	-	-	1469	Inf	Inf	0.0%	-	-	-	0.0	0.0	0.0
8/1	NL exit	U	-		-	-	-	140	1800	1800	7.8%	-	-	-	0.0	1.1	0.0

C1

PRC for Signalled Lanes (%): 14.1
PRC Over All Lanes (%): 14.1

Total Delay for Signalled Lanes (pcuHr): 29.07
Total Delay Over All Lanes(pcuHr): 29.15

Cycle Time (s): 120

Scenario 24: '2037HG+suppressed' (FG24: 'pm 2037HG + suppressed', Plan 1: 'all stages')

Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network: A6097/ Kirk Hill 2 lanes A6097, 1 lane side roads running together	-	-	-		-	-	-	-	-	-	95.0%	152	0	20	56.2	-	-
A6097/ Kirk Hill	-	-	-		-	-	-	-	-	-	95.0%	152	0	20	56.2	-	-
1/1	A6097 NTH Left Ahead	U	A		1	52	-	683	1900	839	81.4%	-	-	-	7.7	40.4	21.9
1/2+1/3	A6097 NTH Ahead Right	U	A B		1	52:7	-	721	1900:1800	868	83.1%	-	-	-	8.7	43.3	22.2
2/1	KIRK HILL Right Left Ahead	O	E		1	37	-	241	1800	269	89.4%	145	0	20	6.7	100.5	11.2
3/1	A6097 STH Ahead Left	U	C		1	52	-	797	1900	839	95.0%	-	-	-	14.2	64.2	32.5
3/2	A6097 STH Ahead	U	C		1	52	-	797	1900	839	95.0%	-	-	-	14.2	64.2	32.5
3/3	A6097 STH Right	U	D		1	7	-	3	1800	120	2.5%	-	-	-	0.1	68.1	0.1
4/1	NEWTON LANE Left Ahead Right	O	F		1	37	-	370	1800	570	64.9%	7	0	0	4.5	44.2	11.5
5/1	A6097N exit	U	-		-	-	-	2059	Inf	Inf	0.0%	-	-	-	0.0	0.0	0.0
6/1	KH exit	U	-		-	-	-	134	1800	1800	7.4%	-	-	-	0.0	1.1	0.0
7/1	A6097S exit	U	-		-	-	-	1294	Inf	Inf	0.0%	-	-	-	0.0	0.0	0.0
8/1	NL exit	U	-		-	-	-	125	1800	1800	6.9%	-	-	-	0.0	1.1	0.0

C1

PRC for Signalled Lanes (%): -5.5
PRC Over All Lanes (%): -5.5

Total Delay for Signalled Lanes (pcuHr): 56.09
Total Delay Over All Lanes(pcuHr): 56.17

Cycle Time (s): 120

Scenario 25: 'ip 2037HG' (FG25: 'ip 2037HG', Plan 1: 'all stages')

Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network: A6097/ Kirk Hill 2 lanes A6097, 1 lane side roads running together	-	-	-		-	-	-	-	-	-	43.0%	82	0	0	13.0	-	-
A6097/ Kirk Hill	-	-	-		-	-	-	-	-	-	43.0%	82	0	0	13.0	-	-
1/1	A6097 NTH Left Ahead	U	A		1	66	-	424	1900	1061	40.0%	-	-	-	2.1	17.9	8.3
1/2+1/3	A6097 NTH Ahead Right	U	A B		1	66:8	-	469	1900:1800	1090	43.0%	-	-	-	2.9	22.1	8.1
2/1	KIRK HILL Right Left Ahead	O	E		1	23	-	143	1800	336	42.5%	73	0	0	2.1	52.7	4.5
3/1	A6097 STH Ahead Left	U	C		1	65	-	420	1900	1045	40.2%	-	-	-	2.2	18.5	8.4
3/2	A6097 STH Ahead	U	C		1	65	-	421	1900	1045	40.3%	-	-	-	2.2	18.5	8.4
3/3	A6097 STH Right	U	D		1	7	-	21	1800	120	17.5%	-	-	-	0.4	71.1	0.8
4/1	NEWTON LANE Left Ahead Right	O	F		1	23	-	87	1800	360	24.2%	9	0	0	1.1	46.9	2.6
5/1	A6097N exit	U	-		-	-	-	955	Inf	Inf	0.0%	-	-	-	0.0	0.0	0.0
6/1	KH exit	U	-		-	-	-	108	1800	1800	6.0%	-	-	-	0.0	1.1	0.0
7/1	A6097S exit	U	-		-	-	-	829	Inf	Inf	0.0%	-	-	-	0.0	0.0	0.0
8/1	NL exit	U	-		-	-	-	93	1800	1800	5.2%	-	-	-	0.0	1.1	0.0
C1					PRC for Signalled Lanes (%):		109.3	Total Delay for Signalled Lanes (pcuHr):				12.95	Cycle Time (s): 120				
					PRC Over All Lanes (%):		109.3	Total Delay Over All Lanes(pcuHr):				13.01					

Scenario 26: 'op 2037HG' (FG26: 'op 2037HG', Plan 1: 'all stages')

Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network: A6097/ Kirk Hill 2 lanes A6097, 1 lane side roads running together	-	-	-		-	-	-	-	-	-	3.7%	7	0	0	0.9	-	-
A6097/ Kirk Hill	-	-	-		-	-	-	-	-	-	3.7%	7	0	0	0.9	-	-
1/1	A6097 NTH Left Ahead	U	A		1	68	-	34	1900	1092	3.1%	-	-	-	0.1	12.8	0.5
1/2+1/3	A6097 NTH Ahead Right	U	A B		1	68:8	-	42	1900:1800	1124	3.7%	-	-	-	0.2	17.6	0.6
2/1	KIRK HILL Right Left Ahead	O	E		1	21	-	12	1800	330	3.6%	6	0	0	0.2	46.1	0.3
3/1	A6097 STH Ahead Left	U	C		1	67	-	35	1900	1077	3.3%	-	-	-	0.1	13.2	0.5
3/2	A6097 STH Ahead	U	C		1	67	-	36	1900	1077	3.3%	-	-	-	0.1	13.2	0.5
3/3	A6097 STH Right	U	D		1	7	-	2	1800	120	1.7%	-	-	-	0.0	68.0	0.1
4/1	NEWTON LANE Left Ahead Right	O	F		1	21	-	8	1800	330	2.4%	1	0	0	0.1	46.0	0.2
5/1	A6097N exit	U	-		-	-	-	81	Inf	Inf	0.0%	-	-	-	0.0	0.0	0.0
6/1	KH exit	U	-		-	-	-	9	1800	1800	0.5%	-	-	-	0.0	1.0	0.0
7/1	A6097S exit	U	-		-	-	-	71	Inf	Inf	0.0%	-	-	-	0.0	0.0	0.0
8/1	NL exit	U	-		-	-	-	8	1800	1800	0.4%	-	-	-	0.0	1.0	0.0

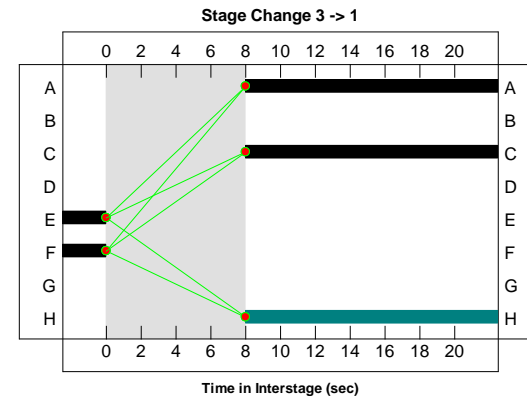
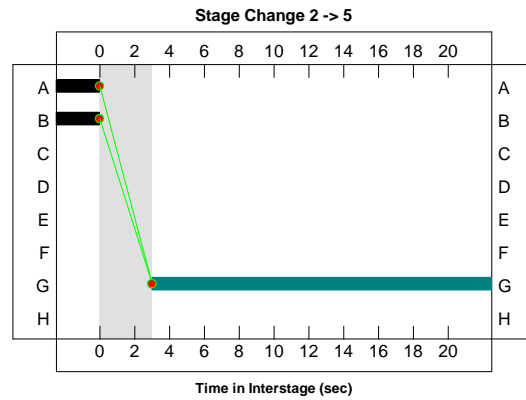
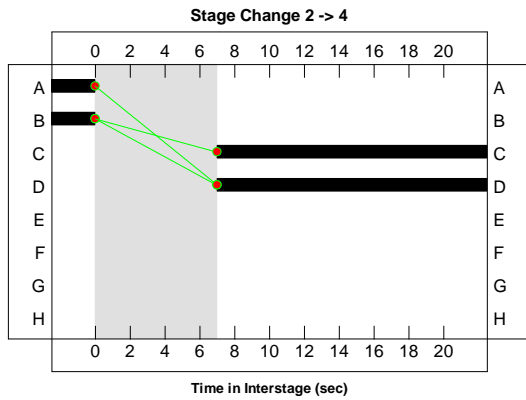
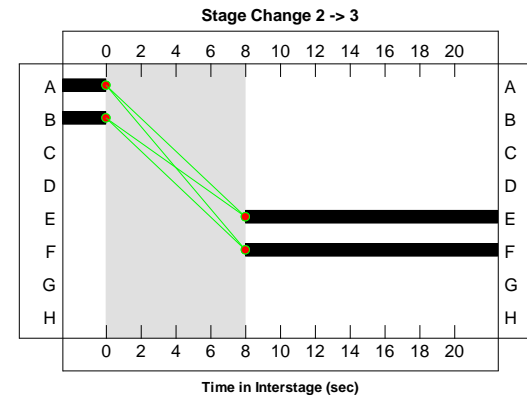
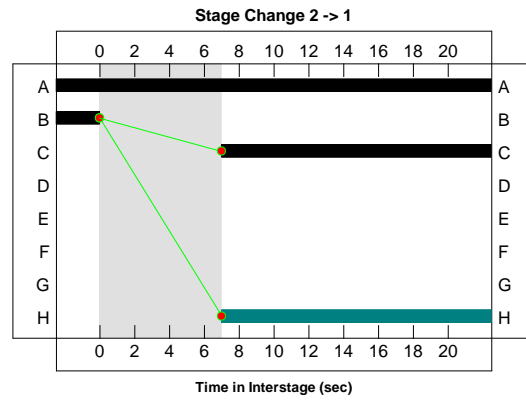
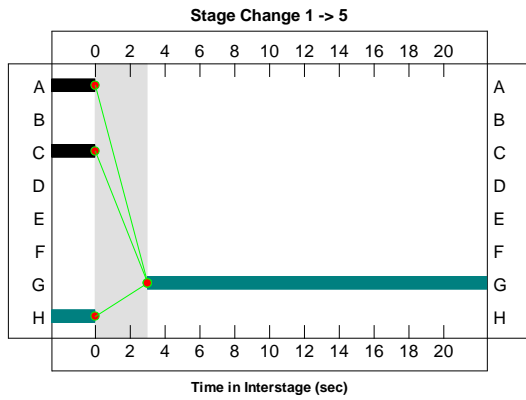
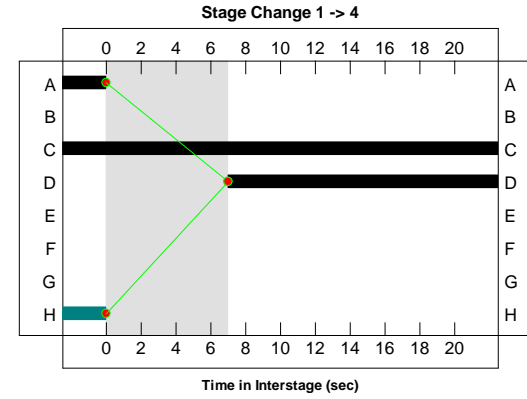
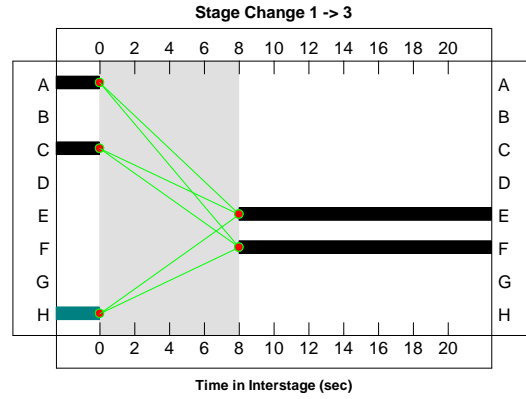
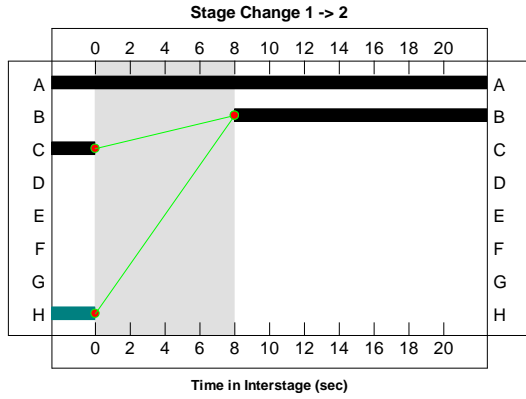
C1

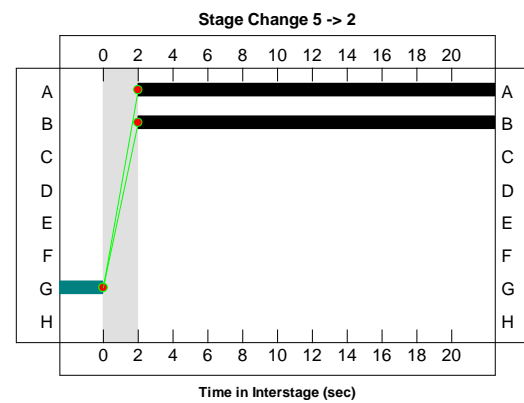
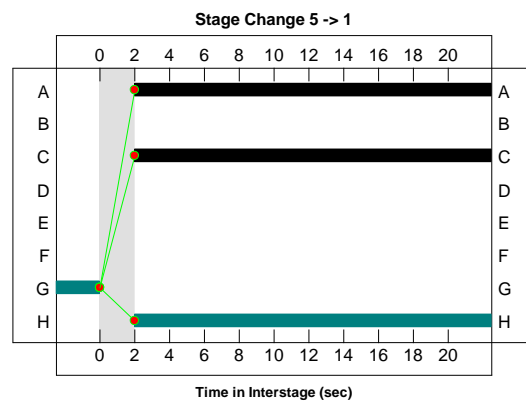
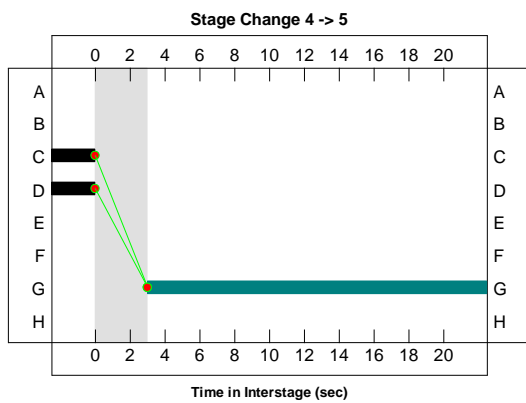
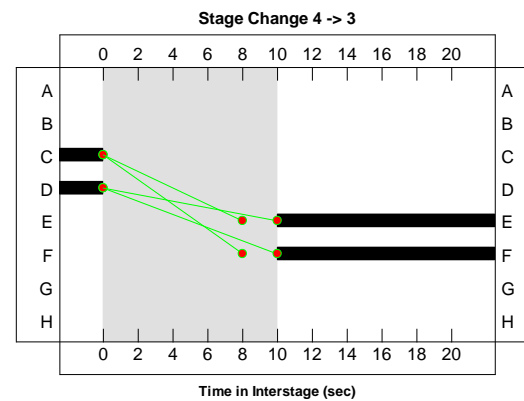
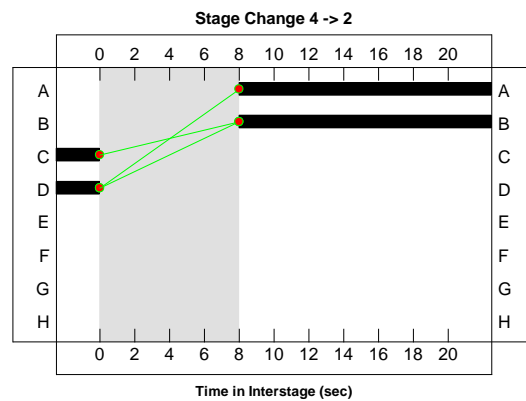
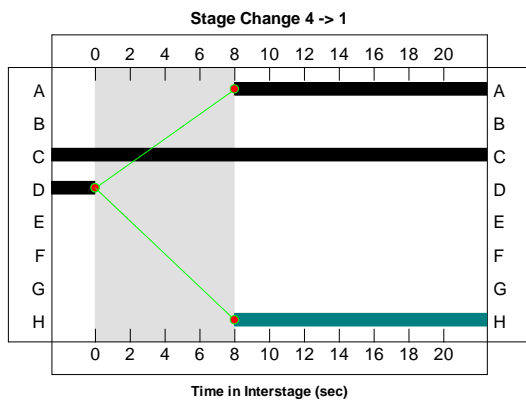
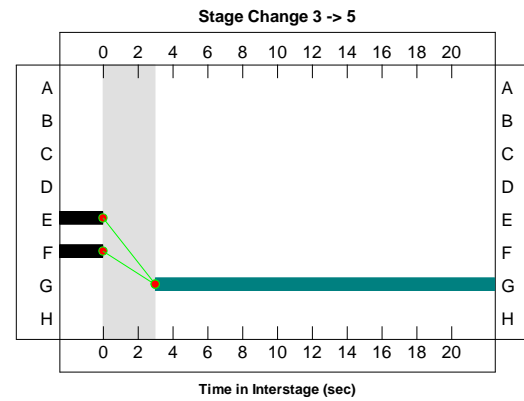
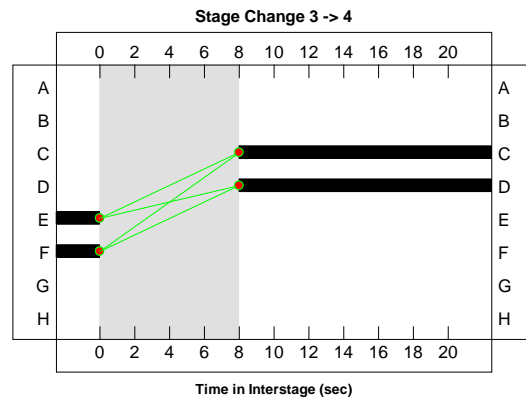
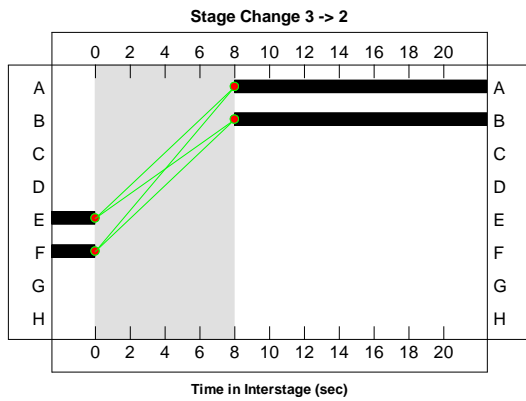
PRC for Signalled Lanes (%): 2309.5
PRC Over All Lanes (%): 2309.5

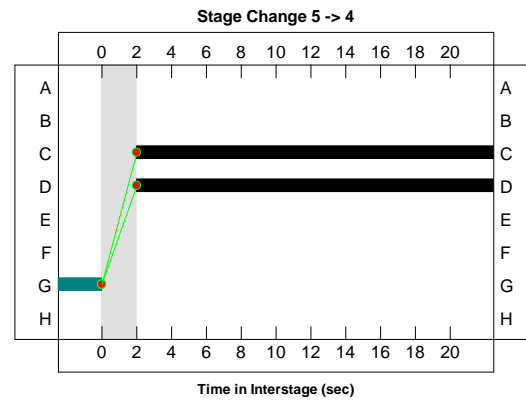
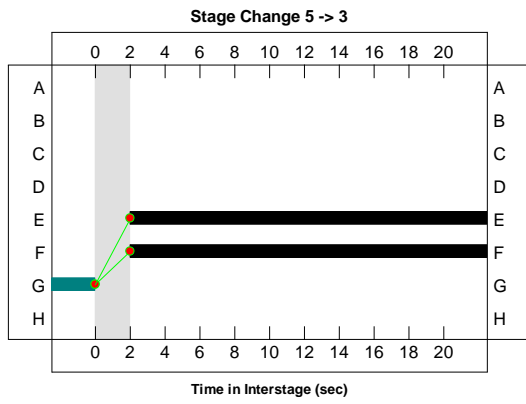
Total Delay for Signalled Lanes (pcuHr): 0.88
Total Delay Over All Lanes(pcuHr): 0.88

Cycle Time (s): 120

Interstage Diagram







Appendix E Maintenance Profiles

Table 1 Ollerton Maintenance expenditure profile over the 60-year appraisal period

Year	Proportion of total cost (%)
2027	0.33
2028	0.33
2029	0.33
2030	3.39
2031	0.33
2032	0.33
2033	0.33
2034	0.33
2035	4.85
2036	0.33
2037	0.33
2038	0.33
2039	0.33
2040	3.39
2041	0.33
2042	0.33
2043	0.33
2044	0.33
2045	18.70
2046	0.33
2047	0.33
2048	0.33
2049	0.33
2050	4.99
2051	0.33
2052	0.33
2053	0.33
2054	0.33
2055	4.85
2056	0.33
2057	0.33
2058	0.33
2059	0.33
2060	3.39
2061	0.33
2062	0.33

Year	Proportion of total cost (%)
2063	0.33
2064	0.33
2065	26.91
2066	0.33
2067	0.33
2068	0.33
2069	0.33
2070	3.38
2071	0.33
2072	0.33
2073	0.33
2074	0.33
2075	7.79
2076	0.33
2077	0.33
2078	0.33
2079	0.33
2080	3.39
2081	0.33
2082	0.65
Total	100.00

Table 2 Lowdham Maintenance expenditure profile over the 60-year appraisal period

Year	Proportion of Total Cost (%)
2027	0.91
2028	1.79
2029	0.87
2030	0.85
2031	0.83
2032	0.81
2033	5.03
2034	0.78
2035	0.76
2036	0.74
2037	0.73
2038	1.42
2039	0.69
2040	0.68
2041	0.66

Year	Proportion of Total Cost (%)
2042	0.65
2043	27.23
2044	0.62
2045	0.61
2046	0.59
2047	0.58
2048	2.46
2049	0.55
2050	0.54
2051	0.53
2052	0.52
2053	3.19
2054	0.49
2055	0.48
2056	0.47
2057	0.46
2058	0.90
2059	0.44
2060	0.43
2061	0.42
2062	0.41
2063	27.04
2064	0.39
2065	0.38
2066	0.38
2067	0.37
2068	0.72
2069	0.35
2070	0.34
2071	0.34
2072	0.33
2073	3.52
2074	0.31
2075	0.31
2076	0.30
2077	0.29
2078	0.57
2079	0.28
2080	0.27

Year	Proportion of Total Cost (%)
2081	0.27
2082	3.12
Total	100.00

Table 3 Kirk Hill Maintenance expenditure profile over the 60-year appraisal period

Year	Proportion of total cost (%)
2026	0.32
2027	0.21
2028	1.43
2029	0.21
2030	0.21
2031	0.21
2032	0.21
2033	5.29
2034	0.21
2035	0.21
2036	0.21
2037	0.21
2038	1.43
2039	0.21
2040	0.21
2041	0.21
2042	0.21
2043	18.53
2044	0.21
2045	0.21
2046	0.21
2047	0.21
2048	3.67
2049	0.21
2050	0.21
2051	0.21
2052	0.21
2053	5.29
2054	0.21
2055	0.21
2056	0.21
2057	0.21
2058	1.43

Year	Proportion of total cost (%)
2059	0.21
2060	0.21
2061	0.21
2062	0.21
2063	40.27
2064	0.21
2065	0.21
2066	0.21
2067	0.21
2068	1.43
2069	0.21
2070	0.21
2071	0.21
2072	0.21
2073	9.77
2074	0.21
2075	0.21
2076	0.21
2077	0.21
2078	1.43
2079	0.21
2080	0.21
2081	0.21
2082	0.52
Total	100.00

Appendix F Ollerton TUBA – OB

SCHEME SPECIFIC PARAMETERS

PARAMETERS

TUBA_version 1.9.17
run_name TUBA-1_Ollerton_FBC_OB_20_Perc_V3
do_min_name DM
do_som_name DS

first_yr 2023
horizon_yr 2082
modelled_yrs 2023 2037
detail Yes
current_yr 2023
print_warn 20
P&R_car_speed 65.0
zones_as_sectors No

TIME_SLICES

*no.	duration(min)	annualisation	period	description
1	60	648	1	peak hour am 08:00-09:00
2	60	667	2	peak hour pm 17:00-18:00
3	60	2997	3	peak hour ip 10:00-16:00
4	60	4438	4	off peak hour

SCHEMES_DM

*Mode 1st Construction year Opening_yr Stage

DO_MIN_COSTS

*Type Mode Funding Cost Price RPI

DO_MIN_PROFILE

*Year Mode %Const %Land %Prep %Super %Maint %Op %Grant %Dev

DO_MIN_DELAY_COSTS

*Year Mode Business Commuting Other Freight

SCHEMES_DS

*Mode 1st Construction year Opening_yr Stage
1 2024 2027 SI

DO_SOM_COSTS

*Type	Mode	Funding	Cost	Price	RPI		
M	1		LOC	1058.27	F	123.41	1
P	1		CEN	1021.41	F	133.39	1.00
C	1		CEN	10209.59	F	133.39	1.00
L	1		CEN	523.69	F	133.39	1.00
S	1		CEN	70.25	F	133.39	1.00
P	1		LOC	629.12	F	133.39	1.00
C	1		LOC	3353.65	F	133.39	1.00
L	1		LOC	387.93	F	133.39	1.00
S	1		LOC	26.00	F	133.39	1.00
D	1		LOC	1192.76	F	133.39	1.00

DO_SOM_PROFILE

*Year	Mode	%Const	%Land	%Prep	%Super	%Maint	%Op	%Grant	%Dev
2023	1	1.93	50.00	29.04	0.00	0.00	0.00	0.00	16.16
2024	1	29.68	50.00	30.12	30.00	0.00	0.00	0.00	0.00
2025	1	47.35	0.00	23.34	40.00	0.00	0.00	0.00	0.00
2026	1	21.04	0.00	17.50	30.00	0.00	0.00	0.00	83.84
2027	1	0	0	0	0	0.326	0	0	0
2028	1	0	0	0	0	0.326	0	0	0
2029	1	0	0	0	0	0.326	0	0	0
2030	1	0	0	0	0	3.387	0	0	0
2031	1	0	0	0	0	0.326	0	0	0
2032	1	0	0	0	0	0.326	0	0	0
2033	1	0	0	0	0	0.326	0	0	0
2034	1	0	0	0	0	0.326	0	0	0
2035	1	0	0	0	0	4.846	0	0	0
2036	1	0	0	0	0	0.326	0	0	0
2037	1	0	0	0	0	0.326	0	0	0
2038	1	0	0	0	0	0.326	0	0	0
2039	1	0	0	0	0	0.326	0	0	0
2040	1	0	0	0	0	3.387	0	0	0
2041	1	0	0	0	0	0.326	0	0	0
2042	1	0	0	0	0	0.326	0	0	0
2043	1	0	0	0	0	0.326	0	0	0
2044	1	0	0	0	0	0.326	0	0	0
2045	1	0	0	0	0	18.704	0	0	0
2046	1	0	0	0	0	0.326	0	0	0
2047	1	0	0	0	0	0.326	0	0	0
2048	1	0	0	0	0	0.326	0	0	0
2049	1	0	0	0	0	0.326	0	0	0
2050	1	0	0	0	0	4.986	0	0	0
2051	1	0	0	0	0	0.326	0	0	0

2052	1	0	0	0	0	0.326	0	0	0
2053	1	0	0	0	0	0.326	0	0	0
2054	1	0	0	0	0	0.326	0	0	0
2055	1	0	0	0	0	4.846	0	0	0
2056	1	0	0	0	0	0.326	0	0	0
2057	1	0	0	0	0	0.326	0	0	0
2058	1	0	0	0	0	0.326	0	0	0
2059	1	0	0	0	0	0.326	0	0	0
2060	1	0	0	0	0	3.387	0	0	0
2061	1	0	0	0	0	0.326	0	0	0
2062	1	0	0	0	0	0.326	0	0	0
2063	1	0	0	0	0	0.326	0	0	0
2064	1	0	0	0	0	0.326	0	0	0
2065	1	0	0	0	0	26.909	0	0	0
2066	1	0	0	0	0	0.326	0	0	0
2067	1	0	0	0	0	0.326	0	0	0
2068	1	0	0	0	0	0.326	0	0	0
2069	1	0	0	0	0	0.326	0	0	0
2070	1	0	0	0	0	3.376	0	0	0
2071	1	0	0	0	0	0.326	0	0	0
2072	1	0	0	0	0	0.326	0	0	0
2073	1	0	0	0	0	0.326	0	0	0
2074	1	0	0	0	0	0.326	0	0	0
2075	1	0	0	0	0	7.791	0	0	0
2076	1	0	0	0	0	0.326	0	0	0
2077	1	0	0	0	0	0.326	0	0	0
2078	1	0	0	0	0	0.326	0	0	0
2079	1	0	0	0	0	0.325	0	0	0
2080	1	0	0	0	0	3.387	0	0	0
2081	1	0	0	0	0	0.325	0	0	0
2082	1	0	0	0	0	0.652	0	0	0

DO_SOM_DELAY_COSTS

*Year Mode Business Commuting Other Freight

BENEFIT_CHANGE

*% change p.a.

*Start_yr End_yr Submode ChangePer1 ChangePer2 ChangePer3 ChangePer4 ChangePer5

USER_CLASSES

*no. Veh/submode purpose person_type

1 1 1 0

2	1	2	0
3	1	3	0
4	2	3	0
5	3	1	0
6	4	1	0
7	5	1	0

INPUT_MATRICES

*no.	userclasses	timeslice	type	format	scenario	year	factor	filename
1	1	1	V	1	0	2023	0.05583	L:\60625845_A614 MRN DFT responses\2023_Draft_FBC\TUBA\1-Ollerton-2023-Draft-FBC\Outputs\V_1_Ollerton AM 2023 DM.txt
2	2	1	V	1	0	2023	0.30763	L:\60625845_A614 MRN DFT responses\2023_Draft_FBC\TUBA\1-Ollerton-2023-Draft-FBC\Outputs\V_1_Ollerton AM 2023 DM.txt
3	3	1	V	1	0	2023	0.43971	L:\60625845_A614 MRN DFT responses\2023_Draft_FBC\TUBA\1-Ollerton-2023-Draft-FBC\Outputs\V_1_Ollerton AM 2023 DM.txt
4	4	1	V	1	0	2023	0.01535	L:\60625845_A614 MRN DFT responses\2023_Draft_FBC\TUBA\1-Ollerton-2023-Draft-FBC\Outputs\V_1_Ollerton AM 2023 DM.txt
5	5	1	V	1	0	2023	0.11258	L:\60625845_A614 MRN DFT responses\2023_Draft_FBC\TUBA\1-Ollerton-2023-Draft-FBC\Outputs\V_1_Ollerton AM 2023 DM.txt
6	6	1	V	1	0	2023	0.03823	L:\60625845_A614 MRN DFT responses\2023_Draft_FBC\TUBA\1-Ollerton-2023-Draft-FBC\Outputs\V_1_Ollerton AM 2023 DM.txt
7	7	1	V	1	0	2023	0.03066	L:\60625845_A614 MRN DFT responses\2023_Draft_FBC\TUBA\1-Ollerton-2023-Draft-FBC\Outputs\V_1_Ollerton AM 2023 DM.txt
8	1	2	V	1	0	2023	0.04371	L:\60625845_A614 MRN DFT responses\2023_Draft_FBC\TUBA\1-Ollerton-2023-Draft-FBC\Outputs\V_1_Ollerton PM 2023 DM.txt
9	2	2	V	1	0	2023	0.27841	L:\60625845_A614 MRN DFT responses\2023_Draft_FBC\TUBA\1-Ollerton-2023-Draft-FBC\Outputs\V_1_Ollerton PM 2023 DM.txt
10	3	2	V	1	0	2023	0.53249	L:\60625845_A614 MRN DFT responses\2023_Draft_FBC\TUBA\1-Ollerton-2023-Draft-FBC\Outputs\V_1_Ollerton PM 2023 DM.txt
11	4	2	V	1	0	2023	0.01327	L:\60625845_A614 MRN DFT responses\2023_Draft_FBC\TUBA\1-Ollerton-2023-Draft-FBC\Outputs\V_1_Ollerton PM 2023 DM.txt
12	5	2	V	1	0	2023	0.09729	L:\60625845_A614 MRN DFT responses\2023_Draft_FBC\TUBA\1-Ollerton-2023-Draft-FBC\Outputs\V_1_Ollerton PM 2023 DM.txt
13	6	2	V	1	0	2023	0.01600	L:\60625845_A614 MRN DFT responses\2023_Draft_FBC\TUBA\1-Ollerton-2023-Draft-FBC\Outputs\V_1_Ollerton PM 2023 DM.txt
14	7	2	V	1	0	2023	0.01884	L:\60625845_A614 MRN DFT responses\2023_Draft_FBC\TUBA\1-Ollerton-2023-Draft-FBC\Outputs\V_1_Ollerton PM 2023 DM.txt
15	1	3	V	1	0	2023	0.05528	L:\60625845_A614 MRN DFT responses\2023_Draft_FBC\TUBA\1-Ollerton-2023-Draft-FBC\Outputs\V_1_Ollerton IP 2023 DM.txt
16	2	3	V	1	0	2023	0.08674	L:\60625845_A614 MRN DFT responses\2023_Draft_FBC\TUBA\1-Ollerton-2023-Draft-FBC\Outputs\V_1_Ollerton IP 2023 DM.txt
17	3	3	V	1	0	2023	0.62682	L:\60625845_A614 MRN DFT responses\2023_Draft_FBC\TUBA\1-Ollerton-2023-Draft-FBC\Outputs\V_1_Ollerton IP 2023 DM.txt
18	4	3	V	1	0	2023	0.01654	L:\60625845_A614 MRN DFT responses\2023_Draft_FBC\TUBA\1-Ollerton-2023-Draft-FBC\Outputs\V_1_Ollerton IP 2023 DM.txt
19	5	3	V	1	0	2023	0.12130	L:\60625845_A614 MRN DFT responses\2023_Draft_FBC\TUBA\1-Ollerton-2023-Draft-FBC\Outputs\V_1_Ollerton IP 2023 DM.txt
20	6	3	V	1	0	2023	0.05474	L:\60625845_A614 MRN DFT responses\2023_Draft_FBC\TUBA\1-Ollerton-2023-Draft-FBC\Outputs\V_1_Ollerton IP 2023 DM.txt
21	7	3	V	1	0	2023	0.03858	L:\60625845_A614 MRN DFT responses\2023_Draft_FBC\TUBA\1-Ollerton-2023-Draft-FBC\Outputs\V_1_Ollerton IP 2023 DM.txt
22	1	4	V	1	0	2023	0.03313	L:\60625845_A614 MRN DFT responses\2023_Draft_FBC\TUBA\1-Ollerton-2023-Draft-FBC\Outputs\V_1_Ollerton OP 2023 DM.txt
23	2	4	V	1	0	2023	0.22108	L:\60625845_A614 MRN DFT responses\2023_Draft_FBC\TUBA\1-Ollerton-2023-Draft-FBC\Outputs\V_1_Ollerton OP 2023 DM.txt

169 1 2037 DM.txt	1	V	1	0	2037	0.05583	L:\60625845_A614 MRN DfT responses\2023_Draft_FBC\TUBA\1-Ollerton-2023-Draft-FBC\Outputs\V_1_Ollerton AM
170 2 2037 DM.txt	1	V	1	0	2037	0.30763	L:\60625845_A614 MRN DfT responses\2023_Draft_FBC\TUBA\1-Ollerton-2023-Draft-FBC\Outputs\V_1_Ollerton AM
171 3 2037 DM.txt	1	V	1	0	2037	0.43971	L:\60625845_A614 MRN DfT responses\2023_Draft_FBC\TUBA\1-Ollerton-2023-Draft-FBC\Outputs\V_1_Ollerton AM
172 4 2037 DM.txt	1	V	1	0	2037	0.01535	L:\60625845_A614 MRN DfT responses\2023_Draft_FBC\TUBA\1-Ollerton-2023-Draft-FBC\Outputs\V_1_Ollerton AM
173 5 2037 DM.txt	1	V	1	0	2037	0.11258	L:\60625845_A614 MRN DfT responses\2023_Draft_FBC\TUBA\1-Ollerton-2023-Draft-FBC\Outputs\V_1_Ollerton AM
174 6 2037 DM.txt	1	V	1	0	2037	0.03823	L:\60625845_A614 MRN DfT responses\2023_Draft_FBC\TUBA\1-Ollerton-2023-Draft-FBC\Outputs\V_1_Ollerton AM
175 7 2037 DM.txt	1	V	1	0	2037	0.03066	L:\60625845_A614 MRN DfT responses\2023_Draft_FBC\TUBA\1-Ollerton-2023-Draft-FBC\Outputs\V_1_Ollerton AM
176 1 2037 DM.txt	2	V	1	0	2037	0.04371	L:\60625845_A614 MRN DfT responses\2023_Draft_FBC\TUBA\1-Ollerton-2023-Draft-FBC\Outputs\V_1_Ollerton PM
177 2 2037 DM.txt	2	V	1	0	2037	0.27841	L:\60625845_A614 MRN DfT responses\2023_Draft_FBC\TUBA\1-Ollerton-2023-Draft-FBC\Outputs\V_1_Ollerton PM
178 3 2037 DM.txt	2	V	1	0	2037	0.53249	L:\60625845_A614 MRN DfT responses\2023_Draft_FBC\TUBA\1-Ollerton-2023-Draft-FBC\Outputs\V_1_Ollerton PM
179 4 2037 DM.txt	2	V	1	0	2037	0.01327	L:\60625845_A614 MRN DfT responses\2023_Draft_FBC\TUBA\1-Ollerton-2023-Draft-FBC\Outputs\V_1_Ollerton PM
180 5 2037 DM.txt	2	V	1	0	2037	0.09729	L:\60625845_A614 MRN DfT responses\2023_Draft_FBC\TUBA\1-Ollerton-2023-Draft-FBC\Outputs\V_1_Ollerton PM
181 6 2037 DM.txt	2	V	1	0	2037	0.01600	L:\60625845_A614 MRN DfT responses\2023_Draft_FBC\TUBA\1-Ollerton-2023-Draft-FBC\Outputs\V_1_Ollerton PM
182 7 2037 DM.txt	2	V	1	0	2037	0.01884	L:\60625845_A614 MRN DfT responses\2023_Draft_FBC\TUBA\1-Ollerton-2023-Draft-FBC\Outputs\V_1_Ollerton PM
183 1 DM.txt	3	V	1	0	2037	0.05528	L:\60625845_A614 MRN DfT responses\2023_Draft_FBC\TUBA\1-Ollerton-2023-Draft-FBC\Outputs\V_1_Ollerton IP 2037
184 2 DM.txt	3	V	1	0	2037	0.08674	L:\60625845_A614 MRN DfT responses\2023_Draft_FBC\TUBA\1-Ollerton-2023-Draft-FBC\Outputs\V_1_Ollerton IP 2037
185 3 DM.txt	3	V	1	0	2037	0.62682	L:\60625845_A614 MRN DfT responses\2023_Draft_FBC\TUBA\1-Ollerton-2023-Draft-FBC\Outputs\V_1_Ollerton IP 2037
186 4 DM.txt	3	V	1	0	2037	0.01654	L:\60625845_A614 MRN DfT responses\2023_Draft_FBC\TUBA\1-Ollerton-2023-Draft-FBC\Outputs\V_1_Ollerton IP 2037
187 5 DM.txt	3	V	1	0	2037	0.12130	L:\60625845_A614 MRN DfT responses\2023_Draft_FBC\TUBA\1-Ollerton-2023-Draft-FBC\Outputs\V_1_Ollerton IP 2037
188 6 DM.txt	3	V	1	0	2037	0.05474	L:\60625845_A614 MRN DfT responses\2023_Draft_FBC\TUBA\1-Ollerton-2023-Draft-FBC\Outputs\V_1_Ollerton IP 2037
189 7 DM.txt	3	V	1	0	2037	0.03858	L:\60625845_A614 MRN DfT responses\2023_Draft_FBC\TUBA\1-Ollerton-2023-Draft-FBC\Outputs\V_1_Ollerton IP 2037
190 1 2037 DM.txt	4	V	1	0	2037	0.03313	L:\60625845_A614 MRN DfT responses\2023_Draft_FBC\TUBA\1-Ollerton-2023-Draft-FBC\Outputs\V_1_Ollerton OP
191 2 2037 DM.txt	4	V	1	0	2037	0.22108	L:\60625845_A614 MRN DfT responses\2023_Draft_FBC\TUBA\1-Ollerton-2023-Draft-FBC\Outputs\V_1_Ollerton OP
192 3 2037 DM.txt	4	V	1	0	2037	0.51462	L:\60625845_A614 MRN DfT responses\2023_Draft_FBC\TUBA\1-Ollerton-2023-Draft-FBC\Outputs\V_1_Ollerton OP
193 4 2037 DM.txt	4	V	1	0	2037	0.01654	L:\60625845_A614 MRN DfT responses\2023_Draft_FBC\TUBA\1-Ollerton-2023-Draft-FBC\Outputs\V_1_Ollerton OP
194 5 2037 DM.txt	4	V	1	0	2037	0.12130	L:\60625845_A614 MRN DfT responses\2023_Draft_FBC\TUBA\1-Ollerton-2023-Draft-FBC\Outputs\V_1_Ollerton OP
195 6 2037 DM.txt	4	V	1	0	2037	0.05474	L:\60625845_A614 MRN DfT responses\2023_Draft_FBC\TUBA\1-Ollerton-2023-Draft-FBC\Outputs\V_1_Ollerton OP
196 7 2037 DM.txt	4	V	1	0	2037	0.03858	L:\60625845_A614 MRN DfT responses\2023_Draft_FBC\TUBA\1-Ollerton-2023-Draft-FBC\Outputs\V_1_Ollerton OP
197 1 2037 DS.txt	1	V	1	1	2037	0.05583	L:\60625845_A614 MRN DfT responses\2023_Draft_FBC\TUBA\1-Ollerton-2023-Draft-FBC\Outputs\V_1_Ollerton AM

198 2 2037 DS.txt	1	V	1	1	2037	0.30763	L:\60625845_A614 MRN DfT responses\2023_Draft_FBC\TUBA\1-Ollerton-2023-Draft-FBC\Outputs\V_1_Ollerton AM
199 3 2037 DS.txt	1	V	1	1	2037	0.43971	L:\60625845_A614 MRN DfT responses\2023_Draft_FBC\TUBA\1-Ollerton-2023-Draft-FBC\Outputs\V_1_Ollerton AM
200 4 2037 DS.txt	1	V	1	1	2037	0.01535	L:\60625845_A614 MRN DfT responses\2023_Draft_FBC\TUBA\1-Ollerton-2023-Draft-FBC\Outputs\V_1_Ollerton AM
201 5 2037 DS.txt	1	V	1	1	2037	0.11258	L:\60625845_A614 MRN DfT responses\2023_Draft_FBC\TUBA\1-Ollerton-2023-Draft-FBC\Outputs\V_1_Ollerton AM
202 6 2037 DS.txt	1	V	1	1	2037	0.03823	L:\60625845_A614 MRN DfT responses\2023_Draft_FBC\TUBA\1-Ollerton-2023-Draft-FBC\Outputs\V_1_Ollerton AM
203 7 2037 DS.txt	1	V	1	1	2037	0.03066	L:\60625845_A614 MRN DfT responses\2023_Draft_FBC\TUBA\1-Ollerton-2023-Draft-FBC\Outputs\V_1_Ollerton AM
204 1 2037 DS.txt	2	V	1	1	2037	0.04371	L:\60625845_A614 MRN DfT responses\2023_Draft_FBC\TUBA\1-Ollerton-2023-Draft-FBC\Outputs\V_1_Ollerton PM
205 2 2037 DS.txt	2	V	1	1	2037	0.27841	L:\60625845_A614 MRN DfT responses\2023_Draft_FBC\TUBA\1-Ollerton-2023-Draft-FBC\Outputs\V_1_Ollerton PM
206 3 2037 DS.txt	2	V	1	1	2037	0.53249	L:\60625845_A614 MRN DfT responses\2023_Draft_FBC\TUBA\1-Ollerton-2023-Draft-FBC\Outputs\V_1_Ollerton PM
207 4 2037 DS.txt	2	V	1	1	2037	0.01327	L:\60625845_A614 MRN DfT responses\2023_Draft_FBC\TUBA\1-Ollerton-2023-Draft-FBC\Outputs\V_1_Ollerton PM
208 5 2037 DS.txt	2	V	1	1	2037	0.09729	L:\60625845_A614 MRN DfT responses\2023_Draft_FBC\TUBA\1-Ollerton-2023-Draft-FBC\Outputs\V_1_Ollerton PM
209 6 2037 DS.txt	2	V	1	1	2037	0.01600	L:\60625845_A614 MRN DfT responses\2023_Draft_FBC\TUBA\1-Ollerton-2023-Draft-FBC\Outputs\V_1_Ollerton PM
210 7 2037 DS.txt	2	V	1	1	2037	0.01884	L:\60625845_A614 MRN DfT responses\2023_Draft_FBC\TUBA\1-Ollerton-2023-Draft-FBC\Outputs\V_1_Ollerton PM
211 1 DS.txt	3	V	1	1	2037	0.05528	L:\60625845_A614 MRN DfT responses\2023_Draft_FBC\TUBA\1-Ollerton-2023-Draft-FBC\Outputs\V_1_Ollerton IP 2037
212 2 DS.txt	3	V	1	1	2037	0.08674	L:\60625845_A614 MRN DfT responses\2023_Draft_FBC\TUBA\1-Ollerton-2023-Draft-FBC\Outputs\V_1_Ollerton IP 2037
213 3 DS.txt	3	V	1	1	2037	0.62682	L:\60625845_A614 MRN DfT responses\2023_Draft_FBC\TUBA\1-Ollerton-2023-Draft-FBC\Outputs\V_1_Ollerton IP 2037
214 4 DS.txt	3	V	1	1	2037	0.01654	L:\60625845_A614 MRN DfT responses\2023_Draft_FBC\TUBA\1-Ollerton-2023-Draft-FBC\Outputs\V_1_Ollerton IP 2037
215 5 DS.txt	3	V	1	1	2037	0.12130	L:\60625845_A614 MRN DfT responses\2023_Draft_FBC\TUBA\1-Ollerton-2023-Draft-FBC\Outputs\V_1_Ollerton IP 2037
216 6 DS.txt	3	V	1	1	2037	0.05474	L:\60625845_A614 MRN DfT responses\2023_Draft_FBC\TUBA\1-Ollerton-2023-Draft-FBC\Outputs\V_1_Ollerton IP 2037
217 7 DS.txt	3	V	1	1	2037	0.03858	L:\60625845_A614 MRN DfT responses\2023_Draft_FBC\TUBA\1-Ollerton-2023-Draft-FBC\Outputs\V_1_Ollerton IP 2037
218 1 2037 DS.txt	4	V	1	1	2037	0.03313	L:\60625845_A614 MRN DfT responses\2023_Draft_FBC\TUBA\1-Ollerton-2023-Draft-FBC\Outputs\V_1_Ollerton OP
219 2 2037 DS.txt	4	V	1	1	2037	0.22108	L:\60625845_A614 MRN DfT responses\2023_Draft_FBC\TUBA\1-Ollerton-2023-Draft-FBC\Outputs\V_1_Ollerton OP
220 3 2037 DS.txt	4	V	1	1	2037	0.51462	L:\60625845_A614 MRN DfT responses\2023_Draft_FBC\TUBA\1-Ollerton-2023-Draft-FBC\Outputs\V_1_Ollerton OP
221 4 2037 DS.txt	4	V	1	1	2037	0.01654	L:\60625845_A614 MRN DfT responses\2023_Draft_FBC\TUBA\1-Ollerton-2023-Draft-FBC\Outputs\V_1_Ollerton OP
222 5 2037 DS.txt	4	V	1	1	2037	0.12130	L:\60625845_A614 MRN DfT responses\2023_Draft_FBC\TUBA\1-Ollerton-2023-Draft-FBC\Outputs\V_1_Ollerton OP
223 6 2037 DS.txt	4	V	1	1	2037	0.05474	L:\60625845_A614 MRN DfT responses\2023_Draft_FBC\TUBA\1-Ollerton-2023-Draft-FBC\Outputs\V_1_Ollerton OP
224 7 2037 DS.txt	4	V	1	1	2037	0.03858	L:\60625845_A614 MRN DfT responses\2023_Draft_FBC\TUBA\1-Ollerton-2023-Draft-FBC\Outputs\V_1_Ollerton OP
225 1 2037 DM.txt	1	T	1	0	2037	1.00000	L:\60625845_A614 MRN DfT responses\2023_Draft_FBC\TUBA\1-Ollerton-2023-Draft-FBC\Outputs\T_1_Ollerton AM
226 2 2037 DM.txt	1	T	1	0	2037	1.00000	L:\60625845_A614 MRN DfT responses\2023_Draft_FBC\TUBA\1-Ollerton-2023-Draft-FBC\Outputs\T_1_Ollerton AM

343 7 X R 1 X XXXX 1.00000 L:\60625845_A614 MRN DfT responses\2023_Draft_FBC\TUBA\1-Ollerton-2023-Draft-FBC\Outputs\D_1_Ollerton AM
2023 DM.txt

SECTORS

*mode Sector_file_name

ERRORS AND WARNINGS

Warning: Scheme parameter zones_as_sectors set to no: Possibility that small aggregation errors may occur in the TEE table for some appraisals. Recommend undertaking a sensitivity test using a sector system (and some sectors) to check.

3036 Warnings found in total (including any above)

Warning (406 serious): Ratio of DM to DS travel time higher than limit for the following:

Origin	Destination	Time_slice	Veh_type	Purpose	Person_type	Year	DM_time	DS_time	Ratio	DM_trips	DS_trips	
3	1	2	Car	Business	All	2037	0.099	0.003	34.996	12.851	12.851	
3	2	2	Car	Business	All	2037	0.099	0.003	34.996	2.929	2.929	
3	4	2	Car	Business	All	2037	0.099	0.003	34.996	0.612	0.612	
3	5	2	Car	Business	All	2037	0.099	0.003	34.996	3.715	3.715	
3	1	2	Car	Commuting	All	2037	0.099	0.003	34.996	81.853	81.853	
3	2	2	Car	Commuting	All	2037	0.099	0.003	34.996	18.653	18.653	
3	4	2	Car	Commuting	All	2037	0.099	0.003	34.996	3.898	3.898	
3	5	2	Car	Commuting	All	2037	0.099	0.003	34.996	23.665	23.665	
3	1	2	Car	Other	All	2037	0.099	0.003	34.996	156.552	156.552	
3	2	2	Car	Other	All	2037	0.099	0.003	34.996	35.677	35.677	
3	4	2	Car	Other	All	2037	0.099	0.003	34.996	7.455	7.455	
3	5	2	Car	Other	All	2037	0.099	0.003	34.996	45.262	45.262	
3	1	2	LGV	Personal	Other	All	2037	0.099	0.003	34.996	3.901	3.901
3	2	2	LGV	Personal	Other	All	2037	0.099	0.003	34.996	0.889	0.889
3	4	2	LGV	Personal	Other	All	2037	0.099	0.003	34.996	0.186	0.186
3	5	2	LGV	Personal	Other	All	2037	0.099	0.003	34.996	1.128	1.128
3	1	2	LGV	Freight	Business	All	2037	0.099	0.003	34.996	28.603	28.603
3	2	2	LGV	Freight	Business	All	2037	0.099	0.003	34.996	6.518	6.518
3	4	2	LGV	Freight	Business	All	2037	0.099	0.003	34.996	1.362	1.362
3	5	2	LGV	Freight	Business	All	2037	0.099	0.003	34.996	8.270	8.270

Displayed 20 warnings of a total of 630 of this type.

Warning: DM speeds greater than limit for the following:

Origin	Destination	Time_slice	Veh_type	Purpose	Person_type	Year	DM_dist	DM_time	Cal_Speed	DM_trips	VOC_Speed	
2	2	4	LGV	Freight	Business	All	2023	2.000	0.000	4166.667	0.000	110.000
2	3	4	LGV	Freight	Business	All	2023	2.000	0.000	4166.667	0.485	110.000
2	4	4	LGV	Freight	Business	All	2023	2.000	0.000	4166.667	1.213	110.000
2	1	4	OGV1	Business	All	2023	2.000	0.000	4166.667	1.314	85.000	
2	2	4	OGV1	Business	All	2023	2.000	0.000	4166.667	0.000	85.000	
2	3	4	OGV1	Business	All	2023	2.000	0.000	4166.667	0.219	85.000	
2	4	4	OGV1	Business	All	2023	2.000	0.000	4166.667	0.547	85.000	
2	5	4	OGV1	Business	All	2023	2.000	0.000	4166.667	1.533	85.000	

2	1	4	LGV Freight	Business	All	2023	2.000	0.000	4166.667	2.911	110.000
2	5	4	LGV Freight	Business	All	2023	2.000	0.000	4166.667	3.396	110.000
2	1	4	Car	Business	All	2023	2.000	0.000	4166.667	0.795	130.000
2	2	4	Car	Business	All	2023	2.000	0.000	4166.667	0.000	130.000
2	3	4	Car	Business	All	2023	2.000	0.000	4166.667	0.133	130.000
2	4	4	Car	Business	All	2023	2.000	0.000	4166.667	0.331	130.000
2	1	4	OGV2	Business	All	2023	2.000	0.000	4166.667	0.926	85.000
2	2	4	OGV2	Business	All	2023	2.000	0.000	4166.667	0.000	85.000
2	3	4	OGV2	Business	All	2023	2.000	0.000	4166.667	0.154	85.000
2	4	4	OGV2	Business	All	2023	2.000	0.000	4166.667	0.386	85.000
2	5	4	OGV2	Business	All	2023	2.000	0.000	4166.667	1.080	85.000
2	5	4	Car	Business	All	2023	2.000	0.000	4166.667	0.928	130.000

Displayed 20 warnings of a total of 1116 of this type.

Warning: DS speeds greater than limit for the following:

Origin	Destination	Time_slice	Veh_type	Purpose	Person_type	Year	DS_dist	DS_time	Ca_Speed	DS_trips	VOC_Speed
2	2	4	LGV Freight	Business	All	2023	2.000	0.000	4347.826	0.000	110.000
2	3	4	LGV Freight	Business	All	2023	2.000	0.000	4347.826	0.485	110.000
2	4	4	LGV Freight	Business	All	2023	2.000	0.000	4347.826	1.213	110.000
2	2	4	Car	Business	All	2023	2.000	0.000	4347.826	0.000	130.000
2	3	4	Car	Business	All	2023	2.000	0.000	4347.826	0.133	130.000
2	5	4	LGV Freight	Business	All	2023	2.000	0.000	4347.826	3.396	110.000
2	1	4	OGV1	Business	All	2023	2.000	0.000	4347.826	1.314	85.000
2	2	4	OGV1	Business	All	2023	2.000	0.000	4347.826	0.000	85.000
2	3	4	OGV1	Business	All	2023	2.000	0.000	4347.826	0.219	85.000
2	4	4	OGV1	Business	All	2023	2.000	0.000	4347.826	0.547	85.000
2	4	4	Car	Business	All	2023	2.000	0.000	4347.826	0.331	130.000
2	5	4	OGV1	Business	All	2023	2.000	0.000	4347.826	1.533	85.000
2	1	4	OGV2	Business	All	2023	2.000	0.000	4347.826	0.926	85.000
2	5	4	Car	Business	All	2023	2.000	0.000	4347.826	0.928	130.000
2	2	4	OGV2	Business	All	2023	2.000	0.000	4347.826	0.000	85.000
2	3	4	OGV2	Business	All	2023	2.000	0.000	4347.826	0.154	85.000
2	4	4	OGV2	Business	All	2023	2.000	0.000	4347.826	0.386	85.000
2	1	4	Car	Business	All	2023	2.000	0.000	4347.826	0.795	130.000
2	1	4	LGV Freight	Business	All	2023	2.000	0.000	4347.826	2.911	110.000
2	5	4	OGV2	Business	All	2023	2.000	0.000	4347.826	1.080	85.000

Displayed 20 warnings of a total of 1288 of this type.

TUBA ECONOMICS FILE DIFFERENCES

PARAMETERS - (used)

TUBA_version 1.9.17

base_year 2010

pres_val_year 2010

GDP_base 100.00 0.00 0.00
av_ind_tax 19.00 0.00 0.00
nt_carbdxvalues 83.64 250.92 167.28
t_carbdxvalues 83.64250.92167.28

PARAMETERS - (std)

TUBA_version 1.9.17
base_year 2010
pres_val_year 2010
GDP_base 100.00 0.00 0.00
av_ind_tax 19.00 0.00 0.00
nt_carbdxvalues 82.97 248.92 165.94
t_carbdxvalues 82.97248.92165.94

GDP_PER_CAPITA_GROWTH - (used)

*% change p.a.

*Start_yr End_yr VOT_Gr_purpose1 VOT_Gr_purpose2 VOT_Gr_purpose3 ..

2011	2011	0.615	0.615	0.615
2012	2012	0.801	0.801	0.801
2013	2013	1.253	1.253	1.253
2014	2014	2.208	2.208	2.208
2015	2015	1.814	1.814	1.814
2016	2016	1.425	1.425	1.425
2017	2017	1.528	1.528	1.528
2018	2018	1.046	1.046	1.046
2019	2019	1.122	1.122	1.122
2020	2020	0.099	0.099	0.099
2021	2021	0.100	0.100	0.100
2022	2022	0.099	0.099	0.099
2023	2023	-1.769	-1.769	-1.769
2024	2024	0.956	0.956	0.956
2025	2025	2.307	2.307	2.307
2026	2026	2.347	2.347	2.347
2027	2027	1.954	1.954	1.954
2028	2028	1.687	1.687	1.687
2029	2029	1.657	1.657	1.657
2030	2030	1.621	1.621	1.621
2031	2031	1.570	1.570	1.570
2032	2032	1.552	1.552	1.552
2033	2033	1.539	1.539	1.539
2034	2034	1.518	1.518	1.518
2035	2035	1.505	1.505	1.505
2036	2036	1.638	1.638	1.638
2037	2037	1.611	1.611	1.611

2038	2038	1.578	1.578	1.578
2039	2039	1.546	1.546	1.546
2040	2040	1.506	1.506	1.506
2041	2041	1.476	1.476	1.476
2042	2042	1.439	1.439	1.439
2043	2043	1.401	1.401	1.401
2044	2044	1.369	1.369	1.369
2045	2045	1.350	1.350	1.350
2046	2046	1.342	1.342	1.342
2047	2047	1.321	1.321	1.321
2048	2048	1.302	1.302	1.302
2049	2049	1.282	1.282	1.282
2050	2050	1.277	1.277	1.277
2051	2051	1.278	1.278	1.278
2052	2052	1.281	1.281	1.281
2053	2053	1.286	1.286	1.286
2054	2054	1.294	1.294	1.294
2055	2055	1.312	1.312	1.312
2056	2056	1.325	1.325	1.325
2057	2057	1.339	1.339	1.339
2058	2058	1.349	1.349	1.349
2059	2059	1.359	1.359	1.359
2060	2060	1.370	1.370	1.370
2061	2061	1.379	1.379	1.379
2062	2062	1.387	1.387	1.387
2063	2063	1.399	1.399	1.399
2064	2064	1.406	1.406	1.406
2065	2065	1.413	1.413	1.413
2066	2066	1.418	1.418	1.418
2067	2067	1.420	1.420	1.420
2068	2068	1.421	1.421	1.421
2069	2069	1.428	1.428	1.428
2070	2070	1.468	1.468	1.468
2071	2071	1.534	1.534	1.534
2072	2072	1.592	1.592	1.592
2073	2073	1.548	1.548	1.548
2074	2074	1.472	1.472	1.472
2075	2075	1.426	1.426	1.426
2076	2076	1.358	1.358	1.358
2077	2077	1.363	1.363	1.363
2078	2078	1.337	1.337	1.337
2079	2079	1.299	1.299	1.299
2080	2080	1.269	1.269	1.269
2081	2081	1.321	1.321	1.321

2082	2082	1.359	1.359	1.359
2083	2083	1.372	1.372	1.372
2084	2084	1.369	1.369	1.369
2085	2085	1.420	1.420	1.420
2086	2086	1.469	1.469	1.469
2087	2087	1.528	1.528	1.528
2088	2088	1.589	1.589	1.589
2089	2089	1.666	1.666	1.666
2090	2090	1.690	1.690	1.690
2091	2091	1.703	1.703	1.703
2092	2092	1.699	1.699	1.699
2093	2093	1.700	1.700	1.700
2094	2094	1.705	1.705	1.705
2095	2095	1.709	1.709	1.709
2096	2096	1.712	1.712	1.712
2097	2097	1.712	1.712	1.712
2098	2098	1.711	1.711	1.711
2099	2099	1.708	1.708	1.708
2100	2100	1.702	1.702	1.702
2101	2101	1.702	1.702	1.702
2102	2102	1.702	1.702	1.702
2103	2103	1.702	1.702	1.702
2104	2104	1.702	1.702	1.702
2105	2105	1.702	1.702	1.702
2106	2106	1.702	1.702	1.702
2107	2107	1.702	1.702	1.702
2108	2108	1.702	1.702	1.702
2109	2109	1.702	1.702	1.702
2110	2110	1.702	1.702	1.702
2111	2111	1.702	1.702	1.702
2112	2112	1.702	1.702	1.702
2113	2113	1.702	1.702	1.702
2114	2114	1.702	1.702	1.702
2115	2115	1.702	1.702	1.702
2116	2116	1.702	1.702	1.702
2117	2117	1.702	1.702	1.702
2118	2118	1.702	1.702	1.702
2119	2119	1.702	1.702	1.702
2120	2120	1.702	1.702	1.702
2121	2121	1.702	1.702	1.702
2122	2122	1.702	1.702	1.702
2123	2123	1.702	1.702	1.702
2124	2124	1.702	1.702	1.702
2125	2125	1.702	1.702	1.702

2126	2126	1.702	1.702	1.702
2127	2127	1.702	1.702	1.702
2128	2128	1.702	1.702	1.702
2129	2129	1.702	1.702	1.702
2130	2130	1.702	1.702	1.702
2131	2131	1.702	1.702	1.702
2132	2132	1.702	1.702	1.702
2133	2133	1.702	1.702	1.702
2134	2134	1.702	1.702	1.702
2135	2135	1.702	1.702	1.702
2136	2136	1.702	1.702	1.702
2137	2137	1.702	1.702	1.702
2138	2138	1.702	1.702	1.702
2139	2139	1.702	1.702	1.702
2140	2140	1.702	1.702	1.702
2141	2141	1.702	1.702	1.702
2142	2142	1.702	1.702	1.702
2143	2143	1.702	1.702	1.702
2144	2144	1.702	1.702	1.702
2145	2145	1.702	1.702	1.702
2146	2146	1.702	1.702	1.702
2147	2147	1.702	1.702	1.702
2148	2148	1.702	1.702	1.702
2149	2149	1.702	1.702	1.702
2150	2150	1.702	1.702	1.702
2151	2151	1.702	1.702	1.702

GDP_PER_CAPITA_GROWTH - (std)

*% change p.a.

*Start_yr	End_yr	VOT_Gr_purpose1	VOT_Gr_purpose2	VOT_Gr_purpose3 ..
2011	2011	0.435	0.435	0.435
2012	2012	0.762	0.762	0.762
2013	2013	1.548	1.548	1.548
2014	2014	2.080	2.080	2.080
2015	2015	1.556	1.556	1.556
2016	2016	0.888	0.888	0.888
2017	2017	1.137	1.137	1.137
2018	2018	0.650	0.650	0.650
2019	2019	0.885	0.885	0.885
2020	2020	0.269	0.269	0.269
2021	2021	0.267	0.267	0.267
2022	2022	0.267	0.267	0.267
2023	2023	1.654	1.654	1.654
2024	2024	0.975	0.975	0.975

2025	2025	1.311	1.311	1.311
2026	2026	1.412	1.412	1.412
2027	2027	1.480	1.480	1.480
2028	2028	1.480	1.480	1.480
2029	2029	1.463	1.463	1.463
2030	2030	1.440	1.440	1.440
2031	2031	1.413	1.413	1.413
2032	2032	1.389	1.389	1.389
2033	2033	1.387	1.387	1.387
2034	2034	1.372	1.372	1.372
2035	2035	1.345	1.345	1.345
2036	2036	1.477	1.477	1.477
2037	2037	1.475	1.475	1.475
2038	2038	1.467	1.467	1.467
2039	2039	1.443	1.443	1.443
2040	2040	1.416	1.416	1.416
2041	2041	1.397	1.397	1.397
2042	2042	1.375	1.375	1.375
2043	2043	1.351	1.351	1.351
2044	2044	1.332	1.332	1.332
2045	2045	1.320	1.320	1.320
2046	2046	1.309	1.309	1.309
2047	2047	1.292	1.292	1.292
2048	2048	1.282	1.282	1.282
2049	2049	1.281	1.281	1.281
2050	2050	1.291	1.291	1.291
2051	2051	1.307	1.307	1.307
2052	2052	1.320	1.320	1.320
2053	2053	1.332	1.332	1.332
2054	2054	1.338	1.338	1.338
2055	2055	1.358	1.358	1.358
2056	2056	1.370	1.370	1.370
2057	2057	1.385	1.385	1.385
2058	2058	1.398	1.398	1.398
2059	2059	1.406	1.406	1.406
2060	2060	1.417	1.417	1.417
2061	2061	1.437	1.437	1.437
2062	2062	1.444	1.444	1.444
2063	2063	1.456	1.456	1.456
2064	2064	1.466	1.466	1.466
2065	2065	1.482	1.482	1.482
2066	2066	1.540	1.540	1.540
2067	2067	1.607	1.607	1.607
2068	2068	1.531	1.531	1.531

2069	2069	1.521	1.521	1.521
2070	2070	1.493	1.493	1.493
2071	2071	1.518	1.518	1.518
2072	2072	1.463	1.463	1.463
2073	2073	1.426	1.426	1.426
2074	2074	1.355	1.355	1.355
2075	2075	1.317	1.317	1.317
2076	2076	1.256	1.256	1.256
2077	2077	1.271	1.271	1.271
2078	2078	1.253	1.253	1.253
2079	2079	1.219	1.219	1.219
2080	2080	1.193	1.193	1.193
2081	2081	1.251	1.251	1.251
2082	2082	1.293	1.293	1.293
2083	2083	1.309	1.309	1.309
2084	2084	1.310	1.310	1.310
2085	2085	1.364	1.364	1.364
2086	2086	1.422	1.422	1.422
2087	2087	1.488	1.488	1.488
2088	2088	1.487	1.487	1.487
2089	2089	1.498	1.498	1.498
2090	2090	1.508	1.508	1.508
2091	2091	1.513	1.513	1.513
2092	2092	1.511	1.511	1.511
2093	2093	1.508	1.508	1.508
2094	2094	1.505	1.505	1.505
2095	2095	1.501	1.501	1.501
2096	2096	1.497	1.497	1.497
2097	2097	1.491	1.491	1.491
2098	2098	1.484	1.484	1.484
2099	2099	1.476	1.476	1.476
2100	2100	1.467	1.467	1.467
2101	2101	1.467	1.467	1.467
2102	2102	1.467	1.467	1.467
2103	2103	1.467	1.467	1.467
2104	2104	1.467	1.467	1.467
2105	2105	1.467	1.467	1.467
2106	2106	1.467	1.467	1.467
2107	2107	1.467	1.467	1.467
2108	2108	1.467	1.467	1.467
2109	2109	1.467	1.467	1.467
2110	2110	1.467	1.467	1.467
2111	2111	1.467	1.467	1.467
2112	2112	1.467	1.467	1.467

2113	2113	1.467	1.467	1.467
2114	2114	1.467	1.467	1.467
2115	2115	1.467	1.467	1.467
2116	2116	1.467	1.467	1.467
2117	2117	1.467	1.467	1.467
2118	2118	1.467	1.467	1.467
2119	2119	1.467	1.467	1.467
2120	2120	1.467	1.467	1.467
2121	2121	1.467	1.467	1.467
2122	2122	1.467	1.467	1.467
2123	2123	1.467	1.467	1.467
2124	2124	1.467	1.467	1.467
2125	2125	1.467	1.467	1.467
2126	2126	1.467	1.467	1.467
2127	2127	1.467	1.467	1.467
2128	2128	1.467	1.467	1.467
2129	2129	1.467	1.467	1.467
2130	2130	1.467	1.467	1.467
2131	2131	1.467	1.467	1.467
2132	2132	1.467	1.467	1.467
2133	2133	1.467	1.467	1.467
2134	2134	1.467	1.467	1.467
2135	2135	1.467	1.467	1.467
2136	2136	1.467	1.467	1.467
2137	2137	1.467	1.467	1.467
2138	2138	1.467	1.467	1.467
2139	2139	1.467	1.467	1.467
2140	2140	1.467	1.467	1.467
2141	2141	1.467	1.467	1.467
2142	2142	1.467	1.467	1.467
2143	2143	1.467	1.467	1.467
2144	2144	1.467	1.467	1.467
2145	2145	1.467	1.467	1.467
2146	2146	1.467	1.467	1.467
2147	2147	1.467	1.467	1.467
2148	2148	1.467	1.467	1.467
2149	2149	1.467	1.467	1.467
2150	2150	1.467	1.467	1.467
2151	2151	1.467	1.467	1.467

FUEL_COST - (used)

*type resource(p/unit) duty(p/unit) VAT(%) CO2_grammes/unit (unit=litre for fuel types 1 & 2; unit=KWH for electric)

1	42.6	57.2	17.5	2230.00
2	44.3	57.2	17.5	2562.00

3	11.8	0.0	5.0	389.00
---	------	-----	-----	--------

FUEL_COST - (std)

*type resource(p/unit) duty(p/unit) VAT(%) CO2_grammes/unit (unit=litre for fuel types 1 & 2; unit=KWH for electric)

1	42.6	57.2	17.5	2230.00
2	44.3	57.2	17.5	2562.00
3	11.9	0.0	5.0	389.00

FUEL_COST_CHANGES - (used)

*% change p.a.

*Start_yr End_yr fuel_type resource duty VAT CO2_Den_change

2011	2011	1	22.306	-0.354	14.286	1.171
2012	2012	1	1.986	-2.001	0.000	-1.031
2013	2013	1	-3.443	-1.746	0.000	-0.302
2014	2014	1	-11.771	-1.707	0.000	0.153
2015	2015	1	-28.520	-0.562	0.000	-0.016
2016	2016	1	-7.312	-1.719	0.000	-0.027
2017	2017	1	19.734	-1.752	0.000	-0.106
2018	2018	1	13.204	-2.472	0.000	0.128
2019	2019	1	-2.520	-2.412	0.000	0.010
2020	2020	1	-23.823	-6.920	0.000	0.015
2021	2021	1	37.033	0.586	0.000	-0.106
2022	2022	1	63.199	-5.002	0.000	-5.260
2023	2023	1	-5.410	5.535	0.000	0.000
2024	2024	1	-12.463	2.683	0.000	0.000
2025	2025	1	-3.454	0.465	0.000	0.000
2026	2026	1	-4.677	0.417	0.000	0.000
2027	2027	1	2.609	0.740	0.000	0.000
2028	2028	1	2.785	0.731	0.000	0.000
2029	2029	1	1.806	0.723	0.000	0.000
2030	2030	1	2.661	-0.293	0.000	0.000
2031	2031	1	1.728	-0.293	0.000	0.000
2032	2032	1	1.699	-0.293	0.000	0.000
2033	2033	1	2.506	-0.293	0.000	0.000
2034	2034	1	2.444	-0.293	0.000	0.000
2035	2035	1	1.591	-0.293	0.000	0.000
2036	2036	1	0.000	-0.293	0.000	0.000
2037	2037	1	0.000	-0.293	0.000	0.000
2038	2038	1	0.000	-0.293	0.000	0.000
2039	2039	1	0.000	-0.293	0.000	0.000
2040	2040	1	0.000	-0.293	0.000	0.000
2041	2041	1	0.000	-0.293	0.000	0.000
2042	2042	1	0.000	-0.293	0.000	0.000
2043	2043	1	0.000	-0.293	0.000	0.000

2044	2044	1	0.000	-0.293	0.000	0.000
2045	2045	1	0.000	-0.293	0.000	0.000
2046	2046	1	0.000	-0.293	0.000	0.000
2047	2047	1	0.000	-0.293	0.000	0.000
2048	2048	1	0.000	-0.293	0.000	0.000
2049	2049	1	0.000	-0.293	0.000	0.000
2050	2050	1	0.000	-0.293	0.000	0.000
2051	2051	1	0.000	-0.293	0.000	0.000
2052	2052	1	0.000	-0.293	0.000	0.000
2053	2053	1	0.000	-0.293	0.000	0.000
2054	2054	1	0.000	-0.293	0.000	0.000
2055	2055	1	0.000	-0.293	0.000	0.000
2056	2056	1	0.000	-0.293	0.000	0.000
2057	2057	1	0.000	-0.293	0.000	0.000
2058	2058	1	0.000	-0.293	0.000	0.000
2059	2059	1	0.000	-0.293	0.000	0.000
2060	2060	1	0.000	-0.293	0.000	0.000
2061	2061	1	0.000	-0.293	0.000	0.000
2062	2062	1	0.000	-0.293	0.000	0.000
2063	2063	1	0.000	-0.293	0.000	0.000
2064	2064	1	0.000	-0.293	0.000	0.000
2065	2065	1	0.000	-0.293	0.000	0.000
2066	2066	1	0.000	-0.293	0.000	0.000
2067	2067	1	0.000	-0.293	0.000	0.000
2068	2068	1	0.000	-0.293	0.000	0.000
2069	2069	1	0.000	-0.293	0.000	0.000
2070	2070	1	0.000	-0.293	0.000	0.000
2071	2071	1	0.000	-0.293	0.000	0.000
2072	2072	1	0.000	-0.293	0.000	0.000
2073	2073	1	0.000	-0.293	0.000	0.000
2074	2074	1	0.000	-0.293	0.000	0.000
2075	2075	1	0.000	-0.293	0.000	0.000
2076	2076	1	0.000	-0.293	0.000	0.000
2077	2077	1	0.000	-0.293	0.000	0.000
2078	2078	1	0.000	-0.293	0.000	0.000
2079	2079	1	0.000	-0.293	0.000	0.000
2080	2080	1	0.000	-0.293	0.000	0.000
2081	2081	1	0.000	-0.293	0.000	0.000
2082	2082	1	0.000	-0.293	0.000	0.000
2083	2083	1	0.000	-0.293	0.000	0.000
2084	2084	1	0.000	-0.293	0.000	0.000
2085	2085	1	0.000	-0.293	0.000	0.000
2086	2086	1	0.000	-0.293	0.000	0.000
2087	2087	1	0.000	-0.293	0.000	0.000

2088	2088	1	0.000	-0.293	0.000	0.000
2089	2089	1	0.000	-0.293	0.000	0.000
2090	2090	1	0.000	-0.293	0.000	0.000
2091	2091	1	0.000	-0.293	0.000	0.000
2092	2092	1	0.000	-0.293	0.000	0.000
2093	2093	1	0.000	-0.293	0.000	0.000
2094	2094	1	0.000	-0.293	0.000	0.000
2095	2095	1	0.000	-0.293	0.000	0.000
2096	2096	1	0.000	-0.293	0.000	0.000
2097	2097	1	0.000	-0.293	0.000	0.000
2098	2098	1	0.000	-0.293	0.000	0.000
2099	2099	1	0.000	-0.293	0.000	0.000
2100	2100	1	0.000	-0.293	0.000	0.000
2101	2101	1	0.000	-0.293	0.000	0.000
2102	2102	1	0.000	-0.293	0.000	0.000
2103	2103	1	0.000	-0.293	0.000	0.000
2104	2104	1	0.000	-0.293	0.000	0.000
2105	2105	1	0.000	-0.293	0.000	0.000
2106	2106	1	0.000	-0.293	0.000	0.000
2107	2107	1	0.000	-0.293	0.000	0.000
2108	2108	1	0.000	-0.293	0.000	0.000
2109	2109	1	0.000	-0.293	0.000	0.000
2110	2110	1	0.000	-0.293	0.000	0.000
2111	2111	1	0.000	-0.293	0.000	0.000
2112	2112	1	0.000	-0.293	0.000	0.000
2113	2113	1	0.000	-0.293	0.000	0.000
2114	2114	1	0.000	-0.293	0.000	0.000
2115	2115	1	0.000	-0.293	0.000	0.000
2116	2116	1	0.000	-0.293	0.000	0.000
2117	2117	1	0.000	-0.293	0.000	0.000
2118	2118	1	0.000	-0.293	0.000	0.000
2119	2119	1	0.000	-0.293	0.000	0.000
2120	2120	1	0.000	-0.293	0.000	0.000
2121	2121	1	0.000	-0.293	0.000	0.000
2122	2122	1	0.000	-0.293	0.000	0.000
2123	2123	1	0.000	-0.293	0.000	0.000
2124	2124	1	0.000	-0.293	0.000	0.000
2125	2125	1	0.000	-0.293	0.000	0.000
2126	2126	1	0.000	-0.293	0.000	0.000
2127	2127	1	0.000	-0.293	0.000	0.000
2128	2128	1	0.000	-0.293	0.000	0.000
2129	2129	1	0.000	-0.293	0.000	0.000
2130	2130	1	0.000	-0.293	0.000	0.000
2131	2131	1	0.000	-0.293	0.000	0.000

2132	2132	1	0.000	-0.293	0.000	0.000
2133	2133	1	0.000	-0.293	0.000	0.000
2134	2134	1	0.000	-0.293	0.000	0.000
2135	2135	1	0.000	-0.293	0.000	0.000
2136	2136	1	0.000	-0.293	0.000	0.000
2137	2137	1	0.000	-0.293	0.000	0.000
2138	2138	1	0.000	-0.293	0.000	0.000
2139	2139	1	0.000	-0.293	0.000	0.000
2140	2140	1	0.000	-0.293	0.000	0.000
2141	2141	1	0.000	-0.293	0.000	0.000
2142	2142	1	0.000	-0.293	0.000	0.000
2143	2143	1	0.000	-0.293	0.000	0.000
2144	2144	1	0.000	-0.293	0.000	0.000
2145	2145	1	0.000	-0.293	0.000	0.000
2146	2146	1	0.000	-0.293	0.000	0.000
2147	2147	1	0.000	-0.293	0.000	0.000
2148	2148	1	0.000	-0.293	0.000	0.000
2149	2149	1	0.000	-0.293	0.000	0.000
2150	2150	1	0.000	-0.293	0.000	0.000
2151	2151	1	0.000	-0.293	0.000	0.000
2011	2011	2	26.996	-0.354	14.286	1.917
2012	2012	2	3.197	-2.001	0.000	-1.071
2013	2013	2	-3.680	-1.746	0.000	4.731
2014	2014	2	-11.343	-1.707	0.000	-0.016
2015	2015	2	-29.504	-0.562	0.000	-0.020
2016	2016	2	-12.397	-1.719	0.000	0.004
2017	2017	2	22.316	-1.752	0.000	0.021
2018	2018	2	16.802	-2.472	0.000	-0.267
2019	2019	2	0.348	-2.412	0.000	-1.513
2020	2020	2	-24.318	-6.920	0.000	-4.516
2021	2021	2	30.464	0.586	0.000	-0.553
2022	2022	2	60.563	-5.002	0.000	0.295
2023	2023	2	-5.550	5.535	0.000	-0.288
2024	2024	2	-13.119	2.683	0.000	-0.174
2025	2025	2	-3.997	0.465	0.000	-0.148
2026	2026	2	-5.278	0.417	0.000	-0.034
2027	2027	2	2.671	0.740	0.000	-0.046
2028	2028	2	2.847	0.731	0.000	-0.036
2029	2029	2	1.845	0.723	0.000	-0.036
2030	2030	2	2.718	-0.293	0.000	-0.040
2031	2031	2	1.764	-0.293	0.000	-0.027
2032	2032	2	1.733	-0.293	0.000	-0.027
2033	2033	2	2.556	-0.293	0.000	0.000
2034	2034	2	2.492	-0.293	0.000	0.000

2035	2035	2	1.621	-0.293	0.000	0.000
2036	2036	2	0.000	-0.293	0.000	0.000
2037	2037	2	0.000	-0.293	0.000	0.000
2038	2038	2	0.000	-0.293	0.000	0.000
2039	2039	2	0.000	-0.293	0.000	0.000
2040	2040	2	0.000	-0.293	0.000	0.000
2041	2041	2	0.000	-0.293	0.000	0.000
2042	2042	2	0.000	-0.293	0.000	0.000
2043	2043	2	0.000	-0.293	0.000	0.000
2044	2044	2	0.000	-0.293	0.000	0.000
2045	2045	2	0.000	-0.293	0.000	0.000
2046	2046	2	0.000	-0.293	0.000	0.000
2047	2047	2	0.000	-0.293	0.000	0.000
2048	2048	2	0.000	-0.293	0.000	0.000
2049	2049	2	0.000	-0.293	0.000	0.000
2050	2050	2	0.000	-0.293	0.000	0.000
2051	2051	2	0.000	-0.293	0.000	0.000
2052	2052	2	0.000	-0.293	0.000	0.000
2053	2053	2	0.000	-0.293	0.000	0.000
2054	2054	2	0.000	-0.293	0.000	0.000
2055	2055	2	0.000	-0.293	0.000	0.000
2056	2056	2	0.000	-0.293	0.000	0.000
2057	2057	2	0.000	-0.293	0.000	0.000
2058	2058	2	0.000	-0.293	0.000	0.000
2059	2059	2	0.000	-0.293	0.000	0.000
2060	2060	2	0.000	-0.293	0.000	0.000
2061	2061	2	0.000	-0.293	0.000	0.000
2062	2062	2	0.000	-0.293	0.000	0.000
2063	2063	2	0.000	-0.293	0.000	0.000
2064	2064	2	0.000	-0.293	0.000	0.000
2065	2065	2	0.000	-0.293	0.000	0.000
2066	2066	2	0.000	-0.293	0.000	0.000
2067	2067	2	0.000	-0.293	0.000	0.000
2068	2068	2	0.000	-0.293	0.000	0.000
2069	2069	2	0.000	-0.293	0.000	0.000
2070	2070	2	0.000	-0.293	0.000	0.000
2071	2071	2	0.000	-0.293	0.000	0.000
2072	2072	2	0.000	-0.293	0.000	0.000
2073	2073	2	0.000	-0.293	0.000	0.000
2074	2074	2	0.000	-0.293	0.000	0.000
2075	2075	2	0.000	-0.293	0.000	0.000
2076	2076	2	0.000	-0.293	0.000	0.000
2077	2077	2	0.000	-0.293	0.000	0.000
2078	2078	2	0.000	-0.293	0.000	0.000

2079	2079	2	0.000	-0.293	0.000	0.000
2080	2080	2	0.000	-0.293	0.000	0.000
2081	2081	2	0.000	-0.293	0.000	0.000
2082	2082	2	0.000	-0.293	0.000	0.000
2083	2083	2	0.000	-0.293	0.000	0.000
2084	2084	2	0.000	-0.293	0.000	0.000
2085	2085	2	0.000	-0.293	0.000	0.000
2086	2086	2	0.000	-0.293	0.000	0.000
2087	2087	2	0.000	-0.293	0.000	0.000
2088	2088	2	0.000	-0.293	0.000	0.000
2089	2089	2	0.000	-0.293	0.000	0.000
2090	2090	2	0.000	-0.293	0.000	0.000
2091	2091	2	0.000	-0.293	0.000	0.000
2092	2092	2	0.000	-0.293	0.000	0.000
2093	2093	2	0.000	-0.293	0.000	0.000
2094	2094	2	0.000	-0.293	0.000	0.000
2095	2095	2	0.000	-0.293	0.000	0.000
2096	2096	2	0.000	-0.293	0.000	0.000
2097	2097	2	0.000	-0.293	0.000	0.000
2098	2098	2	0.000	-0.293	0.000	0.000
2099	2099	2	0.000	-0.293	0.000	0.000
2100	2100	2	0.000	-0.293	0.000	0.000
2101	2101	2	0.000	-0.293	0.000	0.000
2102	2102	2	0.000	-0.293	0.000	0.000
2103	2103	2	0.000	-0.293	0.000	0.000
2104	2104	2	0.000	-0.293	0.000	0.000
2105	2105	2	0.000	-0.293	0.000	0.000
2106	2106	2	0.000	-0.293	0.000	0.000
2107	2107	2	0.000	-0.293	0.000	0.000
2108	2108	2	0.000	-0.293	0.000	0.000
2109	2109	2	0.000	-0.293	0.000	0.000
2110	2110	2	0.000	-0.293	0.000	0.000
2111	2111	2	0.000	-0.293	0.000	0.000
2112	2112	2	0.000	-0.293	0.000	0.000
2113	2113	2	0.000	-0.293	0.000	0.000
2114	2114	2	0.000	-0.293	0.000	0.000
2115	2115	2	0.000	-0.293	0.000	0.000
2116	2116	2	0.000	-0.293	0.000	0.000
2117	2117	2	0.000	-0.293	0.000	0.000
2118	2118	2	0.000	-0.293	0.000	0.000
2119	2119	2	0.000	-0.293	0.000	0.000
2120	2120	2	0.000	-0.293	0.000	0.000
2121	2121	2	0.000	-0.293	0.000	0.000
2122	2122	2	0.000	-0.293	0.000	0.000

2123	2123	2	0.000	-0.293	0.000	0.000
2124	2124	2	0.000	-0.293	0.000	0.000
2125	2125	2	0.000	-0.293	0.000	0.000
2126	2126	2	0.000	-0.293	0.000	0.000
2127	2127	2	0.000	-0.293	0.000	0.000
2128	2128	2	0.000	-0.293	0.000	0.000
2129	2129	2	0.000	-0.293	0.000	0.000
2130	2130	2	0.000	-0.293	0.000	0.000
2131	2131	2	0.000	-0.293	0.000	0.000
2132	2132	2	0.000	-0.293	0.000	0.000
2133	2133	2	0.000	-0.293	0.000	0.000
2134	2134	2	0.000	-0.293	0.000	0.000
2135	2135	2	0.000	-0.293	0.000	0.000
2136	2136	2	0.000	-0.293	0.000	0.000
2137	2137	2	0.000	-0.293	0.000	0.000
2138	2138	2	0.000	-0.293	0.000	0.000
2139	2139	2	0.000	-0.293	0.000	0.000
2140	2140	2	0.000	-0.293	0.000	0.000
2141	2141	2	0.000	-0.293	0.000	0.000
2142	2142	2	0.000	-0.293	0.000	0.000
2143	2143	2	0.000	-0.293	0.000	0.000
2144	2144	2	0.000	-0.293	0.000	0.000
2145	2145	2	0.000	-0.293	0.000	0.000
2146	2146	2	0.000	-0.293	0.000	0.000
2147	2147	2	0.000	-0.293	0.000	0.000
2148	2148	2	0.000	-0.293	0.000	0.000
2149	2149	2	0.000	-0.293	0.000	0.000
2150	2150	2	0.000	-0.293	0.000	0.000
2151	2151	2	0.000	-0.293	0.000	0.000
2011	2011	3	6.623	0.000	0.000	-1.438
2012	2012	3	3.751	0.000	0.000	-1.878
2013	2013	3	4.428	0.000	0.000	-2.438
2014	2014	3	3.495	0.000	0.000	-1.891
2015	2015	3	-1.703	0.000	0.000	-2.837
2016	2016	3	-3.286	0.000	0.000	-3.035
2017	2017	3	4.940	0.000	0.000	-2.830
2018	2018	3	6.255	0.000	0.000	-3.251
2019	2019	3	7.007	0.000	0.000	-3.618
2020	2020	3	-4.724	0.000	0.000	-3.931
2021	2021	3	8.209	0.000	0.000	-4.324
2022	2022	3	44.098	0.000	0.000	-4.776
2023	2023	3	35.732	0.000	0.000	-5.300
2024	2024	3	-3.272	0.000	0.000	-5.915
2025	2025	3	-13.652	0.000	0.000	-6.643

2026	2026	3	-35.980	0.000	0.000	-7.520
2027	2027	3	-4.450	0.000	0.000	-8.594
2028	2028	3	-2.634	0.000	0.000	-9.934
2029	2029	3	-0.114	0.000	0.000	-11.657
2030	2030	3	-0.506	0.000	0.000	-13.944
2031	2031	3	-4.229	0.000	0.000	-19.089
2032	2032	3	0.441	0.000	0.000	-19.090
2033	2033	3	1.228	0.000	0.000	-19.088
2034	2034	3	1.712	0.000	0.000	-19.090
2035	2035	3	-0.946	0.000	0.000	-19.089
2036	2036	3	-0.271	0.000	0.000	-19.089
2037	2037	3	-2.629	0.000	0.000	-19.088
2038	2038	3	1.153	0.000	0.000	-19.090
2039	2039	3	-0.823	0.000	0.000	-19.092
2040	2040	3	2.635	0.000	0.000	-19.088
2041	2041	3	-1.504	0.000	0.000	-16.984
2042	2042	3	-0.001	0.000	0.000	-5.099
2043	2043	3	-0.216	0.000	0.000	-2.043
2044	2044	3	1.039	0.000	0.000	-6.009
2045	2045	3	-2.180	0.000	0.000	-15.076
2046	2046	3	1.866	0.000	0.000	-9.204
2047	2047	3	-1.602	0.000	0.000	-7.798
2048	2048	3	-2.514	0.000	0.000	-5.087
2049	2049	3	1.769	0.000	0.000	-6.945
2050	2050	3	-1.947	0.000	0.000	-1.718
2051	2051	3	0.000	0.000	0.000	0.000
2052	2052	3	0.000	0.000	0.000	0.000
2053	2053	3	0.000	0.000	0.000	0.000
2054	2054	3	0.000	0.000	0.000	0.000
2055	2055	3	0.000	0.000	0.000	0.000
2056	2056	3	0.000	0.000	0.000	0.000
2057	2057	3	0.000	0.000	0.000	0.000
2058	2058	3	0.000	0.000	0.000	0.000
2059	2059	3	0.000	0.000	0.000	0.000
2060	2060	3	0.000	0.000	0.000	0.000
2061	2061	3	0.000	0.000	0.000	0.000
2062	2062	3	0.000	0.000	0.000	0.000
2063	2063	3	0.000	0.000	0.000	0.000
2064	2064	3	0.000	0.000	0.000	0.000
2065	2065	3	0.000	0.000	0.000	0.000
2066	2066	3	0.000	0.000	0.000	0.000
2067	2067	3	0.000	0.000	0.000	0.000
2068	2068	3	0.000	0.000	0.000	0.000
2069	2069	3	0.000	0.000	0.000	0.000

2070	2070	3	0.000	0.000	0.000	0.000
2071	2071	3	0.000	0.000	0.000	0.000
2072	2072	3	0.000	0.000	0.000	0.000
2073	2073	3	0.000	0.000	0.000	0.000
2074	2074	3	0.000	0.000	0.000	0.000
2075	2075	3	0.000	0.000	0.000	0.000
2076	2076	3	0.000	0.000	0.000	0.000
2077	2077	3	0.000	0.000	0.000	0.000
2078	2078	3	0.000	0.000	0.000	0.000
2079	2079	3	0.000	0.000	0.000	0.000
2080	2080	3	0.000	0.000	0.000	0.000
2081	2081	3	0.000	0.000	0.000	0.000
2082	2082	3	0.000	0.000	0.000	0.000
2083	2083	3	0.000	0.000	0.000	0.000
2084	2084	3	0.000	0.000	0.000	0.000
2085	2085	3	0.000	0.000	0.000	0.000
2086	2086	3	0.000	0.000	0.000	0.000
2087	2087	3	0.000	0.000	0.000	0.000
2088	2088	3	0.000	0.000	0.000	0.000
2089	2089	3	0.000	0.000	0.000	0.000
2090	2090	3	0.000	0.000	0.000	0.000
2091	2091	3	0.000	0.000	0.000	0.000
2092	2092	3	0.000	0.000	0.000	0.000
2093	2093	3	0.000	0.000	0.000	0.000
2094	2094	3	0.000	0.000	0.000	0.000
2095	2095	3	0.000	0.000	0.000	0.000
2096	2096	3	0.000	0.000	0.000	0.000
2097	2097	3	0.000	0.000	0.000	0.000
2098	2098	3	0.000	0.000	0.000	0.000
2099	2099	3	0.000	0.000	0.000	0.000
2100	2100	3	0.000	0.000	0.000	0.000
2101	2101	3	0.000	0.000	0.000	0.000
2102	2102	3	0.000	0.000	0.000	0.000
2103	2103	3	0.000	0.000	0.000	0.000
2104	2104	3	0.000	0.000	0.000	0.000
2105	2105	3	0.000	0.000	0.000	0.000
2106	2106	3	0.000	0.000	0.000	0.000
2107	2107	3	0.000	0.000	0.000	0.000
2108	2108	3	0.000	0.000	0.000	0.000
2109	2109	3	0.000	0.000	0.000	0.000
2110	2110	3	0.000	0.000	0.000	0.000
2111	2111	3	0.000	0.000	0.000	0.000
2112	2112	3	0.000	0.000	0.000	0.000
2113	2113	3	0.000	0.000	0.000	0.000

2114	2114	3	0.000	0.000	0.000	0.000
2115	2115	3	0.000	0.000	0.000	0.000
2116	2116	3	0.000	0.000	0.000	0.000
2117	2117	3	0.000	0.000	0.000	0.000
2118	2118	3	0.000	0.000	0.000	0.000
2119	2119	3	0.000	0.000	0.000	0.000
2120	2120	3	0.000	0.000	0.000	0.000
2121	2121	3	0.000	0.000	0.000	0.000
2122	2122	3	0.000	0.000	0.000	0.000
2123	2123	3	0.000	0.000	0.000	0.000
2124	2124	3	0.000	0.000	0.000	0.000
2125	2125	3	0.000	0.000	0.000	0.000
2126	2126	3	0.000	0.000	0.000	0.000
2127	2127	3	0.000	0.000	0.000	0.000
2128	2128	3	0.000	0.000	0.000	0.000
2129	2129	3	0.000	0.000	0.000	0.000
2130	2130	3	0.000	0.000	0.000	0.000
2131	2131	3	0.000	0.000	0.000	0.000
2132	2132	3	0.000	0.000	0.000	0.000
2133	2133	3	0.000	0.000	0.000	0.000
2134	2134	3	0.000	0.000	0.000	0.000
2135	2135	3	0.000	0.000	0.000	0.000
2136	2136	3	0.000	0.000	0.000	0.000
2137	2137	3	0.000	0.000	0.000	0.000
2138	2138	3	0.000	0.000	0.000	0.000
2139	2139	3	0.000	0.000	0.000	0.000
2140	2140	3	0.000	0.000	0.000	0.000
2141	2141	3	0.000	0.000	0.000	0.000
2142	2142	3	0.000	0.000	0.000	0.000
2143	2143	3	0.000	0.000	0.000	0.000
2144	2144	3	0.000	0.000	0.000	0.000
2145	2145	3	0.000	0.000	0.000	0.000
2146	2146	3	0.000	0.000	0.000	0.000
2147	2147	3	0.000	0.000	0.000	0.000
2148	2148	3	0.000	0.000	0.000	0.000
2149	2149	3	0.000	0.000	0.000	0.000
2150	2150	3	0.000	0.000	0.000	0.000
2151	2151	3	0.000	0.000	0.000	0.000

FUEL_COST_CHANGES - (std)

*% change p.a.

*Start_yr	End_yr	fuel_type	resource	duty	VAT	CO2_Den_change
2011	2011	1	22.226	-0.297	14.286	-0.844
2012	2012	1	2.040	-2.049	0.000	-0.023

2013	2013	1	-3.443	-1.746	0.000	-0.438
2014	2014	1	-11.771	-1.707	0.000	-0.537
2015	2015	1	-28.520	-0.661	0.000	0.000
2016	2016	1	-7.312	-2.068	0.000	0.000
2017	2017	1	19.734	-1.912	0.000	-1.352
2018	2018	1	13.204	-2.203	0.000	-1.370
2019	2019	1	-10.631	-2.442	0.000	-1.389
2020	2020	1	-11.341	-4.832	0.000	-1.409
2021	2021	1	3.590	1.236	0.000	0.000
2022	2022	1	5.005	3.364	0.000	0.000
2023	2023	1	1.744	0.601	0.000	0.000
2024	2024	1	1.726	0.550	0.000	0.000
2025	2025	1	1.765	0.745	0.000	0.000
2026	2026	1	2.597	0.658	0.000	0.000
2027	2027	1	1.476	0.681	0.000	0.000
2028	2028	1	1.433	0.674	0.000	0.000
2029	2029	1	1.391	0.663	0.000	0.000
2030	2030	1	1.352	0.653	0.000	0.000
2031	2031	1	2.246	0.653	0.000	0.000
2032	2032	1	1.259	0.650	0.000	0.000
2033	2033	1	1.225	0.644	0.000	0.000
2034	2034	1	1.193	0.637	0.000	0.000
2035	2035	1	1.162	0.645	0.000	0.000
2036	2036	1	0.000	0.640	0.000	0.000
2037	2037	1	0.000	0.635	0.000	0.000
2038	2038	1	0.000	0.630	0.000	0.000
2039	2039	1	0.000	0.649	0.000	0.000
2040	2040	1	0.000	0.681	0.000	0.000
2041	2041	1	0.000	0.629	0.000	0.000
2042	2042	1	0.000	0.592	0.000	0.000
2043	2043	1	0.000	0.587	0.000	0.000
2044	2044	1	0.000	0.587	0.000	0.000
2045	2045	1	0.000	0.586	0.000	0.000
2046	2046	1	0.000	0.587	0.000	0.000
2047	2047	1	0.000	0.587	0.000	0.000
2048	2048	1	0.000	0.587	0.000	0.000
2049	2049	1	0.000	0.586	0.000	0.000
2050	2050	1	0.000	0.587	0.000	0.000
2051	2051	1	0.000	0.587	0.000	0.000
2052	2052	1	0.000	0.587	0.000	0.000
2053	2053	1	0.000	0.587	0.000	0.000
2054	2054	1	0.000	0.587	0.000	0.000
2055	2055	1	0.000	0.587	0.000	0.000
2056	2056	1	0.000	0.587	0.000	0.000

2057	2057	1	0.000	0.587	0.000	0.000
2058	2058	1	0.000	0.586	0.000	0.000
2059	2059	1	0.000	0.587	0.000	0.000
2060	2060	1	0.000	0.587	0.000	0.000
2061	2061	1	0.000	0.587	0.000	0.000
2062	2062	1	0.000	0.587	0.000	0.000
2063	2063	1	0.000	0.587	0.000	0.000
2064	2064	1	0.000	0.587	0.000	0.000
2065	2065	1	0.000	0.587	0.000	0.000
2066	2066	1	0.000	0.587	0.000	0.000
2067	2067	1	0.000	0.587	0.000	0.000
2068	2068	1	0.000	0.587	0.000	0.000
2069	2069	1	-1.686	0.587	0.000	0.000
2070	2070	1	0.000	0.587	0.000	0.000
2071	2071	1	0.000	0.587	0.000	0.000
2072	2072	1	0.000	0.587	0.000	0.000
2073	2073	1	0.000	0.587	0.000	0.000
2074	2074	1	0.000	0.586	0.000	0.000
2075	2075	1	0.000	0.587	0.000	0.000
2076	2076	1	0.000	0.587	0.000	0.000
2077	2077	1	0.000	0.586	0.000	0.000
2078	2078	1	0.000	0.587	0.000	0.000
2079	2079	1	0.000	0.587	0.000	0.000
2080	2080	1	0.000	0.587	0.000	0.000
2081	2081	1	0.000	0.587	0.000	0.000
2082	2082	1	0.000	0.587	0.000	0.000
2083	2083	1	0.000	0.587	0.000	0.000
2084	2084	1	0.000	0.587	0.000	0.000
2085	2085	1	0.000	0.587	0.000	0.000
2086	2086	1	0.000	0.587	0.000	0.000
2087	2087	1	0.000	0.587	0.000	0.000
2088	2088	1	0.000	0.587	0.000	0.000
2089	2089	1	0.000	0.587	0.000	0.000
2090	2090	1	0.000	0.587	0.000	0.000
2091	2091	1	0.000	0.587	0.000	0.000
2092	2092	1	0.000	0.587	0.000	0.000
2093	2093	1	0.000	0.587	0.000	0.000
2094	2094	1	0.000	0.587	0.000	0.000
2095	2095	1	0.000	0.587	0.000	0.000
2096	2096	1	0.000	0.587	0.000	0.000
2097	2097	1	0.000	0.587	0.000	0.000
2098	2098	1	0.000	0.587	0.000	0.000
2099	2099	1	0.000	0.587	0.000	0.000
2100	2100	1	0.000	0.587	0.000	0.000

2101	2101	1	0.000	0.587	0.000	0.000
2102	2102	1	0.000	0.587	0.000	0.000
2103	2103	1	0.000	0.587	0.000	0.000
2104	2104	1	0.000	0.587	0.000	0.000
2105	2105	1	0.000	0.587	0.000	0.000
2106	2106	1	0.000	0.587	0.000	0.000
2107	2107	1	0.000	0.587	0.000	0.000
2108	2108	1	0.000	0.587	0.000	0.000
2109	2109	1	0.000	0.587	0.000	0.000
2110	2110	1	0.000	0.587	0.000	0.000
2111	2111	1	0.000	0.587	0.000	0.000
2112	2112	1	0.000	0.587	0.000	0.000
2113	2113	1	0.000	0.587	0.000	0.000
2114	2114	1	0.000	0.587	0.000	0.000
2115	2115	1	0.000	0.587	0.000	0.000
2116	2116	1	0.000	0.587	0.000	0.000
2117	2117	1	0.000	0.587	0.000	0.000
2118	2118	1	0.000	0.587	0.000	0.000
2119	2119	1	0.000	0.587	0.000	0.000
2120	2120	1	0.000	0.587	0.000	0.000
2121	2121	1	0.000	0.587	0.000	0.000
2122	2122	1	0.000	0.587	0.000	0.000
2123	2123	1	0.000	0.587	0.000	0.000
2124	2124	1	0.000	0.587	0.000	0.000
2125	2125	1	0.000	0.587	0.000	0.000
2126	2126	1	0.000	0.587	0.000	0.000
2127	2127	1	0.000	0.587	0.000	0.000
2128	2128	1	0.000	0.587	0.000	0.000
2129	2129	1	0.000	0.587	0.000	0.000
2130	2130	1	0.000	0.587	0.000	0.000
2131	2131	1	0.000	0.587	0.000	0.000
2132	2132	1	0.000	0.587	0.000	0.000
2133	2133	1	0.000	0.587	0.000	0.000
2134	2134	1	0.000	0.587	0.000	0.000
2135	2135	1	0.000	0.587	0.000	0.000
2136	2136	1	0.000	0.587	0.000	0.000
2137	2137	1	0.000	0.587	0.000	0.000
2138	2138	1	0.000	0.587	0.000	0.000
2139	2139	1	0.000	0.587	0.000	0.000
2140	2140	1	0.000	0.587	0.000	0.000
2141	2141	1	0.000	0.587	0.000	0.000
2142	2142	1	0.000	0.587	0.000	0.000
2143	2143	1	0.000	0.587	0.000	0.000
2144	2144	1	0.000	0.587	0.000	0.000

2145	2145	1	0.000	0.587	0.000	0.000
2146	2146	1	0.000	0.587	0.000	0.000
2147	2147	1	0.000	0.587	0.000	0.000
2148	2148	1	0.000	0.587	0.000	0.000
2149	2149	1	0.000	0.587	0.000	0.000
2150	2150	1	0.000	0.587	0.000	0.000
2151	2151	1	0.000	0.587	0.000	0.000
2011	2011	2	26.919	-0.297	14.286	0.188
2012	2012	2	3.247	-2.049	0.000	1.643
2013	2013	2	-3.680	-1.746	0.000	-0.436
2014	2014	2	-11.343	-1.707	0.000	0.153
2015	2015	2	-29.504	-0.661	0.000	0.004
2016	2016	2	-12.397	-2.068	0.000	0.003
2017	2017	2	22.316	-1.912	0.000	-1.744
2018	2018	2	16.802	-2.203	0.000	-1.775
2019	2019	2	-11.392	-2.442	0.000	-1.807
2020	2020	2	-11.913	-4.832	0.000	-1.841
2021	2021	2	3.816	1.236	0.000	0.000
2022	2022	2	5.133	3.364	0.000	0.000
2023	2023	2	1.862	0.601	0.000	0.000
2024	2024	2	1.853	0.550	0.000	0.000
2025	2025	2	1.886	0.745	0.000	0.000
2026	2026	2	2.790	0.658	0.000	0.000
2027	2027	2	1.583	0.681	0.000	0.000
2028	2028	2	1.535	0.674	0.000	0.000
2029	2029	2	1.489	0.663	0.000	0.000
2030	2030	2	1.445	0.653	0.000	0.000
2031	2031	2	2.399	0.653	0.000	0.000
2032	2032	2	1.343	0.650	0.000	0.000
2033	2033	2	1.306	0.644	0.000	0.000
2034	2034	2	1.270	0.637	0.000	0.000
2035	2035	2	1.236	0.645	0.000	0.000
2036	2036	2	0.000	0.640	0.000	0.000
2037	2037	2	0.000	0.635	0.000	0.000
2038	2038	2	0.000	0.630	0.000	0.000
2039	2039	2	0.000	0.649	0.000	0.000
2040	2040	2	0.000	0.681	0.000	0.000
2041	2041	2	0.000	0.629	0.000	0.000
2042	2042	2	0.000	0.592	0.000	0.000
2043	2043	2	0.000	0.587	0.000	0.000
2044	2044	2	0.000	0.587	0.000	0.000
2045	2045	2	0.000	0.586	0.000	0.000
2046	2046	2	0.000	0.587	0.000	0.000
2047	2047	2	0.000	0.587	0.000	0.000

2048	2048	2	0.000	0.587	0.000	0.000
2049	2049	2	0.000	0.586	0.000	0.000
2050	2050	2	0.000	0.587	0.000	0.000
2051	2051	2	0.000	0.587	0.000	0.000
2052	2052	2	0.000	0.587	0.000	0.000
2053	2053	2	0.000	0.587	0.000	0.000
2054	2054	2	0.000	0.587	0.000	0.000
2055	2055	2	0.000	0.587	0.000	0.000
2056	2056	2	0.000	0.587	0.000	0.000
2057	2057	2	0.000	0.587	0.000	0.000
2058	2058	2	0.000	0.586	0.000	0.000
2059	2059	2	0.000	0.587	0.000	0.000
2060	2060	2	0.000	0.587	0.000	0.000
2061	2061	2	0.000	0.587	0.000	0.000
2062	2062	2	0.000	0.587	0.000	0.000
2063	2063	2	0.000	0.587	0.000	0.000
2064	2064	2	0.000	0.587	0.000	0.000
2065	2065	2	0.000	0.587	0.000	0.000
2066	2066	2	0.000	0.587	0.000	0.000
2067	2067	2	0.000	0.587	0.000	0.000
2068	2068	2	0.000	0.587	0.000	0.000
2069	2069	2	-1.686	0.587	0.000	0.000
2070	2070	2	0.000	0.587	0.000	0.000
2071	2071	2	0.000	0.587	0.000	0.000
2072	2072	2	0.000	0.587	0.000	0.000
2073	2073	2	0.000	0.587	0.000	0.000
2074	2074	2	0.000	0.586	0.000	0.000
2075	2075	2	0.000	0.587	0.000	0.000
2076	2076	2	0.000	0.587	0.000	0.000
2077	2077	2	0.000	0.586	0.000	0.000
2078	2078	2	0.000	0.587	0.000	0.000
2079	2079	2	0.000	0.587	0.000	0.000
2080	2080	2	0.000	0.587	0.000	0.000
2081	2081	2	0.000	0.587	0.000	0.000
2082	2082	2	0.000	0.587	0.000	0.000
2083	2083	2	0.000	0.587	0.000	0.000
2084	2084	2	0.000	0.587	0.000	0.000
2085	2085	2	0.000	0.587	0.000	0.000
2086	2086	2	0.000	0.587	0.000	0.000
2087	2087	2	0.000	0.587	0.000	0.000
2088	2088	2	0.000	0.587	0.000	0.000
2089	2089	2	0.000	0.587	0.000	0.000
2090	2090	2	0.000	0.587	0.000	0.000
2091	2091	2	0.000	0.587	0.000	0.000

2092	2092	2	0.000	0.587	0.000	0.000
2093	2093	2	0.000	0.587	0.000	0.000
2094	2094	2	0.000	0.587	0.000	0.000
2095	2095	2	0.000	0.587	0.000	0.000
2096	2096	2	0.000	0.587	0.000	0.000
2097	2097	2	0.000	0.587	0.000	0.000
2098	2098	2	0.000	0.587	0.000	0.000
2099	2099	2	0.000	0.587	0.000	0.000
2100	2100	2	0.000	0.587	0.000	0.000
2101	2101	2	0.000	0.587	0.000	0.000
2102	2102	2	0.000	0.587	0.000	0.000
2103	2103	2	0.000	0.587	0.000	0.000
2104	2104	2	0.000	0.587	0.000	0.000
2105	2105	2	0.000	0.587	0.000	0.000
2106	2106	2	0.000	0.587	0.000	0.000
2107	2107	2	0.000	0.587	0.000	0.000
2108	2108	2	0.000	0.587	0.000	0.000
2109	2109	2	0.000	0.587	0.000	0.000
2110	2110	2	0.000	0.587	0.000	0.000
2111	2111	2	0.000	0.587	0.000	0.000
2112	2112	2	0.000	0.587	0.000	0.000
2113	2113	2	0.000	0.587	0.000	0.000
2114	2114	2	0.000	0.587	0.000	0.000
2115	2115	2	0.000	0.587	0.000	0.000
2116	2116	2	0.000	0.587	0.000	0.000
2117	2117	2	0.000	0.587	0.000	0.000
2118	2118	2	0.000	0.587	0.000	0.000
2119	2119	2	0.000	0.587	0.000	0.000
2120	2120	2	0.000	0.587	0.000	0.000
2121	2121	2	0.000	0.587	0.000	0.000
2122	2122	2	0.000	0.587	0.000	0.000
2123	2123	2	0.000	0.587	0.000	0.000
2124	2124	2	0.000	0.587	0.000	0.000
2125	2125	2	0.000	0.587	0.000	0.000
2126	2126	2	0.000	0.587	0.000	0.000
2127	2127	2	0.000	0.587	0.000	0.000
2128	2128	2	0.000	0.587	0.000	0.000
2129	2129	2	0.000	0.587	0.000	0.000
2130	2130	2	0.000	0.587	0.000	0.000
2131	2131	2	0.000	0.587	0.000	0.000
2132	2132	2	0.000	0.587	0.000	0.000
2133	2133	2	0.000	0.587	0.000	0.000
2134	2134	2	0.000	0.587	0.000	0.000
2135	2135	2	0.000	0.587	0.000	0.000

2136	2136	2	0.000	0.587	0.000	0.000
2137	2137	2	0.000	0.587	0.000	0.000
2138	2138	2	0.000	0.587	0.000	0.000
2139	2139	2	0.000	0.587	0.000	0.000
2140	2140	2	0.000	0.587	0.000	0.000
2141	2141	2	0.000	0.587	0.000	0.000
2142	2142	2	0.000	0.587	0.000	0.000
2143	2143	2	0.000	0.587	0.000	0.000
2144	2144	2	0.000	0.587	0.000	0.000
2145	2145	2	0.000	0.587	0.000	0.000
2146	2146	2	0.000	0.587	0.000	0.000
2147	2147	2	0.000	0.587	0.000	0.000
2148	2148	2	0.000	0.587	0.000	0.000
2149	2149	2	0.000	0.587	0.000	0.000
2150	2150	2	0.000	0.587	0.000	0.000
2151	2151	2	0.000	0.587	0.000	0.000
2011	2011	3	6.000	0.000	0.000	-1.438
2012	2012	3	3.963	0.000	0.000	-1.878
2013	2013	3	4.453	0.000	0.000	-2.438
2014	2014	3	0.807	0.000	0.000	-1.891
2015	2015	3	-2.124	0.000	0.000	-2.837
2016	2016	3	-1.596	0.000	0.000	-3.035
2017	2017	3	3.662	0.000	0.000	-2.830
2018	2018	3	6.268	0.000	0.000	-3.251
2019	2019	3	4.006	0.000	0.000	-3.618
2020	2020	3	-3.240	0.000	0.000	-3.931
2021	2021	3	9.768	0.000	0.000	-4.324
2022	2022	3	1.799	0.000	0.000	-4.776
2023	2023	3	-0.216	0.000	0.000	-5.300
2024	2024	3	-1.595	0.000	0.000	-5.915
2025	2025	3	1.049	0.000	0.000	-6.643
2026	2026	3	0.894	0.000	0.000	-7.520
2027	2027	3	-1.865	0.000	0.000	-8.594
2028	2028	3	-0.274	0.000	0.000	-9.934
2029	2029	3	-0.789	0.000	0.000	-11.657
2030	2030	3	1.876	0.000	0.000	-13.944
2031	2031	3	-0.287	0.000	0.000	-19.089
2032	2032	3	-2.211	0.000	0.000	-19.090
2033	2033	3	-2.565	0.000	0.000	-19.088
2034	2034	3	-1.399	0.000	0.000	-19.090
2035	2035	3	-1.444	0.000	0.000	-19.089
2036	2036	3	-0.695	0.000	0.000	-19.089
2037	2037	3	-0.258	0.000	0.000	-19.088
2038	2038	3	-0.856	0.000	0.000	-19.090

2039	2039	3	1.452	0.000	0.000	-19.092
2040	2040	3	-1.512	0.000	0.000	-19.088
2041	2041	3	0.000	0.000	0.000	-16.984
2042	2042	3	0.000	0.000	0.000	-5.099
2043	2043	3	0.000	0.000	0.000	-2.043
2044	2044	3	0.000	0.000	0.000	-6.009
2045	2045	3	0.000	0.000	0.000	-15.076
2046	2046	3	0.000	0.000	0.000	-9.204
2047	2047	3	0.000	0.000	0.000	-7.798
2048	2048	3	0.000	0.000	0.000	-5.087
2049	2049	3	0.000	0.000	0.000	-6.945
2050	2050	3	0.000	0.000	0.000	-1.718
2051	2051	3	0.000	0.000	0.000	0.000
2052	2052	3	0.000	0.000	0.000	0.000
2053	2053	3	0.000	0.000	0.000	0.000
2054	2054	3	0.000	0.000	0.000	0.000
2055	2055	3	0.000	0.000	0.000	0.000
2056	2056	3	0.000	0.000	0.000	0.000
2057	2057	3	0.000	0.000	0.000	0.000
2058	2058	3	0.000	0.000	0.000	0.000
2059	2059	3	0.000	0.000	0.000	0.000
2060	2060	3	0.000	0.000	0.000	0.000
2061	2061	3	0.000	0.000	0.000	0.000
2062	2062	3	0.000	0.000	0.000	0.000
2063	2063	3	0.000	0.000	0.000	0.000
2064	2064	3	0.000	0.000	0.000	0.000
2065	2065	3	0.000	0.000	0.000	0.000
2066	2066	3	0.000	0.000	0.000	0.000
2067	2067	3	0.000	0.000	0.000	0.000
2068	2068	3	0.000	0.000	0.000	0.000
2069	2069	3	0.000	0.000	0.000	0.000
2070	2070	3	0.000	0.000	0.000	0.000
2071	2071	3	0.000	0.000	0.000	0.000
2072	2072	3	0.000	0.000	0.000	0.000
2073	2073	3	0.000	0.000	0.000	0.000
2074	2074	3	0.000	0.000	0.000	0.000
2075	2075	3	0.000	0.000	0.000	0.000
2076	2076	3	0.000	0.000	0.000	0.000
2077	2077	3	0.000	0.000	0.000	0.000
2078	2078	3	0.000	0.000	0.000	0.000
2079	2079	3	0.000	0.000	0.000	0.000
2080	2080	3	0.000	0.000	0.000	0.000
2081	2081	3	0.000	0.000	0.000	0.000
2082	2082	3	0.000	0.000	0.000	0.000

2083	2083	3	0.000	0.000	0.000	0.000
2084	2084	3	0.000	0.000	0.000	0.000
2085	2085	3	0.000	0.000	0.000	0.000
2086	2086	3	0.000	0.000	0.000	0.000
2087	2087	3	0.000	0.000	0.000	0.000
2088	2088	3	0.000	0.000	0.000	0.000
2089	2089	3	0.000	0.000	0.000	0.000
2090	2090	3	0.000	0.000	0.000	0.000
2091	2091	3	0.000	0.000	0.000	0.000
2092	2092	3	0.000	0.000	0.000	0.000
2093	2093	3	0.000	0.000	0.000	0.000
2094	2094	3	0.000	0.000	0.000	0.000
2095	2095	3	0.000	0.000	0.000	0.000
2096	2096	3	0.000	0.000	0.000	0.000
2097	2097	3	0.000	0.000	0.000	0.000
2098	2098	3	0.000	0.000	0.000	0.000
2099	2099	3	0.000	0.000	0.000	0.000
2100	2100	3	0.000	0.000	0.000	0.000
2101	2101	3	0.000	0.000	0.000	0.000
2102	2102	3	0.000	0.000	0.000	0.000
2103	2103	3	0.000	0.000	0.000	0.000
2104	2104	3	0.000	0.000	0.000	0.000
2105	2105	3	0.000	0.000	0.000	0.000
2106	2106	3	0.000	0.000	0.000	0.000
2107	2107	3	0.000	0.000	0.000	0.000
2108	2108	3	0.000	0.000	0.000	0.000
2109	2109	3	0.000	0.000	0.000	0.000
2110	2110	3	0.000	0.000	0.000	0.000
2111	2111	3	0.000	0.000	0.000	0.000
2112	2112	3	0.000	0.000	0.000	0.000
2113	2113	3	0.000	0.000	0.000	0.000
2114	2114	3	0.000	0.000	0.000	0.000
2115	2115	3	0.000	0.000	0.000	0.000
2116	2116	3	0.000	0.000	0.000	0.000
2117	2117	3	0.000	0.000	0.000	0.000
2118	2118	3	0.000	0.000	0.000	0.000
2119	2119	3	0.000	0.000	0.000	0.000
2120	2120	3	0.000	0.000	0.000	0.000
2121	2121	3	0.000	0.000	0.000	0.000
2122	2122	3	0.000	0.000	0.000	0.000
2123	2123	3	0.000	0.000	0.000	0.000
2124	2124	3	0.000	0.000	0.000	0.000
2125	2125	3	0.000	0.000	0.000	0.000
2126	2126	3	0.000	0.000	0.000	0.000

2127	2127	3	0.000	0.000	0.000	0.000
2128	2128	3	0.000	0.000	0.000	0.000
2129	2129	3	0.000	0.000	0.000	0.000
2130	2130	3	0.000	0.000	0.000	0.000
2131	2131	3	0.000	0.000	0.000	0.000
2132	2132	3	0.000	0.000	0.000	0.000
2133	2133	3	0.000	0.000	0.000	0.000
2134	2134	3	0.000	0.000	0.000	0.000
2135	2135	3	0.000	0.000	0.000	0.000
2136	2136	3	0.000	0.000	0.000	0.000
2137	2137	3	0.000	0.000	0.000	0.000
2138	2138	3	0.000	0.000	0.000	0.000
2139	2139	3	0.000	0.000	0.000	0.000
2140	2140	3	0.000	0.000	0.000	0.000
2141	2141	3	0.000	0.000	0.000	0.000
2142	2142	3	0.000	0.000	0.000	0.000
2143	2143	3	0.000	0.000	0.000	0.000
2144	2144	3	0.000	0.000	0.000	0.000
2145	2145	3	0.000	0.000	0.000	0.000
2146	2146	3	0.000	0.000	0.000	0.000
2147	2147	3	0.000	0.000	0.000	0.000
2148	2148	3	0.000	0.000	0.000	0.000
2149	2149	3	0.000	0.000	0.000	0.000
2150	2150	3	0.000	0.000	0.000	0.000
2151	2151	3	0.000	0.000	0.000	0.000

FLEET - (used)

*veh_type	%Petrol	%Diesel	%Electric
1	59.8962	40.0961	0.0077
2	3.4548	96.4566	0.0886
3	3.4548	96.4566	0.0886
4	0.0000	100.0000	0.0000
5	0.0000	100.0000	0.0000
6	0.0000	99.9221	0.0779
7	0.0000	100.0000	0.0000
8	0.0000	100.0000	0.0000

FLEET - (std)

*veh_type	%Petrol	%Diesel	%Electric
1	59.6299	40.3625	0.0076
2	3.4505	96.4583	0.0912
3	3.4505	96.4583	0.0912
4	0.0000	100.0000	0.0000
5	0.0000	100.0000	0.0000

6	0.0000	100.0000	0.0000
7	0.0000	100.0000	0.0000
8	0.0000	100.0000	0.0000

FLEET_CHANGES - (used)

*% p.a.

*Start_yr	End_yr	Veh_type	%Change_Petrol	%Change_Diesel	%Change_Electric
2011	2011	1	-3.5334	5.2644	72.7273
2012	2012	1	-3.5938	4.8952	77.4436
2013	2013	1	-3.6635	4.5816	52.5424
2014	2014	1	-3.5106	3.9580	142.2222
2015	2015	1	-3.2761	3.3338	105.1606
2016	2016	1	-2.7303	2.5141	65.3438
2017	2017	1	-0.9381	0.6152	48.4449
2018	2018	1	1.1306	-1.3993	39.2394
2019	2019	1	2.3623	-2.7214	36.5882
2020	2020	1	1.9473	-3.2533	75.2245
2021	2021	1	1.5292	-4.3172	87.2343
2022	2022	1	0.2404	-4.6395	72.5965
2023	2023	1	-0.8037	-5.4000	58.4144
2024	2024	1	-1.4484	-6.2086	43.9989
2025	2025	1	-2.0998	-7.3022	35.9550
2026	2026	1	-2.4509	-7.9695	27.7036
2027	2027	1	-2.9226	-8.6666	22.7674
2028	2028	1	-3.3225	-9.3402	18.9875
2029	2029	1	-3.6571	-9.8518	15.8753
2030	2030	1	-3.9691	-10.1168	13.3105
2031	2031	1	-4.0715	-10.1036	10.9677
2032	2032	1	-4.0434	-9.9044	9.0164
2033	2033	1	-4.1522	-9.4536	7.5826
2034	2034	1	-4.2021	-8.8854	6.4073
2035	2035	1	-4.0578	-8.4250	5.3933
2036	2036	1	-3.8855	-7.8288	4.5411
2037	2037	1	-3.8221	-7.0415	3.8820
2038	2038	1	-3.5816	-6.0722	3.2150
2039	2039	1	-3.3132	-5.1005	2.6551
2040	2040	1	-2.9987	-4.3872	2.2093
2041	2041	1	-2.5436	-3.6258	1.7546
2042	2042	1	-2.2945	-3.1222	1.4878
2043	2043	1	-1.9852	-2.7371	1.2411
2044	2044	1	-1.6650	-2.2924	1.0049
2045	2045	1	-1.4495	-1.9597	0.8450
2046	2046	1	-1.2558	-1.6572	0.7092
2047	2047	1	-1.0944	-1.4064	0.6005

2048	2048	1	-0.9945	-1.2353	0.5303
2049	2049	1	-0.8969	-1.0790	0.4665
2050	2050	1	-0.7964	-0.9332	0.4054
2011	2011	2	-9.9745	0.3593	-2.2573
2012	2012	2	-8.1699	0.2539	9.5843
2013	2013	2	-8.1580	0.2422	-2.1075
2014	2014	2	-8.2993	0.2019	22.8202
2015	2015	2	-7.8448	0.1740	16.8273
2016	2016	2	-8.3367	0.1676	15.7539
2017	2017	2	-1.9981	0.0132	17.9520
2018	2018	2	3.9723	-0.1194	20.7143
2019	2019	2	2.8159	-0.1663	47.4283
2020	2020	2	0.6107	-0.2061	58.0426
2021	2021	2	-7.3773	-0.2553	79.4296
2022	2022	2	-1.0385	-0.1683	20.0218
2023	2023	2	-1.0646	-0.1605	16.0196
2024	2024	2	-0.8959	-0.1530	12.9320
2025	2025	2	-0.8468	-0.2198	15.8266
2026	2026	2	-0.8017	-0.2901	17.6330
2027	2027	2	-0.8082	-0.3992	20.2846
2028	2028	2	-0.9106	-0.5771	24.0664
2029	2029	2	-1.0264	-0.7144	23.8074
2030	2030	2	-1.3629	-1.0477	27.9255
2031	2031	2	-1.8716	-1.4764	30.4203
2032	2032	2	-2.3561	-1.9387	30.1393
2033	2033	2	-2.9243	-2.4870	29.1112
2034	2034	2	-3.4326	-2.9768	26.3028
2035	2035	2	-3.8181	-3.3308	22.6024
2036	2036	2	-4.0270	-3.5179	18.8201
2037	2037	2	-4.0964	-3.5581	15.4568
2038	2038	2	-4.1052	-3.5435	12.8578
2039	2039	2	-3.7973	-3.2205	9.9910
2040	2040	2	-3.7896	-3.2207	8.7892
2041	2041	2	-3.3695	-2.8372	6.8894
2042	2042	2	-3.3659	-2.8357	6.2576
2043	2043	2	-3.3161	-2.7852	5.6196
2044	2044	2	-3.2138	-2.6951	5.0050
2045	2045	2	-3.0706	-2.5788	4.4374
2046	2046	2	-2.8271	-2.3669	3.7986
2047	2047	2	-2.6535	-2.2117	3.3391
2048	2048	2	-2.4825	-2.0531	2.9326
2049	2049	2	-2.2761	-1.8776	2.5526
2050	2050	2	-2.0738	-1.6824	2.1886
2011	2011	3	-9.9745	0.3593	-2.2573

2012	2012	3	-8.1699	0.2539	9.5843
2013	2013	3	-8.1580	0.2422	-2.1075
2014	2014	3	-8.2993	0.2019	22.8202
2015	2015	3	-7.8448	0.1740	16.8273
2016	2016	3	-8.3367	0.1676	15.7539
2017	2017	3	-1.9981	0.0132	17.9520
2018	2018	3	3.9723	-0.1194	20.7143
2019	2019	3	2.8159	-0.1663	47.4283
2020	2020	3	0.6107	-0.2061	58.0426
2021	2021	3	-7.3773	-0.2553	79.4296
2022	2022	3	-1.0385	-0.1683	20.0218
2023	2023	3	-1.0646	-0.1605	16.0196
2024	2024	3	-0.8959	-0.1530	12.9320
2025	2025	3	-0.8468	-0.2198	15.8266
2026	2026	3	-0.8017	-0.2901	17.6330
2027	2027	3	-0.8082	-0.3992	20.2846
2028	2028	3	-0.9106	-0.5771	24.0664
2029	2029	3	-1.0264	-0.7144	23.8074
2030	2030	3	-1.3629	-1.0477	27.9255
2031	2031	3	-1.8716	-1.4764	30.4203
2032	2032	3	-2.3561	-1.9387	30.1393
2033	2033	3	-2.9243	-2.4870	29.1112
2034	2034	3	-3.4326	-2.9768	26.3028
2035	2035	3	-3.8181	-3.3308	22.6024
2036	2036	3	-4.0270	-3.5179	18.8201
2037	2037	3	-4.0964	-3.5581	15.4568
2038	2038	3	-4.1052	-3.5435	12.8578
2039	2039	3	-3.7973	-3.2205	9.9910
2040	2040	3	-3.7896	-3.2207	8.7892
2041	2041	3	-3.3695	-2.8372	6.8894
2042	2042	3	-3.3659	-2.8357	6.2576
2043	2043	3	-3.3161	-2.7852	5.6196
2044	2044	3	-3.2138	-2.6951	5.0050
2045	2045	3	-3.0706	-2.5788	4.4374
2046	2046	3	-2.8271	-2.3669	3.7986
2047	2047	3	-2.6535	-2.2117	3.3391
2048	2048	3	-2.4825	-2.0531	2.9326
2049	2049	3	-2.2761	-1.8776	2.5526
2050	2050	3	-2.0738	-1.6824	2.1886
2011	2011	6	0.0000	-0.0011	1.4121
2012	2012	6	0.0000	-0.0202	25.5696
2013	2013	6	0.0000	-0.0327	32.9637
2014	2014	6	0.0000	-0.0723	54.7384
2015	2015	6	0.0000	-0.0313	15.2866

2016	2016	6	0.0000	-0.0935	39.6515
2017	2017	6	0.0000	-0.0617	18.7158
2018	2018	6	0.0000	-0.1298	33.1453
2019	2019	6	0.0000	-0.3121	59.7805
2020	2020	6	0.0000	-0.2987	35.6910
2021	2021	6	0.0000	-0.7068	62.0549
2022	2022	6	0.0000	-4.7142	253.6139
2023	2023	6	0.0000	-4.4616	64.6774
2024	2024	6	0.0000	-2.5792	21.6914
2025	2025	6	0.0000	-3.3217	22.3641
2026	2026	6	0.0000	-2.9956	15.9353
2027	2027	6	0.0000	-3.3685	14.9927
2028	2028	6	0.0000	-3.8909	14.5529
2029	2029	6	0.0000	-3.5896	11.2641
2030	2030	6	0.0000	-1.2289	3.3416
2031	2031	6	0.0000	-1.0185	2.6469
2032	2032	6	0.0000	-0.7730	1.9371
2033	2033	6	0.0000	-0.6043	1.4741
2034	2034	6	0.0000	-0.4783	1.1429
2035	2035	6	0.0000	-0.3495	0.8217
2036	2036	6	0.0000	-0.2085	0.4846
2037	2037	6	0.0000	-0.0851	0.1965
2038	2038	6	0.0000	0.0268	-0.0617
2039	2039	6	0.0000	0.0965	-0.2223
2040	2040	6	0.0000	-0.6920	1.5991
2041	2041	6	0.0000	-0.5875	1.3269
2042	2042	6	0.0000	-0.5265	1.1667
2043	2043	6	0.0000	-0.4615	1.0055
2044	2044	6	0.0000	-0.3947	0.8475
2045	2045	6	0.0000	-0.3467	0.7352
2046	2046	6	0.0000	-0.3361	0.7051
2047	2047	6	0.0000	-0.3365	0.6986
2048	2048	6	0.0000	-0.3394	0.6974
2049	2049	6	0.0000	-0.3277	0.6665
2050	2050	6	0.0000	-0.3043	0.6127
2051	2151	1	0.0000	0.0000	0.0000
2051	2151	2	0.0000	0.0000	0.0000
2051	2151	3	0.0000	0.0000	0.0000
2011	2151	4	0.0000	0.0000	0.0000
2011	2151	5	0.0000	0.0000	0.0000
2051	2151	6	0.0000	0.0000	0.0000

FLEET_CHANGES - (std)

*** p.a.

*Start_yr	End_yr	Veh_type	%Change_Petrol	%Change_Diesel	%Change_Electric
2011	2011	1	-3.5474	5.2271	72.3684
2012	2012	1	-3.6255	4.8862	75.5725
2013	2013	1	-3.7045	4.5823	52.6087
2014	2014	1	-3.5372	3.9494	137.0370
2015	2015	1	-3.3037	3.3379	101.4423
2016	2016	1	-2.7361	2.5097	63.3652
2017	2017	1	-0.8923	0.5861	47.9912
2018	2018	1	1.1991	-1.4201	38.8203
2019	2019	1	1.7017	-1.9941	33.4222
2020	2020	1	1.8536	-2.2461	27.1952
2021	2021	1	1.6150	-2.5074	42.8975
2022	2022	1	1.4618	-2.7336	40.4296
2023	2023	1	1.3175	-3.0441	37.7636
2024	2024	1	0.9803	-3.5199	40.2425
2025	2025	1	0.2872	-4.2813	45.8903
2026	2026	1	-0.0235	-4.6731	36.0447
2027	2027	1	-0.1975	-4.8289	27.3620
2028	2028	1	-0.3930	-4.9178	21.9646
2029	2029	1	-0.6139	-4.9385	18.2947
2030	2030	1	-0.9186	-4.8594	15.7936
2031	2031	1	-1.1396	-4.5854	13.2690
2032	2032	1	-1.3598	-4.2639	11.3740
2033	2033	1	-1.5543	-3.9092	9.8508
2034	2034	1	-1.7099	-3.6116	8.6724
2035	2035	1	-1.8177	-3.2999	7.6247
2036	2036	1	-1.8688	-3.0327	6.7218
2037	2037	1	-1.8936	-2.8160	5.9844
2038	2038	1	-1.8686	-2.5621	5.2552
2039	2039	1	-1.8261	-2.3161	4.6228
2040	2040	1	-2.0337	-2.4757	4.7437
2041	2041	1	-1.9404	-2.3503	4.2169
2042	2042	1	-1.8614	-2.2344	3.7873
2043	2043	1	-1.7986	-2.0982	3.4172
2044	2044	1	-1.8062	-2.0617	3.2286
2045	2045	1	-1.7138	-1.9060	2.8834
2046	2046	1	-1.6902	-1.8698	2.7094
2047	2047	1	-1.6879	-1.8470	2.5779
2048	2048	1	-1.6589	-1.8011	2.4200
2049	2049	1	-1.6009	-1.7231	2.2342
2050	2050	1	-1.5935	-1.7035	2.1344
2011	2011	2	-9.9551	0.3589	-2.9605
2012	2012	2	-8.0850	0.2503	10.1695
2013	2013	2	-8.1413	0.2417	-2.2564

2014	2014	2	-8.3635	0.2034	22.5603
2015	2015	2	-7.9288	0.1755	16.6952
2016	2016	2	-8.3676	0.1677	15.7007
2017	2017	2	-1.9723	0.0123	17.7552
2018	2018	2	4.0994	-0.1225	20.6247
2019	2019	2	-1.5414	-0.0689	44.2857
2020	2020	2	-1.2465	0.0340	-2.4134
2021	2021	2	-0.1690	-0.0505	16.7089
2022	2022	2	0.1344	-0.0690	17.5767
2023	2023	2	0.9644	-0.1262	23.9603
2024	2024	2	2.0384	-0.2103	30.4753
2025	2025	2	4.5262	-0.4417	47.9714
2026	2026	2	3.4807	-0.4261	32.5352
2027	2027	2	3.9436	-0.5348	31.1116
2028	2028	2	4.5536	-0.6795	30.2961
2029	2029	2	4.8684	-0.7989	27.3836
2030	2030	2	4.9673	-0.9096	24.5096
2031	2031	2	5.0865	-0.9474	20.1742
2032	2032	2	4.8793	-1.0056	17.7808
2033	2033	2	4.6320	-1.0543	15.7803
2034	2034	2	4.3655	-1.0969	14.1249
2035	2035	2	4.0807	-1.1390	12.8123
2036	2036	2	3.8076	-1.1648	11.5496
2037	2037	2	3.5417	-1.1887	10.5057
2038	2038	2	3.2793	-1.2049	9.5762
2039	2039	2	3.0357	-1.2185	8.7799
2040	2040	2	2.8032	-1.2286	8.0825
2041	2041	2	2.5647	-1.2034	7.2582
2042	2042	2	2.4018	-1.2091	6.7416
2043	2043	2	2.2033	-1.2237	6.3558
2044	2044	2	2.0402	-1.2164	5.8890
2045	2045	2	1.8815	-1.2057	5.4663
2046	2046	2	1.6834	-1.1668	4.9758
2047	2047	2	1.5551	-1.1570	4.6635
2048	2048	2	1.4237	-1.1416	4.3618
2049	2049	2	1.2542	-1.1392	4.1548
2050	2050	2	1.1467	-1.1150	3.8719
2011	2011	3	-9.9551	0.3589	-2.9605
2012	2012	3	-8.0850	0.2503	10.1695
2013	2013	3	-8.1413	0.2417	-2.2564
2014	2014	3	-8.3635	0.2034	22.5603
2015	2015	3	-7.9288	0.1755	16.6952
2016	2016	3	-8.3676	0.1677	15.7007
2017	2017	3	-1.9723	0.0123	17.7552

2018	2018	3	4.0994	-0.1225	20.6247
2019	2019	3	-1.5414	-0.0689	44.2857
2020	2020	3	-1.2465	0.0340	-2.4134
2021	2021	3	-0.1690	-0.0505	16.7089
2022	2022	3	0.1344	-0.0690	17.5767
2023	2023	3	0.9644	-0.1262	23.9603
2024	2024	3	2.0384	-0.2103	30.4753
2025	2025	3	4.5262	-0.4417	47.9714
2026	2026	3	3.4807	-0.4261	32.5352
2027	2027	3	3.9436	-0.5348	31.1116
2028	2028	3	4.5536	-0.6795	30.2961
2029	2029	3	4.8684	-0.7989	27.3836
2030	2030	3	4.9673	-0.9096	24.5096
2031	2031	3	5.0865	-0.9474	20.1742
2032	2032	3	4.8793	-1.0056	17.7808
2033	2033	3	4.6320	-1.0543	15.7803
2034	2034	3	4.3655	-1.0969	14.1249
2035	2035	3	4.0807	-1.1390	12.8123
2036	2036	3	3.8076	-1.1648	11.5496
2037	2037	3	3.5417	-1.1887	10.5057
2038	2038	3	3.2793	-1.2049	9.5762
2039	2039	3	3.0357	-1.2185	8.7799
2040	2040	3	2.8032	-1.2286	8.0825
2041	2041	3	2.5647	-1.2034	7.2582
2042	2042	3	2.4018	-1.2091	6.7416
2043	2043	3	2.2033	-1.2237	6.3558
2044	2044	3	2.0402	-1.2164	5.8890
2045	2045	3	1.8815	-1.2057	5.4663
2046	2046	3	1.6834	-1.1668	4.9758
2047	2047	3	1.5551	-1.1570	4.6635
2048	2048	3	1.4237	-1.1416	4.3618
2049	2049	3	1.2542	-1.1392	4.1548
2050	2050	3	1.1467	-1.1150	3.8719
2051	2151	1	0.0000	0.0000	0.0000
2051	2151	2	0.0000	0.0000	0.0000
2051	2151	3	0.0000	0.0000	0.0000
2011	2151	4	0.0000	0.0000	0.0000
2011	2151	5	0.0000	0.0000	0.0000
2011	2151	6	0.0000	0.0000	0.0000

FUEL_CONSUMPTION - (used)

*veh_type fuel_type a_fuel b_fuel c_fuel d_fuel cut-off_speeds(km/h)

*

max min

1 1 0.4666 0.09917 -0.11296E-02 0.74815E-05 130 10

1	2	0.5050	0.07241	-0.69660E-03	0.54893E-05	130	10
1	3	0.0000	0.22466	0.00000E+00	0.00000E+00	120	10
2	1	0.3518	0.19727	-0.30966E-02	0.19998E-04	120	10
2	2	0.4682	0.11444	-0.16510E-02	0.13977E-04	110	10
2	3	0.0000	0.25706	0.00000E+00	0.00000E+00	120	10
3	1	0.3518	0.19727	-0.30966E-02	0.19998E-04	120	10
3	2	0.4682	0.11444	-0.16510E-02	0.13977E-04	110	10
3	3	0.0000	0.25706	0.00000E+00	0.00000E+00	120	10
4	2	2.6039	0.13816	-0.99860E-03	0.10906E-04	85	12
5	2	5.7277	0.29745	-0.19708E-02	0.11746E-04	85	12
6	2	3.3350	0.29304	-0.31851E-02	0.23364E-04	85	12
6	3	0.0000	1.17983	0.00000E+00	0.00000E+00	85	12

FUEL_CONSUMPTION - (std)

*veh_type	fuel_type	a_fuel	b_fuel	c_fuel	d_fuel	cut-off_speeds(km/h)	
				max	min		
1	1	0.4707	0.10003	-0.11394E-02	0.75462E-05	130	10
1	2	0.5069	0.07268	-0.69920E-03	0.55097E-05	130	10
1	3	0.0000	0.21366	0.00000E+00	0.00000E+00	120	10
2	1	0.3487	0.19552	-0.30690E-02	0.19819E-04	120	10
2	2	0.4688	0.11457	-0.16529E-02	0.13993E-04	110	10
2	3	0.0000	0.23232	0.00000E+00	0.00000E+00	120	10
3	1	0.3487	0.19552	-0.30690E-02	0.19819E-04	120	10
3	2	0.4688	0.11457	-0.16529E-02	0.13993E-04	110	10
3	3	0.0000	0.23232	0.00000E+00	0.00000E+00	120	10
4	2	2.6115	0.13856	-0.10015E-02	0.10938E-04	85	12
5	2	5.7221	0.29716	-0.19688E-02	0.11735E-04	85	12
6	2	3.3602	0.29525	-0.32091E-02	0.23540E-04	85	12

FUEL EFFICIENCY - (used)

*% p.a.

*Start_yr	End_yr	veh_type	fuel_type	change
2011	2011	1	1	0.662
2011	2011	1	2	0.817
2011	2011	1	3	-0.025
2011	2011	2	1	-0.095
2011	2011	2	2	0.139
2011	2011	2	3	0.000
2011	2011	3	1	-0.095
2011	2011	3	2	0.139
2011	2011	3	3	0.000
2011	2011	4	2	-0.217
2011	2011	4	3	0.000
2011	2011	5	2	-0.047

2011	2011	5	3	0.000
2011	2011	6	2	-0.140
2011	2011	6	3	0.000
2012	2012	1	1	0.824
2012	2012	1	2	0.877
2012	2012	1	3	0.491
2012	2012	2	1	-0.074
2012	2012	2	2	0.386
2012	2012	2	3	0.000
2012	2012	3	1	-0.074
2012	2012	3	2	0.386
2012	2012	3	3	0.000
2012	2012	4	2	-3.140
2012	2012	4	3	0.000
2012	2012	5	2	0.414
2012	2012	5	3	0.000
2012	2012	6	2	-0.258
2012	2012	6	3	0.000
2013	2013	1	1	1.035
2013	2013	1	2	0.939
2013	2013	1	3	0.025
2013	2013	2	1	0.178
2013	2013	2	2	0.142
2013	2013	2	3	0.000
2013	2013	3	1	0.178
2013	2013	3	2	0.142
2013	2013	3	3	0.000
2013	2013	4	2	0.524
2013	2013	4	3	0.000
2013	2013	5	2	0.199
2013	2013	5	3	0.000
2013	2013	6	2	-0.069
2013	2013	6	3	0.000
2014	2014	1	1	-0.594
2014	2014	1	2	0.712
2014	2014	1	3	0.709
2014	2014	2	1	-0.410
2014	2014	2	2	0.114
2014	2014	2	3	-0.064
2014	2014	3	1	-0.410
2014	2014	3	2	0.114
2014	2014	3	3	-0.064
2014	2014	4	2	-1.002
2014	2014	4	3	0.000

2014	2014	5	2	0.195
2014	2014	5	3	0.000
2014	2014	6	2	-0.064
2014	2014	6	3	0.000
2015	2015	1	1	1.252
2015	2015	1	2	1.319
2015	2015	1	3	0.591
2015	2015	2	1	2.511
2015	2015	2	2	0.235
2015	2015	2	3	-0.700
2015	2015	3	1	2.511
2015	2015	3	2	0.235
2015	2015	3	3	-0.700
2015	2015	4	2	0.295
2015	2015	4	3	0.000
2015	2015	5	2	0.327
2015	2015	5	3	0.000
2015	2015	6	2	-0.221
2015	2015	6	3	0.000
2016	2016	1	1	1.373
2016	2016	1	2	1.203
2016	2016	1	3	0.418
2016	2016	2	1	-0.117
2016	2016	2	2	0.703
2016	2016	2	3	-0.216
2016	2016	3	1	-0.117
2016	2016	3	2	0.703
2016	2016	3	3	-0.216
2016	2016	4	2	0.922
2016	2016	4	3	0.000
2016	2016	5	2	0.233
2016	2016	5	3	0.000
2016	2016	6	2	-0.060
2016	2016	6	3	-0.097
2017	2017	1	1	1.236
2017	2017	1	2	0.778
2017	2017	1	3	0.132
2017	2017	2	1	1.631
2017	2017	2	2	1.238
2017	2017	2	3	-0.009
2017	2017	3	1	1.631
2017	2017	3	2	1.238
2017	2017	3	3	-0.009
2017	2017	4	2	-0.773

2017	2017	4	3	0.000
2017	2017	5	2	0.317
2017	2017	5	3	0.000
2017	2017	6	2	-0.036
2017	2017	6	3	-0.080
2018	2018	1	1	0.987
2018	2018	1	2	0.058
2018	2018	1	3	0.092
2018	2018	2	1	3.066
2018	2018	2	2	0.884
2018	2018	2	3	-0.418
2018	2018	3	1	3.066
2018	2018	3	2	0.884
2018	2018	3	3	-0.418
2018	2018	4	2	0.421
2018	2018	4	3	0.000
2018	2018	5	2	0.544
2018	2018	5	3	0.000
2018	2018	6	2	-0.161
2018	2018	6	3	-0.191
2019	2019	1	1	0.626
2019	2019	1	2	-0.319
2019	2019	1	3	-0.347
2019	2019	2	1	1.138
2019	2019	2	2	0.740
2019	2019	2	3	0.088
2019	2019	3	1	1.138
2019	2019	3	2	0.740
2019	2019	3	3	0.088
2019	2019	4	2	-0.944
2019	2019	4	3	0.000
2019	2019	5	2	0.546
2019	2019	5	3	0.000
2019	2019	6	2	-0.168
2019	2019	6	3	-0.223
2020	2020	1	1	0.927
2020	2020	1	2	-0.092
2020	2020	1	3	-0.578
2020	2020	2	1	1.902
2020	2020	2	2	0.372
2020	2020	2	3	-0.341
2020	2020	3	1	1.902
2020	2020	3	2	0.372
2020	2020	3	3	-0.341

2020	2020	4	2	-0.700
2020	2020	4	3	0.000
2020	2020	5	2	0.352
2020	2020	5	3	0.000
2020	2020	6	2	-0.118
2020	2020	6	3	-0.337
2021	2021	1	1	1.169
2021	2021	1	2	-0.014
2021	2021	1	3	3.385
2021	2021	2	1	2.499
2021	2021	2	2	1.189
2021	2021	2	3	0.466
2021	2021	3	1	2.499
2021	2021	3	2	1.189
2021	2021	3	3	0.466
2021	2021	4	2	0.532
2021	2021	4	3	0.000
2021	2021	5	2	0.644
2021	2021	5	3	0.000
2021	2021	6	2	-0.093
2021	2021	6	3	0.885
2022	2022	1	1	-0.836
2022	2022	1	2	0.006
2022	2022	1	3	3.869
2022	2022	2	1	4.304
2022	2022	2	2	0.815
2022	2022	2	3	-0.062
2022	2022	3	1	4.304
2022	2022	3	2	0.815
2022	2022	3	3	-0.062
2022	2022	4	2	0.589
2022	2022	4	3	0.000
2022	2022	5	2	0.547
2022	2022	5	3	0.000
2022	2022	6	2	-0.120
2022	2022	6	3	3.311
2023	2023	1	1	0.823
2023	2023	1	2	-0.026
2023	2023	1	3	2.928
2023	2023	2	1	2.131
2023	2023	2	2	0.721
2023	2023	2	3	0.297
2023	2023	3	1	2.131
2023	2023	3	2	0.721

2023	2023	3	3	0.297
2023	2023	4	2	0.577
2023	2023	4	3	0.000
2023	2023	5	2	0.560
2023	2023	5	3	0.000
2023	2023	6	2	-0.095
2023	2023	6	3	1.901
2024	2024	1	1	0.593
2024	2024	1	2	-0.057
2024	2024	1	3	2.092
2024	2024	2	1	2.062
2024	2024	2	2	0.675
2024	2024	2	3	0.341
2024	2024	3	1	2.062
2024	2024	3	2	0.675
2024	2024	3	3	0.341
2024	2024	4	2	0.567
2024	2024	4	3	0.000
2024	2024	5	2	0.586
2024	2024	5	3	0.000
2024	2024	6	2	0.011
2024	2024	6	3	1.362
2025	2025	1	1	0.334
2025	2025	1	2	-0.072
2025	2025	1	3	1.828
2025	2025	2	1	2.658
2025	2025	2	2	1.643
2025	2025	2	3	0.472
2025	2025	3	1	2.658
2025	2025	3	2	1.643
2025	2025	3	3	0.472
2025	2025	4	2	1.078
2025	2025	4	3	0.000
2025	2025	5	2	1.849
2025	2025	5	3	0.000
2025	2025	6	2	0.031
2025	2025	6	3	1.886
2026	2026	1	1	0.238
2026	2026	1	2	-0.115
2026	2026	1	3	1.458
2026	2026	2	1	2.532
2026	2026	2	2	1.489
2026	2026	2	3	0.578
2026	2026	3	1	2.532

2026	2026	3	2	1.489
2026	2026	3	3	0.578
2026	2026	4	2	1.050
2026	2026	4	3	0.000
2026	2026	5	2	1.888
2026	2026	5	3	0.000
2026	2026	6	2	0.052
2026	2026	6	3	1.530
2027	2027	1	1	0.159
2027	2027	1	2	-0.159
2027	2027	1	3	1.326
2027	2027	2	1	4.516
2027	2027	2	2	1.360
2027	2027	2	3	0.506
2027	2027	3	1	4.516
2027	2027	3	2	1.360
2027	2027	3	3	0.506
2027	2027	4	2	1.010
2027	2027	4	3	0.000
2027	2027	5	2	1.827
2027	2027	5	3	0.000
2027	2027	6	2	0.127
2027	2027	6	3	1.497
2028	2028	1	1	0.087
2028	2028	1	2	-0.216
2028	2028	1	3	1.215
2028	2028	2	1	2.106
2028	2028	2	2	1.237
2028	2028	2	3	0.556
2028	2028	3	1	2.106
2028	2028	3	2	1.237
2028	2028	3	3	0.556
2028	2028	4	2	0.976
2028	2028	4	3	0.000
2028	2028	5	2	1.778
2028	2028	5	3	0.000
2028	2028	6	2	0.136
2028	2028	6	3	1.429
2029	2029	1	1	0.024
2029	2029	1	2	-0.284
2029	2029	1	3	1.180
2029	2029	2	1	1.991
2029	2029	2	2	1.142
2029	2029	2	3	0.357

2029	2029	3	1	1.991
2029	2029	3	2	1.142
2029	2029	3	3	0.357
2029	2029	4	2	0.948
2029	2029	4	3	0.000
2029	2029	5	2	1.702
2029	2029	5	3	0.000
2029	2029	6	2	0.148
2029	2029	6	3	1.250
2030	2030	1	1	0.021
2030	2030	1	2	-0.366
2030	2030	1	3	1.123
2030	2030	2	1	2.720
2030	2030	2	2	2.177
2030	2030	2	3	-0.469
2030	2030	3	1	2.720
2030	2030	3	2	2.177
2030	2030	3	3	-0.469
2030	2030	4	2	1.599
2030	2030	4	3	0.000
2030	2030	5	2	3.302
2030	2030	5	3	0.000
2030	2030	6	2	0.190
2030	2030	6	3	0.841
2031	2031	1	1	-0.068
2031	2031	1	2	-0.361
2031	2031	1	3	0.961
2031	2031	2	1	0.062
2031	2031	2	2	2.084
2031	2031	2	3	-1.235
2031	2031	3	1	0.062
2031	2031	3	2	2.084
2031	2031	3	3	-1.235
2031	2031	4	2	1.522
2031	2031	4	3	0.000
2031	2031	5	2	3.277
2031	2031	5	3	0.000
2031	2031	6	2	0.192
2031	2031	6	3	0.787
2032	2032	1	1	-0.106
2032	2032	1	2	-0.381
2032	2032	1	3	0.857
2032	2032	2	1	2.503
2032	2032	2	2	1.668

2032	2032	2	3	-1.684
2032	2032	3	1	2.503
2032	2032	3	2	1.668
2032	2032	3	3	-1.684
2032	2032	4	2	1.484
2032	2032	4	3	0.000
2032	2032	5	2	3.008
2032	2032	5	3	0.000
2032	2032	6	2	0.084
2032	2032	6	3	0.750
2033	2033	1	1	-0.116
2033	2033	1	2	-0.386
2033	2033	1	3	0.790
2033	2033	2	1	2.964
2033	2033	2	2	1.626
2033	2033	2	3	-1.777
2033	2033	3	1	2.964
2033	2033	3	2	1.626
2033	2033	3	3	-1.777
2033	2033	4	2	1.404
2033	2033	4	3	0.000
2033	2033	5	2	2.748
2033	2033	5	3	0.000
2033	2033	6	2	0.145
2033	2033	6	3	0.721
2034	2034	1	1	-0.126
2034	2034	1	2	-0.393
2034	2034	1	3	0.748
2034	2034	2	1	4.667
2034	2034	2	2	1.264
2034	2034	2	3	-1.521
2034	2034	3	1	4.667
2034	2034	3	2	1.264
2034	2034	3	3	-1.521
2034	2034	4	2	1.321
2034	2034	4	3	0.000
2034	2034	5	2	2.559
2034	2034	5	3	0.000
2034	2034	6	2	0.401
2034	2034	6	3	0.724
2035	2035	1	1	-0.173
2035	2035	1	2	-0.358
2035	2035	1	3	0.722
2035	2035	2	1	-2.719

2035	2035	2	2	1.183
2035	2035	2	3	-1.133
2035	2035	3	1	-2.719
2035	2035	3	2	1.183
2035	2035	3	3	-1.133
2035	2035	4	2	1.229
2035	2035	4	3	0.000
2035	2035	5	2	2.323
2035	2035	5	3	0.000
2035	2035	6	2	0.252
2035	2035	6	3	0.748
2036	2036	1	1	-0.188
2036	2036	1	2	-0.251
2036	2036	1	3	0.712
2036	2036	2	1	2.305
2036	2036	2	2	1.146
2036	2036	2	3	-0.751
2036	2036	3	1	2.305
2036	2036	3	2	1.146
2036	2036	3	3	-0.751
2036	2036	4	2	1.142
2036	2036	4	3	0.000
2036	2036	5	2	2.020
2036	2036	5	3	0.000
2036	2036	6	2	0.188
2036	2036	6	3	0.761
2037	2037	1	1	-0.232
2037	2037	1	2	-0.323
2037	2037	1	3	0.717
2037	2037	2	1	1.801
2037	2037	2	2	1.152
2037	2037	2	3	-0.441
2037	2037	3	1	1.801
2037	2037	3	2	1.152
2037	2037	3	3	-0.441
2037	2037	4	2	1.035
2037	2037	4	3	0.000
2037	2037	5	2	1.558
2037	2037	5	3	0.000
2037	2037	6	2	0.354
2037	2037	6	3	0.782
2038	2038	1	1	-0.236
2038	2038	1	2	-0.424
2038	2038	1	3	0.717

2038	2038	2	1	5.995
2038	2038	2	2	1.204
2038	2038	2	3	-0.217
2038	2038	3	1	5.995
2038	2038	3	2	1.204
2038	2038	3	3	-0.217
2038	2038	4	2	0.915
2038	2038	4	3	0.000
2038	2038	5	2	1.195
2038	2038	5	3	0.000
2038	2038	6	2	0.272
2038	2038	6	3	0.805
2039	2039	1	1	-0.233
2039	2039	1	2	-0.611
2039	2039	1	3	0.713
2039	2039	2	1	-0.357
2039	2039	2	2	0.702
2039	2039	2	3	0.021
2039	2039	3	1	-0.357
2039	2039	3	2	0.702
2039	2039	3	3	0.021
2039	2039	4	2	0.794
2039	2039	4	3	0.000
2039	2039	5	2	0.889
2039	2039	5	3	0.000
2039	2039	6	2	0.201
2039	2039	6	3	0.822
2040	2040	1	1	-0.203
2040	2040	1	2	-0.411
2040	2040	1	3	0.720
2040	2040	2	1	1.080
2040	2040	2	2	0.723
2040	2040	2	3	0.104
2040	2040	3	1	1.080
2040	2040	3	2	0.723
2040	2040	3	3	0.104
2040	2040	4	2	0.689
2040	2040	4	3	0.000
2040	2040	5	2	0.664
2040	2040	5	3	0.000
2040	2040	6	2	0.256
2040	2040	6	3	0.928
2041	2041	1	1	0.027
2041	2041	1	2	0.054

2041	2041	1	3	0.701
2041	2041	2	1	4.247
2041	2041	2	2	0.511
2041	2041	2	3	0.157
2041	2041	3	1	4.247
2041	2041	3	2	0.511
2041	2041	3	3	0.157
2041	2041	4	2	0.607
2041	2041	4	3	0.000
2041	2041	5	2	0.494
2041	2041	5	3	0.000
2041	2041	6	2	0.423
2041	2041	6	3	0.866
2042	2042	1	1	-0.082
2042	2042	1	2	-0.073
2042	2042	1	3	0.685
2042	2042	2	1	2.107
2042	2042	2	2	0.932
2042	2042	2	3	0.161
2042	2042	3	1	2.107
2042	2042	3	2	0.932
2042	2042	3	3	0.161
2042	2042	4	2	0.538
2042	2042	4	3	0.000
2042	2042	5	2	0.370
2042	2042	5	3	0.000
2042	2042	6	2	0.288
2042	2042	6	3	0.802
2043	2043	1	1	-0.107
2043	2043	1	2	-0.009
2043	2043	1	3	0.662
2043	2043	2	1	0.816
2043	2043	2	2	0.626
2043	2043	2	3	0.170
2043	2043	3	1	0.816
2043	2043	3	2	0.626
2043	2043	3	3	0.170
2043	2043	4	2	0.485
2043	2043	4	3	0.000
2043	2043	5	2	0.292
2043	2043	5	3	0.000
2043	2043	6	2	0.262
2043	2043	6	3	0.744
2044	2044	1	1	-0.075

2044	2044	1	2	-0.004
2044	2044	1	3	0.639
2044	2044	2	1	0.451
2044	2044	2	2	0.395
2044	2044	2	3	0.197
2044	2044	3	1	0.451
2044	2044	3	2	0.395
2044	2044	3	3	0.197
2044	2044	4	2	0.446
2044	2044	4	3	0.000
2044	2044	5	2	0.234
2044	2044	5	3	0.000
2044	2044	6	2	0.256
2044	2044	6	3	0.710
2045	2045	1	1	-0.046
2045	2045	1	2	-0.001
2045	2045	1	3	0.620
2045	2045	2	1	0.400
2045	2045	2	2	0.339
2045	2045	2	3	0.217
2045	2045	3	1	0.400
2045	2045	3	2	0.339
2045	2045	3	3	0.217
2045	2045	4	2	0.415
2045	2045	4	3	0.000
2045	2045	5	2	0.199
2045	2045	5	3	0.000
2045	2045	6	2	0.255
2045	2045	6	3	0.674
2046	2046	1	1	-0.022
2046	2046	1	2	0.000
2046	2046	1	3	0.603
2046	2046	2	1	1.958
2046	2046	2	2	1.266
2046	2046	2	3	0.233
2046	2046	3	1	1.958
2046	2046	3	2	1.266
2046	2046	3	3	0.233
2046	2046	4	2	0.425
2046	2046	4	3	0.000
2046	2046	5	2	0.214
2046	2046	5	3	0.000
2046	2046	6	2	0.248
2046	2046	6	3	0.634

2047	2047	1	1	-0.009
2047	2047	1	2	0.002
2047	2047	1	3	0.581
2047	2047	2	1	0.207
2047	2047	2	2	0.178
2047	2047	2	3	0.264
2047	2047	3	1	0.207
2047	2047	3	2	0.178
2047	2047	3	3	0.264
2047	2047	4	2	0.362
2047	2047	4	3	0.000
2047	2047	5	2	0.138
2047	2047	5	3	0.000
2047	2047	6	2	0.247
2047	2047	6	3	0.577
2048	2048	1	1	0.004
2048	2048	1	2	0.003
2048	2048	1	3	0.565
2048	2048	2	1	0.179
2048	2048	2	2	0.147
2048	2048	2	3	0.285
2048	2048	3	1	0.179
2048	2048	3	2	0.147
2048	2048	3	3	0.285
2048	2048	4	2	0.349
2048	2048	4	3	0.000
2048	2048	5	2	0.124
2048	2048	5	3	0.000
2048	2048	6	2	0.252
2048	2048	6	3	0.549
2049	2049	1	1	0.013
2049	2049	1	2	0.004
2049	2049	1	3	0.545
2049	2049	2	1	0.156
2049	2049	2	2	0.124
2049	2049	2	3	0.310
2049	2049	3	1	0.156
2049	2049	3	2	0.124
2049	2049	3	3	0.310
2049	2049	4	2	0.340
2049	2049	4	3	0.000
2049	2049	5	2	0.116
2049	2049	5	3	0.000
2049	2049	6	2	0.241

2049	2049	6	3	0.528
2050	2050	1	1	0.019
2050	2050	1	2	0.004
2050	2050	1	3	0.529
2050	2050	2	1	0.139
2050	2050	2	2	0.106
2050	2050	2	3	0.332
2050	2050	3	1	0.139
2050	2050	3	2	0.106
2050	2050	3	3	0.332
2050	2050	4	2	0.333
2050	2050	4	3	0.000
2050	2050	5	2	0.109
2050	2050	5	3	0.000
2050	2050	6	2	0.270
2050	2050	6	3	0.512
2051	2151	1	1	0.000
2051	2151	1	2	0.000
2051	2151	1	3	0.000
2051	2151	2	1	0.000
2051	2151	2	2	0.000
2051	2151	2	3	0.000
2051	2151	3	1	0.000
2051	2151	3	2	0.000
2051	2151	3	3	0.000
2051	2151	4	2	0.000
2051	2151	4	3	0.000
2051	2151	5	2	0.000
2051	2151	5	3	0.000
2051	2151	6	2	0.000
2051	2151	6	3	0.000

FUEL_EFFICIENCY - (std)

*% p.a.

*Start_yr	End_yr	veh_type	fuel_type	change
2011	2011	1	1	0.604
2011	2011	1	2	0.874
2011	2011	1	3	0.032
2011	2011	2	1	-0.168
2011	2011	2	2	0.177
2011	2011	2	3	0.000
2011	2011	3	1	-0.168
2011	2011	3	2	0.177
2011	2011	3	3	0.000

2011	2011	4	2	-0.113
2011	2011	5	2	0.011
2012	2012	1	1	0.285
2012	2012	1	2	0.975
2012	2012	1	3	-0.707
2012	2012	2	1	-0.630
2012	2012	2	2	0.468
2012	2012	2	3	0.000
2012	2012	3	1	-0.630
2012	2012	3	2	0.468
2012	2012	3	3	0.000
2012	2012	4	2	-2.932
2012	2012	5	2	0.288
2013	2013	1	1	0.891
2013	2013	1	2	0.920
2013	2013	1	3	0.085
2013	2013	2	1	0.031
2013	2013	2	2	0.107
2013	2013	2	3	0.000
2013	2013	3	1	0.031
2013	2013	3	2	0.107
2013	2013	3	3	0.000
2013	2013	4	2	0.475
2013	2013	5	2	0.068
2014	2014	1	1	0.979
2014	2014	1	2	0.945
2014	2014	1	3	-1.015
2014	2014	2	1	-0.518
2014	2014	2	2	0.057
2014	2014	2	3	-0.042
2014	2014	3	1	-0.518
2014	2014	3	2	0.057
2014	2014	3	3	-0.042
2014	2014	4	2	-1.038
2014	2014	5	2	0.144
2015	2015	1	1	1.281
2015	2015	1	2	1.319
2015	2015	1	3	-0.927
2015	2015	2	1	2.498
2015	2015	2	2	0.323
2015	2015	2	3	-0.454
2015	2015	3	1	2.498
2015	2015	3	2	0.323
2015	2015	3	3	-0.454

2015	2015	4	2	0.361
2015	2015	5	2	0.480
2016	2016	1	1	1.406
2016	2016	1	2	1.207
2016	2016	1	3	1.034
2016	2016	2	1	-0.062
2016	2016	2	2	0.705
2016	2016	2	3	0.340
2016	2016	3	1	-0.062
2016	2016	3	2	0.705
2016	2016	3	3	0.340
2016	2016	4	2	0.747
2016	2016	5	2	0.239
2017	2017	1	1	1.270
2017	2017	1	2	0.783
2017	2017	1	3	1.188
2017	2017	2	1	1.646
2017	2017	2	2	1.249
2017	2017	2	3	0.804
2017	2017	3	1	1.646
2017	2017	3	2	1.249
2017	2017	3	3	0.804
2017	2017	4	2	-0.771
2017	2017	5	2	0.316
2018	2018	1	1	1.029
2018	2018	1	2	0.063
2018	2018	1	3	1.035
2018	2018	2	1	3.029
2018	2018	2	2	0.770
2018	2018	2	3	0.708
2018	2018	3	1	3.029
2018	2018	3	2	0.770
2018	2018	3	3	0.708
2018	2018	4	2	-0.058
2018	2018	5	2	0.407
2019	2019	1	1	0.990
2019	2019	1	2	-0.041
2019	2019	1	3	2.359
2019	2019	2	1	1.141
2019	2019	2	2	0.522
2019	2019	2	3	2.118
2019	2019	3	1	1.141
2019	2019	3	2	0.522
2019	2019	3	3	2.118

2019	2019	4	2	0.247
2019	2019	5	2	0.388
2020	2020	1	1	2.680
2020	2020	1	2	1.323
2020	2020	1	3	2.699
2020	2020	2	1	1.842
2020	2020	2	2	1.432
2020	2020	2	3	-2.324
2020	2020	3	1	1.842
2020	2020	3	2	1.432
2020	2020	3	3	-2.324
2020	2020	4	2	0.341
2020	2020	5	2	0.470
2021	2021	1	1	2.289
2021	2021	1	2	1.469
2021	2021	1	3	5.660
2021	2021	2	1	1.283
2021	2021	2	2	1.165
2021	2021	2	3	-0.804
2021	2021	3	1	1.283
2021	2021	3	2	1.165
2021	2021	3	3	-0.804
2021	2021	4	2	0.484
2021	2021	5	2	0.523
2022	2022	1	1	2.080
2022	2022	1	2	1.497
2022	2022	1	3	3.960
2022	2022	2	1	2.960
2022	2022	2	2	1.102
2022	2022	2	3	-0.880
2022	2022	3	1	2.960
2022	2022	3	2	1.102
2022	2022	3	3	-0.880
2022	2022	4	2	0.491
2022	2022	5	2	0.531
2023	2023	1	1	1.895
2023	2023	1	2	1.393
2023	2023	1	3	2.637
2023	2023	2	1	1.045
2023	2023	2	2	0.925
2023	2023	2	3	-1.450
2023	2023	3	1	1.045
2023	2023	3	2	0.925
2023	2023	3	3	-1.450

2023	2023	4	2	0.500
2023	2023	5	2	0.548
2024	2024	1	1	1.891
2024	2024	1	2	1.258
2024	2024	1	3	2.035
2024	2024	2	1	1.277
2024	2024	2	2	0.822
2024	2024	2	3	-1.389
2024	2024	3	1	1.277
2024	2024	3	2	0.822
2024	2024	3	3	-1.389
2024	2024	4	2	0.490
2024	2024	5	2	0.544
2025	2025	1	1	1.650
2025	2025	1	2	1.164
2025	2025	1	3	1.843
2025	2025	2	1	2.913
2025	2025	2	2	1.999
2025	2025	2	3	-1.541
2025	2025	3	1	2.913
2025	2025	3	2	1.999
2025	2025	3	3	-1.541
2025	2025	4	2	0.918
2025	2025	5	2	1.864
2026	2026	1	1	1.468
2026	2026	1	2	1.107
2026	2026	1	3	1.211
2026	2026	2	1	2.351
2026	2026	2	2	1.780
2026	2026	2	3	-0.553
2026	2026	3	1	2.351
2026	2026	3	2	1.780
2026	2026	3	3	-0.553
2026	2026	4	2	0.900
2026	2026	5	2	1.854
2027	2027	1	1	1.372
2027	2027	1	2	1.130
2027	2027	1	3	0.922
2027	2027	2	1	3.660
2027	2027	2	2	1.600
2027	2027	2	3	-0.253
2027	2027	3	1	3.660
2027	2027	3	2	1.600
2027	2027	3	3	-0.253

2027	2027	4	2	0.874
2027	2027	5	2	1.767
2028	2028	1	1	1.234
2028	2028	1	2	1.148
2028	2028	1	3	0.747
2028	2028	2	1	1.853
2028	2028	2	2	1.433
2028	2028	2	3	0.019
2028	2028	3	1	1.853
2028	2028	3	2	1.433
2028	2028	3	3	0.019
2028	2028	4	2	0.846
2028	2028	5	2	1.644
2029	2029	1	1	1.110
2029	2029	1	2	1.140
2029	2029	1	3	0.694
2029	2029	2	1	1.699
2029	2029	2	2	1.299
2029	2029	2	3	0.258
2029	2029	3	1	1.699
2029	2029	3	2	1.299
2029	2029	3	3	0.258
2029	2029	4	2	0.808
2029	2029	5	2	1.531
2030	2030	1	1	2.306
2030	2030	1	2	2.305
2030	2030	1	3	0.690
2030	2030	2	1	3.530
2030	2030	2	2	2.726
2030	2030	2	3	0.398
2030	2030	3	1	3.530
2030	2030	3	2	2.726
2030	2030	3	3	0.398
2030	2030	4	2	1.394
2030	2030	5	2	3.225
2031	2031	1	1	2.230
2031	2031	1	2	2.375
2031	2031	1	3	0.571
2031	2031	2	1	1.740
2031	2031	2	2	2.564
2031	2031	2	3	0.251
2031	2031	3	1	1.740
2031	2031	3	2	2.564
2031	2031	3	3	0.251

2031	2031	4	2	1.307
2031	2031	5	2	3.126
2032	2032	1	1	2.088
2032	2032	1	2	2.387
2032	2032	1	3	0.492
2032	2032	2	1	2.870
2032	2032	2	2	2.133
2032	2032	2	3	0.170
2032	2032	3	1	2.870
2032	2032	3	2	2.133
2032	2032	3	3	0.170
2032	2032	4	2	1.294
2032	2032	5	2	2.946
2033	2033	1	1	2.021
2033	2033	1	2	2.185
2033	2033	1	3	0.435
2033	2033	2	1	2.820
2033	2033	2	2	2.016
2033	2033	2	3	0.145
2033	2033	3	1	2.820
2033	2033	3	2	2.016
2033	2033	3	3	0.145
2033	2033	4	2	1.240
2033	2033	5	2	2.667
2034	2034	1	1	1.933
2034	2034	1	2	1.998
2034	2034	1	3	0.405
2034	2034	2	1	3.326
2034	2034	2	2	1.646
2034	2034	2	3	0.151
2034	2034	3	1	3.326
2034	2034	3	2	1.646
2034	2034	3	3	0.151
2034	2034	4	2	1.176
2034	2034	5	2	2.450
2035	2035	1	1	1.795
2035	2035	1	2	1.826
2035	2035	1	3	0.374
2035	2035	2	1	-0.177
2035	2035	2	2	1.517
2035	2035	2	3	0.162
2035	2035	3	1	-0.177
2035	2035	3	2	1.517
2035	2035	3	3	0.162

2035	2035	4	2	1.110
2035	2035	5	2	2.072
2036	2036	1	1	1.602
2036	2036	1	2	1.723
2036	2036	1	3	0.362
2036	2036	2	1	1.873
2036	2036	2	2	1.401
2036	2036	2	3	0.192
2036	2036	3	1	1.873
2036	2036	3	2	1.401
2036	2036	3	3	0.192
2036	2036	4	2	1.026
2036	2036	5	2	1.652
2037	2037	1	1	1.499
2037	2037	1	2	1.565
2037	2037	1	3	0.374
2037	2037	2	1	1.484
2037	2037	2	2	1.325
2037	2037	2	3	0.232
2037	2037	3	1	1.484
2037	2037	3	2	1.325
2037	2037	3	3	0.232
2037	2037	4	2	0.935
2037	2037	5	2	1.356
2038	2038	1	1	1.372
2038	2038	1	2	1.357
2038	2038	1	3	0.386
2038	2038	2	1	2.766
2038	2038	2	2	1.280
2038	2038	2	3	0.263
2038	2038	3	1	2.766
2038	2038	3	2	1.280
2038	2038	3	3	0.263
2038	2038	4	2	0.848
2038	2038	5	2	1.046
2039	2039	1	1	1.233
2039	2039	1	2	1.098
2039	2039	1	3	0.402
2039	2039	2	1	0.398
2039	2039	2	2	0.831
2039	2039	2	3	0.296
2039	2039	3	1	0.398
2039	2039	3	2	0.831
2039	2039	3	3	0.296

2039	2039	4	2	0.758
2039	2039	5	2	0.806
2040	2040	1	1	1.198
2040	2040	1	2	1.161
2040	2040	1	3	0.342
2040	2040	2	1	0.753
2040	2040	2	2	0.771
2040	2040	2	3	0.329
2040	2040	3	1	0.753
2040	2040	3	2	0.771
2040	2040	3	3	0.329
2040	2040	4	2	0.660
2040	2040	5	2	0.599
2041	2041	1	1	1.300
2041	2041	1	2	1.581
2041	2041	1	3	0.360
2041	2041	2	1	1.010
2041	2041	2	2	1.026
2041	2041	2	3	0.390
2041	2041	3	1	1.010
2041	2041	3	2	1.026
2041	2041	3	3	0.390
2041	2041	4	2	0.582
2041	2041	5	2	0.436
2042	2042	1	1	0.879
2042	2042	1	2	0.843
2042	2042	1	3	0.374
2042	2042	2	1	0.496
2042	2042	2	2	0.525
2042	2042	2	3	0.477
2042	2042	3	1	0.496
2042	2042	3	2	0.525
2042	2042	3	3	0.477
2042	2042	4	2	0.512
2042	2042	5	2	0.335
2043	2043	1	1	0.765
2043	2043	1	2	0.693
2043	2043	1	3	0.385
2043	2043	2	1	0.415
2043	2043	2	2	0.437
2043	2043	2	3	0.533
2043	2043	3	1	0.415
2043	2043	3	2	0.437
2043	2043	3	3	0.533

2043	2043	4	2	0.451
2043	2043	5	2	0.259
2044	2044	1	1	0.624
2044	2044	1	2	0.557
2044	2044	1	3	0.405
2044	2044	2	1	0.345
2044	2044	2	2	0.357
2044	2044	2	3	0.581
2044	2044	3	1	0.345
2044	2044	3	2	0.357
2044	2044	3	3	0.581
2044	2044	4	2	0.404
2044	2044	5	2	0.202
2045	2045	1	1	0.483
2045	2045	1	2	0.421
2045	2045	1	3	0.407
2045	2045	2	1	0.285
2045	2045	2	2	0.288
2045	2045	2	3	0.623
2045	2045	3	1	0.285
2045	2045	3	2	0.288
2045	2045	3	3	0.623
2045	2045	4	2	0.365
2045	2045	5	2	0.160
2046	2046	1	1	0.320
2046	2046	1	2	0.344
2046	2046	1	3	0.428
2046	2046	2	1	0.652
2046	2046	2	2	0.858
2046	2046	2	3	0.645
2046	2046	3	1	0.652
2046	2046	3	2	0.858
2046	2046	3	3	0.645
2046	2046	4	2	0.374
2046	2046	5	2	0.157
2047	2047	1	1	0.238
2047	2047	1	2	0.257
2047	2047	1	3	0.441
2047	2047	2	1	0.150
2047	2047	2	2	0.136
2047	2047	2	3	0.686
2047	2047	3	1	0.150
2047	2047	3	2	0.136
2047	2047	3	3	0.686

2047	2047	4	2	0.304
2047	2047	5	2	0.087
2048	2048	1	1	0.179
2048	2048	1	2	0.195
2048	2048	1	3	0.452
2048	2048	2	1	0.126
2048	2048	2	2	0.108
2048	2048	2	3	0.717
2048	2048	3	1	0.126
2048	2048	3	2	0.108
2048	2048	3	3	0.717
2048	2048	4	2	0.288
2048	2048	5	2	0.074
2049	2049	1	1	0.135
2049	2049	1	2	0.148
2049	2049	1	3	0.461
2049	2049	2	1	0.106
2049	2049	2	2	0.087
2049	2049	2	3	0.745
2049	2049	3	1	0.106
2049	2049	3	2	0.087
2049	2049	3	3	0.745
2049	2049	4	2	0.275
2049	2049	5	2	0.062
2050	2050	1	1	0.103
2050	2050	1	2	0.114
2050	2050	1	3	0.472
2050	2050	2	1	0.091
2050	2050	2	2	0.072
2050	2050	2	3	0.770
2050	2050	3	1	0.091
2050	2050	3	2	0.072
2050	2050	3	3	0.770
2050	2050	4	2	0.266
2050	2050	5	2	0.055
2051	2151	1	1	0.000
2051	2151	1	2	0.000
2051	2151	1	3	0.000
2051	2151	2	1	0.000
2051	2151	2	2	0.000
2051	2151	2	3	0.000
2051	2151	3	1	0.000
2051	2151	3	2	0.000
2051	2151	3	3	0.000

Road	2037	0	0	0	0	0	0	0	0
Road	2038	0	0	0	0	0	0	0	0
Road	2039	0	0	0	0	0	0	0	0
Road	2040	0	0	0	0	0	0	0	0
Road	2041	0	0	0	0	0	0	0	0
Road	2042	0	0	0	0	0	0	0	0
Road	2043	0	0	0	0	0	0	0	0
Road	2044	0	0	0	0	0	0	0	0
Road	2045	0	0	0	0	0	0	0	0
Road	2046	0	0	0	0	0	0	0	0
Road	2047	0	0	0	0	0	0	0	0
Road	2048	0	0	0	0	0	0	0	0
Road	2049	0	0	0	0	0	0	0	0
Road	2050	0	0	0	0	0	0	0	0
Road	2051	0	0	0	0	0	0	0	0
Road	2052	0	0	0	0	0	0	0	0
Road	2053	0	0	0	0	0	0	0	0
Road	2054	0	0	0	0	0	0	0	0
Road	2055	0	0	0	0	0	0	0	0
Road	2056	0	0	0	0	0	0	0	0
Road	2057	0	0	0	0	0	0	0	0
Road	2058	0	0	0	0	0	0	0	0
Road	2059	0	0	0	0	0	0	0	0
Road	2060	0	0	0	0	0	0	0	0
Road	2061	0	0	0	0	0	0	0	0
Road	2062	0	0	0	0	0	0	0	0
Road	2063	0	0	0	0	0	0	0	0
Road	2064	0	0	0	0	0	0	0	0
Road	2065	0	0	0	0	0	0	0	0
Road	2066	0	0	0	0	0	0	0	0
Road	2067	0	0	0	0	0	0	0	0
Road	2068	0	0	0	0	0	0	0	0
Road	2069	0	0	0	0	0	0	0	0
Road	2070	0	0	0	0	0	0	0	0
Road	2071	0	0	0	0	0	0	0	0
Road	2072	0	0	0	0	0	0	0	0
Road	2073	0	0	0	0	0	0	0	0
Road	2074	0	0	0	0	0	0	0	0
Road	2075	0	0	0	0	0	0	0	0
Road	2076	0	0	0	0	0	0	0	0
Road	2077	0	0	0	0	0	0	0	0
Road	2078	0	0	0	0	0	0	0	0
Road	2079	0	0	0	0	0	0	0	0
Road	2080	0	0	0	0	0	0	0	0

Road	2081	0	0	0	0	0	0	0	0
Road	2082	0	0	0	0	0	0	0	0

DS_SCHEME_COSTS

Do something scheme costs. Undiscounted £000s

Mode	Year	Prep.	Superv.	Constr.	Land	Maint.	Oper.	Grant/Sub.	Dev_Cont
Road	2023	428	0	234	407	0	0	0	172
Road	2024	444	26	3591	407	0	0	0	0
Road	2025	344	34	5729	0	0	0	0	0
Road	2026	258	26	2546	0	0	0	0	892
Road	2027	0	0	0	0	3	0	0	0
Road	2028	0	0	0	0	3	0	0	0
Road	2029	0	0	0	0	3	0	0	0
Road	2030	0	0	0	0	35	0	0	0
Road	2031	0	0	0	0	3	0	0	0
Road	2032	0	0	0	0	3	0	0	0
Road	2033	0	0	0	0	3	0	0	0
Road	2034	0	0	0	0	3	0	0	0
Road	2035	0	0	0	0	49	0	0	0
Road	2036	0	0	0	0	3	0	0	0
Road	2037	0	0	0	0	3	0	0	0
Road	2038	0	0	0	0	3	0	0	0
Road	2039	0	0	0	0	3	0	0	0
Road	2040	0	0	0	0	35	0	0	0
Road	2041	0	0	0	0	3	0	0	0
Road	2042	0	0	0	0	3	0	0	0
Road	2043	0	0	0	0	3	0	0	0
Road	2044	0	0	0	0	3	0	0	0
Road	2045	0	0	0	0	191	0	0	0
Road	2046	0	0	0	0	3	0	0	0
Road	2047	0	0	0	0	3	0	0	0
Road	2048	0	0	0	0	3	0	0	0
Road	2049	0	0	0	0	3	0	0	0
Road	2050	0	0	0	0	51	0	0	0
Road	2051	0	0	0	0	3	0	0	0
Road	2052	0	0	0	0	3	0	0	0
Road	2053	0	0	0	0	3	0	0	0
Road	2054	0	0	0	0	3	0	0	0
Road	2055	0	0	0	0	49	0	0	0
Road	2056	0	0	0	0	3	0	0	0
Road	2057	0	0	0	0	3	0	0	0
Road	2058	0	0	0	0	3	0	0	0
Road	2059	0	0	0	0	3	0	0	0
Road	2060	0	0	0	0	35	0	0	0

Road	2061	0	0	0	0	3	0	0	0
Road	2062	0	0	0	0	3	0	0	0
Road	2063	0	0	0	0	3	0	0	0
Road	2064	0	0	0	0	3	0	0	0
Road	2065	0	0	0	0	275	0	0	0
Road	2066	0	0	0	0	3	0	0	0
Road	2067	0	0	0	0	3	0	0	0
Road	2068	0	0	0	0	3	0	0	0
Road	2069	0	0	0	0	3	0	0	0
Road	2070	0	0	0	0	34	0	0	0
Road	2071	0	0	0	0	3	0	0	0
Road	2072	0	0	0	0	3	0	0	0
Road	2073	0	0	0	0	3	0	0	0
Road	2074	0	0	0	0	3	0	0	0
Road	2075	0	0	0	0	80	0	0	0
Road	2076	0	0	0	0	3	0	0	0
Road	2077	0	0	0	0	3	0	0	0
Road	2078	0	0	0	0	3	0	0	0
Road	2079	0	0	0	0	3	0	0	0
Road	2080	0	0	0	0	35	0	0	0
Road	2081	0	0	0	0	3	0	0	0
Road	2082	0	0	0	0	7	0	0	0

PRESENT_VALUE_COSTS

Scheme investment and operating costs (i.e. excluding grant/subsidy, developer contributions and delays) and differences. E000s.

Mode	Year	DM_scheme_costs	DS_scheme_costs	Difference
Road	2023	0	683	683
Road	2024	0	2760	2760
Road	2025	0	3645	3645
Road	2026	0	1632	1632
Road	2027	0	2	2
Road	2028	0	2	2
Road	2029	0	2	2
Road	2030	0	17	17
Road	2031	0	2	2
Road	2032	0	2	2
Road	2033	0	2	2
Road	2034	0	1	1
Road	2035	0	21	21
Road	2036	0	1	1
Road	2037	0	1	1
Road	2038	0	1	1
Road	2039	0	1	1
Road	2040	0	12	12

Road	2041	0	1	1
Road	2042	0	1	1
Road	2043	0	1	1
Road	2044	0	1	1
Road	2045	0	57	57
Road	2046	0	1	1
Road	2047	0	1	1
Road	2048	0	1	1
Road	2049	0	1	1
Road	2050	0	13	13
Road	2051	0	1	1
Road	2052	0	1	1
Road	2053	0	1	1
Road	2054	0	1	1
Road	2055	0	11	11
Road	2056	0	1	1
Road	2057	0	1	1
Road	2058	0	1	1
Road	2059	0	1	1
Road	2060	0	6	6
Road	2061	0	1	1
Road	2062	0	1	1
Road	2063	0	1	1
Road	2064	0	1	1
Road	2065	0	44	44
Road	2066	0	1	1
Road	2067	0	1	1
Road	2068	0	0	0
Road	2069	0	0	0
Road	2070	0	5	5
Road	2071	0	0	0
Road	2072	0	0	0
Road	2073	0	0	0
Road	2074	0	0	0
Road	2075	0	9	9
Road	2076	0	0	0
Road	2077	0	0	0
Road	2078	0	0	0
Road	2079	0	0	0
Road	2080	0	4	4
Road	2081	0	0	0
Road	2082	0	1	1
Road	Total	0	8958	8958

TRIP_MATRIX_TOTALS

Annualised total trip numbers(thousands)

Submode	Year	Time period	DO MIN	DO SOM
Car	2023	AM peak	1633	1719
Car	2023	PM peak	1830	1985
Car	2023	Inter-peak	5466	5505
Car	2023	Off-peak	788	788
Car	2023	All	9717	9997
Car	2037	AM peak	1749	1835
Car	2037	PM peak	1947	2014
Car	2037	Inter-peak	5956	5996
Car	2037	Off-peak	901	901
Car	2037	All	10553	10745
LGV Personal	2023	AM peak	31	33
LGV Personal	2023	PM peak	28	31
LGV Personal	2023	Inter-peak	118	118
LGV Personal	2023	Off-peak	17	17
LGV Personal	2023	All	194	199
LGV Personal	2037	AM peak	33	35
LGV Personal	2037	PM peak	30	31
LGV Personal	2037	Inter-peak	128	129
LGV Personal	2037	Off-peak	19	19
LGV Personal	2037	All	211	215
LGV Freight	2023	AM peak	229	241
LGV Freight	2023	PM peak	208	226
LGV Freight	2023	Inter-peak	862	868
LGV Freight	2023	Off-peak	124	124
LGV Freight	2023	All	1424	1460
LGV Freight	2037	AM peak	245	257
LGV Freight	2037	PM peak	222	229
LGV Freight	2037	Inter-peak	940	946
LGV Freight	2037	Off-peak	142	142
LGV Freight	2037	All	1549	1575
OGV1	2023	AM peak	78	82
OGV1	2023	PM peak	34	37
OGV1	2023	Inter-peak	389	392
OGV1	2023	Off-peak	56	56
OGV1	2023	All	557	567
OGV1	2037	AM peak	83	87
OGV1	2037	PM peak	36	38
OGV1	2037	Inter-peak	424	427
OGV1	2037	Off-peak	64	64
OGV1	2037	All	608	616
OGV2	2023	AM peak	62	66

OGV2	2023 PM peak	40	44
OGV2	2023 Inter-peak	274	276
OGV2	2023 Off-peak	40	40
OGV2	2023 All	416	425
OGV2	2037 AM peak	67	70
OGV2	2037 PM peak	43	44
OGV2	2037 Inter-peak	299	301
OGV2	2037 Off-peak	45	45
OGV2	2037 All	454	461
All	2023 AM peak	2033	2140
All	2023 PM peak	2141	2323
All	2023 Inter-peak	7109	7160
All	2023 Off-peak	1025	1025
All	2023 All	12309	12648
All	2037 AM peak	2178	2285
All	2037 PM peak	2278	2357
All	2037 Inter-peak	7747	7798
All	2037 Off-peak	1172	1172
All	2037 All	13375	13611

DM&DS_USER_COSTS

Total value of user costs, DM and DS. E000s.

Mode	Year	DMtot_time	DMtot_charge	DMtot_fuel	DMtot_nonfuel	DStot_time	DStot_charge	DStot_fuel	DStot_nonfuel
Road	2023	377	0	1801	916	97	0	1869	929
Road	2037	550	0	806	622	85	0	816	619

FUEL_CONSUMPTION

Total fuel consumption, DM and DS. kilounits.

Submode	Year	Do minimum			Do something		
		Petrol	Diesel	Electric	Petrol	Diesel	Electric
Car	2023	738	579	290	769	606	299
Car	2037	498	186	2046	504	190	2084
LGV Personal	2023	1	36	1	1	38	1
LGV Personal	2037	0	26	25	0	27	26
LGV Freight	2023	5	266	9	5	278	10
LGV Freight	2037	3	190	185	3	195	188
OGV1	2023	0	187	0	0	190	0
OGV1	2037	0	175	0	0	175	0
OGV2	2023	0	226	0	0	229	0
OGV2	2037	0	185	0	0	182	0
All	2023	744	1294	301	776	1340	310
All	2037	502	762	2257	508	769	2297
Car	Total	27383	11397	118781	27875	11735	121015
LGV Personal	Total	20	1295	2288	21	1333	2327

LGV Freight	Total	150	9498	16783	152	9778	17065
OGV1	Total	0	10129	0	0	10164	0
OGV2	Total	0	11067	0	0	10918	0
All	Total	27554	43386	137853	28048	43929	140407

CO2_EMISSIONS_UNTRADED

Submode	Year	Emissions (tonnes)			cost (£000s, low)			cost (£000s, central)			cost (£000s, high)		
		DM	DS	Increase	DM	DS	Increase	DM	DS	Increase	DM	DS	Increase
Car	2023	3018	3152	134	197	206	9	394	412	18	591	618	26
Car	2037	1517	1541	24	76	77	1	151	154	2	227	231	4
LGV Personal	2023	93	97	4	6	6	0	12	13	1	18	19	1
LGV Personal	2037	66	68	2	3	3	0	7	7	0	10	10	0
LGV Freight	2023	683	713	29	45	47	2	89	93	4	134	140	6
LGV Freight	2037	483	496	13	24	25	1	48	49	1	72	74	2
OGV1	2023	471	479	8	31	31	1	62	63	1	92	94	2
OGV1	2037	438	439	1	22	22	0	44	44	0	66	66	0
OGV2	2023	569	577	7	37	38	0	74	75	1	112	113	1
OGV2	2037	465	457	-8	23	23	-0	46	46	-1	70	68	-1
All	2023	4834	5017	183	316	328	12	632	655	24	947	983	36
All	2024	4729	4898	169	303	314	11	606	628	22	909	942	32
All	2025	4591	4746	155	289	298	10	577	597	19	866	895	29
All	2026	4452	4592	141	274	283	9	549	566	17	823	849	26
All	2027	4306	4433	127	260	268	8	521	536	15	781	804	23
All	2028	4157	4271	114	247	253	7	493	507	14	740	760	20
All	2029	4009	4111	102	233	239	6	467	478	12	700	718	18
All	2030	3843	3933	90	219	224	5	439	449	10	658	673	15
All	2031	3685	3764	79	206	211	4	413	421	9	619	632	13
All	2032	3540	3609	70	194	198	4	389	396	8	583	595	11
All	2033	3404	3464	60	183	187	3	367	373	7	550	560	10
All	2034	3278	3330	52	173	176	3	346	352	5	520	528	8
All	2035	3164	3208	44	164	166	2	328	333	5	492	499	7
All	2036	3061	3098	37	156	157	2	311	315	4	467	472	6
All	2037	2970	3000	31	148	150	2	296	299	3	444	449	5
All	2038	2872	2901	29	140	142	1	281	284	3	421	426	4
All	2039	2793	2821	28	134	135	1	268	271	3	402	406	4
All	2040	2723	2749	27	128	129	1	256	259	2	384	388	4
All	2041	2662	2688	26	123	124	1	246	248	2	369	372	4
All	2042	2608	2633	25	118	119	1	236	238	2	354	357	3
All	2043	2562	2586	24	114	115	1	227	230	2	341	344	3
All	2044	2523	2546	23	110	111	1	220	222	2	329	332	3
All	2045	2489	2511	22	106	107	1	212	214	2	319	322	3
All	2046	2455	2477	22	103	104	1	206	207	2	308	311	3
All	2047	2429	2451	21	100	101	1	199	201	2	299	302	3
All	2048	2406	2427	21	97	98	1	194	195	2	291	293	3

All	2049	2385	2406	21	94	95	1	188	190	2	283	285	2
All	2050	2367	2387	20	92	92	1	183	185	2	275	277	2
All	2051	2367	2387	20	90	91	1	180	181	2	270	272	2
All	2052	2367	2387	20	88	89	1	176	178	2	264	267	2
All	2053	2367	2387	20	86	87	1	173	174	1	259	262	2
All	2054	2367	2387	20	85	86	1	170	172	1	256	258	2
All	2055	2367	2387	20	84	85	1	168	169	1	252	254	2
All	2056	2367	2387	20	83	83	1	165	167	1	248	250	2
All	2057	2367	2387	20	82	82	1	163	164	1	245	247	2
All	2058	2367	2387	20	80	81	1	161	162	1	241	243	2
All	2059	2367	2387	20	79	80	1	158	160	1	237	239	2
All	2060	2367	2387	20	78	79	1	156	157	1	234	236	2
All	2061	2367	2387	20	77	78	1	154	155	1	231	233	2
All	2062	2367	2387	20	76	76	1	151	153	1	227	229	2
All	2063	2367	2387	20	75	75	1	149	151	1	224	226	2
All	2064	2367	2387	20	74	74	1	147	148	1	221	223	2
All	2065	2367	2387	20	72	73	1	145	146	1	217	219	2
All	2066	2367	2387	20	71	72	1	143	144	1	214	216	2
All	2067	2367	2387	20	70	71	1	141	142	1	211	213	2
All	2068	2367	2387	20	69	70	1	139	140	1	208	210	2
All	2069	2367	2387	20	68	69	1	137	138	1	205	207	2
All	2070	2367	2387	20	67	68	1	135	136	1	202	204	2
All	2071	2367	2387	20	66	67	1	133	134	1	199	201	2
All	2072	2367	2387	20	65	66	1	131	132	1	196	198	2
All	2073	2367	2387	20	64	65	1	129	130	1	193	195	2
All	2074	2367	2387	20	64	64	1	127	128	1	191	192	2
All	2075	2367	2387	20	63	63	1	125	126	1	188	189	2
All	2076	2367	2387	20	62	62	1	123	124	1	185	187	2
All	2077	2367	2387	20	61	61	1	122	123	1	182	184	2
All	2078	2367	2387	20	60	60	1	120	121	1	180	181	2
All	2079	2367	2387	20	59	60	1	118	119	1	177	179	2
All	2080	2367	2387	20	58	59	0	116	117	1	175	176	1
All	2081	2367	2387	20	57	58	0	115	116	1	172	173	1
All	2082	2367	2387	20	56	57	0	113	114	1	169	171	1
Car	Total	86399	88286	1888	3765	3856	91	7529	7712	183	11294	11568	274
LGV Personal	Total	3294	3391	97	143	147	4	286	295	9	429	442	13
LGV Freight	Total	24158	24867	710	1048	1080	32	2096	2160	64	3144	3241	96
OGV1	Total	25422	25508	86	1028	1033	5	2056	2065	9	3084	3098	14
OGV2	Total	27776	27403	-373	1132	1119	-13	2264	2239	-26	3396	3358	-38
All	Total	167048	169455	2407	7116	7235	120	14231	14471	239	21347	21706	359

CO2_EMISSIONS_TRADED

Submode	Year	Emissions (tonnes)			cost (£000s, low)			cost (£000s, central)			cost (£000s, high)		
		DM	DS	Increase	DM	DS	Increase	DM	DS	Increase	DM	DS	Increase

Car	2023	74	76	2	5	5	0	10	10	0	15	15	0
Car	2037	60	61	1	3	3	0	6	6	0	9	9	0
LGV Personal	2023	0	0	0	0	0	0	0	0	0	0	0	0
LGV Personal	2037	1	1	0	0	0	0	0	0	0	0	0	0
LGV Freight	2023	2	2	0	0	0	0	0	0	0	0	0	0
LGV Freight	2037	5	6	0	0	0	0	1	1	0	1	1	0
OGV1	2023	0	0	0	0	0	0	0	0	0	0	0	0
OGV1	2037	0	0	0	0	0	0	0	0	0	0	0	0
OGV2	2023	0	0	0	0	0	0	0	0	0	0	0	0
OGV2	2037	0	0	0	0	0	0	0	0	0	0	0	0
All	2023	77	79	2	5	5	0	10	10	0	15	15	0
All	2024	102	105	3	7	7	0	13	13	0	20	20	1
All	2025	127	130	3	8	8	0	16	16	0	24	25	1
All	2026	148	152	4	9	9	0	18	19	0	27	28	1
All	2027	165	169	4	10	10	0	20	20	1	30	31	1
All	2028	176	181	4	10	11	0	21	21	1	31	32	1
All	2029	180	184	4	10	11	0	21	21	1	31	32	1
All	2030	175	179	4	10	10	0	20	20	0	30	31	1
All	2031	157	161	4	9	9	0	18	18	0	26	27	1
All	2032	140	143	3	8	8	0	15	16	0	23	23	0
All	2033	122	125	3	7	7	0	13	13	0	20	20	0
All	2034	106	109	2	6	6	0	11	11	0	17	17	0
All	2035	92	93	2	5	5	0	9	10	0	14	15	0
All	2036	78	80	1	4	4	0	8	8	0	12	12	0
All	2037	66	68	1	3	3	0	7	7	0	10	10	0
All	2038	56	57	1	3	3	0	5	6	0	8	8	0
All	2039	46	47	1	2	2	0	4	5	0	7	7	0
All	2040	38	39	1	2	2	0	4	4	0	5	5	0
All	2041	32	33	1	1	2	0	3	3	0	4	5	0
All	2042	31	32	1	1	1	0	3	3	0	4	4	0
All	2043	31	31	1	1	1	0	3	3	0	4	4	0
All	2044	29	30	1	1	1	0	3	3	0	4	4	0
All	2045	25	25	0	1	1	0	2	2	0	3	3	0
All	2046	23	23	0	1	1	0	2	2	0	3	3	0
All	2047	21	22	0	1	1	0	2	2	0	3	3	0
All	2048	20	21	0	1	1	0	2	2	0	2	2	0
All	2049	19	19	0	1	1	0	1	2	0	2	2	0
All	2050	19	19	0	1	1	0	1	1	0	2	2	0
All	2051	19	19	0	1	1	0	1	1	0	2	2	0
All	2052	19	19	0	1	1	0	1	1	0	2	2	0
All	2053	19	19	0	1	1	0	1	1	0	2	2	0
All	2054	19	19	0	1	1	0	1	1	0	2	2	0
All	2055	19	19	0	1	1	0	1	1	0	2	2	0
All	2056	19	19	0	1	1	0	1	1	0	2	2	0

All	2057	19	19	0	1	1	0	1	1	0	2	2	0
All	2058	19	19	0	1	1	0	1	1	0	2	2	0
All	2059	19	19	0	1	1	0	1	1	0	2	2	0
All	2060	19	19	0	1	1	0	1	1	0	2	2	0
All	2061	19	19	0	1	1	0	1	1	0	2	2	0
All	2062	19	19	0	1	1	0	1	1	0	2	2	0
All	2063	19	19	0	1	1	0	1	1	0	2	2	0
All	2064	19	19	0	1	1	0	1	1	0	2	2	0
All	2065	19	19	0	1	1	0	1	1	0	2	2	0
All	2066	19	19	0	1	1	0	1	1	0	2	2	0
All	2067	19	19	0	1	1	0	1	1	0	2	2	0
All	2068	19	19	0	1	1	0	1	1	0	2	2	0
All	2069	19	19	0	1	1	0	1	1	0	2	2	0
All	2070	19	19	0	1	1	0	1	1	0	2	2	0
All	2071	19	19	0	1	1	0	1	1	0	2	2	0
All	2072	19	19	0	1	1	0	1	1	0	2	2	0
All	2073	19	19	0	1	1	0	1	1	0	2	2	0
All	2074	19	19	0	0	1	0	1	1	0	1	2	0
All	2075	19	19	0	0	0	0	1	1	0	1	1	0
All	2076	19	19	0	0	0	0	1	1	0	1	1	0
All	2077	19	19	0	0	0	0	1	1	0	1	1	0
All	2078	19	19	0	0	0	0	1	1	0	1	1	0
All	2079	19	19	0	0	0	0	1	1	0	1	1	0
All	2080	19	19	0	0	0	0	1	1	0	1	1	0
All	2081	19	19	0	0	0	0	1	1	0	1	1	0
All	2082	19	19	0	0	0	0	1	1	0	1	1	0
Car	Total	2675	2734	59	136	139	3	273	279	6	409	418	9
LGV Personal	Total	26	27	0	1	1	0	2	2	0	3	3	0
LGV Freight	Total	192	196	3	8	8	0	16	17	0	24	25	0
OGV1	Total	0	0	0	0	0	0	0	0	0	0	0	0
OGV2	Total	0	0	0	0	0	0	0	0	0	0	0	0
All	Total	2894	2956	63	146	149	3	291	298	7	437	447	10

CO2_EMISSIONS_BY_TIME_PERIOD_UNTRADED

Submode	Year	Emissions (tonnes)			cost (£000s, low)			cost (£000s, central)			cost (£000s, high)		
		DM	DS	Increase	DM	DS	Increase	DM	DS	Increase	DM	DS	Increase
AM peak	2023	749	834	85	49	54	6	98	109	11	147	163	17
AM peak	2037	468	487	19	23	24	1	47	49	2	70	73	3
PM peak	2023	764	842	78	50	55	5	100	110	10	150	165	15
PM peak	2037	442	442	-0	22	22	-0	44	44	-0	66	66	-0
Inter-peak	2023	2902	2923	21	190	191	1	379	382	3	569	573	4
Inter-peak	2037	1789	1801	12	89	90	1	178	180	1	268	269	2
Off-peak	2023	419	419	0	27	27	0	55	55	0	82	82	0
Off-peak	2037	271	271	0	13	13	0	27	27	0	40	40	0

AM peak	Total	26217	27529	1312	1115	1179	63	2231	2358	127	3346	3536	190
PM peak	Total	24748	25169	420	1064	1091	27	2127	2182	55	3191	3273	82
Inter-peak	Total	100948	101622	675	4295	4324	29	8590	8648	58	12885	12972	87
Off-peak	Total	15135	15135	0	642	642	0	1283	1283	0	1925	1925	0

NOTE: The cost of any UK Allowances (UKAs) purchased to cover traded emissions (i.e. emissions from sectors covered by the UK Emissions Trading System) will be reflected in the purchase price of traded sector goods (such as electricity). Since the purchase price is used in the costs, considered in transport appraisal, the cost of the relevant UKAs will be included in the cost benefit analysis, "internalising" the costs of emissions from traded sectors.

The CO2 EMISSIONS BY TIME PERIOD TRADED reported in the table below are therefore provided for information purposes only - they are not included in the Economic Efficiency of the Transport System (TEE) table.

For further information, please refer to TAG Unit A-3 para. 4.1.5 and 4.2.9

CO2_EMISSIONS_BY_TIME_PERIOD_TRADED

Submode	Year	Emissions (tonnes)			cost (£000s, low)			cost (£000s, central)			cost (£000s, high)		
		DM	DS	Increase	DM	DS	Increase	DM	DS	Increase	DM	DS	Increase
AM peak	2023	13	14	1	1	1	0	2	2	0	3	3	0
AM peak	2037	11	11	1	1	1	0	1	1	0	2	2	0
PM peak	2023	14	16	1	1	1	0	2	2	0	3	3	0
PM peak	2037	12	12	0	1	1	0	1	1	0	2	2	0
Inter-peak	2023	43	44	0	3	3	0	6	6	0	8	9	0
Inter-peak	2037	38	38	0	2	2	0	4	4	0	6	6	0
Off-peak	2023	6	6	0	0	0	0	1	1	0	1	1	0
Off-peak	2037	6	6	0	0	0	0	1	1	0	1	1	0
AM peak	Total	480	504	24	24	25	1	48	51	2	73	76	4
PM peak	Total	528	556	27	27	28	1	53	56	3	80	85	4
Inter-peak	Total	1641	1652	11	82	83	1	165	166	1	247	249	2
Off-peak	Total	244	244	0	12	12	0	24	24	0	37	37	0

MODE

User benefits and changes in revenues by mode, all years. £000s.

Mode	Year	User		Vehicle_Operating_Cost			Operator_Rev	Indirect
		User_Charges	Time_PT_fares_pri	Fuel	Non_fuel_PT_fares_pri	Taxes		
Road	2023	283	0	-20	-5	0	28	
Road	2024	301	0	-16	-3	0	25	
Road	2025	318	0	-12	-2	0	22	
Road	2026	334	0	-10	-0	0	20	
Road	2027	349	0	-8	1	0	17	
Road	2028	364	0	-6	2	0	15	
Road	2029	378	0	-4	3	0	13	
Road	2030	391	0	-2	4	0	11	
Road	2031	404	0	-1	5	0	9	
Road	2032	416	0	0	6	0	8	
Road	2033	427	0	1	7	0	7	
Road	2034	438	0	2	8	0	5	

Road	2035	448	0	3	9	0	4
Road	2036	458	0	4	9	0	4
Road	2037	467	0	4	10	0	3
Road	2038	458	0	4	9	0	3
Road	2039	449	0	4	9	0	2
Road	2040	441	0	4	9	0	2
Road	2041	432	0	4	9	0	2
Road	2042	424	0	3	8	0	2
Road	2043	416	0	3	8	0	2
Road	2044	408	0	3	8	0	2
Road	2045	400	0	3	7	0	1
Road	2046	392	0	3	7	0	1
Road	2047	384	0	3	7	0	1
Road	2048	377	0	3	7	0	1
Road	2049	370	0	3	6	0	1
Road	2050	363	0	3	6	0	1
Road	2051	356	0	2	6	0	1
Road	2052	349	0	2	6	0	1
Road	2053	342	0	2	6	0	1
Road	2054	337	0	2	5	0	1
Road	2055	332	0	2	5	0	1
Road	2056	327	0	2	5	0	1
Road	2057	322	0	2	5	0	1
Road	2058	318	0	2	5	0	1
Road	2059	313	0	2	5	0	1
Road	2060	309	0	2	5	0	1
Road	2061	304	0	2	4	0	1
Road	2062	300	0	2	4	0	1
Road	2063	295	0	2	4	0	1
Road	2064	291	0	2	4	0	1
Road	2065	287	0	2	4	0	1
Road	2066	283	0	2	4	0	1
Road	2067	278	0	1	4	0	1
Road	2068	274	0	1	4	0	1
Road	2069	270	0	1	4	0	1
Road	2070	266	0	1	3	0	1
Road	2071	263	0	1	3	0	1
Road	2072	259	0	1	3	0	1
Road	2073	255	0	1	3	0	0
Road	2074	251	0	1	3	0	0
Road	2075	248	0	1	3	0	0
Road	2076	244	0	1	3	0	0
Road	2077	240	0	1	3	0	0
Road	2078	237	0	1	3	0	0

Road	2079	234	0	1	3	0	0
Road	2080	230	0	1	3	0	0
Road	2081	227	0	1	2	0	0
Road	2082	223	0	1	2	0	0
Road	Total	20156	0	27	282	0	234

SUBMODE

User benefits and changes in revenues by submode/vehicle type, modelled years and total. £000s.

Submode	Year	User	User_Charges	Vehicle_Operating_Cost		Operator_Rev	Indirect
		Time	PT_fares_(pri)	Fuel	Non_fuel	PT_fares_(pri)	Taxes
Car	2023	210	0	-17	-13	0	21
Car	2037	347	0	1	-1	0	2
LGV Personal	2023	3	0	-1	-1	0	1
LGV Personal	2037	5	0	-0	-0	0	0
LGV Freight	2023	46	0	-4	2	0	4
LGV Freight	2037	75	0	-1	2	0	1
OGV1	2023	14	0	0	3	0	1
OGV1	2037	22	0	1	3	0	0
OGV2	2023	11	0	1	4	0	1
OGV2	2037	18	0	3	6	0	-1
All	2023	283	0	-20	-5	0	28
All	2037	467	0	4	10	0	3
Car	Total	14980	0	-58	-118	0	178
LGV Personal	Total	196	0	-7	-10	0	8
LGV Freight	Total	3254	0	-48	76	0	56
OGV1	Total	935	0	34	127	0	9
OGV2	Total	792	0	106	208	0	-17
All	Total	20156	0	27	282	0	234

PERSON_TYPES

User benefits and changes in revenues by person type, modelled years and total. £000s.

Person_type	Year	User	User_Charges	Vehicle_Operating_Cost		Operator_Rev	Indirect
		Time	PT_fares_(pri)	Fuel	Non_fuel	PT_fares_(pri)	Taxes
All	2023	283	0	-20	-5	0	28
All	2037	467	0	4	10	0	3
All	Total	20156	0	27	282	0	234

PURPOSE

User benefits and changes in revenues by trip purpose, modelled years and total. £000s.

Purpose	Year	User	User_Charges	Vehicle_Operating_Cost		Operator_Rev	Indirect
		Time	PT_fares_(pri)	Fuel	Non_fuel	PT_fares_(pri)	Taxes
Business	2023	84	0	-4	11	0	8
Business	2037	137	0	3	14	0	1
Commuting	2023	82	0	-6	-5	0	7

Commuting	2037	140	0	0	-1	0	1
Other	2023	117	0	-10	-10	0	13
Other	2037	190	0	1	-3	0	1
Business	Total	5935	0	87	514	0	60
Commuting	Total	6003	0	-24	-73	0	58
Other	Total	8218	0	-36	-159	0	116

PERIOD

User benefits and changes in revenues by time period, modelled years and total. £000s.

Period	Year	User	User_Charges	Vehicle_Operating_Cost		Operator_Rev	Indirect
		Time	PT_fares_(pri	Fuel	Non_fuel	PT_fares_(pri	Taxes
AM peak	2023	135	0	-16	1	0	13
AM peak	2037	230	0	1	6	0	2
PM peak	2023	99	0	-4	-6	0	12
PM peak	2037	172	0	3	2	0	-0
Inter-peak	2023	48	0	0	0	0	3
Inter-peak	2037	64	0	0	2	0	1
Off-peak	2023	1	0	0	0	0	0
Off-peak	2037	1	0	0	0	0	0
AM peak	Total	9884	0	-54	189	0	123
PM peak	Total	7399	0	81	32	0	61
Inter-peak	Total	2815	0	0	59	0	49
Off-peak	Total	58	0	0	2	0	0

NON MONETISED TIME BENEFITS BY TIME SAVING

Time benefits (thousands of person hrs) by size of time saving

Vehicle type	Purpose	Year	< -5 mins	-5 to -2 mins	-2 to 0 mins	0 to 2 mins	2 to 5 mins	> 5 mins
Car	Business	2023	0	0	0	1	1	0
Car	Business	2037	0	0	0	1	3	1
Car	Business	Total	0	0	0	62	141	78
Car	Commuting	2023	0	0	0	4	8	0
Car	Commuting	2037	0	0	0	3	14	9
Car	Commuting	Total	0	0	0	177	782	494
Car	Other	2023	0	0	0	16	20	0
Car	Other	2037	0	0	0	18	30	28
Car	Other	Total	0	0	0	1050	1716	1482
LGV Personal	Business	2023	0	0	0	0	0	0
LGV Personal	Business	2037	0	0	0	0	0	0
LGV Personal	Business	Total	0	0	0	0	0	0
LGV Personal	Commuting	2023	0	0	0	0	0	0
LGV Personal	Commuting	2037	0	0	0	0	0	0
LGV Personal	Commuting	Total	0	0	0	0	0	0
LGV Personal	Other	2023	0	0	0	0	0	0
LGV Personal	Other	2037	0	0	0	0	1	1

LGV Personal Other	Total		0	0	0	23	50	30
LGV Freight Business	2023		0	0	0	2	3	0
LGV Freight Business	2037		0	0	0	2	5	3
LGV Freight Business	Total		0	0	0	140	303	182
LGV Freight Commuting	2023		0	0	0	0	0	0
LGV Freight Commuting	2037		0	0	0	0	0	0
LGV Freight Commuting	Total		0	0	0	0	0	0
LGV Freight Other	2023		0	0	0	0	0	0
LGV Freight Other	2037		0	0	0	0	0	0
LGV Freight Other	Total		0	0	0	0	0	0
OGV1 Business	2023		0	0	0	1	1	0
OGV1 Business	2037		0	0	0	1	2	0
OGV1 Business	Total		0	0	0	47	84	25
OGV1 Commuting	2023		0	0	0	0	0	0
OGV1 Commuting	2037		0	0	0	0	0	0
OGV1 Commuting	Total		0	0	0	0	0	0
OGV1 Other	2023		0	0	0	0	0	0
OGV1 Other	2037		0	0	0	0	0	0
OGV1 Other	Total		0	0	0	0	0	0
OGV2 Business	2023		0	0	0	1	1	0
OGV2 Business	2037		0	0	0	1	1	1
OGV2 Business	Total		0	0	0	35	68	29
OGV2 Commuting	2023		0	0	0	0	0	0
OGV2 Commuting	2037		0	0	0	0	0	0
OGV2 Commuting	Total		0	0	0	0	0	0
OGV2 Other	2023		0	0	0	0	0	0
OGV2 Other	2037		0	0	0	0	0	0
OGV2 Other	Total		0	0	0	0	0	0

MONETISED TIME BENEFITS BY TIME SAVING

Time benefits (£000s) by size of time saving

Vehicle type	Purpose	Year	< -5 mins	-5 to -2 mins	-2 to 0 mins	0 to 2 mins	2 to 5 mins	> 5 mins
Car	Business	2023	0	0	0	6	7	0
Car	Business	2037	0	0	0	5	11	7
Car	Business	Total	0	0	0	218	481	255
Car	Commuting	2023	0	0	0	29	53	0
Car	Commuting	2037	0	0	0	15	74	50
Car	Commuting	Total	0	0	0	782	3257	1965
Car	Other	2023	0	0	0	51	63	0
Car	Other	2037	0	0	0	43	73	69
Car	Other	Total	0	0	0	2043	3286	2693
LGV Personal Business	2023		0	0	0	0	0	0
LGV Personal Business	2037		0	0	0	0	0	0
LGV Personal Business	Total		0	0	0	0	0	0

LGV Personal	Commuting	2023	0	0	0	0	0	0
LGV Personal	Commuting	2037	0	0	0	0	0	0
LGV Personal	Commuting	Total	0	0	0	0	0	0
LGV Personal	Other	2023	0	0	0	1	2	0
LGV Personal	Other	2037	0	0	0	1	2	1
LGV Personal	Other	Total	0	0	0	46	96	55
LGV Freight	Business	2023	0	0	0	21	25	0
LGV Freight	Business	2037	0	0	0	16	36	23
LGV Freight	Business	Total	0	0	0	758	1587	909
LGV Freight	Commuting	2023	0	0	0	0	0	0
LGV Freight	Commuting	2037	0	0	0	0	0	0
LGV Freight	Commuting	Total	0	0	0	0	0	0
LGV Freight	Other	2023	0	0	0	0	0	0
LGV Freight	Other	2037	0	0	0	0	0	0
LGV Freight	Other	Total	0	0	0	0	0	0
OGV1	Business	2023	0	0	0	7	6	0
OGV1	Business	2037	0	0	0	6	12	4
OGV1	Business	Total	0	0	0	288	503	144
OGV1	Commuting	2023	0	0	0	0	0	0
OGV1	Commuting	2037	0	0	0	0	0	0
OGV1	Commuting	Total	0	0	0	0	0	0
OGV1	Other	2023	0	0	0	0	0	0
OGV1	Other	2037	0	0	0	0	0	0
OGV1	Other	Total	0	0	0	0	0	0
OGV2	Business	2023	0	0	0	6	6	0
OGV2	Business	2037	0	0	0	5	9	4
OGV2	Business	Total	0	0	0	214	409	169
OGV2	Commuting	2023	0	0	0	0	0	0
OGV2	Commuting	2037	0	0	0	0	0	0
OGV2	Commuting	Total	0	0	0	0	0	0
OGV2	Other	2023	0	0	0	0	0	0
OGV2	Other	2037	0	0	0	0	0	0
OGV2	Other	Total	0	0	0	0	0	0

TOTAL BENEFITS BY TIME SAVING

Total benefits (£000s) by size of time saving

Vehicle type	Purpose	Year	< -5 mins	-5 to -2 mins	-2 to 0 mins	0 to 2 mins	2 to 5 mins	> 5 mins
Car	Business	2023	0	0	0	6	8	0
Car	Business	2037	0	0	0	5	12	7
Car	Business	Total	0	0	0	240	529	284
Car	Commuting	2023	0	0	0	21	50	0
Car	Commuting	2037	0	0	0	14	74	51
Car	Commuting	Total	0	0	0	694	3230	1982
Car	Other	2023	0	0	0	37	57	0

Car	Other	2037	0	0	0	41	73	70
Car	Other	Total	0	0	0	1874	3245	2726
LGV Personal Business		2023	0	0	0	0	0	0
LGV Personal Business		2037	0	0	0	0	0	0
LGV Personal Business		Total	0	0	0	0	0	0
LGV Personal Commuting		2023	0	0	0	0	0	0
LGV Personal Commuting		2037	0	0	0	0	0	0
LGV Personal Commuting		Total	0	0	0	0	0	0
LGV Personal Other		2023	0	0	0	1	1	0
LGV Personal Other		2037	0	0	0	1	2	1
LGV Personal Other		Total	0	0	0	35	90	55
LGV Freight Business		2023	0	0	0	20	23	0
LGV Freight Business		2037	0	0	0	16	36	24
LGV Freight Business		Total	0	0	0	769	1581	932
LGV Freight Commuting		2023	0	0	0	0	0	0
LGV Freight Commuting		2037	0	0	0	0	0	0
LGV Freight Commuting		Total	0	0	0	0	0	0
LGV Freight Other		2023	0	0	0	0	0	0
LGV Freight Other		2037	0	0	0	0	0	0
LGV Freight Other		Total	0	0	0	0	0	0
OGV1 Business		2023	0	0	0	9	8	0
OGV1 Business		2037	0	0	0	7	14	5
OGV1 Business		Total	0	0	0	328	593	175
OGV1 Commuting		2023	0	0	0	0	0	0
OGV1 Commuting		2037	0	0	0	0	0	0
OGV1 Commuting		Total	0	0	0	0	0	0
OGV1 Other		2023	0	0	0	0	0	0
OGV1 Other		2037	0	0	0	0	0	0
OGV1 Other		Total	0	0	0	0	0	0
OGV2 Business		2023	0	0	0	8	9	0
OGV2 Business		2037	0	0	0	6	14	7
OGV2 Business		Total	0	0	0	272	586	247
OGV2 Commuting		2023	0	0	0	0	0	0
OGV2 Commuting		2037	0	0	0	0	0	0
OGV2 Commuting		Total	0	0	0	0	0	0
OGV2 Other		2023	0	0	0	0	0	0
OGV2 Other		2037	0	0	0	0	0	0
OGV2 Other		Total	0	0	0	0	0	0

NON MONETISED TIME BENEFITS BY DISTANCE

Time benefits (thousands of person hrs) by distance

Vehicle type	Purpose	Year	< 1 kms	1 to 5 kms	5 to 10 kms	10 to 25 kms	25 to 50 kms	50 to 100 kms	100 to 200 kms	>200 kms
Car	Business	2023	0	2	0	0	0	0	0	0
Car	Business	2037	0	5	0	0	0	0	0	0

OGV2	Business	2023	0	17	0	0	0	0	0	0
OGV2	Business	2037	0	27	0	0	0	0	0	0
OGV2	Business	Total	0	1106	0	0	0	0	0	0
OGV2	Commuting	2023	0	0	0	0	0	0	0	0
OGV2	Commuting	2037	0	0	0	0	0	0	0	0
OGV2	Commuting	Total	0	0	0	0	0	0	0	0
OGV2	Other	2023	0	0	0	0	0	0	0	0
OGV2	Other	2037	0	0	0	0	0	0	0	0
OGV2	Other	Total	0	0	0	0	0	0	0	0

SENSITIVITY

Total user benefits as a percentage of total DM user costs

Modelled Years		
Mode	2023	2037
Road	8.37%	24.32%

Economy:Economic Efficiency of the Transport System (TEE)

Consumer - Commuting user benefits	All Modes	Road
Travel Time	6003	6003
Vehicle operating costs	-98	-98
User charges	0	0
During Construction & Maintenance	0	0
NET CONSUMER - COMMUTING BENEFITS	5905	5905

Consumer - Other user benefits	All Modes	Road
Travel Time	8218	8218
Vehicle operating costs	-194	-194
User charges	0	0
During Construction & Maintenance	0	0
NET CONSUMER - OTHER BENEFITS	8024	8024

Business	All Modes	Road Personal	Road Freight
Travel Time	5935	954	4981
Vehicle operating costs	602	99	503
User charges	0	0	0
During Construction & Maintenance	0	0	0
Subtotal	6536	1053	5484

Private Sector Provider Impacts

Revenue	0	0
Operating costs	0	0
Investment costs	0	0
Grant/subsidy	0	0

Subtotal	0	0
----------	---	---

Other business Impacts

Developer contributions	-624	-624
NET BUSINESS IMPACT	5912	

TOTAL

Present Value of Transport Economic

Efficiency Benefits (TEE)	19841	
---------------------------	-------	--

Note: Benefits appear as positive numbers, while costs appear as negative numbers.

Note: All entries are present values discounted to 2010, in 2010 prices

Public Accounts

Local Government Funding	ALL MODES	Road
Revenue	0	0
Operating Costs	238	238
Investment Costs	2369	2369
Developer Contributions	-624	-624
Grant/Subsidy Payments	0	0
NET IMPACT	1983	1983

Central Government Funding: Transport	ALL MODES	Road
Revenue	0	0
Operating costs	0	0
Investment costs	6351	6351
Developer Contributions	0	0
Grant/Subsidy Payments	0	0
NET IMPACT	6351	6351

Central Government Funding: Non-Transport

Indirect Tax Revenues	-234	-234
-----------------------	------	------

TOTALS

Broad Transport Budget	8333	8333
Wider Public Finances	-234	-234

Note: Costs appear as positive numbers, while revenues and developer contributions appear as negative numbers.

Note: All entries are present values discounted to 2010, in 2010 prices

Analysis of Monetised Costs and Benefits

Greenhouse Gases	-239	
------------------	------	--

Economic Efficiency: Consumer Users (Commuting)	5905
Economic Efficiency: Consumer Users (Other)	8024
Economic Efficiency: Business Users and Providers	5912
Wider Public Finances (Indirect Taxation Revenues)	234
Present Value of Benefits (PVB)	19836

Broad Transport Budget	8333
Present Value of Costs (PVC)	8333

OVERALL IMPACTS

Net Present Value (NPV)	11503
Benefit to Cost Ratio (BCR)	2.380

Note: This table includes costs and benefits which are regularly or occasionally presented in monetised form in transport appraisals, together with some where monetisation is in prospect. There may also be other significant costs and benefits, some of which cannot be presented in monetised form. Where this is the case, the analysis presented above does NOT provide a good measure of value for money and should not be used as the sole basis for decisions.

TUBA Run Information

- calculations completed

File Summary

* Run Name : TUBA-1_Ollerton_FBC_OB_20_Perc_V3

* Scheme File : L:\60625845_A614 MRN DfT responses\2023_Draft_FBC\TUBA\MasterFile - 1_Ollerton_V1_Draft_FBC_OB_20_Percent_V3.txt

* Economic File : L:\60625845_A614 MRN DfT responses\2023_Draft_FBC\TUBA\Economics_TAG_db1_20_2.txt

* Output File : L:\60625845_A614 MRN DfT responses\2023_Draft_FBC\TUBA\Ollerton_FBC_OB_V3.OUT

* Log File : L:\60625845_A614 MRN DfT responses\2023_Draft_FBC\TUBA\Ollerton_FBC_OB_V3.log

* User ID : philip.g.jones

* Computer ID : UKDBYLFHQB1T3

Elapsed time : 0hrs 0mins 2secs

Appendix G White Post TUBA – OB

SCHEME SPECIFIC PARAMETERS

PARAMETERS

TUBA_version 1.9.17
run_name TUBA-1_White_Post_Costs_FBC_OB_20_Perc_V3
do_min_name DM
do_som_name DS

first_yr 2023
horizon_yr 2082
modelled_yrs 2023 2037
detail Yes
current_yr 2023
print_warn 20
P&R_car_speed 65.0
zones_as_sectors No

TIME_SLICES

*no.	duration(min)	annualisation	period	description
1	60	648	1	peak hour am 08:00-09:00
2	60	667	2	peak hour pm 17:00-18:00
3	60	2997	3	peak hour ip 10:00-16:00
4	60	4438	4	off peak hour

SCHEMES_DM

*Mode 1st Construction year Opening_yr Stage

DO_MIN_COSTS

*Type Mode Funding Cost Price RPI

DO_MIN_PROFILE

*Year Mode %Const %Land %Prep %Super %Maint %Op %Grant %Dev

DO_MIN_DELAY_COSTS

*Year Mode Business Commuting Other Freight

SCHEMES_DS

*Mode 1st Construction year Opening_yr Stage
1 2021 2022 SI

2056	1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2057	1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2058	1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2059	1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2060	1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2061	1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2062	1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2063	1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2064	1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2065	1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2066	1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2067	1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2068	1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2069	1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2070	1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2071	1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2072	1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2073	1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2074	1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2075	1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2076	1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2077	1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2078	1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2079	1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2080	1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2081	1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2082	1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

DO_SOM_DELAY_COSTS

*Year Mode Business Commuting Other Freight

BENEFIT_CHANGE

*% change p.a.

*Start_yr End_yr Submode ChangePer1 ChangePer2 ChangePer3 ChangePer4 ChangePer5

USER_CLASSES

*no.	Veh/submode	purpose	person_type
1	1	1	0
2	1	2	0
3	1	3	0
4	2	3	0
5	3	1	0

6	4	1	0
7	5	1	0

INPUT_MATRICES

```

*no.  userclasses  timeslice  type  format  scenario  year  factor  filename
1 1 1 V 1 0 2023 0.05903 L:\60625845_A614 MRN DFT
responses\2023_Draft_FBC\TUBA\Cost_only_Warren_Hill_White_Post\Outputs_White_Post\V_A614_White_Post_Costs_AM_2023_DM.txt
2 2 1 V 1 0 2023 0.32523 L:\60625845_A614 MRN DFT
responses\2023_Draft_FBC\TUBA\Cost_only_Warren_Hill_White_Post\Outputs_White_Post\V_A614_White_Post_Costs_AM_2023_DM.txt
3 3 1 V 1 0 2023 0.46486 L:\60625845_A614 MRN DFT
responses\2023_Draft_FBC\TUBA\Cost_only_Warren_Hill_White_Post\Outputs_White_Post\V_A614_White_Post_Costs_AM_2023_DM.txt
4 4 1 V 1 0 2023 0.01535 L:\60625845_A614 MRN DFT
responses\2023_Draft_FBC\TUBA\Cost_only_Warren_Hill_White_Post\Outputs_White_Post\V_A614_White_Post_Costs_AM_2023_DM.txt
5 5 1 V 1 0 2023 0.11257 L:\60625845_A614 MRN DFT
responses\2023_Draft_FBC\TUBA\Cost_only_Warren_Hill_White_Post\Outputs_White_Post\V_A614_White_Post_Costs_AM_2023_DM.txt
6 6 1 V 1 0 2023 0.00845 L:\60625845_A614 MRN DFT
responses\2023_Draft_FBC\TUBA\Cost_only_Warren_Hill_White_Post\Outputs_White_Post\V_A614_White_Post_Costs_AM_2023_DM.txt
7 7 1 V 1 0 2023 0.01451 L:\60625845_A614 MRN DFT
responses\2023_Draft_FBC\TUBA\Cost_only_Warren_Hill_White_Post\Outputs_White_Post\V_A614_White_Post_Costs_AM_2023_DM.txt
8 1 3 V 1 0 2023 0.05864 L:\60625845_A614 MRN DFT
responses\2023_Draft_FBC\TUBA\Cost_only_Warren_Hill_White_Post\Outputs_White_Post\V_A614_White_Post_Costs_IP_2023_DM.txt
9 2 3 V 1 0 2023 0.09201 L:\60625845_A614 MRN DFT
responses\2023_Draft_FBC\TUBA\Cost_only_Warren_Hill_White_Post\Outputs_White_Post\V_A614_White_Post_Costs_IP_2023_DM.txt
10 3 3 V 1 0 2023 0.66493 L:\60625845_A614 MRN DFT
responses\2023_Draft_FBC\TUBA\Cost_only_Warren_Hill_White_Post\Outputs_White_Post\V_A614_White_Post_Costs_IP_2023_DM.txt
11 4 3 V 1 0 2023 0.01626 L:\60625845_A614 MRN DFT
responses\2023_Draft_FBC\TUBA\Cost_only_Warren_Hill_White_Post\Outputs_White_Post\V_A614_White_Post_Costs_IP_2023_DM.txt
12 5 3 V 1 0 2023 0.11925 L:\60625845_A614 MRN DFT
responses\2023_Draft_FBC\TUBA\Cost_only_Warren_Hill_White_Post\Outputs_White_Post\V_A614_White_Post_Costs_IP_2023_DM.txt
13 6 3 V 1 0 2023 0.01568 L:\60625845_A614 MRN DFT
responses\2023_Draft_FBC\TUBA\Cost_only_Warren_Hill_White_Post\Outputs_White_Post\V_A614_White_Post_Costs_IP_2023_DM.txt
14 7 3 V 1 0 2023 0.03323 L:\60625845_A614 MRN DFT
responses\2023_Draft_FBC\TUBA\Cost_only_Warren_Hill_White_Post\Outputs_White_Post\V_A614_White_Post_Costs_IP_2023_DM.txt
15 1 2 V 1 0 2023 0.04428 L:\60625845_A614 MRN DFT
responses\2023_Draft_FBC\TUBA\Cost_only_Warren_Hill_White_Post\Outputs_White_Post\V_A614_White_Post_Costs_PM_2023_DM.txt
16 2 2 V 1 0 2023 0.28208 L:\60625845_A614 MRN DFT
responses\2023_Draft_FBC\TUBA\Cost_only_Warren_Hill_White_Post\Outputs_White_Post\V_A614_White_Post_Costs_PM_2023_DM.txt
17 3 2 V 1 0 2023 0.53951 L:\60625845_A614 MRN DFT
responses\2023_Draft_FBC\TUBA\Cost_only_Warren_Hill_White_Post\Outputs_White_Post\V_A614_White_Post_Costs_PM_2023_DM.txt
18 4 2 V 1 0 2023 0.01265 L:\60625845_A614 MRN DFT
responses\2023_Draft_FBC\TUBA\Cost_only_Warren_Hill_White_Post\Outputs_White_Post\V_A614_White_Post_Costs_PM_2023_DM.txt
19 5 2 V 1 0 2023 0.09275 L:\60625845_A614 MRN DFT
responses\2023_Draft_FBC\TUBA\Cost_only_Warren_Hill_White_Post\Outputs_White_Post\V_A614_White_Post_Costs_PM_2023_DM.txt
20 6 2 V 1 0 2023 0.00652 L:\60625845_A614 MRN DFT
responses\2023_Draft_FBC\TUBA\Cost_only_Warren_Hill_White_Post\Outputs_White_Post\V_A614_White_Post_Costs_PM_2023_DM.txt
21 7 2 V 1 0 2023 0.02221 L:\60625845_A614 MRN DFT
responses\2023_Draft_FBC\TUBA\Cost_only_Warren_Hill_White_Post\Outputs_White_Post\V_A614_White_Post_Costs_PM_2023_DM.txt
22 1 4 V 1 0 2023 0.03710 L:\60625845_A614 MRN DFT
responses\2023_Draft_FBC\TUBA\Cost_only_Warren_Hill_White_Post\Outputs_White_Post\V_A614_White_Post_Costs_OP_2023_DM.txt
23 2 4 V 1 0 2023 0.24762 L:\60625845_A614 MRN DFT
responses\2023_Draft_FBC\TUBA\Cost_only_Warren_Hill_White_Post\Outputs_White_Post\V_A614_White_Post_Costs_OP_2023_DM.txt
24 3 4 V 1 0 2023 0.57640 L:\60625845_A614 MRN DFT
responses\2023_Draft_FBC\TUBA\Cost_only_Warren_Hill_White_Post\Outputs_White_Post\V_A614_White_Post_Costs_OP_2023_DM.txt
25 4 4 V 1 0 2023 0.00656 L:\60625845_A614 MRN DFT
responses\2023_Draft_FBC\TUBA\Cost_only_Warren_Hill_White_Post\Outputs_White_Post\V_A614_White_Post_Costs_OP_2023_DM.txt
26 5 4 V 1 0 2023 0.04811 L:\60625845_A614 MRN DFT
responses\2023_Draft_FBC\TUBA\Cost_only_Warren_Hill_White_Post\Outputs_White_Post\V_A614_White_Post_Costs_OP_2023_DM.txt

```


Transport User Benefit Appraisal TUBA (1.9.17.2 64-bit)

Program run on Thu Mar 30, 2023 at 10:17:09

ERRORS AND WARNINGS

Warning: Scheme parameter zones_as_sectors set to no: Possibility that small aggregation errors may occur in the TEE table for some appraisals. Recommend undertaking a sensitivity test using a sector system (and some sectors) to check.

2 Warnings found in total (including any above)

TUBA ECONOMICS FILE DIFFERENCES

PARAMETERS - (used)

TUBA_version 1.9.17

base_year 2010

pres_val_year 2010

GDP_base 100.00 0.00 0.00

av_ind_tax 19.00 0.00 0.00

nt_carbdxvalues 83.64 250.92 167.28

t_carbdxvalues 83.64250.92167.28

PARAMETERS - (std)

TUBA_version 1.9.17

base_year 2010

pres_val_year 2010

GDP_base 100.00 0.00 0.00

av_ind_tax 19.00 0.00 0.00

nt_carbdxvalues 82.97 248.92 165.94

t_carbdxvalues 82.97248.92165.94

GDP_PER_CAPITA_GROWTH - (used)

*% change p.a.

*Start_yr End_yr VOT_Gr_purpose1 VOT_Gr_purpose2 VOT_Gr_purpose3 ..

2011 2011 0.615 0.615 0.615

2012 2012 0.801 0.801 0.801

2013 2013 1.253 1.253 1.253

2014 2014 2.208 2.208 2.208

2015 2015 1.814 1.814 1.814

2016 2016 1.425 1.425 1.425

2017 2017 1.528 1.528 1.528

2018 2018 1.046 1.046 1.046

2019 2019 1.122 1.122 1.122

2020 2020 0.099 0.099 0.099

2021 2021 0.100 0.100 0.100

2022	2022	0.099	0.099	0.099
2023	2023	-1.769	-1.769	-1.769
2024	2024	0.956	0.956	0.956
2025	2025	2.307	2.307	2.307
2026	2026	2.347	2.347	2.347
2027	2027	1.954	1.954	1.954
2028	2028	1.687	1.687	1.687
2029	2029	1.657	1.657	1.657
2030	2030	1.621	1.621	1.621
2031	2031	1.570	1.570	1.570
2032	2032	1.552	1.552	1.552
2033	2033	1.539	1.539	1.539
2034	2034	1.518	1.518	1.518
2035	2035	1.505	1.505	1.505
2036	2036	1.638	1.638	1.638
2037	2037	1.611	1.611	1.611
2038	2038	1.578	1.578	1.578
2039	2039	1.546	1.546	1.546
2040	2040	1.506	1.506	1.506
2041	2041	1.476	1.476	1.476
2042	2042	1.439	1.439	1.439
2043	2043	1.401	1.401	1.401
2044	2044	1.369	1.369	1.369
2045	2045	1.350	1.350	1.350
2046	2046	1.342	1.342	1.342
2047	2047	1.321	1.321	1.321
2048	2048	1.302	1.302	1.302
2049	2049	1.282	1.282	1.282
2050	2050	1.277	1.277	1.277
2051	2051	1.278	1.278	1.278
2052	2052	1.281	1.281	1.281
2053	2053	1.286	1.286	1.286
2054	2054	1.294	1.294	1.294
2055	2055	1.312	1.312	1.312
2056	2056	1.325	1.325	1.325
2057	2057	1.339	1.339	1.339
2058	2058	1.349	1.349	1.349
2059	2059	1.359	1.359	1.359
2060	2060	1.370	1.370	1.370
2061	2061	1.379	1.379	1.379
2062	2062	1.387	1.387	1.387
2063	2063	1.399	1.399	1.399
2064	2064	1.406	1.406	1.406
2065	2065	1.413	1.413	1.413

2066	2066	1.418	1.418	1.418
2067	2067	1.420	1.420	1.420
2068	2068	1.421	1.421	1.421
2069	2069	1.428	1.428	1.428
2070	2070	1.468	1.468	1.468
2071	2071	1.534	1.534	1.534
2072	2072	1.592	1.592	1.592
2073	2073	1.548	1.548	1.548
2074	2074	1.472	1.472	1.472
2075	2075	1.426	1.426	1.426
2076	2076	1.358	1.358	1.358
2077	2077	1.363	1.363	1.363
2078	2078	1.337	1.337	1.337
2079	2079	1.299	1.299	1.299
2080	2080	1.269	1.269	1.269
2081	2081	1.321	1.321	1.321
2082	2082	1.359	1.359	1.359
2083	2083	1.372	1.372	1.372
2084	2084	1.369	1.369	1.369
2085	2085	1.420	1.420	1.420
2086	2086	1.469	1.469	1.469
2087	2087	1.528	1.528	1.528
2088	2088	1.589	1.589	1.589
2089	2089	1.666	1.666	1.666
2090	2090	1.690	1.690	1.690
2091	2091	1.703	1.703	1.703
2092	2092	1.699	1.699	1.699
2093	2093	1.700	1.700	1.700
2094	2094	1.705	1.705	1.705
2095	2095	1.709	1.709	1.709
2096	2096	1.712	1.712	1.712
2097	2097	1.712	1.712	1.712
2098	2098	1.711	1.711	1.711
2099	2099	1.708	1.708	1.708
2100	2100	1.702	1.702	1.702
2101	2101	1.702	1.702	1.702
2102	2102	1.702	1.702	1.702
2103	2103	1.702	1.702	1.702
2104	2104	1.702	1.702	1.702
2105	2105	1.702	1.702	1.702
2106	2106	1.702	1.702	1.702
2107	2107	1.702	1.702	1.702
2108	2108	1.702	1.702	1.702
2109	2109	1.702	1.702	1.702

2110	2110	1.702	1.702	1.702
2111	2111	1.702	1.702	1.702
2112	2112	1.702	1.702	1.702
2113	2113	1.702	1.702	1.702
2114	2114	1.702	1.702	1.702
2115	2115	1.702	1.702	1.702
2116	2116	1.702	1.702	1.702
2117	2117	1.702	1.702	1.702
2118	2118	1.702	1.702	1.702
2119	2119	1.702	1.702	1.702
2120	2120	1.702	1.702	1.702
2121	2121	1.702	1.702	1.702
2122	2122	1.702	1.702	1.702
2123	2123	1.702	1.702	1.702
2124	2124	1.702	1.702	1.702
2125	2125	1.702	1.702	1.702
2126	2126	1.702	1.702	1.702
2127	2127	1.702	1.702	1.702
2128	2128	1.702	1.702	1.702
2129	2129	1.702	1.702	1.702
2130	2130	1.702	1.702	1.702
2131	2131	1.702	1.702	1.702
2132	2132	1.702	1.702	1.702
2133	2133	1.702	1.702	1.702
2134	2134	1.702	1.702	1.702
2135	2135	1.702	1.702	1.702
2136	2136	1.702	1.702	1.702
2137	2137	1.702	1.702	1.702
2138	2138	1.702	1.702	1.702
2139	2139	1.702	1.702	1.702
2140	2140	1.702	1.702	1.702
2141	2141	1.702	1.702	1.702
2142	2142	1.702	1.702	1.702
2143	2143	1.702	1.702	1.702
2144	2144	1.702	1.702	1.702
2145	2145	1.702	1.702	1.702
2146	2146	1.702	1.702	1.702
2147	2147	1.702	1.702	1.702
2148	2148	1.702	1.702	1.702
2149	2149	1.702	1.702	1.702
2150	2150	1.702	1.702	1.702
2151	2151	1.702	1.702	1.702

GDP_PER_CAPITA_GROWTH - (std)

*% change p.a.

*Start_yr	End_yr	VOT_Gr_purpose1	VOT_Gr_purpose2	VOT_Gr_purpose3 ..
2011	2011	0.435	0.435	0.435
2012	2012	0.762	0.762	0.762
2013	2013	1.548	1.548	1.548
2014	2014	2.080	2.080	2.080
2015	2015	1.556	1.556	1.556
2016	2016	0.888	0.888	0.888
2017	2017	1.137	1.137	1.137
2018	2018	0.650	0.650	0.650
2019	2019	0.885	0.885	0.885
2020	2020	0.269	0.269	0.269
2021	2021	0.267	0.267	0.267
2022	2022	0.267	0.267	0.267
2023	2023	1.654	1.654	1.654
2024	2024	0.975	0.975	0.975
2025	2025	1.311	1.311	1.311
2026	2026	1.412	1.412	1.412
2027	2027	1.480	1.480	1.480
2028	2028	1.480	1.480	1.480
2029	2029	1.463	1.463	1.463
2030	2030	1.440	1.440	1.440
2031	2031	1.413	1.413	1.413
2032	2032	1.389	1.389	1.389
2033	2033	1.387	1.387	1.387
2034	2034	1.372	1.372	1.372
2035	2035	1.345	1.345	1.345
2036	2036	1.477	1.477	1.477
2037	2037	1.475	1.475	1.475
2038	2038	1.467	1.467	1.467
2039	2039	1.443	1.443	1.443
2040	2040	1.416	1.416	1.416
2041	2041	1.397	1.397	1.397
2042	2042	1.375	1.375	1.375
2043	2043	1.351	1.351	1.351
2044	2044	1.332	1.332	1.332
2045	2045	1.320	1.320	1.320
2046	2046	1.309	1.309	1.309
2047	2047	1.292	1.292	1.292
2048	2048	1.282	1.282	1.282
2049	2049	1.281	1.281	1.281
2050	2050	1.291	1.291	1.291
2051	2051	1.307	1.307	1.307
2052	2052	1.320	1.320	1.320

2053	2053	1.332	1.332	1.332
2054	2054	1.338	1.338	1.338
2055	2055	1.358	1.358	1.358
2056	2056	1.370	1.370	1.370
2057	2057	1.385	1.385	1.385
2058	2058	1.398	1.398	1.398
2059	2059	1.406	1.406	1.406
2060	2060	1.417	1.417	1.417
2061	2061	1.437	1.437	1.437
2062	2062	1.444	1.444	1.444
2063	2063	1.456	1.456	1.456
2064	2064	1.466	1.466	1.466
2065	2065	1.482	1.482	1.482
2066	2066	1.540	1.540	1.540
2067	2067	1.607	1.607	1.607
2068	2068	1.531	1.531	1.531
2069	2069	1.521	1.521	1.521
2070	2070	1.493	1.493	1.493
2071	2071	1.518	1.518	1.518
2072	2072	1.463	1.463	1.463
2073	2073	1.426	1.426	1.426
2074	2074	1.355	1.355	1.355
2075	2075	1.317	1.317	1.317
2076	2076	1.256	1.256	1.256
2077	2077	1.271	1.271	1.271
2078	2078	1.253	1.253	1.253
2079	2079	1.219	1.219	1.219
2080	2080	1.193	1.193	1.193
2081	2081	1.251	1.251	1.251
2082	2082	1.293	1.293	1.293
2083	2083	1.309	1.309	1.309
2084	2084	1.310	1.310	1.310
2085	2085	1.364	1.364	1.364
2086	2086	1.422	1.422	1.422
2087	2087	1.488	1.488	1.488
2088	2088	1.487	1.487	1.487
2089	2089	1.498	1.498	1.498
2090	2090	1.508	1.508	1.508
2091	2091	1.513	1.513	1.513
2092	2092	1.511	1.511	1.511
2093	2093	1.508	1.508	1.508
2094	2094	1.505	1.505	1.505
2095	2095	1.501	1.501	1.501
2096	2096	1.497	1.497	1.497

2097	2097	1.491	1.491	1.491
2098	2098	1.484	1.484	1.484
2099	2099	1.476	1.476	1.476
2100	2100	1.467	1.467	1.467
2101	2101	1.467	1.467	1.467
2102	2102	1.467	1.467	1.467
2103	2103	1.467	1.467	1.467
2104	2104	1.467	1.467	1.467
2105	2105	1.467	1.467	1.467
2106	2106	1.467	1.467	1.467
2107	2107	1.467	1.467	1.467
2108	2108	1.467	1.467	1.467
2109	2109	1.467	1.467	1.467
2110	2110	1.467	1.467	1.467
2111	2111	1.467	1.467	1.467
2112	2112	1.467	1.467	1.467
2113	2113	1.467	1.467	1.467
2114	2114	1.467	1.467	1.467
2115	2115	1.467	1.467	1.467
2116	2116	1.467	1.467	1.467
2117	2117	1.467	1.467	1.467
2118	2118	1.467	1.467	1.467
2119	2119	1.467	1.467	1.467
2120	2120	1.467	1.467	1.467
2121	2121	1.467	1.467	1.467
2122	2122	1.467	1.467	1.467
2123	2123	1.467	1.467	1.467
2124	2124	1.467	1.467	1.467
2125	2125	1.467	1.467	1.467
2126	2126	1.467	1.467	1.467
2127	2127	1.467	1.467	1.467
2128	2128	1.467	1.467	1.467
2129	2129	1.467	1.467	1.467
2130	2130	1.467	1.467	1.467
2131	2131	1.467	1.467	1.467
2132	2132	1.467	1.467	1.467
2133	2133	1.467	1.467	1.467
2134	2134	1.467	1.467	1.467
2135	2135	1.467	1.467	1.467
2136	2136	1.467	1.467	1.467
2137	2137	1.467	1.467	1.467
2138	2138	1.467	1.467	1.467
2139	2139	1.467	1.467	1.467
2140	2140	1.467	1.467	1.467

2141	2141	1.467	1.467	1.467
2142	2142	1.467	1.467	1.467
2143	2143	1.467	1.467	1.467
2144	2144	1.467	1.467	1.467
2145	2145	1.467	1.467	1.467
2146	2146	1.467	1.467	1.467
2147	2147	1.467	1.467	1.467
2148	2148	1.467	1.467	1.467
2149	2149	1.467	1.467	1.467
2150	2150	1.467	1.467	1.467
2151	2151	1.467	1.467	1.467

FUEL_COST - (used)

*type resource(p/unit) duty(p/unit) VAT(%) CO2_grammes/unit (unit=litre for fuel types 1 & 2; unit=KWH for electric)

1	42.6	57.2	17.5	2230.00
2	44.3	57.2	17.5	2562.00
3	11.8	0.0	5.0	389.00

FUEL_COST - (std)

*type resource(p/unit) duty(p/unit) VAT(%) CO2_grammes/unit (unit=litre for fuel types 1 & 2; unit=KWH for electric)

1	42.6	57.2	17.5	2230.00
2	44.3	57.2	17.5	2562.00
3	11.9	0.0	5.0	389.00

FUEL_COST_CHANGES - (used)

%% change p.a.

*Start_yr End_yr fuel_type resource duty VAT CO2_Den_change

2011	2011	1	22.306	-0.354	14.286	1.171
2012	2012	1	1.986	-2.001	0.000	-1.031
2013	2013	1	-3.443	-1.746	0.000	-0.302
2014	2014	1	-11.771	-1.707	0.000	0.153
2015	2015	1	-28.520	-0.562	0.000	-0.016
2016	2016	1	-7.312	-1.719	0.000	-0.027
2017	2017	1	19.734	-1.752	0.000	-0.106
2018	2018	1	13.204	-2.472	0.000	0.128
2019	2019	1	-2.520	-2.412	0.000	0.010
2020	2020	1	-23.823	-6.920	0.000	0.015
2021	2021	1	37.033	0.586	0.000	-0.106
2022	2022	1	63.199	-5.002	0.000	-5.260
2023	2023	1	-5.410	5.535	0.000	0.000
2024	2024	1	-12.463	2.683	0.000	0.000
2025	2025	1	-3.454	0.465	0.000	0.000
2026	2026	1	-4.677	0.417	0.000	0.000
2027	2027	1	2.609	0.740	0.000	0.000

2028	2028	1	2.785	0.731	0.000	0.000
2029	2029	1	1.806	0.723	0.000	0.000
2030	2030	1	2.661	-0.293	0.000	0.000
2031	2031	1	1.728	-0.293	0.000	0.000
2032	2032	1	1.699	-0.293	0.000	0.000
2033	2033	1	2.506	-0.293	0.000	0.000
2034	2034	1	2.444	-0.293	0.000	0.000
2035	2035	1	1.591	-0.293	0.000	0.000
2036	2036	1	0.000	-0.293	0.000	0.000
2037	2037	1	0.000	-0.293	0.000	0.000
2038	2038	1	0.000	-0.293	0.000	0.000
2039	2039	1	0.000	-0.293	0.000	0.000
2040	2040	1	0.000	-0.293	0.000	0.000
2041	2041	1	0.000	-0.293	0.000	0.000
2042	2042	1	0.000	-0.293	0.000	0.000
2043	2043	1	0.000	-0.293	0.000	0.000
2044	2044	1	0.000	-0.293	0.000	0.000
2045	2045	1	0.000	-0.293	0.000	0.000
2046	2046	1	0.000	-0.293	0.000	0.000
2047	2047	1	0.000	-0.293	0.000	0.000
2048	2048	1	0.000	-0.293	0.000	0.000
2049	2049	1	0.000	-0.293	0.000	0.000
2050	2050	1	0.000	-0.293	0.000	0.000
2051	2051	1	0.000	-0.293	0.000	0.000
2052	2052	1	0.000	-0.293	0.000	0.000
2053	2053	1	0.000	-0.293	0.000	0.000
2054	2054	1	0.000	-0.293	0.000	0.000
2055	2055	1	0.000	-0.293	0.000	0.000
2056	2056	1	0.000	-0.293	0.000	0.000
2057	2057	1	0.000	-0.293	0.000	0.000
2058	2058	1	0.000	-0.293	0.000	0.000
2059	2059	1	0.000	-0.293	0.000	0.000
2060	2060	1	0.000	-0.293	0.000	0.000
2061	2061	1	0.000	-0.293	0.000	0.000
2062	2062	1	0.000	-0.293	0.000	0.000
2063	2063	1	0.000	-0.293	0.000	0.000
2064	2064	1	0.000	-0.293	0.000	0.000
2065	2065	1	0.000	-0.293	0.000	0.000
2066	2066	1	0.000	-0.293	0.000	0.000
2067	2067	1	0.000	-0.293	0.000	0.000
2068	2068	1	0.000	-0.293	0.000	0.000
2069	2069	1	0.000	-0.293	0.000	0.000
2070	2070	1	0.000	-0.293	0.000	0.000
2071	2071	1	0.000	-0.293	0.000	0.000

2072	2072	1	0.000	-0.293	0.000	0.000
2073	2073	1	0.000	-0.293	0.000	0.000
2074	2074	1	0.000	-0.293	0.000	0.000
2075	2075	1	0.000	-0.293	0.000	0.000
2076	2076	1	0.000	-0.293	0.000	0.000
2077	2077	1	0.000	-0.293	0.000	0.000
2078	2078	1	0.000	-0.293	0.000	0.000
2079	2079	1	0.000	-0.293	0.000	0.000
2080	2080	1	0.000	-0.293	0.000	0.000
2081	2081	1	0.000	-0.293	0.000	0.000
2082	2082	1	0.000	-0.293	0.000	0.000
2083	2083	1	0.000	-0.293	0.000	0.000
2084	2084	1	0.000	-0.293	0.000	0.000
2085	2085	1	0.000	-0.293	0.000	0.000
2086	2086	1	0.000	-0.293	0.000	0.000
2087	2087	1	0.000	-0.293	0.000	0.000
2088	2088	1	0.000	-0.293	0.000	0.000
2089	2089	1	0.000	-0.293	0.000	0.000
2090	2090	1	0.000	-0.293	0.000	0.000
2091	2091	1	0.000	-0.293	0.000	0.000
2092	2092	1	0.000	-0.293	0.000	0.000
2093	2093	1	0.000	-0.293	0.000	0.000
2094	2094	1	0.000	-0.293	0.000	0.000
2095	2095	1	0.000	-0.293	0.000	0.000
2096	2096	1	0.000	-0.293	0.000	0.000
2097	2097	1	0.000	-0.293	0.000	0.000
2098	2098	1	0.000	-0.293	0.000	0.000
2099	2099	1	0.000	-0.293	0.000	0.000
2100	2100	1	0.000	-0.293	0.000	0.000
2101	2101	1	0.000	-0.293	0.000	0.000
2102	2102	1	0.000	-0.293	0.000	0.000
2103	2103	1	0.000	-0.293	0.000	0.000
2104	2104	1	0.000	-0.293	0.000	0.000
2105	2105	1	0.000	-0.293	0.000	0.000
2106	2106	1	0.000	-0.293	0.000	0.000
2107	2107	1	0.000	-0.293	0.000	0.000
2108	2108	1	0.000	-0.293	0.000	0.000
2109	2109	1	0.000	-0.293	0.000	0.000
2110	2110	1	0.000	-0.293	0.000	0.000
2111	2111	1	0.000	-0.293	0.000	0.000
2112	2112	1	0.000	-0.293	0.000	0.000
2113	2113	1	0.000	-0.293	0.000	0.000
2114	2114	1	0.000	-0.293	0.000	0.000
2115	2115	1	0.000	-0.293	0.000	0.000

2116	2116	1	0.000	-0.293	0.000	0.000
2117	2117	1	0.000	-0.293	0.000	0.000
2118	2118	1	0.000	-0.293	0.000	0.000
2119	2119	1	0.000	-0.293	0.000	0.000
2120	2120	1	0.000	-0.293	0.000	0.000
2121	2121	1	0.000	-0.293	0.000	0.000
2122	2122	1	0.000	-0.293	0.000	0.000
2123	2123	1	0.000	-0.293	0.000	0.000
2124	2124	1	0.000	-0.293	0.000	0.000
2125	2125	1	0.000	-0.293	0.000	0.000
2126	2126	1	0.000	-0.293	0.000	0.000
2127	2127	1	0.000	-0.293	0.000	0.000
2128	2128	1	0.000	-0.293	0.000	0.000
2129	2129	1	0.000	-0.293	0.000	0.000
2130	2130	1	0.000	-0.293	0.000	0.000
2131	2131	1	0.000	-0.293	0.000	0.000
2132	2132	1	0.000	-0.293	0.000	0.000
2133	2133	1	0.000	-0.293	0.000	0.000
2134	2134	1	0.000	-0.293	0.000	0.000
2135	2135	1	0.000	-0.293	0.000	0.000
2136	2136	1	0.000	-0.293	0.000	0.000
2137	2137	1	0.000	-0.293	0.000	0.000
2138	2138	1	0.000	-0.293	0.000	0.000
2139	2139	1	0.000	-0.293	0.000	0.000
2140	2140	1	0.000	-0.293	0.000	0.000
2141	2141	1	0.000	-0.293	0.000	0.000
2142	2142	1	0.000	-0.293	0.000	0.000
2143	2143	1	0.000	-0.293	0.000	0.000
2144	2144	1	0.000	-0.293	0.000	0.000
2145	2145	1	0.000	-0.293	0.000	0.000
2146	2146	1	0.000	-0.293	0.000	0.000
2147	2147	1	0.000	-0.293	0.000	0.000
2148	2148	1	0.000	-0.293	0.000	0.000
2149	2149	1	0.000	-0.293	0.000	0.000
2150	2150	1	0.000	-0.293	0.000	0.000
2151	2151	1	0.000	-0.293	0.000	0.000
2011	2011	2	26.996	-0.354	14.286	1.917
2012	2012	2	3.197	-2.001	0.000	-1.071
2013	2013	2	-3.680	-1.746	0.000	4.731
2014	2014	2	-11.343	-1.707	0.000	-0.016
2015	2015	2	-29.504	-0.562	0.000	-0.020
2016	2016	2	-12.397	-1.719	0.000	0.004
2017	2017	2	22.316	-1.752	0.000	0.021
2018	2018	2	16.802	-2.472	0.000	-0.267

2019	2019	2	0.348	-2.412	0.000	-1.513
2020	2020	2	-24.318	-6.920	0.000	-4.516
2021	2021	2	30.464	0.586	0.000	-0.553
2022	2022	2	60.563	-5.002	0.000	0.295
2023	2023	2	-5.550	5.535	0.000	-0.288
2024	2024	2	-13.119	2.683	0.000	-0.174
2025	2025	2	-3.997	0.465	0.000	-0.148
2026	2026	2	-5.278	0.417	0.000	-0.034
2027	2027	2	2.671	0.740	0.000	-0.046
2028	2028	2	2.847	0.731	0.000	-0.036
2029	2029	2	1.845	0.723	0.000	-0.036
2030	2030	2	2.718	-0.293	0.000	-0.040
2031	2031	2	1.764	-0.293	0.000	-0.027
2032	2032	2	1.733	-0.293	0.000	-0.027
2033	2033	2	2.556	-0.293	0.000	0.000
2034	2034	2	2.492	-0.293	0.000	0.000
2035	2035	2	1.621	-0.293	0.000	0.000
2036	2036	2	0.000	-0.293	0.000	0.000
2037	2037	2	0.000	-0.293	0.000	0.000
2038	2038	2	0.000	-0.293	0.000	0.000
2039	2039	2	0.000	-0.293	0.000	0.000
2040	2040	2	0.000	-0.293	0.000	0.000
2041	2041	2	0.000	-0.293	0.000	0.000
2042	2042	2	0.000	-0.293	0.000	0.000
2043	2043	2	0.000	-0.293	0.000	0.000
2044	2044	2	0.000	-0.293	0.000	0.000
2045	2045	2	0.000	-0.293	0.000	0.000
2046	2046	2	0.000	-0.293	0.000	0.000
2047	2047	2	0.000	-0.293	0.000	0.000
2048	2048	2	0.000	-0.293	0.000	0.000
2049	2049	2	0.000	-0.293	0.000	0.000
2050	2050	2	0.000	-0.293	0.000	0.000
2051	2051	2	0.000	-0.293	0.000	0.000
2052	2052	2	0.000	-0.293	0.000	0.000
2053	2053	2	0.000	-0.293	0.000	0.000
2054	2054	2	0.000	-0.293	0.000	0.000
2055	2055	2	0.000	-0.293	0.000	0.000
2056	2056	2	0.000	-0.293	0.000	0.000
2057	2057	2	0.000	-0.293	0.000	0.000
2058	2058	2	0.000	-0.293	0.000	0.000
2059	2059	2	0.000	-0.293	0.000	0.000
2060	2060	2	0.000	-0.293	0.000	0.000
2061	2061	2	0.000	-0.293	0.000	0.000
2062	2062	2	0.000	-0.293	0.000	0.000

2063	2063	2	0.000	-0.293	0.000	0.000
2064	2064	2	0.000	-0.293	0.000	0.000
2065	2065	2	0.000	-0.293	0.000	0.000
2066	2066	2	0.000	-0.293	0.000	0.000
2067	2067	2	0.000	-0.293	0.000	0.000
2068	2068	2	0.000	-0.293	0.000	0.000
2069	2069	2	0.000	-0.293	0.000	0.000
2070	2070	2	0.000	-0.293	0.000	0.000
2071	2071	2	0.000	-0.293	0.000	0.000
2072	2072	2	0.000	-0.293	0.000	0.000
2073	2073	2	0.000	-0.293	0.000	0.000
2074	2074	2	0.000	-0.293	0.000	0.000
2075	2075	2	0.000	-0.293	0.000	0.000
2076	2076	2	0.000	-0.293	0.000	0.000
2077	2077	2	0.000	-0.293	0.000	0.000
2078	2078	2	0.000	-0.293	0.000	0.000
2079	2079	2	0.000	-0.293	0.000	0.000
2080	2080	2	0.000	-0.293	0.000	0.000
2081	2081	2	0.000	-0.293	0.000	0.000
2082	2082	2	0.000	-0.293	0.000	0.000
2083	2083	2	0.000	-0.293	0.000	0.000
2084	2084	2	0.000	-0.293	0.000	0.000
2085	2085	2	0.000	-0.293	0.000	0.000
2086	2086	2	0.000	-0.293	0.000	0.000
2087	2087	2	0.000	-0.293	0.000	0.000
2088	2088	2	0.000	-0.293	0.000	0.000
2089	2089	2	0.000	-0.293	0.000	0.000
2090	2090	2	0.000	-0.293	0.000	0.000
2091	2091	2	0.000	-0.293	0.000	0.000
2092	2092	2	0.000	-0.293	0.000	0.000
2093	2093	2	0.000	-0.293	0.000	0.000
2094	2094	2	0.000	-0.293	0.000	0.000
2095	2095	2	0.000	-0.293	0.000	0.000
2096	2096	2	0.000	-0.293	0.000	0.000
2097	2097	2	0.000	-0.293	0.000	0.000
2098	2098	2	0.000	-0.293	0.000	0.000
2099	2099	2	0.000	-0.293	0.000	0.000
2100	2100	2	0.000	-0.293	0.000	0.000
2101	2101	2	0.000	-0.293	0.000	0.000
2102	2102	2	0.000	-0.293	0.000	0.000
2103	2103	2	0.000	-0.293	0.000	0.000
2104	2104	2	0.000	-0.293	0.000	0.000
2105	2105	2	0.000	-0.293	0.000	0.000
2106	2106	2	0.000	-0.293	0.000	0.000

2107	2107	2	0.000	-0.293	0.000	0.000
2108	2108	2	0.000	-0.293	0.000	0.000
2109	2109	2	0.000	-0.293	0.000	0.000
2110	2110	2	0.000	-0.293	0.000	0.000
2111	2111	2	0.000	-0.293	0.000	0.000
2112	2112	2	0.000	-0.293	0.000	0.000
2113	2113	2	0.000	-0.293	0.000	0.000
2114	2114	2	0.000	-0.293	0.000	0.000
2115	2115	2	0.000	-0.293	0.000	0.000
2116	2116	2	0.000	-0.293	0.000	0.000
2117	2117	2	0.000	-0.293	0.000	0.000
2118	2118	2	0.000	-0.293	0.000	0.000
2119	2119	2	0.000	-0.293	0.000	0.000
2120	2120	2	0.000	-0.293	0.000	0.000
2121	2121	2	0.000	-0.293	0.000	0.000
2122	2122	2	0.000	-0.293	0.000	0.000
2123	2123	2	0.000	-0.293	0.000	0.000
2124	2124	2	0.000	-0.293	0.000	0.000
2125	2125	2	0.000	-0.293	0.000	0.000
2126	2126	2	0.000	-0.293	0.000	0.000
2127	2127	2	0.000	-0.293	0.000	0.000
2128	2128	2	0.000	-0.293	0.000	0.000
2129	2129	2	0.000	-0.293	0.000	0.000
2130	2130	2	0.000	-0.293	0.000	0.000
2131	2131	2	0.000	-0.293	0.000	0.000
2132	2132	2	0.000	-0.293	0.000	0.000
2133	2133	2	0.000	-0.293	0.000	0.000
2134	2134	2	0.000	-0.293	0.000	0.000
2135	2135	2	0.000	-0.293	0.000	0.000
2136	2136	2	0.000	-0.293	0.000	0.000
2137	2137	2	0.000	-0.293	0.000	0.000
2138	2138	2	0.000	-0.293	0.000	0.000
2139	2139	2	0.000	-0.293	0.000	0.000
2140	2140	2	0.000	-0.293	0.000	0.000
2141	2141	2	0.000	-0.293	0.000	0.000
2142	2142	2	0.000	-0.293	0.000	0.000
2143	2143	2	0.000	-0.293	0.000	0.000
2144	2144	2	0.000	-0.293	0.000	0.000
2145	2145	2	0.000	-0.293	0.000	0.000
2146	2146	2	0.000	-0.293	0.000	0.000
2147	2147	2	0.000	-0.293	0.000	0.000
2148	2148	2	0.000	-0.293	0.000	0.000
2149	2149	2	0.000	-0.293	0.000	0.000
2150	2150	2	0.000	-0.293	0.000	0.000

2151	2151	2	0.000	-0.293	0.000	0.000
2011	2011	3	6.623	0.000	0.000	-1.438
2012	2012	3	3.751	0.000	0.000	-1.878
2013	2013	3	4.428	0.000	0.000	-2.438
2014	2014	3	3.495	0.000	0.000	-1.891
2015	2015	3	-1.703	0.000	0.000	-2.837
2016	2016	3	-3.286	0.000	0.000	-3.035
2017	2017	3	4.940	0.000	0.000	-2.830
2018	2018	3	6.255	0.000	0.000	-3.251
2019	2019	3	7.007	0.000	0.000	-3.618
2020	2020	3	-4.724	0.000	0.000	-3.931
2021	2021	3	8.209	0.000	0.000	-4.324
2022	2022	3	44.098	0.000	0.000	-4.776
2023	2023	3	35.732	0.000	0.000	-5.300
2024	2024	3	-3.272	0.000	0.000	-5.915
2025	2025	3	-13.652	0.000	0.000	-6.643
2026	2026	3	-35.980	0.000	0.000	-7.520
2027	2027	3	-4.450	0.000	0.000	-8.594
2028	2028	3	-2.634	0.000	0.000	-9.934
2029	2029	3	-0.114	0.000	0.000	-11.657
2030	2030	3	-0.506	0.000	0.000	-13.944
2031	2031	3	-4.229	0.000	0.000	-19.089
2032	2032	3	0.441	0.000	0.000	-19.090
2033	2033	3	1.228	0.000	0.000	-19.088
2034	2034	3	1.712	0.000	0.000	-19.090
2035	2035	3	-0.946	0.000	0.000	-19.089
2036	2036	3	-0.271	0.000	0.000	-19.089
2037	2037	3	-2.629	0.000	0.000	-19.088
2038	2038	3	1.153	0.000	0.000	-19.090
2039	2039	3	-0.823	0.000	0.000	-19.092
2040	2040	3	2.635	0.000	0.000	-19.088
2041	2041	3	-1.504	0.000	0.000	-16.984
2042	2042	3	-0.001	0.000	0.000	-5.099
2043	2043	3	-0.216	0.000	0.000	-2.043
2044	2044	3	1.039	0.000	0.000	-6.009
2045	2045	3	-2.180	0.000	0.000	-15.076
2046	2046	3	1.866	0.000	0.000	-9.204
2047	2047	3	-1.602	0.000	0.000	-7.798
2048	2048	3	-2.514	0.000	0.000	-5.087
2049	2049	3	1.769	0.000	0.000	-6.945
2050	2050	3	-1.947	0.000	0.000	-1.718
2051	2051	3	0.000	0.000	0.000	0.000
2052	2052	3	0.000	0.000	0.000	0.000
2053	2053	3	0.000	0.000	0.000	0.000

2054	2054	3	0.000	0.000	0.000	0.000
2055	2055	3	0.000	0.000	0.000	0.000
2056	2056	3	0.000	0.000	0.000	0.000
2057	2057	3	0.000	0.000	0.000	0.000
2058	2058	3	0.000	0.000	0.000	0.000
2059	2059	3	0.000	0.000	0.000	0.000
2060	2060	3	0.000	0.000	0.000	0.000
2061	2061	3	0.000	0.000	0.000	0.000
2062	2062	3	0.000	0.000	0.000	0.000
2063	2063	3	0.000	0.000	0.000	0.000
2064	2064	3	0.000	0.000	0.000	0.000
2065	2065	3	0.000	0.000	0.000	0.000
2066	2066	3	0.000	0.000	0.000	0.000
2067	2067	3	0.000	0.000	0.000	0.000
2068	2068	3	0.000	0.000	0.000	0.000
2069	2069	3	0.000	0.000	0.000	0.000
2070	2070	3	0.000	0.000	0.000	0.000
2071	2071	3	0.000	0.000	0.000	0.000
2072	2072	3	0.000	0.000	0.000	0.000
2073	2073	3	0.000	0.000	0.000	0.000
2074	2074	3	0.000	0.000	0.000	0.000
2075	2075	3	0.000	0.000	0.000	0.000
2076	2076	3	0.000	0.000	0.000	0.000
2077	2077	3	0.000	0.000	0.000	0.000
2078	2078	3	0.000	0.000	0.000	0.000
2079	2079	3	0.000	0.000	0.000	0.000
2080	2080	3	0.000	0.000	0.000	0.000
2081	2081	3	0.000	0.000	0.000	0.000
2082	2082	3	0.000	0.000	0.000	0.000
2083	2083	3	0.000	0.000	0.000	0.000
2084	2084	3	0.000	0.000	0.000	0.000
2085	2085	3	0.000	0.000	0.000	0.000
2086	2086	3	0.000	0.000	0.000	0.000
2087	2087	3	0.000	0.000	0.000	0.000
2088	2088	3	0.000	0.000	0.000	0.000
2089	2089	3	0.000	0.000	0.000	0.000
2090	2090	3	0.000	0.000	0.000	0.000
2091	2091	3	0.000	0.000	0.000	0.000
2092	2092	3	0.000	0.000	0.000	0.000
2093	2093	3	0.000	0.000	0.000	0.000
2094	2094	3	0.000	0.000	0.000	0.000
2095	2095	3	0.000	0.000	0.000	0.000
2096	2096	3	0.000	0.000	0.000	0.000
2097	2097	3	0.000	0.000	0.000	0.000

2098	2098	3	0.000	0.000	0.000	0.000
2099	2099	3	0.000	0.000	0.000	0.000
2100	2100	3	0.000	0.000	0.000	0.000
2101	2101	3	0.000	0.000	0.000	0.000
2102	2102	3	0.000	0.000	0.000	0.000
2103	2103	3	0.000	0.000	0.000	0.000
2104	2104	3	0.000	0.000	0.000	0.000
2105	2105	3	0.000	0.000	0.000	0.000
2106	2106	3	0.000	0.000	0.000	0.000
2107	2107	3	0.000	0.000	0.000	0.000
2108	2108	3	0.000	0.000	0.000	0.000
2109	2109	3	0.000	0.000	0.000	0.000
2110	2110	3	0.000	0.000	0.000	0.000
2111	2111	3	0.000	0.000	0.000	0.000
2112	2112	3	0.000	0.000	0.000	0.000
2113	2113	3	0.000	0.000	0.000	0.000
2114	2114	3	0.000	0.000	0.000	0.000
2115	2115	3	0.000	0.000	0.000	0.000
2116	2116	3	0.000	0.000	0.000	0.000
2117	2117	3	0.000	0.000	0.000	0.000
2118	2118	3	0.000	0.000	0.000	0.000
2119	2119	3	0.000	0.000	0.000	0.000
2120	2120	3	0.000	0.000	0.000	0.000
2121	2121	3	0.000	0.000	0.000	0.000
2122	2122	3	0.000	0.000	0.000	0.000
2123	2123	3	0.000	0.000	0.000	0.000
2124	2124	3	0.000	0.000	0.000	0.000
2125	2125	3	0.000	0.000	0.000	0.000
2126	2126	3	0.000	0.000	0.000	0.000
2127	2127	3	0.000	0.000	0.000	0.000
2128	2128	3	0.000	0.000	0.000	0.000
2129	2129	3	0.000	0.000	0.000	0.000
2130	2130	3	0.000	0.000	0.000	0.000
2131	2131	3	0.000	0.000	0.000	0.000
2132	2132	3	0.000	0.000	0.000	0.000
2133	2133	3	0.000	0.000	0.000	0.000
2134	2134	3	0.000	0.000	0.000	0.000
2135	2135	3	0.000	0.000	0.000	0.000
2136	2136	3	0.000	0.000	0.000	0.000
2137	2137	3	0.000	0.000	0.000	0.000
2138	2138	3	0.000	0.000	0.000	0.000
2139	2139	3	0.000	0.000	0.000	0.000
2140	2140	3	0.000	0.000	0.000	0.000
2141	2141	3	0.000	0.000	0.000	0.000

2142	2142	3	0.000	0.000	0.000	0.000
2143	2143	3	0.000	0.000	0.000	0.000
2144	2144	3	0.000	0.000	0.000	0.000
2145	2145	3	0.000	0.000	0.000	0.000
2146	2146	3	0.000	0.000	0.000	0.000
2147	2147	3	0.000	0.000	0.000	0.000
2148	2148	3	0.000	0.000	0.000	0.000
2149	2149	3	0.000	0.000	0.000	0.000
2150	2150	3	0.000	0.000	0.000	0.000
2151	2151	3	0.000	0.000	0.000	0.000

FUEL_COST_CHANGES - (std)

*% change p.a.

*Start_yr	End_yr	fuel_type	resource	duty	VAT	CO2_Den_change
2011	2011	1	22.226	-0.297	14.286	-0.844
2012	2012	1	2.040	-2.049	0.000	-0.023
2013	2013	1	-3.443	-1.746	0.000	-0.438
2014	2014	1	-11.771	-1.707	0.000	-0.537
2015	2015	1	-28.520	-0.661	0.000	0.000
2016	2016	1	-7.312	-2.068	0.000	0.000
2017	2017	1	19.734	-1.912	0.000	-1.352
2018	2018	1	13.204	-2.203	0.000	-1.370
2019	2019	1	-10.631	-2.442	0.000	-1.389
2020	2020	1	-11.341	-4.832	0.000	-1.409
2021	2021	1	3.590	1.236	0.000	0.000
2022	2022	1	5.005	3.364	0.000	0.000
2023	2023	1	1.744	0.601	0.000	0.000
2024	2024	1	1.726	0.550	0.000	0.000
2025	2025	1	1.765	0.745	0.000	0.000
2026	2026	1	2.597	0.658	0.000	0.000
2027	2027	1	1.476	0.681	0.000	0.000
2028	2028	1	1.433	0.674	0.000	0.000
2029	2029	1	1.391	0.663	0.000	0.000
2030	2030	1	1.352	0.653	0.000	0.000
2031	2031	1	2.246	0.653	0.000	0.000
2032	2032	1	1.259	0.650	0.000	0.000
2033	2033	1	1.225	0.644	0.000	0.000
2034	2034	1	1.193	0.637	0.000	0.000
2035	2035	1	1.162	0.645	0.000	0.000
2036	2036	1	0.000	0.640	0.000	0.000
2037	2037	1	0.000	0.635	0.000	0.000
2038	2038	1	0.000	0.630	0.000	0.000
2039	2039	1	0.000	0.649	0.000	0.000
2040	2040	1	0.000	0.681	0.000	0.000

2041	2041	1	0.000	0.629	0.000	0.000
2042	2042	1	0.000	0.592	0.000	0.000
2043	2043	1	0.000	0.587	0.000	0.000
2044	2044	1	0.000	0.587	0.000	0.000
2045	2045	1	0.000	0.586	0.000	0.000
2046	2046	1	0.000	0.587	0.000	0.000
2047	2047	1	0.000	0.587	0.000	0.000
2048	2048	1	0.000	0.587	0.000	0.000
2049	2049	1	0.000	0.586	0.000	0.000
2050	2050	1	0.000	0.587	0.000	0.000
2051	2051	1	0.000	0.587	0.000	0.000
2052	2052	1	0.000	0.587	0.000	0.000
2053	2053	1	0.000	0.587	0.000	0.000
2054	2054	1	0.000	0.587	0.000	0.000
2055	2055	1	0.000	0.587	0.000	0.000
2056	2056	1	0.000	0.587	0.000	0.000
2057	2057	1	0.000	0.587	0.000	0.000
2058	2058	1	0.000	0.586	0.000	0.000
2059	2059	1	0.000	0.587	0.000	0.000
2060	2060	1	0.000	0.587	0.000	0.000
2061	2061	1	0.000	0.587	0.000	0.000
2062	2062	1	0.000	0.587	0.000	0.000
2063	2063	1	0.000	0.587	0.000	0.000
2064	2064	1	0.000	0.587	0.000	0.000
2065	2065	1	0.000	0.587	0.000	0.000
2066	2066	1	0.000	0.587	0.000	0.000
2067	2067	1	0.000	0.587	0.000	0.000
2068	2068	1	0.000	0.587	0.000	0.000
2069	2069	1	-1.686	0.587	0.000	0.000
2070	2070	1	0.000	0.587	0.000	0.000
2071	2071	1	0.000	0.587	0.000	0.000
2072	2072	1	0.000	0.587	0.000	0.000
2073	2073	1	0.000	0.587	0.000	0.000
2074	2074	1	0.000	0.586	0.000	0.000
2075	2075	1	0.000	0.587	0.000	0.000
2076	2076	1	0.000	0.587	0.000	0.000
2077	2077	1	0.000	0.586	0.000	0.000
2078	2078	1	0.000	0.587	0.000	0.000
2079	2079	1	0.000	0.587	0.000	0.000
2080	2080	1	0.000	0.587	0.000	0.000
2081	2081	1	0.000	0.587	0.000	0.000
2082	2082	1	0.000	0.587	0.000	0.000
2083	2083	1	0.000	0.587	0.000	0.000
2084	2084	1	0.000	0.587	0.000	0.000

2085	2085	1	0.000	0.587	0.000	0.000
2086	2086	1	0.000	0.587	0.000	0.000
2087	2087	1	0.000	0.587	0.000	0.000
2088	2088	1	0.000	0.587	0.000	0.000
2089	2089	1	0.000	0.587	0.000	0.000
2090	2090	1	0.000	0.587	0.000	0.000
2091	2091	1	0.000	0.587	0.000	0.000
2092	2092	1	0.000	0.587	0.000	0.000
2093	2093	1	0.000	0.587	0.000	0.000
2094	2094	1	0.000	0.587	0.000	0.000
2095	2095	1	0.000	0.587	0.000	0.000
2096	2096	1	0.000	0.587	0.000	0.000
2097	2097	1	0.000	0.587	0.000	0.000
2098	2098	1	0.000	0.587	0.000	0.000
2099	2099	1	0.000	0.587	0.000	0.000
2100	2100	1	0.000	0.587	0.000	0.000
2101	2101	1	0.000	0.587	0.000	0.000
2102	2102	1	0.000	0.587	0.000	0.000
2103	2103	1	0.000	0.587	0.000	0.000
2104	2104	1	0.000	0.587	0.000	0.000
2105	2105	1	0.000	0.587	0.000	0.000
2106	2106	1	0.000	0.587	0.000	0.000
2107	2107	1	0.000	0.587	0.000	0.000
2108	2108	1	0.000	0.587	0.000	0.000
2109	2109	1	0.000	0.587	0.000	0.000
2110	2110	1	0.000	0.587	0.000	0.000
2111	2111	1	0.000	0.587	0.000	0.000
2112	2112	1	0.000	0.587	0.000	0.000
2113	2113	1	0.000	0.587	0.000	0.000
2114	2114	1	0.000	0.587	0.000	0.000
2115	2115	1	0.000	0.587	0.000	0.000
2116	2116	1	0.000	0.587	0.000	0.000
2117	2117	1	0.000	0.587	0.000	0.000
2118	2118	1	0.000	0.587	0.000	0.000
2119	2119	1	0.000	0.587	0.000	0.000
2120	2120	1	0.000	0.587	0.000	0.000
2121	2121	1	0.000	0.587	0.000	0.000
2122	2122	1	0.000	0.587	0.000	0.000
2123	2123	1	0.000	0.587	0.000	0.000
2124	2124	1	0.000	0.587	0.000	0.000
2125	2125	1	0.000	0.587	0.000	0.000
2126	2126	1	0.000	0.587	0.000	0.000
2127	2127	1	0.000	0.587	0.000	0.000
2128	2128	1	0.000	0.587	0.000	0.000

2129	2129	1	0.000	0.587	0.000	0.000
2130	2130	1	0.000	0.587	0.000	0.000
2131	2131	1	0.000	0.587	0.000	0.000
2132	2132	1	0.000	0.587	0.000	0.000
2133	2133	1	0.000	0.587	0.000	0.000
2134	2134	1	0.000	0.587	0.000	0.000
2135	2135	1	0.000	0.587	0.000	0.000
2136	2136	1	0.000	0.587	0.000	0.000
2137	2137	1	0.000	0.587	0.000	0.000
2138	2138	1	0.000	0.587	0.000	0.000
2139	2139	1	0.000	0.587	0.000	0.000
2140	2140	1	0.000	0.587	0.000	0.000
2141	2141	1	0.000	0.587	0.000	0.000
2142	2142	1	0.000	0.587	0.000	0.000
2143	2143	1	0.000	0.587	0.000	0.000
2144	2144	1	0.000	0.587	0.000	0.000
2145	2145	1	0.000	0.587	0.000	0.000
2146	2146	1	0.000	0.587	0.000	0.000
2147	2147	1	0.000	0.587	0.000	0.000
2148	2148	1	0.000	0.587	0.000	0.000
2149	2149	1	0.000	0.587	0.000	0.000
2150	2150	1	0.000	0.587	0.000	0.000
2151	2151	1	0.000	0.587	0.000	0.000
2011	2011	2	26.919	-0.297	14,286	0.188
2012	2012	2	3.247	-2.049	0.000	1.643
2013	2013	2	-3.680	-1.746	0.000	-0.436
2014	2014	2	-11.343	-1.707	0.000	0.153
2015	2015	2	-29.504	-0.661	0.000	0.004
2016	2016	2	-12.397	-2.068	0.000	0.003
2017	2017	2	22.316	-1.912	0.000	-1.744
2018	2018	2	16.802	-2.203	0.000	-1.775
2019	2019	2	-11.392	-2.442	0.000	-1.807
2020	2020	2	-11.913	-4.832	0.000	-1.841
2021	2021	2	3.816	1.236	0.000	0.000
2022	2022	2	5.133	3.364	0.000	0.000
2023	2023	2	1.862	0.601	0.000	0.000
2024	2024	2	1.853	0.550	0.000	0.000
2025	2025	2	1.886	0.745	0.000	0.000
2026	2026	2	2.790	0.658	0.000	0.000
2027	2027	2	1.583	0.681	0.000	0.000
2028	2028	2	1.535	0.674	0.000	0.000
2029	2029	2	1.489	0.663	0.000	0.000
2030	2030	2	1.445	0.653	0.000	0.000
2031	2031	2	2.399	0.653	0.000	0.000

2032	2032	2	1.343	0.650	0.000	0.000
2033	2033	2	1.306	0.644	0.000	0.000
2034	2034	2	1.270	0.637	0.000	0.000
2035	2035	2	1.236	0.645	0.000	0.000
2036	2036	2	0.000	0.640	0.000	0.000
2037	2037	2	0.000	0.635	0.000	0.000
2038	2038	2	0.000	0.630	0.000	0.000
2039	2039	2	0.000	0.649	0.000	0.000
2040	2040	2	0.000	0.681	0.000	0.000
2041	2041	2	0.000	0.629	0.000	0.000
2042	2042	2	0.000	0.592	0.000	0.000
2043	2043	2	0.000	0.587	0.000	0.000
2044	2044	2	0.000	0.587	0.000	0.000
2045	2045	2	0.000	0.586	0.000	0.000
2046	2046	2	0.000	0.587	0.000	0.000
2047	2047	2	0.000	0.587	0.000	0.000
2048	2048	2	0.000	0.587	0.000	0.000
2049	2049	2	0.000	0.586	0.000	0.000
2050	2050	2	0.000	0.587	0.000	0.000
2051	2051	2	0.000	0.587	0.000	0.000
2052	2052	2	0.000	0.587	0.000	0.000
2053	2053	2	0.000	0.587	0.000	0.000
2054	2054	2	0.000	0.587	0.000	0.000
2055	2055	2	0.000	0.587	0.000	0.000
2056	2056	2	0.000	0.587	0.000	0.000
2057	2057	2	0.000	0.587	0.000	0.000
2058	2058	2	0.000	0.586	0.000	0.000
2059	2059	2	0.000	0.587	0.000	0.000
2060	2060	2	0.000	0.587	0.000	0.000
2061	2061	2	0.000	0.587	0.000	0.000
2062	2062	2	0.000	0.587	0.000	0.000
2063	2063	2	0.000	0.587	0.000	0.000
2064	2064	2	0.000	0.587	0.000	0.000
2065	2065	2	0.000	0.587	0.000	0.000
2066	2066	2	0.000	0.587	0.000	0.000
2067	2067	2	0.000	0.587	0.000	0.000
2068	2068	2	0.000	0.587	0.000	0.000
2069	2069	2	-1.686	0.587	0.000	0.000
2070	2070	2	0.000	0.587	0.000	0.000
2071	2071	2	0.000	0.587	0.000	0.000
2072	2072	2	0.000	0.587	0.000	0.000
2073	2073	2	0.000	0.587	0.000	0.000
2074	2074	2	0.000	0.586	0.000	0.000
2075	2075	2	0.000	0.587	0.000	0.000

2076	2076	2	0.000	0.587	0.000	0.000
2077	2077	2	0.000	0.586	0.000	0.000
2078	2078	2	0.000	0.587	0.000	0.000
2079	2079	2	0.000	0.587	0.000	0.000
2080	2080	2	0.000	0.587	0.000	0.000
2081	2081	2	0.000	0.587	0.000	0.000
2082	2082	2	0.000	0.587	0.000	0.000
2083	2083	2	0.000	0.587	0.000	0.000
2084	2084	2	0.000	0.587	0.000	0.000
2085	2085	2	0.000	0.587	0.000	0.000
2086	2086	2	0.000	0.587	0.000	0.000
2087	2087	2	0.000	0.587	0.000	0.000
2088	2088	2	0.000	0.587	0.000	0.000
2089	2089	2	0.000	0.587	0.000	0.000
2090	2090	2	0.000	0.587	0.000	0.000
2091	2091	2	0.000	0.587	0.000	0.000
2092	2092	2	0.000	0.587	0.000	0.000
2093	2093	2	0.000	0.587	0.000	0.000
2094	2094	2	0.000	0.587	0.000	0.000
2095	2095	2	0.000	0.587	0.000	0.000
2096	2096	2	0.000	0.587	0.000	0.000
2097	2097	2	0.000	0.587	0.000	0.000
2098	2098	2	0.000	0.587	0.000	0.000
2099	2099	2	0.000	0.587	0.000	0.000
2100	2100	2	0.000	0.587	0.000	0.000
2101	2101	2	0.000	0.587	0.000	0.000
2102	2102	2	0.000	0.587	0.000	0.000
2103	2103	2	0.000	0.587	0.000	0.000
2104	2104	2	0.000	0.587	0.000	0.000
2105	2105	2	0.000	0.587	0.000	0.000
2106	2106	2	0.000	0.587	0.000	0.000
2107	2107	2	0.000	0.587	0.000	0.000
2108	2108	2	0.000	0.587	0.000	0.000
2109	2109	2	0.000	0.587	0.000	0.000
2110	2110	2	0.000	0.587	0.000	0.000
2111	2111	2	0.000	0.587	0.000	0.000
2112	2112	2	0.000	0.587	0.000	0.000
2113	2113	2	0.000	0.587	0.000	0.000
2114	2114	2	0.000	0.587	0.000	0.000
2115	2115	2	0.000	0.587	0.000	0.000
2116	2116	2	0.000	0.587	0.000	0.000
2117	2117	2	0.000	0.587	0.000	0.000
2118	2118	2	0.000	0.587	0.000	0.000
2119	2119	2	0.000	0.587	0.000	0.000

2120	2120	2	0.000	0.587	0.000	0.000
2121	2121	2	0.000	0.587	0.000	0.000
2122	2122	2	0.000	0.587	0.000	0.000
2123	2123	2	0.000	0.587	0.000	0.000
2124	2124	2	0.000	0.587	0.000	0.000
2125	2125	2	0.000	0.587	0.000	0.000
2126	2126	2	0.000	0.587	0.000	0.000
2127	2127	2	0.000	0.587	0.000	0.000
2128	2128	2	0.000	0.587	0.000	0.000
2129	2129	2	0.000	0.587	0.000	0.000
2130	2130	2	0.000	0.587	0.000	0.000
2131	2131	2	0.000	0.587	0.000	0.000
2132	2132	2	0.000	0.587	0.000	0.000
2133	2133	2	0.000	0.587	0.000	0.000
2134	2134	2	0.000	0.587	0.000	0.000
2135	2135	2	0.000	0.587	0.000	0.000
2136	2136	2	0.000	0.587	0.000	0.000
2137	2137	2	0.000	0.587	0.000	0.000
2138	2138	2	0.000	0.587	0.000	0.000
2139	2139	2	0.000	0.587	0.000	0.000
2140	2140	2	0.000	0.587	0.000	0.000
2141	2141	2	0.000	0.587	0.000	0.000
2142	2142	2	0.000	0.587	0.000	0.000
2143	2143	2	0.000	0.587	0.000	0.000
2144	2144	2	0.000	0.587	0.000	0.000
2145	2145	2	0.000	0.587	0.000	0.000
2146	2146	2	0.000	0.587	0.000	0.000
2147	2147	2	0.000	0.587	0.000	0.000
2148	2148	2	0.000	0.587	0.000	0.000
2149	2149	2	0.000	0.587	0.000	0.000
2150	2150	2	0.000	0.587	0.000	0.000
2151	2151	2	0.000	0.587	0.000	0.000
2011	2011	3	6.000	0.000	0.000	-1.438
2012	2012	3	3.963	0.000	0.000	-1.878
2013	2013	3	4.453	0.000	0.000	-2.438
2014	2014	3	0.807	0.000	0.000	-1.891
2015	2015	3	-2.124	0.000	0.000	-2.837
2016	2016	3	-1.596	0.000	0.000	-3.035
2017	2017	3	3.662	0.000	0.000	-2.830
2018	2018	3	6.268	0.000	0.000	-3.251
2019	2019	3	4.006	0.000	0.000	-3.618
2020	2020	3	-3.240	0.000	0.000	-3.931
2021	2021	3	9.768	0.000	0.000	-4.324
2022	2022	3	1.799	0.000	0.000	-4.776

2023	2023	3	-0.216	0.000	0.000	-5.300
2024	2024	3	-1.595	0.000	0.000	-5.915
2025	2025	3	1.049	0.000	0.000	-6.643
2026	2026	3	0.894	0.000	0.000	-7.520
2027	2027	3	-1.865	0.000	0.000	-8.594
2028	2028	3	-0.274	0.000	0.000	-9.934
2029	2029	3	-0.789	0.000	0.000	-11.657
2030	2030	3	1.876	0.000	0.000	-13.944
2031	2031	3	-0.287	0.000	0.000	-19.089
2032	2032	3	-2.211	0.000	0.000	-19.090
2033	2033	3	-2.565	0.000	0.000	-19.088
2034	2034	3	-1.399	0.000	0.000	-19.090
2035	2035	3	-1.444	0.000	0.000	-19.089
2036	2036	3	-0.695	0.000	0.000	-19.089
2037	2037	3	-0.258	0.000	0.000	-19.088
2038	2038	3	-0.856	0.000	0.000	-19.090
2039	2039	3	1.452	0.000	0.000	-19.092
2040	2040	3	-1.512	0.000	0.000	-19.088
2041	2041	3	0.000	0.000	0.000	-16.984
2042	2042	3	0.000	0.000	0.000	-5.099
2043	2043	3	0.000	0.000	0.000	-2.043
2044	2044	3	0.000	0.000	0.000	-6.009
2045	2045	3	0.000	0.000	0.000	-15.076
2046	2046	3	0.000	0.000	0.000	-9.204
2047	2047	3	0.000	0.000	0.000	-7.798
2048	2048	3	0.000	0.000	0.000	-5.087
2049	2049	3	0.000	0.000	0.000	-6.945
2050	2050	3	0.000	0.000	0.000	-1.718
2051	2051	3	0.000	0.000	0.000	0.000
2052	2052	3	0.000	0.000	0.000	0.000
2053	2053	3	0.000	0.000	0.000	0.000
2054	2054	3	0.000	0.000	0.000	0.000
2055	2055	3	0.000	0.000	0.000	0.000
2056	2056	3	0.000	0.000	0.000	0.000
2057	2057	3	0.000	0.000	0.000	0.000
2058	2058	3	0.000	0.000	0.000	0.000
2059	2059	3	0.000	0.000	0.000	0.000
2060	2060	3	0.000	0.000	0.000	0.000
2061	2061	3	0.000	0.000	0.000	0.000
2062	2062	3	0.000	0.000	0.000	0.000
2063	2063	3	0.000	0.000	0.000	0.000
2064	2064	3	0.000	0.000	0.000	0.000
2065	2065	3	0.000	0.000	0.000	0.000
2066	2066	3	0.000	0.000	0.000	0.000

2067	2067	3	0.000	0.000	0.000	0.000
2068	2068	3	0.000	0.000	0.000	0.000
2069	2069	3	0.000	0.000	0.000	0.000
2070	2070	3	0.000	0.000	0.000	0.000
2071	2071	3	0.000	0.000	0.000	0.000
2072	2072	3	0.000	0.000	0.000	0.000
2073	2073	3	0.000	0.000	0.000	0.000
2074	2074	3	0.000	0.000	0.000	0.000
2075	2075	3	0.000	0.000	0.000	0.000
2076	2076	3	0.000	0.000	0.000	0.000
2077	2077	3	0.000	0.000	0.000	0.000
2078	2078	3	0.000	0.000	0.000	0.000
2079	2079	3	0.000	0.000	0.000	0.000
2080	2080	3	0.000	0.000	0.000	0.000
2081	2081	3	0.000	0.000	0.000	0.000
2082	2082	3	0.000	0.000	0.000	0.000
2083	2083	3	0.000	0.000	0.000	0.000
2084	2084	3	0.000	0.000	0.000	0.000
2085	2085	3	0.000	0.000	0.000	0.000
2086	2086	3	0.000	0.000	0.000	0.000
2087	2087	3	0.000	0.000	0.000	0.000
2088	2088	3	0.000	0.000	0.000	0.000
2089	2089	3	0.000	0.000	0.000	0.000
2090	2090	3	0.000	0.000	0.000	0.000
2091	2091	3	0.000	0.000	0.000	0.000
2092	2092	3	0.000	0.000	0.000	0.000
2093	2093	3	0.000	0.000	0.000	0.000
2094	2094	3	0.000	0.000	0.000	0.000
2095	2095	3	0.000	0.000	0.000	0.000
2096	2096	3	0.000	0.000	0.000	0.000
2097	2097	3	0.000	0.000	0.000	0.000
2098	2098	3	0.000	0.000	0.000	0.000
2099	2099	3	0.000	0.000	0.000	0.000
2100	2100	3	0.000	0.000	0.000	0.000
2101	2101	3	0.000	0.000	0.000	0.000
2102	2102	3	0.000	0.000	0.000	0.000
2103	2103	3	0.000	0.000	0.000	0.000
2104	2104	3	0.000	0.000	0.000	0.000
2105	2105	3	0.000	0.000	0.000	0.000
2106	2106	3	0.000	0.000	0.000	0.000
2107	2107	3	0.000	0.000	0.000	0.000
2108	2108	3	0.000	0.000	0.000	0.000
2109	2109	3	0.000	0.000	0.000	0.000
2110	2110	3	0.000	0.000	0.000	0.000

2111	2111	3	0.000	0.000	0.000	0.000
2112	2112	3	0.000	0.000	0.000	0.000
2113	2113	3	0.000	0.000	0.000	0.000
2114	2114	3	0.000	0.000	0.000	0.000
2115	2115	3	0.000	0.000	0.000	0.000
2116	2116	3	0.000	0.000	0.000	0.000
2117	2117	3	0.000	0.000	0.000	0.000
2118	2118	3	0.000	0.000	0.000	0.000
2119	2119	3	0.000	0.000	0.000	0.000
2120	2120	3	0.000	0.000	0.000	0.000
2121	2121	3	0.000	0.000	0.000	0.000
2122	2122	3	0.000	0.000	0.000	0.000
2123	2123	3	0.000	0.000	0.000	0.000
2124	2124	3	0.000	0.000	0.000	0.000
2125	2125	3	0.000	0.000	0.000	0.000
2126	2126	3	0.000	0.000	0.000	0.000
2127	2127	3	0.000	0.000	0.000	0.000
2128	2128	3	0.000	0.000	0.000	0.000
2129	2129	3	0.000	0.000	0.000	0.000
2130	2130	3	0.000	0.000	0.000	0.000
2131	2131	3	0.000	0.000	0.000	0.000
2132	2132	3	0.000	0.000	0.000	0.000
2133	2133	3	0.000	0.000	0.000	0.000
2134	2134	3	0.000	0.000	0.000	0.000
2135	2135	3	0.000	0.000	0.000	0.000
2136	2136	3	0.000	0.000	0.000	0.000
2137	2137	3	0.000	0.000	0.000	0.000
2138	2138	3	0.000	0.000	0.000	0.000
2139	2139	3	0.000	0.000	0.000	0.000
2140	2140	3	0.000	0.000	0.000	0.000
2141	2141	3	0.000	0.000	0.000	0.000
2142	2142	3	0.000	0.000	0.000	0.000
2143	2143	3	0.000	0.000	0.000	0.000
2144	2144	3	0.000	0.000	0.000	0.000
2145	2145	3	0.000	0.000	0.000	0.000
2146	2146	3	0.000	0.000	0.000	0.000
2147	2147	3	0.000	0.000	0.000	0.000
2148	2148	3	0.000	0.000	0.000	0.000
2149	2149	3	0.000	0.000	0.000	0.000
2150	2150	3	0.000	0.000	0.000	0.000
2151	2151	3	0.000	0.000	0.000	0.000

FLEET - (used)

*veh_type %Petrol %Diesel %Electric

1	59.8962	40.0961	0.0077
2	3.4548	96.4566	0.0886
3	3.4548	96.4566	0.0886
4	0.0000	100.0000	0.0000
5	0.0000	100.0000	0.0000
6	0.0000	99.9221	0.0779
7	0.0000	100.0000	0.0000
8	0.0000	100.0000	0.0000

FLEET - (std)

*veh_type	%Petrol	%Diesel	%Electric
1	59.6299	40.3625	0.0076
2	3.4505	96.4583	0.0912
3	3.4505	96.4583	0.0912
4	0.0000	100.0000	0.0000
5	0.0000	100.0000	0.0000
6	0.0000	100.0000	0.0000
7	0.0000	100.0000	0.0000
8	0.0000	100.0000	0.0000

FLEET_CHANGES - (used)

*% p.a.

*Start_yr	End_yr	Veh_type	%Change_Petrol	%Change_Diesel	%Change_Electric
2011	2011	1	-3.5334	5.2644	72.7273
2012	2012	1	-3.5938	4.8952	77.4436
2013	2013	1	-3.6635	4.5816	52.5424
2014	2014	1	-3.5106	3.9580	142.2222
2015	2015	1	-3.2761	3.3338	105.1606
2016	2016	1	-2.7303	2.5141	65.3438
2017	2017	1	-0.9381	0.6152	48.4449
2018	2018	1	1.1306	-1.3993	39.2394
2019	2019	1	2.3623	-2.7214	36.5882
2020	2020	1	1.9473	-3.2533	75.2245
2021	2021	1	1.5292	-4.3172	87.2343
2022	2022	1	0.2404	-4.6395	72.5965
2023	2023	1	-0.8037	-5.4000	58.4144
2024	2024	1	-1.4484	-6.2086	43.9989
2025	2025	1	-2.0998	-7.3022	35.9550
2026	2026	1	-2.4509	-7.9695	27.7036
2027	2027	1	-2.9226	-8.6666	22.7674
2028	2028	1	-3.3225	-9.3402	18.9875
2029	2029	1	-3.6571	-9.8518	15.8753
2030	2030	1	-3.9691	-10.1168	13.3105
2031	2031	1	-4.0715	-10.1036	10.9677

2032	2032	1	-4.0434	-9.9044	9.0164
2033	2033	1	-4.1522	-9.4536	7.5826
2034	2034	1	-4.2021	-8.8854	6.4073
2035	2035	1	-4.0578	-8.4250	5.3933
2036	2036	1	-3.8855	-7.8288	4.5411
2037	2037	1	-3.8221	-7.0415	3.8820
2038	2038	1	-3.5816	-6.0722	3.2150
2039	2039	1	-3.3132	-5.1005	2.6551
2040	2040	1	-2.9987	-4.3872	2.2093
2041	2041	1	-2.5436	-3.6258	1.7546
2042	2042	1	-2.2945	-3.1222	1.4878
2043	2043	1	-1.9852	-2.7371	1.2411
2044	2044	1	-1.6650	-2.2924	1.0049
2045	2045	1	-1.4495	-1.9597	0.8450
2046	2046	1	-1.2558	-1.6572	0.7092
2047	2047	1	-1.0944	-1.4064	0.6005
2048	2048	1	-0.9945	-1.2353	0.5303
2049	2049	1	-0.8969	-1.0790	0.4665
2050	2050	1	-0.7964	-0.9332	0.4054
2011	2011	2	-9.9745	0.3593	-2.2573
2012	2012	2	-8.1699	0.2539	9.5843
2013	2013	2	-8.1580	0.2422	-2.1075
2014	2014	2	-8.2993	0.2019	22.8202
2015	2015	2	-7.8448	0.1740	16.8273
2016	2016	2	-8.3367	0.1676	15.7539
2017	2017	2	-1.9981	0.0132	17.9520
2018	2018	2	3.9723	-0.1194	20.7143
2019	2019	2	2.8159	-0.1663	47.4283
2020	2020	2	0.6107	-0.2061	58.0426
2021	2021	2	-7.3773	-0.2553	79.4296
2022	2022	2	-1.0385	-0.1683	20.0218
2023	2023	2	-1.0646	-0.1605	16.0196
2024	2024	2	-0.8959	-0.1530	12.9320
2025	2025	2	-0.8468	-0.2198	15.8266
2026	2026	2	-0.8017	-0.2901	17.6330
2027	2027	2	-0.8082	-0.3992	20.2846
2028	2028	2	-0.9106	-0.5771	24.0664
2029	2029	2	-1.0264	-0.7144	23.8074
2030	2030	2	-1.3629	-1.0477	27.9255
2031	2031	2	-1.8716	-1.4764	30.4203
2032	2032	2	-2.3561	-1.9387	30.1393
2033	2033	2	-2.9243	-2.4870	29.1112
2034	2034	2	-3.4326	-2.9768	26.3028
2035	2035	2	-3.8181	-3.3308	22.6024

2036	2036	2	-4.0270	-3.5179	18.8201
2037	2037	2	-4.0964	-3.5581	15.4568
2038	2038	2	-4.1052	-3.5435	12.8578
2039	2039	2	-3.7973	-3.2205	9.9910
2040	2040	2	-3.7896	-3.2207	8.7892
2041	2041	2	-3.3695	-2.8372	6.8894
2042	2042	2	-3.3659	-2.8357	6.2576
2043	2043	2	-3.3161	-2.7852	5.6196
2044	2044	2	-3.2138	-2.6951	5.0050
2045	2045	2	-3.0706	-2.5788	4.4374
2046	2046	2	-2.8271	-2.3669	3.7986
2047	2047	2	-2.6535	-2.2117	3.3391
2048	2048	2	-2.4825	-2.0531	2.9326
2049	2049	2	-2.2761	-1.8776	2.5526
2050	2050	2	-2.0738	-1.6824	2.1886
2011	2011	3	-9.9745	0.3593	-2.2573
2012	2012	3	-8.1699	0.2539	9.5843
2013	2013	3	-8.1580	0.2422	-2.1075
2014	2014	3	-8.2993	0.2019	22.8202
2015	2015	3	-7.8448	0.1740	16.8273
2016	2016	3	-8.3367	0.1676	15.7539
2017	2017	3	-1.9981	0.0132	17.9520
2018	2018	3	3.9723	-0.1194	20.7143
2019	2019	3	2.8159	-0.1663	47.4283
2020	2020	3	0.6107	-0.2061	58.0426
2021	2021	3	-7.3773	-0.2553	79.4296
2022	2022	3	-1.0385	-0.1683	20.0218
2023	2023	3	-1.0646	-0.1605	16.0196
2024	2024	3	-0.8959	-0.1530	12.9320
2025	2025	3	-0.8468	-0.2198	15.8266
2026	2026	3	-0.8017	-0.2901	17.6330
2027	2027	3	-0.8082	-0.3992	20.2846
2028	2028	3	-0.9106	-0.5771	24.0664
2029	2029	3	-1.0264	-0.7144	23.8074
2030	2030	3	-1.3629	-1.0477	27.9255
2031	2031	3	-1.8716	-1.4764	30.4203
2032	2032	3	-2.3561	-1.9387	30.1393
2033	2033	3	-2.9243	-2.4870	29.1112
2034	2034	3	-3.4326	-2.9768	26.3028
2035	2035	3	-3.8181	-3.3308	22.6024
2036	2036	3	-4.0270	-3.5179	18.8201
2037	2037	3	-4.0964	-3.5581	15.4568
2038	2038	3	-4.1052	-3.5435	12.8578
2039	2039	3	-3.7973	-3.2205	9.9910

2040	2040	3	-3.7896	-3.2207	8.7892
2041	2041	3	-3.3695	-2.8372	6.8894
2042	2042	3	-3.3659	-2.8357	6.2576
2043	2043	3	-3.3161	-2.7852	5.6196
2044	2044	3	-3.2138	-2.6951	5.0050
2045	2045	3	-3.0706	-2.5788	4.4374
2046	2046	3	-2.8271	-2.3669	3.7986
2047	2047	3	-2.6535	-2.2117	3.3391
2048	2048	3	-2.4825	-2.0531	2.9326
2049	2049	3	-2.2761	-1.8776	2.5526
2050	2050	3	-2.0738	-1.6824	2.1886
2011	2011	6	0.0000	-0.0011	1.4121
2012	2012	6	0.0000	-0.0202	25.5696
2013	2013	6	0.0000	-0.0327	32.9637
2014	2014	6	0.0000	-0.0723	54.7384
2015	2015	6	0.0000	-0.0313	15.2866
2016	2016	6	0.0000	-0.0935	39.6515
2017	2017	6	0.0000	-0.0617	18.7158
2018	2018	6	0.0000	-0.1298	33.1453
2019	2019	6	0.0000	-0.3121	59.7805
2020	2020	6	0.0000	-0.2987	35.6910
2021	2021	6	0.0000	-0.7068	62.0549
2022	2022	6	0.0000	-4.7142	253.6139
2023	2023	6	0.0000	-4.4616	64.6774
2024	2024	6	0.0000	-2.5792	21.6914
2025	2025	6	0.0000	-3.3217	22.3641
2026	2026	6	0.0000	-2.9956	15.9353
2027	2027	6	0.0000	-3.3685	14.9927
2028	2028	6	0.0000	-3.8909	14.5529
2029	2029	6	0.0000	-3.5896	11.2641
2030	2030	6	0.0000	-1.2289	3.3416
2031	2031	6	0.0000	-1.0185	2.6469
2032	2032	6	0.0000	-0.7730	1.9371
2033	2033	6	0.0000	-0.6043	1.4741
2034	2034	6	0.0000	-0.4783	1.1429
2035	2035	6	0.0000	-0.3495	0.8217
2036	2036	6	0.0000	-0.2085	0.4846
2037	2037	6	0.0000	-0.0851	0.1965
2038	2038	6	0.0000	0.0268	-0.0617
2039	2039	6	0.0000	0.0965	-0.2223
2040	2040	6	0.0000	-0.6920	1.5991
2041	2041	6	0.0000	-0.5875	1.3269
2042	2042	6	0.0000	-0.5265	1.1667
2043	2043	6	0.0000	-0.4615	1.0055

2044	2044	6	0.0000	-0.3947	0.8475
2045	2045	6	0.0000	-0.3467	0.7352
2046	2046	6	0.0000	-0.3361	0.7051
2047	2047	6	0.0000	-0.3365	0.6986
2048	2048	6	0.0000	-0.3394	0.6974
2049	2049	6	0.0000	-0.3277	0.6665
2050	2050	6	0.0000	-0.3043	0.6127
2051	2151	1	0.0000	0.0000	0.0000
2051	2151	2	0.0000	0.0000	0.0000
2051	2151	3	0.0000	0.0000	0.0000
2011	2151	4	0.0000	0.0000	0.0000
2011	2151	5	0.0000	0.0000	0.0000
2051	2151	6	0.0000	0.0000	0.0000

FLEET_CHANGES - (std)

*% p.a.

*Start_yr	End_yr	Veh_type	%Change_Petrol	%Change_Diesel	%Change_Electric
2011	2011	1	-3.5474	5.2271	72.3684
2012	2012	1	-3.6255	4.8862	75.5725
2013	2013	1	-3.7045	4.5823	52.6087
2014	2014	1	-3.5372	3.9494	137.0370
2015	2015	1	-3.3037	3.3379	101.4423
2016	2016	1	-2.7361	2.5097	63.3652
2017	2017	1	-0.8923	0.5861	47.9912
2018	2018	1	1.1991	-1.4201	38.8203
2019	2019	1	1.7017	-1.9941	33.4222
2020	2020	1	1.8536	-2.2461	27.1952
2021	2021	1	1.6150	-2.5074	42.8975
2022	2022	1	1.4618	-2.7336	40.4296
2023	2023	1	1.3175	-3.0441	37.7636
2024	2024	1	0.9803	-3.5199	40.2425
2025	2025	1	0.2872	-4.2813	45.8903
2026	2026	1	-0.0235	-4.6731	36.0447
2027	2027	1	-0.1975	-4.8289	27.3620
2028	2028	1	-0.3930	-4.9178	21.9646
2029	2029	1	-0.6139	-4.9385	18.2947
2030	2030	1	-0.9186	-4.8594	15.7936
2031	2031	1	-1.1396	-4.5854	13.2690
2032	2032	1	-1.3598	-4.2639	11.3740
2033	2033	1	-1.5543	-3.9092	9.8508
2034	2034	1	-1.7099	-3.6116	8.6724
2035	2035	1	-1.8177	-3.2999	7.6247
2036	2036	1	-1.8688	-3.0327	6.7218
2037	2037	1	-1.8936	-2.8160	5.9844

2038	2038	1	-1.8686	-2.5621	5.2552
2039	2039	1	-1.8261	-2.3161	4.6228
2040	2040	1	-2.0337	-2.4757	4.7437
2041	2041	1	-1.9404	-2.3503	4.2169
2042	2042	1	-1.8614	-2.2344	3.7873
2043	2043	1	-1.7986	-2.0982	3.4172
2044	2044	1	-1.8062	-2.0617	3.2286
2045	2045	1	-1.7138	-1.9060	2.8834
2046	2046	1	-1.6902	-1.8698	2.7094
2047	2047	1	-1.6879	-1.8470	2.5779
2048	2048	1	-1.6589	-1.8011	2.4200
2049	2049	1	-1.6009	-1.7231	2.2342
2050	2050	1	-1.5935	-1.7035	2.1344
2011	2011	2	-9.9551	0.3589	-2.9605
2012	2012	2	-8.0850	0.2503	10.1695
2013	2013	2	-8.1413	0.2417	-2.2564
2014	2014	2	-8.3635	0.2034	22.5603
2015	2015	2	-7.9288	0.1755	16.6952
2016	2016	2	-8.3676	0.1677	15.7007
2017	2017	2	-1.9723	0.0123	17.7552
2018	2018	2	4.0994	-0.1225	20.6247
2019	2019	2	-1.5414	-0.0689	44.2857
2020	2020	2	-1.2465	0.0340	-2.4134
2021	2021	2	-0.1690	-0.0505	16.7089
2022	2022	2	0.1344	-0.0690	17.5767
2023	2023	2	0.9644	-0.1262	23.9603
2024	2024	2	2.0384	-0.2103	30.4753
2025	2025	2	4.5262	-0.4417	47.9714
2026	2026	2	3.4807	-0.4261	32.5352
2027	2027	2	3.9436	-0.5348	31.1116
2028	2028	2	4.5536	-0.6795	30.2961
2029	2029	2	4.8684	-0.7989	27.3836
2030	2030	2	4.9673	-0.9096	24.5096
2031	2031	2	5.0865	-0.9474	20.1742
2032	2032	2	4.8793	-1.0056	17.7808
2033	2033	2	4.6320	-1.0543	15.7803
2034	2034	2	4.3655	-1.0969	14.1249
2035	2035	2	4.0807	-1.1390	12.8123
2036	2036	2	3.8076	-1.1648	11.5496
2037	2037	2	3.5417	-1.1887	10.5057
2038	2038	2	3.2793	-1.2049	9.5762
2039	2039	2	3.0357	-1.2185	8.7799
2040	2040	2	2.8032	-1.2286	8.0825
2041	2041	2	2.5647	-1.2034	7.2582

2042	2042	2	2.4018	-1.2091	6.7416
2043	2043	2	2.2033	-1.2237	6.3558
2044	2044	2	2.0402	-1.2164	5.8890
2045	2045	2	1.8815	-1.2057	5.4663
2046	2046	2	1.6834	-1.1668	4.9758
2047	2047	2	1.5551	-1.1570	4.6635
2048	2048	2	1.4237	-1.1416	4.3618
2049	2049	2	1.2542	-1.1392	4.1548
2050	2050	2	1.1467	-1.1150	3.8719
2011	2011	3	-9.9551	0.3589	-2.9605
2012	2012	3	-8.0850	0.2503	10.1695
2013	2013	3	-8.1413	0.2417	-2.2564
2014	2014	3	-8.3635	0.2034	22.5603
2015	2015	3	-7.9288	0.1755	16.6952
2016	2016	3	-8.3676	0.1677	15.7007
2017	2017	3	-1.9723	0.0123	17.7552
2018	2018	3	4.0994	-0.1225	20.6247
2019	2019	3	-1.5414	-0.0689	44.2857
2020	2020	3	-1.2465	0.0340	-2.4134
2021	2021	3	-0.1690	-0.0505	16.7089
2022	2022	3	0.1344	-0.0690	17.5767
2023	2023	3	0.9644	-0.1262	23.9603
2024	2024	3	2.0384	-0.2103	30.4753
2025	2025	3	4.5262	-0.4417	47.9714
2026	2026	3	3.4807	-0.4261	32.5352
2027	2027	3	3.9436	-0.5348	31.1116
2028	2028	3	4.5536	-0.6795	30.2961
2029	2029	3	4.8684	-0.7989	27.3836
2030	2030	3	4.9673	-0.9096	24.5096
2031	2031	3	5.0865	-0.9474	20.1742
2032	2032	3	4.8793	-1.0056	17.7808
2033	2033	3	4.6320	-1.0543	15.7803
2034	2034	3	4.3655	-1.0969	14.1249
2035	2035	3	4.0807	-1.1390	12.8123
2036	2036	3	3.8076	-1.1648	11.5496
2037	2037	3	3.5417	-1.1887	10.5057
2038	2038	3	3.2793	-1.2049	9.5762
2039	2039	3	3.0357	-1.2185	8.7799
2040	2040	3	2.8032	-1.2286	8.0825
2041	2041	3	2.5647	-1.2034	7.2582
2042	2042	3	2.4018	-1.2091	6.7416
2043	2043	3	2.2033	-1.2237	6.3558
2044	2044	3	2.0402	-1.2164	5.8890
2045	2045	3	1.8815	-1.2057	5.4663

2046	2046	3	1.6834	-1.1668	4.9758
2047	2047	3	1.5551	-1.1570	4.6635
2048	2048	3	1.4237	-1.1416	4.3618
2049	2049	3	1.2542	-1.1392	4.1548
2050	2050	3	1.1467	-1.1150	3.8719
2051	2151	1	0.0000	0.0000	0.0000
2051	2151	2	0.0000	0.0000	0.0000
2051	2151	3	0.0000	0.0000	0.0000
2011	2151	4	0.0000	0.0000	0.0000
2011	2151	5	0.0000	0.0000	0.0000
2011	2151	6	0.0000	0.0000	0.0000

FUEL_CONSUMPTION - (used)

*veh_type	fuel_type	a_fuel	b_fuel	c_fuel	d_fuel	cut-off_speeds(km/h)	
		max		min			
1	1	0.4666	0.09917	-0.11296E-02	0.74815E-05	130	10
1	2	0.5050	0.07241	-0.69660E-03	0.54893E-05	130	10
1	3	0.0000	0.22466	0.00000E+00	0.00000E+00	120	10
2	1	0.3518	0.19727	-0.30966E-02	0.19998E-04	120	10
2	2	0.4682	0.11444	-0.16510E-02	0.13977E-04	110	10
2	3	0.0000	0.25706	0.00000E+00	0.00000E+00	120	10
3	1	0.3518	0.19727	-0.30966E-02	0.19998E-04	120	10
3	2	0.4682	0.11444	-0.16510E-02	0.13977E-04	110	10
3	3	0.0000	0.25706	0.00000E+00	0.00000E+00	120	10
4	2	2.6039	0.13816	-0.99860E-03	0.10906E-04	85	12
5	2	5.7277	0.29745	-0.19708E-02	0.11746E-04	85	12
6	2	3.3350	0.29304	-0.31851E-02	0.23364E-04	85	12
6	3	0.0000	1.17983	0.00000E+00	0.00000E+00	85	12

FUEL_CONSUMPTION - (std)

*veh_type	fuel_type	a_fuel	b_fuel	c_fuel	d_fuel	cut-off_speeds(km/h)	
		max		min			
1	1	0.4707	0.10003	-0.11394E-02	0.75462E-05	130	10
1	2	0.5069	0.07268	-0.69920E-03	0.55097E-05	130	10
1	3	0.0000	0.21366	0.00000E+00	0.00000E+00	120	10
2	1	0.3487	0.19552	-0.30690E-02	0.19819E-04	120	10
2	2	0.4688	0.11457	-0.16529E-02	0.13993E-04	110	10
2	3	0.0000	0.23232	0.00000E+00	0.00000E+00	120	10
3	1	0.3487	0.19552	-0.30690E-02	0.19819E-04	120	10
3	2	0.4688	0.11457	-0.16529E-02	0.13993E-04	110	10
3	3	0.0000	0.23232	0.00000E+00	0.00000E+00	120	10
4	2	2.6115	0.13856	-0.10015E-02	0.10938E-04	85	12
5	2	5.7221	0.29716	-0.19688E-02	0.11735E-04	85	12
6	2	3.3602	0.29525	-0.32091E-02	0.23540E-04	85	12

FUEL_EFFICIENCY - (used)

*% p.a.

*Start_yr	End_yr	veh_type	fuel_type	change
2011	2011	1	1	0.662
2011	2011	1	2	0.817
2011	2011	1	3	-0.025
2011	2011	2	1	-0.095
2011	2011	2	2	0.139
2011	2011	2	3	0.000
2011	2011	3	1	-0.095
2011	2011	3	2	0.139
2011	2011	3	3	0.000
2011	2011	4	2	-0.217
2011	2011	4	3	0.000
2011	2011	5	2	-0.047
2011	2011	5	3	0.000
2011	2011	6	2	-0.140
2011	2011	6	3	0.000
2012	2012	1	1	0.824
2012	2012	1	2	0.877
2012	2012	1	3	0.491
2012	2012	2	1	-0.074
2012	2012	2	2	0.386
2012	2012	2	3	0.000
2012	2012	3	1	-0.074
2012	2012	3	2	0.386
2012	2012	3	3	0.000
2012	2012	4	2	-3.140
2012	2012	4	3	0.000
2012	2012	5	2	0.414
2012	2012	5	3	0.000
2012	2012	6	2	-0.258
2012	2012	6	3	0.000
2013	2013	1	1	1.035
2013	2013	1	2	0.939
2013	2013	1	3	0.025
2013	2013	2	1	0.178
2013	2013	2	2	0.142
2013	2013	2	3	0.000
2013	2013	3	1	0.178
2013	2013	3	2	0.142
2013	2013	3	3	0.000
2013	2013	4	2	0.524

2013	2013	4	3	0.000
2013	2013	5	2	0.199
2013	2013	5	3	0.000
2013	2013	6	2	-0.069
2013	2013	6	3	0.000
2014	2014	1	1	-0.594
2014	2014	1	2	0.712
2014	2014	1	3	0.709
2014	2014	2	1	-0.410
2014	2014	2	2	0.114
2014	2014	2	3	-0.064
2014	2014	3	1	-0.410
2014	2014	3	2	0.114
2014	2014	3	3	-0.064
2014	2014	4	2	-1.002
2014	2014	4	3	0.000
2014	2014	5	2	0.195
2014	2014	5	3	0.000
2014	2014	6	2	-0.064
2014	2014	6	3	0.000
2015	2015	1	1	1.252
2015	2015	1	2	1.319
2015	2015	1	3	0.591
2015	2015	2	1	2.511
2015	2015	2	2	0.235
2015	2015	2	3	-0.700
2015	2015	3	1	2.511
2015	2015	3	2	0.235
2015	2015	3	3	-0.700
2015	2015	4	2	0.295
2015	2015	4	3	0.000
2015	2015	5	2	0.327
2015	2015	5	3	0.000
2015	2015	6	2	-0.221
2015	2015	6	3	0.000
2016	2016	1	1	1.373
2016	2016	1	2	1.203
2016	2016	1	3	0.418
2016	2016	2	1	-0.117
2016	2016	2	2	0.703
2016	2016	2	3	-0.216
2016	2016	3	1	-0.117
2016	2016	3	2	0.703
2016	2016	3	3	-0.216

2016	2016	4	2	0.922
2016	2016	4	3	0.000
2016	2016	5	2	0.233
2016	2016	5	3	0.000
2016	2016	6	2	-0.060
2016	2016	6	3	-0.097
2017	2017	1	1	1.236
2017	2017	1	2	0.778
2017	2017	1	3	0.132
2017	2017	2	1	1.631
2017	2017	2	2	1.238
2017	2017	2	3	-0.009
2017	2017	3	1	1.631
2017	2017	3	2	1.238
2017	2017	3	3	-0.009
2017	2017	4	2	-0.773
2017	2017	4	3	0.000
2017	2017	5	2	0.317
2017	2017	5	3	0.000
2017	2017	6	2	-0.036
2017	2017	6	3	-0.080
2018	2018	1	1	0.987
2018	2018	1	2	0.058
2018	2018	1	3	0.092
2018	2018	2	1	3.066
2018	2018	2	2	0.884
2018	2018	2	3	-0.418
2018	2018	3	1	3.066
2018	2018	3	2	0.884
2018	2018	3	3	-0.418
2018	2018	4	2	0.421
2018	2018	4	3	0.000
2018	2018	5	2	0.544
2018	2018	5	3	0.000
2018	2018	6	2	-0.161
2018	2018	6	3	-0.191
2019	2019	1	1	0.626
2019	2019	1	2	-0.319
2019	2019	1	3	-0.347
2019	2019	2	1	1.138
2019	2019	2	2	0.740
2019	2019	2	3	0.088
2019	2019	3	1	1.138
2019	2019	3	2	0.740

2019	2019	3	3	0.088
2019	2019	4	2	-0.944
2019	2019	4	3	0.000
2019	2019	5	2	0.546
2019	2019	5	3	0.000
2019	2019	6	2	-0.168
2019	2019	6	3	-0.223
2020	2020	1	1	0.927
2020	2020	1	2	-0.092
2020	2020	1	3	-0.578
2020	2020	2	1	1.902
2020	2020	2	2	0.372
2020	2020	2	3	-0.341
2020	2020	3	1	1.902
2020	2020	3	2	0.372
2020	2020	3	3	-0.341
2020	2020	4	2	-0.700
2020	2020	4	3	0.000
2020	2020	5	2	0.352
2020	2020	5	3	0.000
2020	2020	6	2	-0.118
2020	2020	6	3	-0.337
2021	2021	1	1	1.169
2021	2021	1	2	-0.014
2021	2021	1	3	3.385
2021	2021	2	1	2.499
2021	2021	2	2	1.189
2021	2021	2	3	0.466
2021	2021	3	1	2.499
2021	2021	3	2	1.189
2021	2021	3	3	0.466
2021	2021	4	2	0.532
2021	2021	4	3	0.000
2021	2021	5	2	0.644
2021	2021	5	3	0.000
2021	2021	6	2	-0.093
2021	2021	6	3	0.885
2022	2022	1	1	-0.836
2022	2022	1	2	0.006
2022	2022	1	3	3.869
2022	2022	2	1	4.304
2022	2022	2	2	0.815
2022	2022	2	3	-0.062
2022	2022	3	1	4.304

2022	2022	3	2	0.815
2022	2022	3	3	-0.062
2022	2022	4	2	0.589
2022	2022	4	3	0.000
2022	2022	5	2	0.547
2022	2022	5	3	0.000
2022	2022	6	2	-0.120
2022	2022	6	3	3.311
2023	2023	1	1	0.823
2023	2023	1	2	-0.026
2023	2023	1	3	2.928
2023	2023	2	1	2.131
2023	2023	2	2	0.721
2023	2023	2	3	0.297
2023	2023	3	1	2.131
2023	2023	3	2	0.721
2023	2023	3	3	0.297
2023	2023	4	2	0.577
2023	2023	4	3	0.000
2023	2023	5	2	0.560
2023	2023	5	3	0.000
2023	2023	6	2	-0.095
2023	2023	6	3	1.901
2024	2024	1	1	0.593
2024	2024	1	2	-0.057
2024	2024	1	3	2.092
2024	2024	2	1	2.062
2024	2024	2	2	0.675
2024	2024	2	3	0.341
2024	2024	3	1	2.062
2024	2024	3	2	0.675
2024	2024	3	3	0.341
2024	2024	4	2	0.567
2024	2024	4	3	0.000
2024	2024	5	2	0.586
2024	2024	5	3	0.000
2024	2024	6	2	0.011
2024	2024	6	3	1.362
2025	2025	1	1	0.334
2025	2025	1	2	-0.072
2025	2025	1	3	1.828
2025	2025	2	1	2.658
2025	2025	2	2	1.643
2025	2025	2	3	0.472

2025	2025	3	1	2.658
2025	2025	3	2	1.643
2025	2025	3	3	0.472
2025	2025	4	2	1.078
2025	2025	4	3	0.000
2025	2025	5	2	1.849
2025	2025	5	3	0.000
2025	2025	6	2	0.031
2025	2025	6	3	1.886
2026	2026	1	1	0.238
2026	2026	1	2	-0.115
2026	2026	1	3	1.458
2026	2026	2	1	2.532
2026	2026	2	2	1.489
2026	2026	2	3	0.578
2026	2026	3	1	2.532
2026	2026	3	2	1.489
2026	2026	3	3	0.578
2026	2026	4	2	1.050
2026	2026	4	3	0.000
2026	2026	5	2	1.888
2026	2026	5	3	0.000
2026	2026	6	2	0.052
2026	2026	6	3	1.530
2027	2027	1	1	0.159
2027	2027	1	2	-0.159
2027	2027	1	3	1.326
2027	2027	2	1	4.516
2027	2027	2	2	1.360
2027	2027	2	3	0.506
2027	2027	3	1	4.516
2027	2027	3	2	1.360
2027	2027	3	3	0.506
2027	2027	4	2	1.010
2027	2027	4	3	0.000
2027	2027	5	2	1.827
2027	2027	5	3	0.000
2027	2027	6	2	0.127
2027	2027	6	3	1.497
2028	2028	1	1	0.087
2028	2028	1	2	-0.216
2028	2028	1	3	1.215
2028	2028	2	1	2.106
2028	2028	2	2	1.237

2028	2028	2	3	0.556
2028	2028	3	1	2.106
2028	2028	3	2	1.237
2028	2028	3	3	0.556
2028	2028	4	2	0.976
2028	2028	4	3	0.000
2028	2028	5	2	1.778
2028	2028	5	3	0.000
2028	2028	6	2	0.136
2028	2028	6	3	1.429
2029	2029	1	1	0.024
2029	2029	1	2	-0.284
2029	2029	1	3	1.180
2029	2029	2	1	1.991
2029	2029	2	2	1.142
2029	2029	2	3	0.357
2029	2029	3	1	1.991
2029	2029	3	2	1.142
2029	2029	3	3	0.357
2029	2029	4	2	0.948
2029	2029	4	3	0.000
2029	2029	5	2	1.702
2029	2029	5	3	0.000
2029	2029	6	2	0.148
2029	2029	6	3	1.250
2030	2030	1	1	0.021
2030	2030	1	2	-0.366
2030	2030	1	3	1.123
2030	2030	2	1	2.720
2030	2030	2	2	2.177
2030	2030	2	3	-0.469
2030	2030	3	1	2.720
2030	2030	3	2	2.177
2030	2030	3	3	-0.469
2030	2030	4	2	1.599
2030	2030	4	3	0.000
2030	2030	5	2	3.302
2030	2030	5	3	0.000
2030	2030	6	2	0.190
2030	2030	6	3	0.841
2031	2031	1	1	-0.068
2031	2031	1	2	-0.361
2031	2031	1	3	0.961
2031	2031	2	1	0.062

2031	2031	2	2	2.084
2031	2031	2	3	-1.235
2031	2031	3	1	0.062
2031	2031	3	2	2.084
2031	2031	3	3	-1.235
2031	2031	4	2	1.522
2031	2031	4	3	0.000
2031	2031	5	2	3.277
2031	2031	5	3	0.000
2031	2031	6	2	0.192
2031	2031	6	3	0.787
2032	2032	1	1	-0.106
2032	2032	1	2	-0.381
2032	2032	1	3	0.857
2032	2032	2	1	2.503
2032	2032	2	2	1.668
2032	2032	2	3	-1.684
2032	2032	3	1	2.503
2032	2032	3	2	1.668
2032	2032	3	3	-1.684
2032	2032	4	2	1.484
2032	2032	4	3	0.000
2032	2032	5	2	3.008
2032	2032	5	3	0.000
2032	2032	6	2	0.084
2032	2032	6	3	0.750
2033	2033	1	1	-0.116
2033	2033	1	2	-0.386
2033	2033	1	3	0.790
2033	2033	2	1	2.964
2033	2033	2	2	1.626
2033	2033	2	3	-1.777
2033	2033	3	1	2.964
2033	2033	3	2	1.626
2033	2033	3	3	-1.777
2033	2033	4	2	1.404
2033	2033	4	3	0.000
2033	2033	5	2	2.748
2033	2033	5	3	0.000
2033	2033	6	2	0.145
2033	2033	6	3	0.721
2034	2034	1	1	-0.126
2034	2034	1	2	-0.393
2034	2034	1	3	0.748

2034	2034	2	1	4.667
2034	2034	2	2	1.264
2034	2034	2	3	-1.521
2034	2034	3	1	4.667
2034	2034	3	2	1.264
2034	2034	3	3	-1.521
2034	2034	4	2	1.321
2034	2034	4	3	0.000
2034	2034	5	2	2.559
2034	2034	5	3	0.000
2034	2034	6	2	0.401
2034	2034	6	3	0.724
2035	2035	1	1	-0.173
2035	2035	1	2	-0.358
2035	2035	1	3	0.722
2035	2035	2	1	-2.719
2035	2035	2	2	1.183
2035	2035	2	3	-1.133
2035	2035	3	1	-2.719
2035	2035	3	2	1.183
2035	2035	3	3	-1.133
2035	2035	4	2	1.229
2035	2035	4	3	0.000
2035	2035	5	2	2.323
2035	2035	5	3	0.000
2035	2035	6	2	0.252
2035	2035	6	3	0.748
2036	2036	1	1	-0.188
2036	2036	1	2	-0.251
2036	2036	1	3	0.712
2036	2036	2	1	2.305
2036	2036	2	2	1.146
2036	2036	2	3	-0.751
2036	2036	3	1	2.305
2036	2036	3	2	1.146
2036	2036	3	3	-0.751
2036	2036	4	2	1.142
2036	2036	4	3	0.000
2036	2036	5	2	2.020
2036	2036	5	3	0.000
2036	2036	6	2	0.188
2036	2036	6	3	0.761
2037	2037	1	1	-0.232
2037	2037	1	2	-0.323

2037	2037	1	3	0.717
2037	2037	2	1	1.801
2037	2037	2	2	1.152
2037	2037	2	3	-0.441
2037	2037	3	1	1.801
2037	2037	3	2	1.152
2037	2037	3	3	-0.441
2037	2037	4	2	1.035
2037	2037	4	3	0.000
2037	2037	5	2	1.558
2037	2037	5	3	0.000
2037	2037	6	2	0.354
2037	2037	6	3	0.782
2038	2038	1	1	-0.236
2038	2038	1	2	-0.424
2038	2038	1	3	0.717
2038	2038	2	1	5.995
2038	2038	2	2	1.204
2038	2038	2	3	-0.217
2038	2038	3	1	5.995
2038	2038	3	2	1.204
2038	2038	3	3	-0.217
2038	2038	4	2	0.915
2038	2038	4	3	0.000
2038	2038	5	2	1.195
2038	2038	5	3	0.000
2038	2038	6	2	0.272
2038	2038	6	3	0.805
2039	2039	1	1	-0.233
2039	2039	1	2	-0.611
2039	2039	1	3	0.713
2039	2039	2	1	-0.357
2039	2039	2	2	0.702
2039	2039	2	3	0.021
2039	2039	3	1	-0.357
2039	2039	3	2	0.702
2039	2039	3	3	0.021
2039	2039	4	2	0.794
2039	2039	4	3	0.000
2039	2039	5	2	0.889
2039	2039	5	3	0.000
2039	2039	6	2	0.201
2039	2039	6	3	0.822
2040	2040	1	1	-0.203

2040	2040	1	2	-0.411
2040	2040	1	3	0.720
2040	2040	2	1	1.080
2040	2040	2	2	0.723
2040	2040	2	3	0.104
2040	2040	3	1	1.080
2040	2040	3	2	0.723
2040	2040	3	3	0.104
2040	2040	4	2	0.689
2040	2040	4	3	0.000
2040	2040	5	2	0.664
2040	2040	5	3	0.000
2040	2040	6	2	0.256
2040	2040	6	3	0.928
2041	2041	1	1	0.027
2041	2041	1	2	0.054
2041	2041	1	3	0.701
2041	2041	2	1	4.247
2041	2041	2	2	0.511
2041	2041	2	3	0.157
2041	2041	3	1	4.247
2041	2041	3	2	0.511
2041	2041	3	3	0.157
2041	2041	4	2	0.607
2041	2041	4	3	0.000
2041	2041	5	2	0.494
2041	2041	5	3	0.000
2041	2041	6	2	0.423
2041	2041	6	3	0.866
2042	2042	1	1	-0.082
2042	2042	1	2	-0.073
2042	2042	1	3	0.685
2042	2042	2	1	2.107
2042	2042	2	2	0.932
2042	2042	2	3	0.161
2042	2042	3	1	2.107
2042	2042	3	2	0.932
2042	2042	3	3	0.161
2042	2042	4	2	0.538
2042	2042	4	3	0.000
2042	2042	5	2	0.370
2042	2042	5	3	0.000
2042	2042	6	2	0.288
2042	2042	6	3	0.802

2043	2043	1	1	-0.107
2043	2043	1	2	-0.009
2043	2043	1	3	0.662
2043	2043	2	1	0.816
2043	2043	2	2	0.626
2043	2043	2	3	0.170
2043	2043	3	1	0.816
2043	2043	3	2	0.626
2043	2043	3	3	0.170
2043	2043	4	2	0.485
2043	2043	4	3	0.000
2043	2043	5	2	0.292
2043	2043	5	3	0.000
2043	2043	6	2	0.262
2043	2043	6	3	0.744
2044	2044	1	1	-0.075
2044	2044	1	2	-0.004
2044	2044	1	3	0.639
2044	2044	2	1	0.451
2044	2044	2	2	0.395
2044	2044	2	3	0.197
2044	2044	3	1	0.451
2044	2044	3	2	0.395
2044	2044	3	3	0.197
2044	2044	4	2	0.446
2044	2044	4	3	0.000
2044	2044	5	2	0.234
2044	2044	5	3	0.000
2044	2044	6	2	0.256
2044	2044	6	3	0.710
2045	2045	1	1	-0.046
2045	2045	1	2	-0.001
2045	2045	1	3	0.620
2045	2045	2	1	0.400
2045	2045	2	2	0.339
2045	2045	2	3	0.217
2045	2045	3	1	0.400
2045	2045	3	2	0.339
2045	2045	3	3	0.217
2045	2045	4	2	0.415
2045	2045	4	3	0.000
2045	2045	5	2	0.199
2045	2045	5	3	0.000
2045	2045	6	2	0.255

2045	2045	6	3	0.674
2046	2046	1	1	-0.022
2046	2046	1	2	0.000
2046	2046	1	3	0.603
2046	2046	2	1	1.958
2046	2046	2	2	1.266
2046	2046	2	3	0.233
2046	2046	3	1	1.958
2046	2046	3	2	1.266
2046	2046	3	3	0.233
2046	2046	4	2	0.425
2046	2046	4	3	0.000
2046	2046	5	2	0.214
2046	2046	5	3	0.000
2046	2046	6	2	0.248
2046	2046	6	3	0.634
2047	2047	1	1	-0.009
2047	2047	1	2	0.002
2047	2047	1	3	0.581
2047	2047	2	1	0.207
2047	2047	2	2	0.178
2047	2047	2	3	0.264
2047	2047	3	1	0.207
2047	2047	3	2	0.178
2047	2047	3	3	0.264
2047	2047	4	2	0.362
2047	2047	4	3	0.000
2047	2047	5	2	0.138
2047	2047	5	3	0.000
2047	2047	6	2	0.247
2047	2047	6	3	0.577
2048	2048	1	1	0.004
2048	2048	1	2	0.003
2048	2048	1	3	0.565
2048	2048	2	1	0.179
2048	2048	2	2	0.147
2048	2048	2	3	0.285
2048	2048	3	1	0.179
2048	2048	3	2	0.147
2048	2048	3	3	0.285
2048	2048	4	2	0.349
2048	2048	4	3	0.000
2048	2048	5	2	0.124
2048	2048	5	3	0.000

2048	2048	6	2	0.252
2048	2048	6	3	0.549
2049	2049	1	1	0.013
2049	2049	1	2	0.004
2049	2049	1	3	0.545
2049	2049	2	1	0.156
2049	2049	2	2	0.124
2049	2049	2	3	0.310
2049	2049	3	1	0.156
2049	2049	3	2	0.124
2049	2049	3	3	0.310
2049	2049	4	2	0.340
2049	2049	4	3	0.000
2049	2049	5	2	0.116
2049	2049	5	3	0.000
2049	2049	6	2	0.241
2049	2049	6	3	0.528
2050	2050	1	1	0.019
2050	2050	1	2	0.004
2050	2050	1	3	0.529
2050	2050	2	1	0.139
2050	2050	2	2	0.106
2050	2050	2	3	0.332
2050	2050	3	1	0.139
2050	2050	3	2	0.106
2050	2050	3	3	0.332
2050	2050	4	2	0.333
2050	2050	4	3	0.000
2050	2050	5	2	0.109
2050	2050	5	3	0.000
2050	2050	6	2	0.270
2050	2050	6	3	0.512
2051	2151	1	1	0.000
2051	2151	1	2	0.000
2051	2151	1	3	0.000
2051	2151	2	1	0.000
2051	2151	2	2	0.000
2051	2151	2	3	0.000
2051	2151	3	1	0.000
2051	2151	3	2	0.000
2051	2151	3	3	0.000
2051	2151	4	2	0.000
2051	2151	4	3	0.000
2051	2151	5	2	0.000

2051	2151	5	3	0.000
2051	2151	6	2	0.000
2051	2151	6	3	0.000

FUEL_EFFICIENCY - (std)

*% p.a.

*Start_yr	End_yr	veh_type	fuel_type	change
2011	2011	1	1	0.604
2011	2011	1	2	0.874
2011	2011	1	3	0.032
2011	2011	2	1	-0.168
2011	2011	2	2	0.177
2011	2011	2	3	0.000
2011	2011	3	1	-0.168
2011	2011	3	2	0.177
2011	2011	3	3	0.000
2011	2011	4	2	-0.113
2011	2011	5	2	0.011
2012	2012	1	1	0.285
2012	2012	1	2	0.975
2012	2012	1	3	-0.707
2012	2012	2	1	-0.630
2012	2012	2	2	0.468
2012	2012	2	3	0.000
2012	2012	3	1	-0.630
2012	2012	3	2	0.468
2012	2012	3	3	0.000
2012	2012	4	2	-2.932
2012	2012	5	2	0.288
2013	2013	1	1	0.891
2013	2013	1	2	0.920
2013	2013	1	3	0.085
2013	2013	2	1	0.031
2013	2013	2	2	0.107
2013	2013	2	3	0.000
2013	2013	3	1	0.031
2013	2013	3	2	0.107
2013	2013	3	3	0.000
2013	2013	4	2	0.475
2013	2013	5	2	0.068
2014	2014	1	1	0.979
2014	2014	1	2	0.945
2014	2014	1	3	-1.015
2014	2014	2	1	-0.518

2014	2014	2	2	0.057
2014	2014	2	3	-0.042
2014	2014	3	1	-0.518
2014	2014	3	2	0.057
2014	2014	3	3	-0.042
2014	2014	4	2	-1.038
2014	2014	5	2	0.144
2015	2015	1	1	1.281
2015	2015	1	2	1.319
2015	2015	1	3	-0.927
2015	2015	2	1	2.498
2015	2015	2	2	0.323
2015	2015	2	3	-0.454
2015	2015	3	1	2.498
2015	2015	3	2	0.323
2015	2015	3	3	-0.454
2015	2015	4	2	0.361
2015	2015	5	2	0.480
2016	2016	1	1	1.406
2016	2016	1	2	1.207
2016	2016	1	3	1.034
2016	2016	2	1	-0.062
2016	2016	2	2	0.705
2016	2016	2	3	0.340
2016	2016	3	1	-0.062
2016	2016	3	2	0.705
2016	2016	3	3	0.340
2016	2016	4	2	0.747
2016	2016	5	2	0.239
2017	2017	1	1	1.270
2017	2017	1	2	0.783
2017	2017	1	3	1.188
2017	2017	2	1	1.646
2017	2017	2	2	1.249
2017	2017	2	3	0.804
2017	2017	3	1	1.646
2017	2017	3	2	1.249
2017	2017	3	3	0.804
2017	2017	4	2	-0.771
2017	2017	5	2	0.316
2018	2018	1	1	1.029
2018	2018	1	2	0.063
2018	2018	1	3	1.035
2018	2018	2	1	3.029

2018	2018	2	2	0.770
2018	2018	2	3	0.708
2018	2018	3	1	3.029
2018	2018	3	2	0.770
2018	2018	3	3	0.708
2018	2018	4	2	-0.058
2018	2018	5	2	0.407
2019	2019	1	1	0.990
2019	2019	1	2	-0.041
2019	2019	1	3	2.359
2019	2019	2	1	1.141
2019	2019	2	2	0.522
2019	2019	2	3	2.118
2019	2019	3	1	1.141
2019	2019	3	2	0.522
2019	2019	3	3	2.118
2019	2019	4	2	0.247
2019	2019	5	2	0.388
2020	2020	1	1	2.680
2020	2020	1	2	1.323
2020	2020	1	3	2.699
2020	2020	2	1	1.842
2020	2020	2	2	1.432
2020	2020	2	3	-2.324
2020	2020	3	1	1.842
2020	2020	3	2	1.432
2020	2020	3	3	-2.324
2020	2020	4	2	0.341
2020	2020	5	2	0.470
2021	2021	1	1	2.289
2021	2021	1	2	1.469
2021	2021	1	3	5.660
2021	2021	2	1	1.283
2021	2021	2	2	1.165
2021	2021	2	3	-0.804
2021	2021	3	1	1.283
2021	2021	3	2	1.165
2021	2021	3	3	-0.804
2021	2021	4	2	0.484
2021	2021	5	2	0.523
2022	2022	1	1	2.080
2022	2022	1	2	1.497
2022	2022	1	3	3.960
2022	2022	2	1	2.960

2022	2022	2	2	1.102
2022	2022	2	3	-0.880
2022	2022	3	1	2.960
2022	2022	3	2	1.102
2022	2022	3	3	-0.880
2022	2022	4	2	0.491
2022	2022	5	2	0.531
2023	2023	1	1	1.895
2023	2023	1	2	1.393
2023	2023	1	3	2.637
2023	2023	2	1	1.045
2023	2023	2	2	0.925
2023	2023	2	3	-1.450
2023	2023	3	1	1.045
2023	2023	3	2	0.925
2023	2023	3	3	-1.450
2023	2023	4	2	0.500
2023	2023	5	2	0.548
2024	2024	1	1	1.891
2024	2024	1	2	1.258
2024	2024	1	3	2.035
2024	2024	2	1	1.277
2024	2024	2	2	0.822
2024	2024	2	3	-1.389
2024	2024	3	1	1.277
2024	2024	3	2	0.822
2024	2024	3	3	-1.389
2024	2024	4	2	0.490
2024	2024	5	2	0.544
2025	2025	1	1	1.650
2025	2025	1	2	1.164
2025	2025	1	3	1.843
2025	2025	2	1	2.913
2025	2025	2	2	1.999
2025	2025	2	3	-1.541
2025	2025	3	1	2.913
2025	2025	3	2	1.999
2025	2025	3	3	-1.541
2025	2025	4	2	0.918
2025	2025	5	2	1.864
2026	2026	1	1	1.468
2026	2026	1	2	1.107
2026	2026	1	3	1.211
2026	2026	2	1	2.351

2026	2026	2	2	1.780
2026	2026	2	3	-0.553
2026	2026	3	1	2.351
2026	2026	3	2	1.780
2026	2026	3	3	-0.553
2026	2026	4	2	0.900
2026	2026	5	2	1.854
2027	2027	1	1	1.372
2027	2027	1	2	1.130
2027	2027	1	3	0.922
2027	2027	2	1	3.660
2027	2027	2	2	1.600
2027	2027	2	3	-0.253
2027	2027	3	1	3.660
2027	2027	3	2	1.600
2027	2027	3	3	-0.253
2027	2027	4	2	0.874
2027	2027	5	2	1.767
2028	2028	1	1	1.234
2028	2028	1	2	1.148
2028	2028	1	3	0.747
2028	2028	2	1	1.853
2028	2028	2	2	1.433
2028	2028	2	3	0.019
2028	2028	3	1	1.853
2028	2028	3	2	1.433
2028	2028	3	3	0.019
2028	2028	4	2	0.846
2028	2028	5	2	1.644
2029	2029	1	1	1.110
2029	2029	1	2	1.140
2029	2029	1	3	0.694
2029	2029	2	1	1.699
2029	2029	2	2	1.299
2029	2029	2	3	0.258
2029	2029	3	1	1.699
2029	2029	3	2	1.299
2029	2029	3	3	0.258
2029	2029	4	2	0.808
2029	2029	5	2	1.531
2030	2030	1	1	2.306
2030	2030	1	2	2.305
2030	2030	1	3	0.690
2030	2030	2	1	3.530

2030	2030	2	2	2.726
2030	2030	2	3	0.398
2030	2030	3	1	3.530
2030	2030	3	2	2.726
2030	2030	3	3	0.398
2030	2030	4	2	1.394
2030	2030	5	2	3.225
2031	2031	1	1	2.230
2031	2031	1	2	2.375
2031	2031	1	3	0.571
2031	2031	2	1	1.740
2031	2031	2	2	2.564
2031	2031	2	3	0.251
2031	2031	3	1	1.740
2031	2031	3	2	2.564
2031	2031	3	3	0.251
2031	2031	4	2	1.307
2031	2031	5	2	3.126
2032	2032	1	1	2.088
2032	2032	1	2	2.387
2032	2032	1	3	0.492
2032	2032	2	1	2.870
2032	2032	2	2	2.133
2032	2032	2	3	0.170
2032	2032	3	1	2.870
2032	2032	3	2	2.133
2032	2032	3	3	0.170
2032	2032	4	2	1.294
2032	2032	5	2	2.946
2033	2033	1	1	2.021
2033	2033	1	2	2.185
2033	2033	1	3	0.435
2033	2033	2	1	2.820
2033	2033	2	2	2.016
2033	2033	2	3	0.145
2033	2033	3	1	2.820
2033	2033	3	2	2.016
2033	2033	3	3	0.145
2033	2033	4	2	1.240
2033	2033	5	2	2.667
2034	2034	1	1	1.933
2034	2034	1	2	1.998
2034	2034	1	3	0.405
2034	2034	2	1	3.326

2034	2034	2	2	1.646
2034	2034	2	3	0.151
2034	2034	3	1	3.326
2034	2034	3	2	1.646
2034	2034	3	3	0.151
2034	2034	4	2	1.176
2034	2034	5	2	2.450
2035	2035	1	1	1.795
2035	2035	1	2	1.826
2035	2035	1	3	0.374
2035	2035	2	1	-0.177
2035	2035	2	2	1.517
2035	2035	2	3	0.162
2035	2035	3	1	-0.177
2035	2035	3	2	1.517
2035	2035	3	3	0.162
2035	2035	4	2	1.110
2035	2035	5	2	2.072
2036	2036	1	1	1.602
2036	2036	1	2	1.723
2036	2036	1	3	0.362
2036	2036	2	1	1.873
2036	2036	2	2	1.401
2036	2036	2	3	0.192
2036	2036	3	1	1.873
2036	2036	3	2	1.401
2036	2036	3	3	0.192
2036	2036	4	2	1.026
2036	2036	5	2	1.652
2037	2037	1	1	1.499
2037	2037	1	2	1.565
2037	2037	1	3	0.374
2037	2037	2	1	1.484
2037	2037	2	2	1.325
2037	2037	2	3	0.232
2037	2037	3	1	1.484
2037	2037	3	2	1.325
2037	2037	3	3	0.232
2037	2037	4	2	0.935
2037	2037	5	2	1.356
2038	2038	1	1	1.372
2038	2038	1	2	1.357
2038	2038	1	3	0.386
2038	2038	2	1	2.766

2038	2038	2	2	1.280
2038	2038	2	3	0.263
2038	2038	3	1	2.766
2038	2038	3	2	1.280
2038	2038	3	3	0.263
2038	2038	4	2	0.848
2038	2038	5	2	1.046
2039	2039	1	1	1.233
2039	2039	1	2	1.098
2039	2039	1	3	0.402
2039	2039	2	1	0.398
2039	2039	2	2	0.831
2039	2039	2	3	0.296
2039	2039	3	1	0.398
2039	2039	3	2	0.831
2039	2039	3	3	0.296
2039	2039	4	2	0.758
2039	2039	5	2	0.806
2040	2040	1	1	1.198
2040	2040	1	2	1.161
2040	2040	1	3	0.342
2040	2040	2	1	0.753
2040	2040	2	2	0.771
2040	2040	2	3	0.329
2040	2040	3	1	0.753
2040	2040	3	2	0.771
2040	2040	3	3	0.329
2040	2040	4	2	0.660
2040	2040	5	2	0.599
2041	2041	1	1	1.300
2041	2041	1	2	1.581
2041	2041	1	3	0.360
2041	2041	2	1	1.010
2041	2041	2	2	1.026
2041	2041	2	3	0.390
2041	2041	3	1	1.010
2041	2041	3	2	1.026
2041	2041	3	3	0.390
2041	2041	4	2	0.582
2041	2041	5	2	0.436
2042	2042	1	1	0.879
2042	2042	1	2	0.843
2042	2042	1	3	0.374
2042	2042	2	1	0.496

2042	2042	2	2	0.525
2042	2042	2	3	0.477
2042	2042	3	1	0.496
2042	2042	3	2	0.525
2042	2042	3	3	0.477
2042	2042	4	2	0.512
2042	2042	5	2	0.335
2043	2043	1	1	0.765
2043	2043	1	2	0.693
2043	2043	1	3	0.385
2043	2043	2	1	0.415
2043	2043	2	2	0.437
2043	2043	2	3	0.533
2043	2043	3	1	0.415
2043	2043	3	2	0.437
2043	2043	3	3	0.533
2043	2043	4	2	0.451
2043	2043	5	2	0.259
2044	2044	1	1	0.624
2044	2044	1	2	0.557
2044	2044	1	3	0.405
2044	2044	2	1	0.345
2044	2044	2	2	0.357
2044	2044	2	3	0.581
2044	2044	3	1	0.345
2044	2044	3	2	0.357
2044	2044	3	3	0.581
2044	2044	4	2	0.404
2044	2044	5	2	0.202
2045	2045	1	1	0.483
2045	2045	1	2	0.421
2045	2045	1	3	0.407
2045	2045	2	1	0.285
2045	2045	2	2	0.288
2045	2045	2	3	0.623
2045	2045	3	1	0.285
2045	2045	3	2	0.288
2045	2045	3	3	0.623
2045	2045	4	2	0.365
2045	2045	5	2	0.160
2046	2046	1	1	0.320
2046	2046	1	2	0.344
2046	2046	1	3	0.428
2046	2046	2	1	0.652

2046	2046	2	2	0.858
2046	2046	2	3	0.645
2046	2046	3	1	0.652
2046	2046	3	2	0.858
2046	2046	3	3	0.645
2046	2046	4	2	0.374
2046	2046	5	2	0.157
2047	2047	1	1	0.238
2047	2047	1	2	0.257
2047	2047	1	3	0.441
2047	2047	2	1	0.150
2047	2047	2	2	0.136
2047	2047	2	3	0.686
2047	2047	3	1	0.150
2047	2047	3	2	0.136
2047	2047	3	3	0.686
2047	2047	4	2	0.304
2047	2047	5	2	0.087
2048	2048	1	1	0.179
2048	2048	1	2	0.195
2048	2048	1	3	0.452
2048	2048	2	1	0.126
2048	2048	2	2	0.108
2048	2048	2	3	0.717
2048	2048	3	1	0.126
2048	2048	3	2	0.108
2048	2048	3	3	0.717
2048	2048	4	2	0.288
2048	2048	5	2	0.074
2049	2049	1	1	0.135
2049	2049	1	2	0.148
2049	2049	1	3	0.461
2049	2049	2	1	0.106
2049	2049	2	2	0.087
2049	2049	2	3	0.745
2049	2049	3	1	0.106
2049	2049	3	2	0.087
2049	2049	3	3	0.745
2049	2049	4	2	0.275
2049	2049	5	2	0.062
2050	2050	1	1	0.103
2050	2050	1	2	0.114
2050	2050	1	3	0.472
2050	2050	2	1	0.091

2050	2050	2	2	0.072
2050	2050	2	3	0.770
2050	2050	3	1	0.091
2050	2050	3	2	0.072
2050	2050	3	3	0.770
2050	2050	4	2	0.266
2050	2050	5	2	0.055
2051	2151	1	1	0.000
2051	2151	1	2	0.000
2051	2151	1	3	0.000
2051	2151	2	1	0.000
2051	2151	2	2	0.000
2051	2151	2	3	0.000
2051	2151	3	1	0.000
2051	2151	3	2	0.000
2051	2151	3	3	0.000
2051	2151	4	2	0.000
2051	2151	5	2	0.000
2011	2151	6	2	0.000

INPUT_SUMMARY

Run name TUBA-1_White_Post_Costs_FBC_OB_20_Perc_V3
DM scheme DM
DS scheme DS

Economic parameter file L:\60625845_A614 MRN DFT responses\2023_Draft_FBC\TUBA\Economics_TAG_db1_20_2.txt
Scheme parameter file L:\60625845_A614 MRN DFT responses\2023_Draft_FBC\TUBA\MasterFile -White_Post_cost_only_Draft_FBC_OB_20_Percent_V3.txt

First year of scheme costs 2023
First Appraisal Year 2023
Last Appraisal Year 2082
Modelled years 2023 2037

Time period Total hours
AM peak 648
PM peak 667
Inter-peak 2997
Off-peak 4438
Total 8750

Note: All monetary values are in 2010 market prices. All monetary values discounted to 2010 unless otherwise stated.

DM_SCHEME_COSTS

Road	2045	0	0	0	0	0	0	0	0
Road	2046	0	0	0	0	0	0	0	0
Road	2047	0	0	0	0	0	0	0	0
Road	2048	0	0	0	0	0	0	0	0
Road	2049	0	0	0	0	0	0	0	0
Road	2050	0	0	0	0	0	0	0	0
Road	2051	0	0	0	0	0	0	0	0
Road	2052	0	0	0	0	0	0	0	0
Road	2053	0	0	0	0	0	0	0	0
Road	2054	0	0	0	0	0	0	0	0
Road	2055	0	0	0	0	0	0	0	0
Road	2056	0	0	0	0	0	0	0	0
Road	2057	0	0	0	0	0	0	0	0
Road	2058	0	0	0	0	0	0	0	0
Road	2059	0	0	0	0	0	0	0	0
Road	2060	0	0	0	0	0	0	0	0
Road	2061	0	0	0	0	0	0	0	0
Road	2062	0	0	0	0	0	0	0	0
Road	2063	0	0	0	0	0	0	0	0
Road	2064	0	0	0	0	0	0	0	0
Road	2065	0	0	0	0	0	0	0	0
Road	2066	0	0	0	0	0	0	0	0
Road	2067	0	0	0	0	0	0	0	0
Road	2068	0	0	0	0	0	0	0	0
Road	2069	0	0	0	0	0	0	0	0
Road	2070	0	0	0	0	0	0	0	0
Road	2071	0	0	0	0	0	0	0	0
Road	2072	0	0	0	0	0	0	0	0
Road	2073	0	0	0	0	0	0	0	0
Road	2074	0	0	0	0	0	0	0	0
Road	2075	0	0	0	0	0	0	0	0
Road	2076	0	0	0	0	0	0	0	0
Road	2077	0	0	0	0	0	0	0	0
Road	2078	0	0	0	0	0	0	0	0
Road	2079	0	0	0	0	0	0	0	0
Road	2080	0	0	0	0	0	0	0	0
Road	2081	0	0	0	0	0	0	0	0
Road	2082	0	0	0	0	0	0	0	0

PRESENT_VALUE_COSTS

Scheme investment and operating costs (i.e. excluding grant/subsidy, developer contributions and delays) and differences. £000s.

Mode	Year	DM_scheme_costs	DS_scheme_costs	Difference
Road	2023	0	8	8
Road	2024	0	126	126

Road	2025	0	0	0
Road	2026	0	0	0
Road	2027	0	0	0
Road	2028	0	0	0
Road	2029	0	0	0
Road	2030	0	0	0
Road	2031	0	0	0
Road	2032	0	0	0
Road	2033	0	0	0
Road	2034	0	0	0
Road	2035	0	0	0
Road	2036	0	0	0
Road	2037	0	0	0
Road	2038	0	0	0
Road	2039	0	0	0
Road	2040	0	0	0
Road	2041	0	0	0
Road	2042	0	0	0
Road	2043	0	0	0
Road	2044	0	0	0
Road	2045	0	0	0
Road	2046	0	0	0
Road	2047	0	0	0
Road	2048	0	0	0
Road	2049	0	0	0
Road	2050	0	0	0
Road	2051	0	0	0
Road	2052	0	0	0
Road	2053	0	0	0
Road	2054	0	0	0
Road	2055	0	0	0
Road	2056	0	0	0
Road	2057	0	0	0
Road	2058	0	0	0
Road	2059	0	0	0
Road	2060	0	0	0
Road	2061	0	0	0
Road	2062	0	0	0
Road	2063	0	0	0
Road	2064	0	0	0
Road	2065	0	0	0
Road	2066	0	0	0
Road	2067	0	0	0
Road	2068	0	0	0

Road	2069	0	0	0
Road	2070	0	0	0
Road	2071	0	0	0
Road	2072	0	0	0
Road	2073	0	0	0
Road	2074	0	0	0
Road	2075	0	0	0
Road	2076	0	0	0
Road	2077	0	0	0
Road	2078	0	0	0
Road	2079	0	0	0
Road	2080	0	0	0
Road	2081	0	0	0
Road	2082	0	0	0
Road	Total	0	134	134

TRIP_MATRIX_TOTALS

Annualised total trip numbers(thousands)

Submode	Year	Time period	DO MIN	DO SOM
Car	2023	AM peak	0	0
Car	2023	PM peak	0	0
Car	2023	Inter-peak	0	0
Car	2023	Off-peak	0	0
Car	2023	All	0	0
Car	2037	AM peak	0	0
Car	2037	PM peak	0	0
Car	2037	Inter-peak	0	0
Car	2037	Off-peak	0	0
Car	2037	All	0	0
LGV Personal	2023	AM peak	0	0
LGV Personal	2023	PM peak	0	0
LGV Personal	2023	Inter-peak	0	0
LGV Personal	2023	Off-peak	0	0
LGV Personal	2023	All	0	0
LGV Personal	2037	AM peak	0	0
LGV Personal	2037	PM peak	0	0
LGV Personal	2037	Inter-peak	0	0
LGV Personal	2037	Off-peak	0	0
LGV Personal	2037	All	0	0
LGV Freight	2023	AM peak	0	0
LGV Freight	2023	PM peak	0	0
LGV Freight	2023	Inter-peak	0	0
LGV Freight	2023	Off-peak	0	0
LGV Freight	2023	All	0	0

LGV Freight	2037 AM peak	0	0
LGV Freight	2037 PM peak	0	0
LGV Freight	2037 Inter-peak	0	0
LGV Freight	2037 Off-peak	0	0
LGV Freight	2037 All	0	0
OGV1	2023 AM peak	0	0
OGV1	2023 PM peak	0	0
OGV1	2023 Inter-peak	0	0
OGV1	2023 Off-peak	0	0
OGV1	2023 All	0	0
OGV1	2037 AM peak	0	0
OGV1	2037 PM peak	0	0
OGV1	2037 Inter-peak	0	0
OGV1	2037 Off-peak	0	0
OGV1	2037 All	0	0
OGV2	2023 AM peak	0	0
OGV2	2023 PM peak	0	0
OGV2	2023 Inter-peak	0	0
OGV2	2023 Off-peak	0	0
OGV2	2023 All	0	0
OGV2	2037 AM peak	0	0
OGV2	2037 PM peak	0	0
OGV2	2037 Inter-peak	0	0
OGV2	2037 Off-peak	0	0
OGV2	2037 All	0	0
All	2023 AM peak	0	0
All	2023 PM peak	0	0
All	2023 Inter-peak	0	0
All	2023 Off-peak	0	0
All	2023 All	0	0
All	2037 AM peak	0	0
All	2037 PM peak	0	0
All	2037 Inter-peak	0	0
All	2037 Off-peak	0	0
All	2037 All	0	0

DM&DS_USER_COSTS

Total value of user costs, DM and DS. £000s.

Mode	Year	DMtot_time	DMtot_charge	DMtot_fuel	DMtot_nonfuel	DStot_time	DStot_charge	DStot_fuel	DStot_nonfuel
Road	2023	0	0	0	0	0	0	0	0
Road	2037	0	0	0	0	0	0	0	0

FUEL_CONSUMPTION

Total fuel consumption, DM and DS. kilounits.

MODE

User benefits and changes in revenues by mode, all years. £000s.

Mode	Year	User	User_Charges	Vehicle_Operating_Cost		Operator_Rev	Indirect
		Time	PT_fares_(pri)	Fuel	Non_fuel	PT_fares_(pri)	
Road	2023	0	0	0	0	0	0
Road	2024	0	0	0	0	0	0
Road	2025	0	0	0	0	0	0
Road	2026	0	0	0	0	0	0
Road	2027	0	0	0	0	0	0
Road	2028	0	0	0	0	0	0
Road	2029	0	0	0	0	0	0
Road	2030	0	0	0	0	0	0
Road	2031	0	0	0	0	0	0
Road	2032	0	0	0	0	0	0
Road	2033	0	0	0	0	0	0
Road	2034	0	0	0	0	0	0
Road	2035	0	0	0	0	0	0
Road	2036	0	0	0	0	0	0
Road	2037	0	0	0	0	0	0
Road	2038	0	0	0	0	0	0
Road	2039	0	0	0	0	0	0
Road	2040	0	0	0	0	0	0
Road	2041	0	0	0	0	0	0
Road	2042	0	0	0	0	0	0
Road	2043	0	0	0	0	0	0
Road	2044	0	0	0	0	0	0
Road	2045	0	0	0	0	0	0
Road	2046	0	0	0	0	0	0
Road	2047	0	0	0	0	0	0
Road	2048	0	0	0	0	0	0
Road	2049	0	0	0	0	0	0
Road	2050	0	0	0	0	0	0
Road	2051	0	0	0	0	0	0
Road	2052	0	0	0	0	0	0
Road	2053	0	0	0	0	0	0
Road	2054	0	0	0	0	0	0
Road	2055	0	0	0	0	0	0
Road	2056	0	0	0	0	0	0
Road	2057	0	0	0	0	0	0
Road	2058	0	0	0	0	0	0
Road	2059	0	0	0	0	0	0
Road	2060	0	0	0	0	0	0
Road	2061	0	0	0	0	0	0
Road	2062	0	0	0	0	0	0

Road	2063	0	0	0	0	0	0
Road	2064	0	0	0	0	0	0
Road	2065	0	0	0	0	0	0
Road	2066	0	0	0	0	0	0
Road	2067	0	0	0	0	0	0
Road	2068	0	0	0	0	0	0
Road	2069	0	0	0	0	0	0
Road	2070	0	0	0	0	0	0
Road	2071	0	0	0	0	0	0
Road	2072	0	0	0	0	0	0
Road	2073	0	0	0	0	0	0
Road	2074	0	0	0	0	0	0
Road	2075	0	0	0	0	0	0
Road	2076	0	0	0	0	0	0
Road	2077	0	0	0	0	0	0
Road	2078	0	0	0	0	0	0
Road	2079	0	0	0	0	0	0
Road	2080	0	0	0	0	0	0
Road	2081	0	0	0	0	0	0
Road	2082	0	0	0	0	0	0
Road	Total	0	0	0	0	0	0

SUBMODE

User benefits and changes in revenues by submode/vehicle type, modelled years and total. £000s.

Submode	Year	User	User_Charges	Vehicle_Operating_Cost		Operator_Rev	Indirect
		Time	PT_fares_(pri)	Fuel	Non_fuel	PT_fares_(pri)	
Car	2023	0	0	0	0	0	0
Car	2037	0	0	0	0	0	0
LGV Personal	2023	0	0	0	0	0	0
LGV Personal	2037	0	0	0	0	0	0
LGV Freight	2023	0	0	0	0	0	0
LGV Freight	2037	0	0	0	0	0	0
OGV1	2023	0	0	0	0	0	0
OGV1	2037	0	0	0	0	0	0
OGV2	2023	0	0	0	0	0	0
OGV2	2037	0	0	0	0	0	0
All	2023	0	0	0	0	0	0
All	2037	0	0	0	0	0	0
Car	Total	0	0	0	0	0	0
LGV Personal	Total	0	0	0	0	0	0
LGV Freight	Total	0	0	0	0	0	0
OGV1	Total	0	0	0	0	0	0
OGV2	Total	0	0	0	0	0	0
All	Total	0	0	0	0	0	0

PERSON_TYPES

User benefits and changes in revenues by person type, modelled years and total. £000s.

Person_type	Year	User	User_Charges	Vehicle_Operating_Cost		Operator_Rev	Indirect
		Time	PT_fares_(pri)	Fuel	Non_fuel	PT_fares_(pri)	
All	2023	0	0	0	0	0	0
All	2037	0	0	0	0	0	0
All	Total	0	0	0	0	0	0

PURPOSE

User benefits and changes in revenues by trip purpose, modelled years and total. £000s.

Purpose	Year	User	User_Charges	Vehicle_Operating_Cost		Operator_Rev	Indirect
		Time	PT_fares_(pri)	Fuel	Non_fuel	PT_fares_(pri)	
Business	2023	0	0	0	0	0	0
Business	2037	0	0	0	0	0	0
Commuting	2023	0	0	0	0	0	0
Commuting	2037	0	0	0	0	0	0
Other	2023	0	0	0	0	0	0
Other	2037	0	0	0	0	0	0
Business	Total	0	0	0	0	0	0
Commuting	Total	0	0	0	0	0	0
Other	Total	0	0	0	0	0	0

PERIOD

User benefits and changes in revenues by time period, modelled years and total. £000s.

Period	Year	User	User_Charges	Vehicle_Operating_Cost		Operator_Rev	Indirect
		Time	PT_fares_(pri)	Fuel	Non_fuel	PT_fares_(pri)	
AM peak	2023	0	0	0	0	0	0
AM peak	2037	0	0	0	0	0	0
PM peak	2023	0	0	0	0	0	0
PM peak	2037	0	0	0	0	0	0
Inter-peak	2023	0	0	0	0	0	0
Inter-peak	2037	0	0	0	0	0	0
Off-peak	2023	0	0	0	0	0	0
Off-peak	2037	0	0	0	0	0	0
AM peak	Total	0	0	0	0	0	0
PM peak	Total	0	0	0	0	0	0
Inter-peak	Total	0	0	0	0	0	0
Off-peak	Total	0	0	0	0	0	0

NON MONETISED TIME BENEFITS BY TIME SAVING

Time benefits (thousands of person hrs) by size of time saving

Vehicle type	Purpose	Year	< -5 mins	-5 to -2 mins	-2 to 0 mins	0 to 2 mins	2 to 5 mins	> 5 mins
Car	Business	2023	0	0	0	0	0	0

Car	Business	2037	0	0	0	0	0	0
Car	Business	Total	0	0	0	0	0	0
Car	Commuting	2023	0	0	0	0	0	0
Car	Commuting	2037	0	0	0	0	0	0
Car	Commuting	Total	0	0	0	0	0	0
Car	Other	2023	0	0	0	0	0	0
Car	Other	2037	0	0	0	0	0	0
Car	Other	Total	0	0	0	0	0	0
LGV Personal	Business	2023	0	0	0	0	0	0
LGV Personal	Business	2037	0	0	0	0	0	0
LGV Personal	Business	Total	0	0	0	0	0	0
LGV Personal	Commuting	2023	0	0	0	0	0	0
LGV Personal	Commuting	2037	0	0	0	0	0	0
LGV Personal	Commuting	Total	0	0	0	0	0	0
LGV Personal	Other	2023	0	0	0	0	0	0
LGV Personal	Other	2037	0	0	0	0	0	0
LGV Personal	Other	Total	0	0	0	0	0	0
LGV Freight	Business	2023	0	0	0	0	0	0
LGV Freight	Business	2037	0	0	0	0	0	0
LGV Freight	Business	Total	0	0	0	0	0	0
LGV Freight	Commuting	2023	0	0	0	0	0	0
LGV Freight	Commuting	2037	0	0	0	0	0	0
LGV Freight	Commuting	Total	0	0	0	0	0	0
LGV Freight	Other	2023	0	0	0	0	0	0
LGV Freight	Other	2037	0	0	0	0	0	0
LGV Freight	Other	Total	0	0	0	0	0	0
OGV1	Business	2023	0	0	0	0	0	0
OGV1	Business	2037	0	0	0	0	0	0
OGV1	Business	Total	0	0	0	0	0	0
OGV1	Commuting	2023	0	0	0	0	0	0
OGV1	Commuting	2037	0	0	0	0	0	0
OGV1	Commuting	Total	0	0	0	0	0	0
OGV1	Other	2023	0	0	0	0	0	0
OGV1	Other	2037	0	0	0	0	0	0
OGV1	Other	Total	0	0	0	0	0	0
OGV2	Business	2023	0	0	0	0	0	0
OGV2	Business	2037	0	0	0	0	0	0
OGV2	Business	Total	0	0	0	0	0	0
OGV2	Commuting	2023	0	0	0	0	0	0
OGV2	Commuting	2037	0	0	0	0	0	0
OGV2	Commuting	Total	0	0	0	0	0	0
OGV2	Other	2023	0	0	0	0	0	0
OGV2	Other	2037	0	0	0	0	0	0
OGV2	Other	Total	0	0	0	0	0	0

MONETISED TIME BENEFITS BY TIME SAVING

Time benefits (£000s) by size of time saving

Vehicle type	Purpose	Year	< -5 mins	-5 to -2 mins	-2 to 0 mins	0 to 2 mins	2 to 5 mins	> 5 mins
Car	Business	2023	0	0	0	0	0	0
Car	Business	2037	0	0	0	0	0	0
Car	Business	Total	0	0	0	0	0	0
Car	Commuting	2023	0	0	0	0	0	0
Car	Commuting	2037	0	0	0	0	0	0
Car	Commuting	Total	0	0	0	0	0	0
Car	Other	2023	0	0	0	0	0	0
Car	Other	2037	0	0	0	0	0	0
Car	Other	Total	0	0	0	0	0	0
LGV Personal	Business	2023	0	0	0	0	0	0
LGV Personal	Business	2037	0	0	0	0	0	0
LGV Personal	Business	Total	0	0	0	0	0	0
LGV Personal	Commuting	2023	0	0	0	0	0	0
LGV Personal	Commuting	2037	0	0	0	0	0	0
LGV Personal	Commuting	Total	0	0	0	0	0	0
LGV Personal	Other	2023	0	0	0	0	0	0
LGV Personal	Other	2037	0	0	0	0	0	0
LGV Personal	Other	Total	0	0	0	0	0	0
LGV Freight	Business	2023	0	0	0	0	0	0
LGV Freight	Business	2037	0	0	0	0	0	0
LGV Freight	Business	Total	0	0	0	0	0	0
LGV Freight	Commuting	2023	0	0	0	0	0	0
LGV Freight	Commuting	2037	0	0	0	0	0	0
LGV Freight	Commuting	Total	0	0	0	0	0	0
LGV Freight	Other	2023	0	0	0	0	0	0
LGV Freight	Other	2037	0	0	0	0	0	0
LGV Freight	Other	Total	0	0	0	0	0	0
OGV1	Business	2023	0	0	0	0	0	0
OGV1	Business	2037	0	0	0	0	0	0
OGV1	Business	Total	0	0	0	0	0	0
OGV1	Commuting	2023	0	0	0	0	0	0
OGV1	Commuting	2037	0	0	0	0	0	0
OGV1	Commuting	Total	0	0	0	0	0	0
OGV1	Other	2023	0	0	0	0	0	0
OGV1	Other	2037	0	0	0	0	0	0
OGV1	Other	Total	0	0	0	0	0	0
OGV2	Business	2023	0	0	0	0	0	0
OGV2	Business	2037	0	0	0	0	0	0
OGV2	Business	Total	0	0	0	0	0	0
OGV2	Commuting	2023	0	0	0	0	0	0

OGV2	Commuting	2037	0	0	0	0	0	0
OGV2	Commuting	Total	0	0	0	0	0	0
OGV2	Other	2023	0	0	0	0	0	0
OGV2	Other	2037	0	0	0	0	0	0
OGV2	Other	Total	0	0	0	0	0	0

TOTAL BENEFITS BY TIME SAVING

Total benefits (£000s) by size of time saving

Vehicle type	Purpose	Year	< -5 mins	-5 to -2 mins	-2 to 0 mins	0 to 2 mins	2 to 5 mins	> 5 mins
Car	Business	2023	0	0	0	0	0	0
Car	Business	2037	0	0	0	0	0	0
Car	Business	Total	0	0	0	0	0	0
Car	Commuting	2023	0	0	0	0	0	0
Car	Commuting	2037	0	0	0	0	0	0
Car	Commuting	Total	0	0	0	0	0	0
Car	Other	2023	0	0	0	0	0	0
Car	Other	2037	0	0	0	0	0	0
Car	Other	Total	0	0	0	0	0	0
LGV Personal	Business	2023	0	0	0	0	0	0
LGV Personal	Business	2037	0	0	0	0	0	0
LGV Personal	Business	Total	0	0	0	0	0	0
LGV Personal	Commuting	2023	0	0	0	0	0	0
LGV Personal	Commuting	2037	0	0	0	0	0	0
LGV Personal	Commuting	Total	0	0	0	0	0	0
LGV Personal	Other	2023	0	0	0	0	0	0
LGV Personal	Other	2037	0	0	0	0	0	0
LGV Personal	Other	Total	0	0	0	0	0	0
LGV Freight	Business	2023	0	0	0	0	0	0
LGV Freight	Business	2037	0	0	0	0	0	0
LGV Freight	Business	Total	0	0	0	0	0	0
LGV Freight	Commuting	2023	0	0	0	0	0	0
LGV Freight	Commuting	2037	0	0	0	0	0	0
LGV Freight	Commuting	Total	0	0	0	0	0	0
LGV Freight	Other	2023	0	0	0	0	0	0
LGV Freight	Other	2037	0	0	0	0	0	0
LGV Freight	Other	Total	0	0	0	0	0	0
OGV1	Business	2023	0	0	0	0	0	0
OGV1	Business	2037	0	0	0	0	0	0
OGV1	Business	Total	0	0	0	0	0	0
OGV1	Commuting	2023	0	0	0	0	0	0
OGV1	Commuting	2037	0	0	0	0	0	0
OGV1	Commuting	Total	0	0	0	0	0	0
OGV1	Other	2023	0	0	0	0	0	0
OGV1	Other	2037	0	0	0	0	0	0

LGV Freight	Business	Total	0	0	0	0	0	0	0	0
LGV Freight	Commuting	2023	0	0	0	0	0	0	0	0
LGV Freight	Commuting	2037	0	0	0	0	0	0	0	0
LGV Freight	Commuting	Total	0	0	0	0	0	0	0	0
LGV Freight	Other	2023	0	0	0	0	0	0	0	0
LGV Freight	Other	2037	0	0	0	0	0	0	0	0
LGV Freight	Other	Total	0	0	0	0	0	0	0	0
OGV1	Business	2023	0	0	0	0	0	0	0	0
OGV1	Business	2037	0	0	0	0	0	0	0	0
OGV1	Business	Total	0	0	0	0	0	0	0	0
OGV1	Commuting	2023	0	0	0	0	0	0	0	0
OGV1	Commuting	2037	0	0	0	0	0	0	0	0
OGV1	Commuting	Total	0	0	0	0	0	0	0	0
OGV1	Other	2023	0	0	0	0	0	0	0	0
OGV1	Other	2037	0	0	0	0	0	0	0	0
OGV1	Other	Total	0	0	0	0	0	0	0	0
OGV2	Business	2023	0	0	0	0	0	0	0	0
OGV2	Business	2037	0	0	0	0	0	0	0	0
OGV2	Business	Total	0	0	0	0	0	0	0	0
OGV2	Commuting	2023	0	0	0	0	0	0	0	0
OGV2	Commuting	2037	0	0	0	0	0	0	0	0
OGV2	Commuting	Total	0	0	0	0	0	0	0	0
OGV2	Other	2023	0	0	0	0	0	0	0	0
OGV2	Other	2037	0	0	0	0	0	0	0	0
OGV2	Other	Total	0	0	0	0	0	0	0	0

SENSITIVITY

Total user benefits as a percentage of total DM user costs

Modelled Years		
Mode	2023	2037
Road	0.00%	0.00%

Economy:Economic Efficiency of the Transport System (TEE)

Consumer - Commuting user benefits	All Modes	Road
Travel Time	0	0
Vehicle operating costs	0	0
User charges	0	0
During Construction & Maintenance	0	0
NET CONSUMER - COMMUTING BENEFITS	0	0

Consumer - Other user benefits	All Modes	Road
Travel Time	0	0
Vehicle operating costs	0	0

User charges	0	0	
During Construction & Maintenance	0	0	0
NET CONSUMER - OTHER BENEFITS	0	0	0

Business	All Modes	Road Personal	Road Freight
Travel Time	0	0	0
Vehicle operating costs	0	0	0
User charges	0	0	0
During Construction & Maintenance	0	0	0
Subtotal	0	0	0

Private Sector Provider Impacts

Revenue	0	0
Operating costs	0	0
Investment costs	0	0
Grant/subsidy	0	0
Subtotal	0	0

Other business Impacts

Developer contributions	0	0
NET BUSINESS IMPACT	0	

TOTAL

Present Value of Transport Economic

Efficiency Benefits (TEE)	0
---------------------------	---

Note: Benefits appear as positive numbers, while costs appear as negative numbers.

Note: All entries are present values discounted to 2010, in 2010 prices

Public Accounts

Local Government Funding	ALL MODES	Road
Revenue	0	0
Operating Costs	0	0
Investment Costs	20	20
Developer Contributions	0	0
Grant/Subsidy Payments	0	0
NET IMPACT	20	20

Central Government Funding: Transport

	ALL MODES	Road
Revenue	0	0
Operating costs	0	0
Investment costs	114	114
Developer Contributions	0	0
Grant/Subsidy Payments	0	0

NET IMPACT 114 114

Central Government Funding: Non-Transport

Indirect Tax Revenues 0 0

TOTALS

Broad Transport Budget 134 134

Wider Public Finances 0 0

Note: Costs appear as positive numbers, while revenues and developer contributions appear as negative numbers.

Note: All entries are present values discounted to 2010, in 2010 prices

Analysis of Monetised Costs and Benefits

Greenhouse Gases 0

Economic Efficiency: Consumer Users (Commuting) 0

Economic Efficiency: Consumer Users (Other) 0

Economic Efficiency: Business Users and Providers 0

Wider Public Finances (Indirect Taxation Revenues) 0

Present Value of Benefits (PVB) 0

Broad Transport Budget 134

Present Value of Costs (PVC) 134

OVERALL IMPACTS

Net Present Value (NPV) -134

Benefit to Cost Ratio (BCR) 0.000

Note: This table includes costs and benefits which are regularly or occasionally presented in monetised form in transport appraisals, together with some where monetisation is in prospect. There may also be other significant costs and benefits, some of which cannot be presented in monetised form. Where this is the case, the analysis presented above does NOT provide a good measure of value for money and should not be used as the sole basis for decisions.

TUBA Run Information

- calculations completed

File Summary

* Run Name : TUBA-1_White_Post_Costs_FBC_OB_20_Perc_V3

* Scheme File : L:\60625845_A614 MRN DfT responses\2023_Draft_FBC\TUBA\MasterFile -White_Post_cost_only_Draft_FBC_OB_20_Percent_V3.txt

* Economic File : L:\60625845_A614 MRN DFT responses\2023_Draft_FBC\TUBA\Economics_TAG_db1_20_2.txt

* Output File : L:\60625845_A614 MRN DFT responses\2023_Draft_FBC\TUBA\White_Post_FBC_OB_V3.OUT

* Log File : L:\60625845_A614 MRN DFT responses\2023_Draft_FBC\TUBA\White_Post_FBC_OB_V3.log

* User ID : philip.g.jones

* Computer ID : UKDBYLFHQB1T3

Elapsed time : 0hrs 0mins 1secs

Appendix H Warren Hill TUBA – OB

SCHEME SPECIFIC PARAMETERS

PARAMETERS

TUBA_version 1.9.17
run_name TUBA-1_Warren_Hill_FBC_OB_20_Perc_V3
do_min_name DM
do_som_name DS

first_yr 2023
horizon_yr 2082
modelled_yrs 2023 2037
detail Yes
current_yr 2023
print_warn 20
P&R_car_speed 65.0
zones_as_sectors No

TIME_SLICES

*no.	duration(min)	annualisation	period	description
1	60	648	1	peak hour am 08:00-09:00
2	60	667	2	peak hour pm 17:00-18:00
3	60	2997	3	peak hour ip 10:00-16:00
4	60	4438	4	off peak hour

SCHEMES_DM

*Mode 1st Construction year Opening_yr Stage

DO_MIN_COSTS

*Type Mode Funding Cost Price RPI

DO_MIN_PROFILE

*Year Mode %Const %Land %Prep %Super %Maint %Op %Grant %Dev

DO_MIN_DELAY_COSTS

*Year Mode Business Commuting Other Freight

SCHEMES_DS

*Mode 1st Construction year Opening_yr Stage
1 2024 2025 SI

2056	1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2057	1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2058	1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2059	1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2060	1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2061	1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2062	1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2063	1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2064	1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2065	1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2066	1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2067	1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2068	1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2069	1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2070	1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2071	1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2072	1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2073	1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2074	1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2075	1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2076	1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2077	1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2078	1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2079	1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2080	1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2081	1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2082	1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

DO_SOM_DELAY_COSTS

*Year Mode Business Commuting Other Freight

BENEFIT_CHANGE

*% change p.a.

*Start_yr End_yr Submode ChangePer1 ChangePer2 ChangePer3 ChangePer4 ChangePer5

USER_CLASSES

*no.	Veh/submode	purpose	person_type
1	1	1	0
2	1	2	0
3	1	3	0
4	2	3	0
5	3	1	0

6	4	1	0
7	5	1	0

INPUT_MATRICES

*no.	userclasses	timeslice	type	format	scenario	year	factor	filename
1	1	1	V	1	0	2023	0.05903	L:\60625845_A614 MRN DFT responses\2023_Draft_FBC\TUBA\Cost_only_Warren_Hill_White_Post\Outputs_White_Post\V_A614_White_Post_Costs_AM_2023_DM.txt
2	2	1	V	1	0	2023	0.32523	L:\60625845_A614 MRN DFT responses\2023_Draft_FBC\TUBA\Cost_only_Warren_Hill_White_Post\Outputs_White_Post\V_A614_White_Post_Costs_AM_2023_DM.txt
3	3	1	V	1	0	2023	0.46486	L:\60625845_A614 MRN DFT responses\2023_Draft_FBC\TUBA\Cost_only_Warren_Hill_White_Post\Outputs_White_Post\V_A614_White_Post_Costs_AM_2023_DM.txt
4	4	1	V	1	0	2023	0.01535	L:\60625845_A614 MRN DFT responses\2023_Draft_FBC\TUBA\Cost_only_Warren_Hill_White_Post\Outputs_White_Post\V_A614_White_Post_Costs_AM_2023_DM.txt
5	5	1	V	1	0	2023	0.11257	L:\60625845_A614 MRN DFT responses\2023_Draft_FBC\TUBA\Cost_only_Warren_Hill_White_Post\Outputs_White_Post\V_A614_White_Post_Costs_AM_2023_DM.txt
6	6	1	V	1	0	2023	0.00845	L:\60625845_A614 MRN DFT responses\2023_Draft_FBC\TUBA\Cost_only_Warren_Hill_White_Post\Outputs_White_Post\V_A614_White_Post_Costs_AM_2023_DM.txt
7	7	1	V	1	0	2023	0.01451	L:\60625845_A614 MRN DFT responses\2023_Draft_FBC\TUBA\Cost_only_Warren_Hill_White_Post\Outputs_White_Post\V_A614_White_Post_Costs_AM_2023_DM.txt
8	1	3	V	1	0	2023	0.05864	L:\60625845_A614 MRN DFT responses\2023_Draft_FBC\TUBA\Cost_only_Warren_Hill_White_Post\Outputs_White_Post\V_A614_White_Post_Costs_IP_2023_DM.txt
9	2	3	V	1	0	2023	0.09201	L:\60625845_A614 MRN DFT responses\2023_Draft_FBC\TUBA\Cost_only_Warren_Hill_White_Post\Outputs_White_Post\V_A614_White_Post_Costs_IP_2023_DM.txt
10	3	3	V	1	0	2023	0.66493	L:\60625845_A614 MRN DFT responses\2023_Draft_FBC\TUBA\Cost_only_Warren_Hill_White_Post\Outputs_White_Post\V_A614_White_Post_Costs_IP_2023_DM.txt
11	4	3	V	1	0	2023	0.01626	L:\60625845_A614 MRN DFT responses\2023_Draft_FBC\TUBA\Cost_only_Warren_Hill_White_Post\Outputs_White_Post\V_A614_White_Post_Costs_IP_2023_DM.txt
12	5	3	V	1	0	2023	0.11925	L:\60625845_A614 MRN DFT responses\2023_Draft_FBC\TUBA\Cost_only_Warren_Hill_White_Post\Outputs_White_Post\V_A614_White_Post_Costs_IP_2023_DM.txt
13	6	3	V	1	0	2023	0.01568	L:\60625845_A614 MRN DFT responses\2023_Draft_FBC\TUBA\Cost_only_Warren_Hill_White_Post\Outputs_White_Post\V_A614_White_Post_Costs_IP_2023_DM.txt
14	7	3	V	1	0	2023	0.03323	L:\60625845_A614 MRN DFT responses\2023_Draft_FBC\TUBA\Cost_only_Warren_Hill_White_Post\Outputs_White_Post\V_A614_White_Post_Costs_IP_2023_DM.txt
15	1	2	V	1	0	2023	0.04428	L:\60625845_A614 MRN DFT responses\2023_Draft_FBC\TUBA\Cost_only_Warren_Hill_White_Post\Outputs_White_Post\V_A614_White_Post_Costs_PM_2023_DM.txt
16	2	2	V	1	0	2023	0.28208	L:\60625845_A614 MRN DFT responses\2023_Draft_FBC\TUBA\Cost_only_Warren_Hill_White_Post\Outputs_White_Post\V_A614_White_Post_Costs_PM_2023_DM.txt
17	3	2	V	1	0	2023	0.53951	L:\60625845_A614 MRN DFT responses\2023_Draft_FBC\TUBA\Cost_only_Warren_Hill_White_Post\Outputs_White_Post\V_A614_White_Post_Costs_PM_2023_DM.txt
18	4	2	V	1	0	2023	0.01265	L:\60625845_A614 MRN DFT responses\2023_Draft_FBC\TUBA\Cost_only_Warren_Hill_White_Post\Outputs_White_Post\V_A614_White_Post_Costs_PM_2023_DM.txt
19	5	2	V	1	0	2023	0.09275	L:\60625845_A614 MRN DFT responses\2023_Draft_FBC\TUBA\Cost_only_Warren_Hill_White_Post\Outputs_White_Post\V_A614_White_Post_Costs_PM_2023_DM.txt
20	6	2	V	1	0	2023	0.00652	L:\60625845_A614 MRN DFT responses\2023_Draft_FBC\TUBA\Cost_only_Warren_Hill_White_Post\Outputs_White_Post\V_A614_White_Post_Costs_PM_2023_DM.txt
21	7	2	V	1	0	2023	0.02221	L:\60625845_A614 MRN DFT responses\2023_Draft_FBC\TUBA\Cost_only_Warren_Hill_White_Post\Outputs_White_Post\V_A614_White_Post_Costs_PM_2023_DM.txt
22	1	4	V	1	0	2023	0.03710	L:\60625845_A614 MRN DFT responses\2023_Draft_FBC\TUBA\Cost_only_Warren_Hill_White_Post\Outputs_White_Post\V_A614_White_Post_Costs_OP_2023_DM.txt
23	2	4	V	1	0	2023	0.24762	L:\60625845_A614 MRN DFT responses\2023_Draft_FBC\TUBA\Cost_only_Warren_Hill_White_Post\Outputs_White_Post\V_A614_White_Post_Costs_OP_2023_DM.txt
24	3	4	V	1	0	2023	0.57640	L:\60625845_A614 MRN DFT responses\2023_Draft_FBC\TUBA\Cost_only_Warren_Hill_White_Post\Outputs_White_Post\V_A614_White_Post_Costs_OP_2023_DM.txt
25	4	4	V	1	0	2023	0.00656	L:\60625845_A614 MRN DFT responses\2023_Draft_FBC\TUBA\Cost_only_Warren_Hill_White_Post\Outputs_White_Post\V_A614_White_Post_Costs_OP_2023_DM.txt
26	5	4	V	1	0	2023	0.04811	L:\60625845_A614 MRN DFT responses\2023_Draft_FBC\TUBA\Cost_only_Warren_Hill_White_Post\Outputs_White_Post\V_A614_White_Post_Costs_OP_2023_DM.txt

Transport User Benefit Appraisal TUBA (1.9.17.2 64-bit)

Program run on Thu Mar 30, 2023 at 10:33:41

ERRORS AND WARNINGS

Warning: Scheme parameter zones_as_sectors set to no: Possibility that small aggregation errors may occur in the TEE table for some appraisals. Recommend undertaking a sensitivity test using a sector system (and some sectors) to check.

2 Warnings found in total (including any above)

TUBA ECONOMICS FILE DIFFERENCES

PARAMETERS - (used)

TUBA_version 1.9.17

base_year 2010

pres_val_year 2010

GDP_base 100.00 0.00 0.00

av_ind_tax 19.00 0.00 0.00

nt_carbdxvalues 83.64 250.92 167.28

t_carbdxvalues 83.64250.92167.28

PARAMETERS - (std)

TUBA_version 1.9.17

base_year 2010

pres_val_year 2010

GDP_base 100.00 0.00 0.00

av_ind_tax 19.00 0.00 0.00

nt_carbdxvalues 82.97 248.92 165.94

t_carbdxvalues 82.97248.92165.94

GDP_PER_CAPITA_GROWTH - (used)

*% change p.a.

*Start_yr End_yr VOT_Gr_purpose1 VOT_Gr_purpose2 VOT_Gr_purpose3 ..

2011 2011 0.615 0.615 0.615

2012 2012 0.801 0.801 0.801

2013 2013 1.253 1.253 1.253

2014 2014 2.208 2.208 2.208

2015 2015 1.814 1.814 1.814

2016 2016 1.425 1.425 1.425

2017 2017 1.528 1.528 1.528

2018 2018 1.046 1.046 1.046

2019 2019 1.122 1.122 1.122

2020 2020 0.099 0.099 0.099

2021 2021 0.100 0.100 0.100

2022	2022	0.099	0.099	0.099
2023	2023	-1.769	-1.769	-1.769
2024	2024	0.956	0.956	0.956
2025	2025	2.307	2.307	2.307
2026	2026	2.347	2.347	2.347
2027	2027	1.954	1.954	1.954
2028	2028	1.687	1.687	1.687
2029	2029	1.657	1.657	1.657
2030	2030	1.621	1.621	1.621
2031	2031	1.570	1.570	1.570
2032	2032	1.552	1.552	1.552
2033	2033	1.539	1.539	1.539
2034	2034	1.518	1.518	1.518
2035	2035	1.505	1.505	1.505
2036	2036	1.638	1.638	1.638
2037	2037	1.611	1.611	1.611
2038	2038	1.578	1.578	1.578
2039	2039	1.546	1.546	1.546
2040	2040	1.506	1.506	1.506
2041	2041	1.476	1.476	1.476
2042	2042	1.439	1.439	1.439
2043	2043	1.401	1.401	1.401
2044	2044	1.369	1.369	1.369
2045	2045	1.350	1.350	1.350
2046	2046	1.342	1.342	1.342
2047	2047	1.321	1.321	1.321
2048	2048	1.302	1.302	1.302
2049	2049	1.282	1.282	1.282
2050	2050	1.277	1.277	1.277
2051	2051	1.278	1.278	1.278
2052	2052	1.281	1.281	1.281
2053	2053	1.286	1.286	1.286
2054	2054	1.294	1.294	1.294
2055	2055	1.312	1.312	1.312
2056	2056	1.325	1.325	1.325
2057	2057	1.339	1.339	1.339
2058	2058	1.349	1.349	1.349
2059	2059	1.359	1.359	1.359
2060	2060	1.370	1.370	1.370
2061	2061	1.379	1.379	1.379
2062	2062	1.387	1.387	1.387
2063	2063	1.399	1.399	1.399
2064	2064	1.406	1.406	1.406
2065	2065	1.413	1.413	1.413

2066	2066	1.418	1.418	1.418
2067	2067	1.420	1.420	1.420
2068	2068	1.421	1.421	1.421
2069	2069	1.428	1.428	1.428
2070	2070	1.468	1.468	1.468
2071	2071	1.534	1.534	1.534
2072	2072	1.592	1.592	1.592
2073	2073	1.548	1.548	1.548
2074	2074	1.472	1.472	1.472
2075	2075	1.426	1.426	1.426
2076	2076	1.358	1.358	1.358
2077	2077	1.363	1.363	1.363
2078	2078	1.337	1.337	1.337
2079	2079	1.299	1.299	1.299
2080	2080	1.269	1.269	1.269
2081	2081	1.321	1.321	1.321
2082	2082	1.359	1.359	1.359
2083	2083	1.372	1.372	1.372
2084	2084	1.369	1.369	1.369
2085	2085	1.420	1.420	1.420
2086	2086	1.469	1.469	1.469
2087	2087	1.528	1.528	1.528
2088	2088	1.589	1.589	1.589
2089	2089	1.666	1.666	1.666
2090	2090	1.690	1.690	1.690
2091	2091	1.703	1.703	1.703
2092	2092	1.699	1.699	1.699
2093	2093	1.700	1.700	1.700
2094	2094	1.705	1.705	1.705
2095	2095	1.709	1.709	1.709
2096	2096	1.712	1.712	1.712
2097	2097	1.712	1.712	1.712
2098	2098	1.711	1.711	1.711
2099	2099	1.708	1.708	1.708
2100	2100	1.702	1.702	1.702
2101	2101	1.702	1.702	1.702
2102	2102	1.702	1.702	1.702
2103	2103	1.702	1.702	1.702
2104	2104	1.702	1.702	1.702
2105	2105	1.702	1.702	1.702
2106	2106	1.702	1.702	1.702
2107	2107	1.702	1.702	1.702
2108	2108	1.702	1.702	1.702
2109	2109	1.702	1.702	1.702

2110	2110	1.702	1.702	1.702
2111	2111	1.702	1.702	1.702
2112	2112	1.702	1.702	1.702
2113	2113	1.702	1.702	1.702
2114	2114	1.702	1.702	1.702
2115	2115	1.702	1.702	1.702
2116	2116	1.702	1.702	1.702
2117	2117	1.702	1.702	1.702
2118	2118	1.702	1.702	1.702
2119	2119	1.702	1.702	1.702
2120	2120	1.702	1.702	1.702
2121	2121	1.702	1.702	1.702
2122	2122	1.702	1.702	1.702
2123	2123	1.702	1.702	1.702
2124	2124	1.702	1.702	1.702
2125	2125	1.702	1.702	1.702
2126	2126	1.702	1.702	1.702
2127	2127	1.702	1.702	1.702
2128	2128	1.702	1.702	1.702
2129	2129	1.702	1.702	1.702
2130	2130	1.702	1.702	1.702
2131	2131	1.702	1.702	1.702
2132	2132	1.702	1.702	1.702
2133	2133	1.702	1.702	1.702
2134	2134	1.702	1.702	1.702
2135	2135	1.702	1.702	1.702
2136	2136	1.702	1.702	1.702
2137	2137	1.702	1.702	1.702
2138	2138	1.702	1.702	1.702
2139	2139	1.702	1.702	1.702
2140	2140	1.702	1.702	1.702
2141	2141	1.702	1.702	1.702
2142	2142	1.702	1.702	1.702
2143	2143	1.702	1.702	1.702
2144	2144	1.702	1.702	1.702
2145	2145	1.702	1.702	1.702
2146	2146	1.702	1.702	1.702
2147	2147	1.702	1.702	1.702
2148	2148	1.702	1.702	1.702
2149	2149	1.702	1.702	1.702
2150	2150	1.702	1.702	1.702
2151	2151	1.702	1.702	1.702

GDP_PER_CAPITA_GROWTH - (std)

*% change p.a.

*Start_yr	End_yr	VOT_Gr_purpose1	VOT_Gr_purpose2	VOT_Gr_purpose3 ..
2011	2011	0.435	0.435	0.435
2012	2012	0.762	0.762	0.762
2013	2013	1.548	1.548	1.548
2014	2014	2.080	2.080	2.080
2015	2015	1.556	1.556	1.556
2016	2016	0.888	0.888	0.888
2017	2017	1.137	1.137	1.137
2018	2018	0.650	0.650	0.650
2019	2019	0.885	0.885	0.885
2020	2020	0.269	0.269	0.269
2021	2021	0.267	0.267	0.267
2022	2022	0.267	0.267	0.267
2023	2023	1.654	1.654	1.654
2024	2024	0.975	0.975	0.975
2025	2025	1.311	1.311	1.311
2026	2026	1.412	1.412	1.412
2027	2027	1.480	1.480	1.480
2028	2028	1.480	1.480	1.480
2029	2029	1.463	1.463	1.463
2030	2030	1.440	1.440	1.440
2031	2031	1.413	1.413	1.413
2032	2032	1.389	1.389	1.389
2033	2033	1.387	1.387	1.387
2034	2034	1.372	1.372	1.372
2035	2035	1.345	1.345	1.345
2036	2036	1.477	1.477	1.477
2037	2037	1.475	1.475	1.475
2038	2038	1.467	1.467	1.467
2039	2039	1.443	1.443	1.443
2040	2040	1.416	1.416	1.416
2041	2041	1.397	1.397	1.397
2042	2042	1.375	1.375	1.375
2043	2043	1.351	1.351	1.351
2044	2044	1.332	1.332	1.332
2045	2045	1.320	1.320	1.320
2046	2046	1.309	1.309	1.309
2047	2047	1.292	1.292	1.292
2048	2048	1.282	1.282	1.282
2049	2049	1.281	1.281	1.281
2050	2050	1.291	1.291	1.291
2051	2051	1.307	1.307	1.307
2052	2052	1.320	1.320	1.320

2053	2053	1.332	1.332	1.332
2054	2054	1.338	1.338	1.338
2055	2055	1.358	1.358	1.358
2056	2056	1.370	1.370	1.370
2057	2057	1.385	1.385	1.385
2058	2058	1.398	1.398	1.398
2059	2059	1.406	1.406	1.406
2060	2060	1.417	1.417	1.417
2061	2061	1.437	1.437	1.437
2062	2062	1.444	1.444	1.444
2063	2063	1.456	1.456	1.456
2064	2064	1.466	1.466	1.466
2065	2065	1.482	1.482	1.482
2066	2066	1.540	1.540	1.540
2067	2067	1.607	1.607	1.607
2068	2068	1.531	1.531	1.531
2069	2069	1.521	1.521	1.521
2070	2070	1.493	1.493	1.493
2071	2071	1.518	1.518	1.518
2072	2072	1.463	1.463	1.463
2073	2073	1.426	1.426	1.426
2074	2074	1.355	1.355	1.355
2075	2075	1.317	1.317	1.317
2076	2076	1.256	1.256	1.256
2077	2077	1.271	1.271	1.271
2078	2078	1.253	1.253	1.253
2079	2079	1.219	1.219	1.219
2080	2080	1.193	1.193	1.193
2081	2081	1.251	1.251	1.251
2082	2082	1.293	1.293	1.293
2083	2083	1.309	1.309	1.309
2084	2084	1.310	1.310	1.310
2085	2085	1.364	1.364	1.364
2086	2086	1.422	1.422	1.422
2087	2087	1.488	1.488	1.488
2088	2088	1.487	1.487	1.487
2089	2089	1.498	1.498	1.498
2090	2090	1.508	1.508	1.508
2091	2091	1.513	1.513	1.513
2092	2092	1.511	1.511	1.511
2093	2093	1.508	1.508	1.508
2094	2094	1.505	1.505	1.505
2095	2095	1.501	1.501	1.501
2096	2096	1.497	1.497	1.497

2097	2097	1.491	1.491	1.491
2098	2098	1.484	1.484	1.484
2099	2099	1.476	1.476	1.476
2100	2100	1.467	1.467	1.467
2101	2101	1.467	1.467	1.467
2102	2102	1.467	1.467	1.467
2103	2103	1.467	1.467	1.467
2104	2104	1.467	1.467	1.467
2105	2105	1.467	1.467	1.467
2106	2106	1.467	1.467	1.467
2107	2107	1.467	1.467	1.467
2108	2108	1.467	1.467	1.467
2109	2109	1.467	1.467	1.467
2110	2110	1.467	1.467	1.467
2111	2111	1.467	1.467	1.467
2112	2112	1.467	1.467	1.467
2113	2113	1.467	1.467	1.467
2114	2114	1.467	1.467	1.467
2115	2115	1.467	1.467	1.467
2116	2116	1.467	1.467	1.467
2117	2117	1.467	1.467	1.467
2118	2118	1.467	1.467	1.467
2119	2119	1.467	1.467	1.467
2120	2120	1.467	1.467	1.467
2121	2121	1.467	1.467	1.467
2122	2122	1.467	1.467	1.467
2123	2123	1.467	1.467	1.467
2124	2124	1.467	1.467	1.467
2125	2125	1.467	1.467	1.467
2126	2126	1.467	1.467	1.467
2127	2127	1.467	1.467	1.467
2128	2128	1.467	1.467	1.467
2129	2129	1.467	1.467	1.467
2130	2130	1.467	1.467	1.467
2131	2131	1.467	1.467	1.467
2132	2132	1.467	1.467	1.467
2133	2133	1.467	1.467	1.467
2134	2134	1.467	1.467	1.467
2135	2135	1.467	1.467	1.467
2136	2136	1.467	1.467	1.467
2137	2137	1.467	1.467	1.467
2138	2138	1.467	1.467	1.467
2139	2139	1.467	1.467	1.467
2140	2140	1.467	1.467	1.467

2141	2141	1.467	1.467	1.467
2142	2142	1.467	1.467	1.467
2143	2143	1.467	1.467	1.467
2144	2144	1.467	1.467	1.467
2145	2145	1.467	1.467	1.467
2146	2146	1.467	1.467	1.467
2147	2147	1.467	1.467	1.467
2148	2148	1.467	1.467	1.467
2149	2149	1.467	1.467	1.467
2150	2150	1.467	1.467	1.467
2151	2151	1.467	1.467	1.467

FUEL_COST - (used)

*type resource(p/unit) duty(p/unit) VAT(%) CO2_grammes/unit (unit=litre for fuel types 1 & 2; unit=KWH for electric)

1	42.6	57.2	17.5	2230.00
2	44.3	57.2	17.5	2562.00
3	11.8	0.0	5.0	389.00

FUEL_COST - (std)

*type resource(p/unit) duty(p/unit) VAT(%) CO2_grammes/unit (unit=litre for fuel types 1 & 2; unit=KWH for electric)

1	42.6	57.2	17.5	2230.00
2	44.3	57.2	17.5	2562.00
3	11.9	0.0	5.0	389.00

FUEL_COST_CHANGES - (used)

%% change p.a.

*Start_yr End_yr fuel_type resource duty VAT CO2_Den_change

2011	2011	1	22.306	-0.354	14.286	1.171
2012	2012	1	1.986	-2.001	0.000	-1.031
2013	2013	1	-3.443	-1.746	0.000	-0.302
2014	2014	1	-11.771	-1.707	0.000	0.153
2015	2015	1	-28.520	-0.562	0.000	-0.016
2016	2016	1	-7.312	-1.719	0.000	-0.027
2017	2017	1	19.734	-1.752	0.000	-0.106
2018	2018	1	13.204	-2.472	0.000	0.128
2019	2019	1	-2.520	-2.412	0.000	0.010
2020	2020	1	-23.823	-6.920	0.000	0.015
2021	2021	1	37.033	0.586	0.000	-0.106
2022	2022	1	63.199	-5.002	0.000	-5.260
2023	2023	1	-5.410	5.535	0.000	0.000
2024	2024	1	-12.463	2.683	0.000	0.000
2025	2025	1	-3.454	0.465	0.000	0.000
2026	2026	1	-4.677	0.417	0.000	0.000
2027	2027	1	2.609	0.740	0.000	0.000

2028	2028	1	2.785	0.731	0.000	0.000
2029	2029	1	1.806	0.723	0.000	0.000
2030	2030	1	2.661	-0.293	0.000	0.000
2031	2031	1	1.728	-0.293	0.000	0.000
2032	2032	1	1.699	-0.293	0.000	0.000
2033	2033	1	2.506	-0.293	0.000	0.000
2034	2034	1	2.444	-0.293	0.000	0.000
2035	2035	1	1.591	-0.293	0.000	0.000
2036	2036	1	0.000	-0.293	0.000	0.000
2037	2037	1	0.000	-0.293	0.000	0.000
2038	2038	1	0.000	-0.293	0.000	0.000
2039	2039	1	0.000	-0.293	0.000	0.000
2040	2040	1	0.000	-0.293	0.000	0.000
2041	2041	1	0.000	-0.293	0.000	0.000
2042	2042	1	0.000	-0.293	0.000	0.000
2043	2043	1	0.000	-0.293	0.000	0.000
2044	2044	1	0.000	-0.293	0.000	0.000
2045	2045	1	0.000	-0.293	0.000	0.000
2046	2046	1	0.000	-0.293	0.000	0.000
2047	2047	1	0.000	-0.293	0.000	0.000
2048	2048	1	0.000	-0.293	0.000	0.000
2049	2049	1	0.000	-0.293	0.000	0.000
2050	2050	1	0.000	-0.293	0.000	0.000
2051	2051	1	0.000	-0.293	0.000	0.000
2052	2052	1	0.000	-0.293	0.000	0.000
2053	2053	1	0.000	-0.293	0.000	0.000
2054	2054	1	0.000	-0.293	0.000	0.000
2055	2055	1	0.000	-0.293	0.000	0.000
2056	2056	1	0.000	-0.293	0.000	0.000
2057	2057	1	0.000	-0.293	0.000	0.000
2058	2058	1	0.000	-0.293	0.000	0.000
2059	2059	1	0.000	-0.293	0.000	0.000
2060	2060	1	0.000	-0.293	0.000	0.000
2061	2061	1	0.000	-0.293	0.000	0.000
2062	2062	1	0.000	-0.293	0.000	0.000
2063	2063	1	0.000	-0.293	0.000	0.000
2064	2064	1	0.000	-0.293	0.000	0.000
2065	2065	1	0.000	-0.293	0.000	0.000
2066	2066	1	0.000	-0.293	0.000	0.000
2067	2067	1	0.000	-0.293	0.000	0.000
2068	2068	1	0.000	-0.293	0.000	0.000
2069	2069	1	0.000	-0.293	0.000	0.000
2070	2070	1	0.000	-0.293	0.000	0.000
2071	2071	1	0.000	-0.293	0.000	0.000

2072	2072	1	0.000	-0.293	0.000	0.000
2073	2073	1	0.000	-0.293	0.000	0.000
2074	2074	1	0.000	-0.293	0.000	0.000
2075	2075	1	0.000	-0.293	0.000	0.000
2076	2076	1	0.000	-0.293	0.000	0.000
2077	2077	1	0.000	-0.293	0.000	0.000
2078	2078	1	0.000	-0.293	0.000	0.000
2079	2079	1	0.000	-0.293	0.000	0.000
2080	2080	1	0.000	-0.293	0.000	0.000
2081	2081	1	0.000	-0.293	0.000	0.000
2082	2082	1	0.000	-0.293	0.000	0.000
2083	2083	1	0.000	-0.293	0.000	0.000
2084	2084	1	0.000	-0.293	0.000	0.000
2085	2085	1	0.000	-0.293	0.000	0.000
2086	2086	1	0.000	-0.293	0.000	0.000
2087	2087	1	0.000	-0.293	0.000	0.000
2088	2088	1	0.000	-0.293	0.000	0.000
2089	2089	1	0.000	-0.293	0.000	0.000
2090	2090	1	0.000	-0.293	0.000	0.000
2091	2091	1	0.000	-0.293	0.000	0.000
2092	2092	1	0.000	-0.293	0.000	0.000
2093	2093	1	0.000	-0.293	0.000	0.000
2094	2094	1	0.000	-0.293	0.000	0.000
2095	2095	1	0.000	-0.293	0.000	0.000
2096	2096	1	0.000	-0.293	0.000	0.000
2097	2097	1	0.000	-0.293	0.000	0.000
2098	2098	1	0.000	-0.293	0.000	0.000
2099	2099	1	0.000	-0.293	0.000	0.000
2100	2100	1	0.000	-0.293	0.000	0.000
2101	2101	1	0.000	-0.293	0.000	0.000
2102	2102	1	0.000	-0.293	0.000	0.000
2103	2103	1	0.000	-0.293	0.000	0.000
2104	2104	1	0.000	-0.293	0.000	0.000
2105	2105	1	0.000	-0.293	0.000	0.000
2106	2106	1	0.000	-0.293	0.000	0.000
2107	2107	1	0.000	-0.293	0.000	0.000
2108	2108	1	0.000	-0.293	0.000	0.000
2109	2109	1	0.000	-0.293	0.000	0.000
2110	2110	1	0.000	-0.293	0.000	0.000
2111	2111	1	0.000	-0.293	0.000	0.000
2112	2112	1	0.000	-0.293	0.000	0.000
2113	2113	1	0.000	-0.293	0.000	0.000
2114	2114	1	0.000	-0.293	0.000	0.000
2115	2115	1	0.000	-0.293	0.000	0.000

2116	2116	1	0.000	-0.293	0.000	0.000
2117	2117	1	0.000	-0.293	0.000	0.000
2118	2118	1	0.000	-0.293	0.000	0.000
2119	2119	1	0.000	-0.293	0.000	0.000
2120	2120	1	0.000	-0.293	0.000	0.000
2121	2121	1	0.000	-0.293	0.000	0.000
2122	2122	1	0.000	-0.293	0.000	0.000
2123	2123	1	0.000	-0.293	0.000	0.000
2124	2124	1	0.000	-0.293	0.000	0.000
2125	2125	1	0.000	-0.293	0.000	0.000
2126	2126	1	0.000	-0.293	0.000	0.000
2127	2127	1	0.000	-0.293	0.000	0.000
2128	2128	1	0.000	-0.293	0.000	0.000
2129	2129	1	0.000	-0.293	0.000	0.000
2130	2130	1	0.000	-0.293	0.000	0.000
2131	2131	1	0.000	-0.293	0.000	0.000
2132	2132	1	0.000	-0.293	0.000	0.000
2133	2133	1	0.000	-0.293	0.000	0.000
2134	2134	1	0.000	-0.293	0.000	0.000
2135	2135	1	0.000	-0.293	0.000	0.000
2136	2136	1	0.000	-0.293	0.000	0.000
2137	2137	1	0.000	-0.293	0.000	0.000
2138	2138	1	0.000	-0.293	0.000	0.000
2139	2139	1	0.000	-0.293	0.000	0.000
2140	2140	1	0.000	-0.293	0.000	0.000
2141	2141	1	0.000	-0.293	0.000	0.000
2142	2142	1	0.000	-0.293	0.000	0.000
2143	2143	1	0.000	-0.293	0.000	0.000
2144	2144	1	0.000	-0.293	0.000	0.000
2145	2145	1	0.000	-0.293	0.000	0.000
2146	2146	1	0.000	-0.293	0.000	0.000
2147	2147	1	0.000	-0.293	0.000	0.000
2148	2148	1	0.000	-0.293	0.000	0.000
2149	2149	1	0.000	-0.293	0.000	0.000
2150	2150	1	0.000	-0.293	0.000	0.000
2151	2151	1	0.000	-0.293	0.000	0.000
2011	2011	2	26.996	-0.354	14.286	1.917
2012	2012	2	3.197	-2.001	0.000	-1.071
2013	2013	2	-3.680	-1.746	0.000	4.731
2014	2014	2	-11.343	-1.707	0.000	-0.016
2015	2015	2	-29.504	-0.562	0.000	-0.020
2016	2016	2	-12.397	-1.719	0.000	0.004
2017	2017	2	22.316	-1.752	0.000	0.021
2018	2018	2	16.802	-2.472	0.000	-0.267

2019	2019	2	0.348	-2.412	0.000	-1.513
2020	2020	2	-24.318	-6.920	0.000	-4.516
2021	2021	2	30.464	0.586	0.000	-0.553
2022	2022	2	60.563	-5.002	0.000	0.295
2023	2023	2	-5.550	5.535	0.000	-0.288
2024	2024	2	-13.119	2.683	0.000	-0.174
2025	2025	2	-3.997	0.465	0.000	-0.148
2026	2026	2	-5.278	0.417	0.000	-0.034
2027	2027	2	2.671	0.740	0.000	-0.046
2028	2028	2	2.847	0.731	0.000	-0.036
2029	2029	2	1.845	0.723	0.000	-0.036
2030	2030	2	2.718	-0.293	0.000	-0.040
2031	2031	2	1.764	-0.293	0.000	-0.027
2032	2032	2	1.733	-0.293	0.000	-0.027
2033	2033	2	2.556	-0.293	0.000	0.000
2034	2034	2	2.492	-0.293	0.000	0.000
2035	2035	2	1.621	-0.293	0.000	0.000
2036	2036	2	0.000	-0.293	0.000	0.000
2037	2037	2	0.000	-0.293	0.000	0.000
2038	2038	2	0.000	-0.293	0.000	0.000
2039	2039	2	0.000	-0.293	0.000	0.000
2040	2040	2	0.000	-0.293	0.000	0.000
2041	2041	2	0.000	-0.293	0.000	0.000
2042	2042	2	0.000	-0.293	0.000	0.000
2043	2043	2	0.000	-0.293	0.000	0.000
2044	2044	2	0.000	-0.293	0.000	0.000
2045	2045	2	0.000	-0.293	0.000	0.000
2046	2046	2	0.000	-0.293	0.000	0.000
2047	2047	2	0.000	-0.293	0.000	0.000
2048	2048	2	0.000	-0.293	0.000	0.000
2049	2049	2	0.000	-0.293	0.000	0.000
2050	2050	2	0.000	-0.293	0.000	0.000
2051	2051	2	0.000	-0.293	0.000	0.000
2052	2052	2	0.000	-0.293	0.000	0.000
2053	2053	2	0.000	-0.293	0.000	0.000
2054	2054	2	0.000	-0.293	0.000	0.000
2055	2055	2	0.000	-0.293	0.000	0.000
2056	2056	2	0.000	-0.293	0.000	0.000
2057	2057	2	0.000	-0.293	0.000	0.000
2058	2058	2	0.000	-0.293	0.000	0.000
2059	2059	2	0.000	-0.293	0.000	0.000
2060	2060	2	0.000	-0.293	0.000	0.000
2061	2061	2	0.000	-0.293	0.000	0.000
2062	2062	2	0.000	-0.293	0.000	0.000

2063	2063	2	0.000	-0.293	0.000	0.000
2064	2064	2	0.000	-0.293	0.000	0.000
2065	2065	2	0.000	-0.293	0.000	0.000
2066	2066	2	0.000	-0.293	0.000	0.000
2067	2067	2	0.000	-0.293	0.000	0.000
2068	2068	2	0.000	-0.293	0.000	0.000
2069	2069	2	0.000	-0.293	0.000	0.000
2070	2070	2	0.000	-0.293	0.000	0.000
2071	2071	2	0.000	-0.293	0.000	0.000
2072	2072	2	0.000	-0.293	0.000	0.000
2073	2073	2	0.000	-0.293	0.000	0.000
2074	2074	2	0.000	-0.293	0.000	0.000
2075	2075	2	0.000	-0.293	0.000	0.000
2076	2076	2	0.000	-0.293	0.000	0.000
2077	2077	2	0.000	-0.293	0.000	0.000
2078	2078	2	0.000	-0.293	0.000	0.000
2079	2079	2	0.000	-0.293	0.000	0.000
2080	2080	2	0.000	-0.293	0.000	0.000
2081	2081	2	0.000	-0.293	0.000	0.000
2082	2082	2	0.000	-0.293	0.000	0.000
2083	2083	2	0.000	-0.293	0.000	0.000
2084	2084	2	0.000	-0.293	0.000	0.000
2085	2085	2	0.000	-0.293	0.000	0.000
2086	2086	2	0.000	-0.293	0.000	0.000
2087	2087	2	0.000	-0.293	0.000	0.000
2088	2088	2	0.000	-0.293	0.000	0.000
2089	2089	2	0.000	-0.293	0.000	0.000
2090	2090	2	0.000	-0.293	0.000	0.000
2091	2091	2	0.000	-0.293	0.000	0.000
2092	2092	2	0.000	-0.293	0.000	0.000
2093	2093	2	0.000	-0.293	0.000	0.000
2094	2094	2	0.000	-0.293	0.000	0.000
2095	2095	2	0.000	-0.293	0.000	0.000
2096	2096	2	0.000	-0.293	0.000	0.000
2097	2097	2	0.000	-0.293	0.000	0.000
2098	2098	2	0.000	-0.293	0.000	0.000
2099	2099	2	0.000	-0.293	0.000	0.000
2100	2100	2	0.000	-0.293	0.000	0.000
2101	2101	2	0.000	-0.293	0.000	0.000
2102	2102	2	0.000	-0.293	0.000	0.000
2103	2103	2	0.000	-0.293	0.000	0.000
2104	2104	2	0.000	-0.293	0.000	0.000
2105	2105	2	0.000	-0.293	0.000	0.000
2106	2106	2	0.000	-0.293	0.000	0.000

2107	2107	2	0.000	-0.293	0.000	0.000
2108	2108	2	0.000	-0.293	0.000	0.000
2109	2109	2	0.000	-0.293	0.000	0.000
2110	2110	2	0.000	-0.293	0.000	0.000
2111	2111	2	0.000	-0.293	0.000	0.000
2112	2112	2	0.000	-0.293	0.000	0.000
2113	2113	2	0.000	-0.293	0.000	0.000
2114	2114	2	0.000	-0.293	0.000	0.000
2115	2115	2	0.000	-0.293	0.000	0.000
2116	2116	2	0.000	-0.293	0.000	0.000
2117	2117	2	0.000	-0.293	0.000	0.000
2118	2118	2	0.000	-0.293	0.000	0.000
2119	2119	2	0.000	-0.293	0.000	0.000
2120	2120	2	0.000	-0.293	0.000	0.000
2121	2121	2	0.000	-0.293	0.000	0.000
2122	2122	2	0.000	-0.293	0.000	0.000
2123	2123	2	0.000	-0.293	0.000	0.000
2124	2124	2	0.000	-0.293	0.000	0.000
2125	2125	2	0.000	-0.293	0.000	0.000
2126	2126	2	0.000	-0.293	0.000	0.000
2127	2127	2	0.000	-0.293	0.000	0.000
2128	2128	2	0.000	-0.293	0.000	0.000
2129	2129	2	0.000	-0.293	0.000	0.000
2130	2130	2	0.000	-0.293	0.000	0.000
2131	2131	2	0.000	-0.293	0.000	0.000
2132	2132	2	0.000	-0.293	0.000	0.000
2133	2133	2	0.000	-0.293	0.000	0.000
2134	2134	2	0.000	-0.293	0.000	0.000
2135	2135	2	0.000	-0.293	0.000	0.000
2136	2136	2	0.000	-0.293	0.000	0.000
2137	2137	2	0.000	-0.293	0.000	0.000
2138	2138	2	0.000	-0.293	0.000	0.000
2139	2139	2	0.000	-0.293	0.000	0.000
2140	2140	2	0.000	-0.293	0.000	0.000
2141	2141	2	0.000	-0.293	0.000	0.000
2142	2142	2	0.000	-0.293	0.000	0.000
2143	2143	2	0.000	-0.293	0.000	0.000
2144	2144	2	0.000	-0.293	0.000	0.000
2145	2145	2	0.000	-0.293	0.000	0.000
2146	2146	2	0.000	-0.293	0.000	0.000
2147	2147	2	0.000	-0.293	0.000	0.000
2148	2148	2	0.000	-0.293	0.000	0.000
2149	2149	2	0.000	-0.293	0.000	0.000
2150	2150	2	0.000	-0.293	0.000	0.000

2151	2151	2	0.000	-0.293	0.000	0.000
2011	2011	3	6.623	0.000	0.000	-1.438
2012	2012	3	3.751	0.000	0.000	-1.878
2013	2013	3	4.428	0.000	0.000	-2.438
2014	2014	3	3.495	0.000	0.000	-1.891
2015	2015	3	-1.703	0.000	0.000	-2.837
2016	2016	3	-3.286	0.000	0.000	-3.035
2017	2017	3	4.940	0.000	0.000	-2.830
2018	2018	3	6.255	0.000	0.000	-3.251
2019	2019	3	7.007	0.000	0.000	-3.618
2020	2020	3	-4.724	0.000	0.000	-3.931
2021	2021	3	8.209	0.000	0.000	-4.324
2022	2022	3	44.098	0.000	0.000	-4.776
2023	2023	3	35.732	0.000	0.000	-5.300
2024	2024	3	-3.272	0.000	0.000	-5.915
2025	2025	3	-13.652	0.000	0.000	-6.643
2026	2026	3	-35.980	0.000	0.000	-7.520
2027	2027	3	-4.450	0.000	0.000	-8.594
2028	2028	3	-2.634	0.000	0.000	-9.934
2029	2029	3	-0.114	0.000	0.000	-11.657
2030	2030	3	-0.506	0.000	0.000	-13.944
2031	2031	3	-4.229	0.000	0.000	-19.089
2032	2032	3	0.441	0.000	0.000	-19.090
2033	2033	3	1.228	0.000	0.000	-19.088
2034	2034	3	1.712	0.000	0.000	-19.090
2035	2035	3	-0.946	0.000	0.000	-19.089
2036	2036	3	-0.271	0.000	0.000	-19.089
2037	2037	3	-2.629	0.000	0.000	-19.088
2038	2038	3	1.153	0.000	0.000	-19.090
2039	2039	3	-0.823	0.000	0.000	-19.092
2040	2040	3	2.635	0.000	0.000	-19.088
2041	2041	3	-1.504	0.000	0.000	-16.984
2042	2042	3	-0.001	0.000	0.000	-5.099
2043	2043	3	-0.216	0.000	0.000	-2.043
2044	2044	3	1.039	0.000	0.000	-6.009
2045	2045	3	-2.180	0.000	0.000	-15.076
2046	2046	3	1.866	0.000	0.000	-9.204
2047	2047	3	-1.602	0.000	0.000	-7.798
2048	2048	3	-2.514	0.000	0.000	-5.087
2049	2049	3	1.769	0.000	0.000	-6.945
2050	2050	3	-1.947	0.000	0.000	-1.718
2051	2051	3	0.000	0.000	0.000	0.000
2052	2052	3	0.000	0.000	0.000	0.000
2053	2053	3	0.000	0.000	0.000	0.000

2054	2054	3	0.000	0.000	0.000	0.000
2055	2055	3	0.000	0.000	0.000	0.000
2056	2056	3	0.000	0.000	0.000	0.000
2057	2057	3	0.000	0.000	0.000	0.000
2058	2058	3	0.000	0.000	0.000	0.000
2059	2059	3	0.000	0.000	0.000	0.000
2060	2060	3	0.000	0.000	0.000	0.000
2061	2061	3	0.000	0.000	0.000	0.000
2062	2062	3	0.000	0.000	0.000	0.000
2063	2063	3	0.000	0.000	0.000	0.000
2064	2064	3	0.000	0.000	0.000	0.000
2065	2065	3	0.000	0.000	0.000	0.000
2066	2066	3	0.000	0.000	0.000	0.000
2067	2067	3	0.000	0.000	0.000	0.000
2068	2068	3	0.000	0.000	0.000	0.000
2069	2069	3	0.000	0.000	0.000	0.000
2070	2070	3	0.000	0.000	0.000	0.000
2071	2071	3	0.000	0.000	0.000	0.000
2072	2072	3	0.000	0.000	0.000	0.000
2073	2073	3	0.000	0.000	0.000	0.000
2074	2074	3	0.000	0.000	0.000	0.000
2075	2075	3	0.000	0.000	0.000	0.000
2076	2076	3	0.000	0.000	0.000	0.000
2077	2077	3	0.000	0.000	0.000	0.000
2078	2078	3	0.000	0.000	0.000	0.000
2079	2079	3	0.000	0.000	0.000	0.000
2080	2080	3	0.000	0.000	0.000	0.000
2081	2081	3	0.000	0.000	0.000	0.000
2082	2082	3	0.000	0.000	0.000	0.000
2083	2083	3	0.000	0.000	0.000	0.000
2084	2084	3	0.000	0.000	0.000	0.000
2085	2085	3	0.000	0.000	0.000	0.000
2086	2086	3	0.000	0.000	0.000	0.000
2087	2087	3	0.000	0.000	0.000	0.000
2088	2088	3	0.000	0.000	0.000	0.000
2089	2089	3	0.000	0.000	0.000	0.000
2090	2090	3	0.000	0.000	0.000	0.000
2091	2091	3	0.000	0.000	0.000	0.000
2092	2092	3	0.000	0.000	0.000	0.000
2093	2093	3	0.000	0.000	0.000	0.000
2094	2094	3	0.000	0.000	0.000	0.000
2095	2095	3	0.000	0.000	0.000	0.000
2096	2096	3	0.000	0.000	0.000	0.000
2097	2097	3	0.000	0.000	0.000	0.000

2098	2098	3	0.000	0.000	0.000	0.000
2099	2099	3	0.000	0.000	0.000	0.000
2100	2100	3	0.000	0.000	0.000	0.000
2101	2101	3	0.000	0.000	0.000	0.000
2102	2102	3	0.000	0.000	0.000	0.000
2103	2103	3	0.000	0.000	0.000	0.000
2104	2104	3	0.000	0.000	0.000	0.000
2105	2105	3	0.000	0.000	0.000	0.000
2106	2106	3	0.000	0.000	0.000	0.000
2107	2107	3	0.000	0.000	0.000	0.000
2108	2108	3	0.000	0.000	0.000	0.000
2109	2109	3	0.000	0.000	0.000	0.000
2110	2110	3	0.000	0.000	0.000	0.000
2111	2111	3	0.000	0.000	0.000	0.000
2112	2112	3	0.000	0.000	0.000	0.000
2113	2113	3	0.000	0.000	0.000	0.000
2114	2114	3	0.000	0.000	0.000	0.000
2115	2115	3	0.000	0.000	0.000	0.000
2116	2116	3	0.000	0.000	0.000	0.000
2117	2117	3	0.000	0.000	0.000	0.000
2118	2118	3	0.000	0.000	0.000	0.000
2119	2119	3	0.000	0.000	0.000	0.000
2120	2120	3	0.000	0.000	0.000	0.000
2121	2121	3	0.000	0.000	0.000	0.000
2122	2122	3	0.000	0.000	0.000	0.000
2123	2123	3	0.000	0.000	0.000	0.000
2124	2124	3	0.000	0.000	0.000	0.000
2125	2125	3	0.000	0.000	0.000	0.000
2126	2126	3	0.000	0.000	0.000	0.000
2127	2127	3	0.000	0.000	0.000	0.000
2128	2128	3	0.000	0.000	0.000	0.000
2129	2129	3	0.000	0.000	0.000	0.000
2130	2130	3	0.000	0.000	0.000	0.000
2131	2131	3	0.000	0.000	0.000	0.000
2132	2132	3	0.000	0.000	0.000	0.000
2133	2133	3	0.000	0.000	0.000	0.000
2134	2134	3	0.000	0.000	0.000	0.000
2135	2135	3	0.000	0.000	0.000	0.000
2136	2136	3	0.000	0.000	0.000	0.000
2137	2137	3	0.000	0.000	0.000	0.000
2138	2138	3	0.000	0.000	0.000	0.000
2139	2139	3	0.000	0.000	0.000	0.000
2140	2140	3	0.000	0.000	0.000	0.000
2141	2141	3	0.000	0.000	0.000	0.000

2142	2142	3	0.000	0.000	0.000	0.000
2143	2143	3	0.000	0.000	0.000	0.000
2144	2144	3	0.000	0.000	0.000	0.000
2145	2145	3	0.000	0.000	0.000	0.000
2146	2146	3	0.000	0.000	0.000	0.000
2147	2147	3	0.000	0.000	0.000	0.000
2148	2148	3	0.000	0.000	0.000	0.000
2149	2149	3	0.000	0.000	0.000	0.000
2150	2150	3	0.000	0.000	0.000	0.000
2151	2151	3	0.000	0.000	0.000	0.000

FUEL_COST_CHANGES - (std)

*% change p.a.

*Start_yr	End_yr	fuel_type	resource	duty	VAT	CO2_Den_change
2011	2011	1	22.226	-0.297	14.286	-0.844
2012	2012	1	2.040	-2.049	0.000	-0.023
2013	2013	1	-3.443	-1.746	0.000	-0.438
2014	2014	1	-11.771	-1.707	0.000	-0.537
2015	2015	1	-28.520	-0.661	0.000	0.000
2016	2016	1	-7.312	-2.068	0.000	0.000
2017	2017	1	19.734	-1.912	0.000	-1.352
2018	2018	1	13.204	-2.203	0.000	-1.370
2019	2019	1	-10.631	-2.442	0.000	-1.389
2020	2020	1	-11.341	-4.832	0.000	-1.409
2021	2021	1	3.590	1.236	0.000	0.000
2022	2022	1	5.005	3.364	0.000	0.000
2023	2023	1	1.744	0.601	0.000	0.000
2024	2024	1	1.726	0.550	0.000	0.000
2025	2025	1	1.765	0.745	0.000	0.000
2026	2026	1	2.597	0.658	0.000	0.000
2027	2027	1	1.476	0.681	0.000	0.000
2028	2028	1	1.433	0.674	0.000	0.000
2029	2029	1	1.391	0.663	0.000	0.000
2030	2030	1	1.352	0.653	0.000	0.000
2031	2031	1	2.246	0.653	0.000	0.000
2032	2032	1	1.259	0.650	0.000	0.000
2033	2033	1	1.225	0.644	0.000	0.000
2034	2034	1	1.193	0.637	0.000	0.000
2035	2035	1	1.162	0.645	0.000	0.000
2036	2036	1	0.000	0.640	0.000	0.000
2037	2037	1	0.000	0.635	0.000	0.000
2038	2038	1	0.000	0.630	0.000	0.000
2039	2039	1	0.000	0.649	0.000	0.000
2040	2040	1	0.000	0.681	0.000	0.000

2041	2041	1	0.000	0.629	0.000	0.000
2042	2042	1	0.000	0.592	0.000	0.000
2043	2043	1	0.000	0.587	0.000	0.000
2044	2044	1	0.000	0.587	0.000	0.000
2045	2045	1	0.000	0.586	0.000	0.000
2046	2046	1	0.000	0.587	0.000	0.000
2047	2047	1	0.000	0.587	0.000	0.000
2048	2048	1	0.000	0.587	0.000	0.000
2049	2049	1	0.000	0.586	0.000	0.000
2050	2050	1	0.000	0.587	0.000	0.000
2051	2051	1	0.000	0.587	0.000	0.000
2052	2052	1	0.000	0.587	0.000	0.000
2053	2053	1	0.000	0.587	0.000	0.000
2054	2054	1	0.000	0.587	0.000	0.000
2055	2055	1	0.000	0.587	0.000	0.000
2056	2056	1	0.000	0.587	0.000	0.000
2057	2057	1	0.000	0.587	0.000	0.000
2058	2058	1	0.000	0.586	0.000	0.000
2059	2059	1	0.000	0.587	0.000	0.000
2060	2060	1	0.000	0.587	0.000	0.000
2061	2061	1	0.000	0.587	0.000	0.000
2062	2062	1	0.000	0.587	0.000	0.000
2063	2063	1	0.000	0.587	0.000	0.000
2064	2064	1	0.000	0.587	0.000	0.000
2065	2065	1	0.000	0.587	0.000	0.000
2066	2066	1	0.000	0.587	0.000	0.000
2067	2067	1	0.000	0.587	0.000	0.000
2068	2068	1	0.000	0.587	0.000	0.000
2069	2069	1	-1.686	0.587	0.000	0.000
2070	2070	1	0.000	0.587	0.000	0.000
2071	2071	1	0.000	0.587	0.000	0.000
2072	2072	1	0.000	0.587	0.000	0.000
2073	2073	1	0.000	0.587	0.000	0.000
2074	2074	1	0.000	0.586	0.000	0.000
2075	2075	1	0.000	0.587	0.000	0.000
2076	2076	1	0.000	0.587	0.000	0.000
2077	2077	1	0.000	0.586	0.000	0.000
2078	2078	1	0.000	0.587	0.000	0.000
2079	2079	1	0.000	0.587	0.000	0.000
2080	2080	1	0.000	0.587	0.000	0.000
2081	2081	1	0.000	0.587	0.000	0.000
2082	2082	1	0.000	0.587	0.000	0.000
2083	2083	1	0.000	0.587	0.000	0.000
2084	2084	1	0.000	0.587	0.000	0.000

2085	2085	1	0.000	0.587	0.000	0.000
2086	2086	1	0.000	0.587	0.000	0.000
2087	2087	1	0.000	0.587	0.000	0.000
2088	2088	1	0.000	0.587	0.000	0.000
2089	2089	1	0.000	0.587	0.000	0.000
2090	2090	1	0.000	0.587	0.000	0.000
2091	2091	1	0.000	0.587	0.000	0.000
2092	2092	1	0.000	0.587	0.000	0.000
2093	2093	1	0.000	0.587	0.000	0.000
2094	2094	1	0.000	0.587	0.000	0.000
2095	2095	1	0.000	0.587	0.000	0.000
2096	2096	1	0.000	0.587	0.000	0.000
2097	2097	1	0.000	0.587	0.000	0.000
2098	2098	1	0.000	0.587	0.000	0.000
2099	2099	1	0.000	0.587	0.000	0.000
2100	2100	1	0.000	0.587	0.000	0.000
2101	2101	1	0.000	0.587	0.000	0.000
2102	2102	1	0.000	0.587	0.000	0.000
2103	2103	1	0.000	0.587	0.000	0.000
2104	2104	1	0.000	0.587	0.000	0.000
2105	2105	1	0.000	0.587	0.000	0.000
2106	2106	1	0.000	0.587	0.000	0.000
2107	2107	1	0.000	0.587	0.000	0.000
2108	2108	1	0.000	0.587	0.000	0.000
2109	2109	1	0.000	0.587	0.000	0.000
2110	2110	1	0.000	0.587	0.000	0.000
2111	2111	1	0.000	0.587	0.000	0.000
2112	2112	1	0.000	0.587	0.000	0.000
2113	2113	1	0.000	0.587	0.000	0.000
2114	2114	1	0.000	0.587	0.000	0.000
2115	2115	1	0.000	0.587	0.000	0.000
2116	2116	1	0.000	0.587	0.000	0.000
2117	2117	1	0.000	0.587	0.000	0.000
2118	2118	1	0.000	0.587	0.000	0.000
2119	2119	1	0.000	0.587	0.000	0.000
2120	2120	1	0.000	0.587	0.000	0.000
2121	2121	1	0.000	0.587	0.000	0.000
2122	2122	1	0.000	0.587	0.000	0.000
2123	2123	1	0.000	0.587	0.000	0.000
2124	2124	1	0.000	0.587	0.000	0.000
2125	2125	1	0.000	0.587	0.000	0.000
2126	2126	1	0.000	0.587	0.000	0.000
2127	2127	1	0.000	0.587	0.000	0.000
2128	2128	1	0.000	0.587	0.000	0.000

2129	2129	1	0.000	0.587	0.000	0.000
2130	2130	1	0.000	0.587	0.000	0.000
2131	2131	1	0.000	0.587	0.000	0.000
2132	2132	1	0.000	0.587	0.000	0.000
2133	2133	1	0.000	0.587	0.000	0.000
2134	2134	1	0.000	0.587	0.000	0.000
2135	2135	1	0.000	0.587	0.000	0.000
2136	2136	1	0.000	0.587	0.000	0.000
2137	2137	1	0.000	0.587	0.000	0.000
2138	2138	1	0.000	0.587	0.000	0.000
2139	2139	1	0.000	0.587	0.000	0.000
2140	2140	1	0.000	0.587	0.000	0.000
2141	2141	1	0.000	0.587	0.000	0.000
2142	2142	1	0.000	0.587	0.000	0.000
2143	2143	1	0.000	0.587	0.000	0.000
2144	2144	1	0.000	0.587	0.000	0.000
2145	2145	1	0.000	0.587	0.000	0.000
2146	2146	1	0.000	0.587	0.000	0.000
2147	2147	1	0.000	0.587	0.000	0.000
2148	2148	1	0.000	0.587	0.000	0.000
2149	2149	1	0.000	0.587	0.000	0.000
2150	2150	1	0.000	0.587	0.000	0.000
2151	2151	1	0.000	0.587	0.000	0.000
2011	2011	2	26.919	-0.297	14,286	0.188
2012	2012	2	3.247	-2.049	0.000	1.643
2013	2013	2	-3.680	-1.746	0.000	-0.436
2014	2014	2	-11.343	-1.707	0.000	0.153
2015	2015	2	-29.504	-0.661	0.000	0.004
2016	2016	2	-12.397	-2.068	0.000	0.003
2017	2017	2	22.316	-1.912	0.000	-1.744
2018	2018	2	16.802	-2.203	0.000	-1.775
2019	2019	2	-11.392	-2.442	0.000	-1.807
2020	2020	2	-11.913	-4.832	0.000	-1.841
2021	2021	2	3.816	1.236	0.000	0.000
2022	2022	2	5.133	3.364	0.000	0.000
2023	2023	2	1.862	0.601	0.000	0.000
2024	2024	2	1.853	0.550	0.000	0.000
2025	2025	2	1.886	0.745	0.000	0.000
2026	2026	2	2.790	0.658	0.000	0.000
2027	2027	2	1.583	0.681	0.000	0.000
2028	2028	2	1.535	0.674	0.000	0.000
2029	2029	2	1.489	0.663	0.000	0.000
2030	2030	2	1.445	0.653	0.000	0.000
2031	2031	2	2.399	0.653	0.000	0.000

2032	2032	2	1.343	0.650	0.000	0.000
2033	2033	2	1.306	0.644	0.000	0.000
2034	2034	2	1.270	0.637	0.000	0.000
2035	2035	2	1.236	0.645	0.000	0.000
2036	2036	2	0.000	0.640	0.000	0.000
2037	2037	2	0.000	0.635	0.000	0.000
2038	2038	2	0.000	0.630	0.000	0.000
2039	2039	2	0.000	0.649	0.000	0.000
2040	2040	2	0.000	0.681	0.000	0.000
2041	2041	2	0.000	0.629	0.000	0.000
2042	2042	2	0.000	0.592	0.000	0.000
2043	2043	2	0.000	0.587	0.000	0.000
2044	2044	2	0.000	0.587	0.000	0.000
2045	2045	2	0.000	0.586	0.000	0.000
2046	2046	2	0.000	0.587	0.000	0.000
2047	2047	2	0.000	0.587	0.000	0.000
2048	2048	2	0.000	0.587	0.000	0.000
2049	2049	2	0.000	0.586	0.000	0.000
2050	2050	2	0.000	0.587	0.000	0.000
2051	2051	2	0.000	0.587	0.000	0.000
2052	2052	2	0.000	0.587	0.000	0.000
2053	2053	2	0.000	0.587	0.000	0.000
2054	2054	2	0.000	0.587	0.000	0.000
2055	2055	2	0.000	0.587	0.000	0.000
2056	2056	2	0.000	0.587	0.000	0.000
2057	2057	2	0.000	0.587	0.000	0.000
2058	2058	2	0.000	0.586	0.000	0.000
2059	2059	2	0.000	0.587	0.000	0.000
2060	2060	2	0.000	0.587	0.000	0.000
2061	2061	2	0.000	0.587	0.000	0.000
2062	2062	2	0.000	0.587	0.000	0.000
2063	2063	2	0.000	0.587	0.000	0.000
2064	2064	2	0.000	0.587	0.000	0.000
2065	2065	2	0.000	0.587	0.000	0.000
2066	2066	2	0.000	0.587	0.000	0.000
2067	2067	2	0.000	0.587	0.000	0.000
2068	2068	2	0.000	0.587	0.000	0.000
2069	2069	2	-1.686	0.587	0.000	0.000
2070	2070	2	0.000	0.587	0.000	0.000
2071	2071	2	0.000	0.587	0.000	0.000
2072	2072	2	0.000	0.587	0.000	0.000
2073	2073	2	0.000	0.587	0.000	0.000
2074	2074	2	0.000	0.586	0.000	0.000
2075	2075	2	0.000	0.587	0.000	0.000

2076	2076	2	0.000	0.587	0.000	0.000
2077	2077	2	0.000	0.586	0.000	0.000
2078	2078	2	0.000	0.587	0.000	0.000
2079	2079	2	0.000	0.587	0.000	0.000
2080	2080	2	0.000	0.587	0.000	0.000
2081	2081	2	0.000	0.587	0.000	0.000
2082	2082	2	0.000	0.587	0.000	0.000
2083	2083	2	0.000	0.587	0.000	0.000
2084	2084	2	0.000	0.587	0.000	0.000
2085	2085	2	0.000	0.587	0.000	0.000
2086	2086	2	0.000	0.587	0.000	0.000
2087	2087	2	0.000	0.587	0.000	0.000
2088	2088	2	0.000	0.587	0.000	0.000
2089	2089	2	0.000	0.587	0.000	0.000
2090	2090	2	0.000	0.587	0.000	0.000
2091	2091	2	0.000	0.587	0.000	0.000
2092	2092	2	0.000	0.587	0.000	0.000
2093	2093	2	0.000	0.587	0.000	0.000
2094	2094	2	0.000	0.587	0.000	0.000
2095	2095	2	0.000	0.587	0.000	0.000
2096	2096	2	0.000	0.587	0.000	0.000
2097	2097	2	0.000	0.587	0.000	0.000
2098	2098	2	0.000	0.587	0.000	0.000
2099	2099	2	0.000	0.587	0.000	0.000
2100	2100	2	0.000	0.587	0.000	0.000
2101	2101	2	0.000	0.587	0.000	0.000
2102	2102	2	0.000	0.587	0.000	0.000
2103	2103	2	0.000	0.587	0.000	0.000
2104	2104	2	0.000	0.587	0.000	0.000
2105	2105	2	0.000	0.587	0.000	0.000
2106	2106	2	0.000	0.587	0.000	0.000
2107	2107	2	0.000	0.587	0.000	0.000
2108	2108	2	0.000	0.587	0.000	0.000
2109	2109	2	0.000	0.587	0.000	0.000
2110	2110	2	0.000	0.587	0.000	0.000
2111	2111	2	0.000	0.587	0.000	0.000
2112	2112	2	0.000	0.587	0.000	0.000
2113	2113	2	0.000	0.587	0.000	0.000
2114	2114	2	0.000	0.587	0.000	0.000
2115	2115	2	0.000	0.587	0.000	0.000
2116	2116	2	0.000	0.587	0.000	0.000
2117	2117	2	0.000	0.587	0.000	0.000
2118	2118	2	0.000	0.587	0.000	0.000
2119	2119	2	0.000	0.587	0.000	0.000

2120	2120	2	0.000	0.587	0.000	0.000
2121	2121	2	0.000	0.587	0.000	0.000
2122	2122	2	0.000	0.587	0.000	0.000
2123	2123	2	0.000	0.587	0.000	0.000
2124	2124	2	0.000	0.587	0.000	0.000
2125	2125	2	0.000	0.587	0.000	0.000
2126	2126	2	0.000	0.587	0.000	0.000
2127	2127	2	0.000	0.587	0.000	0.000
2128	2128	2	0.000	0.587	0.000	0.000
2129	2129	2	0.000	0.587	0.000	0.000
2130	2130	2	0.000	0.587	0.000	0.000
2131	2131	2	0.000	0.587	0.000	0.000
2132	2132	2	0.000	0.587	0.000	0.000
2133	2133	2	0.000	0.587	0.000	0.000
2134	2134	2	0.000	0.587	0.000	0.000
2135	2135	2	0.000	0.587	0.000	0.000
2136	2136	2	0.000	0.587	0.000	0.000
2137	2137	2	0.000	0.587	0.000	0.000
2138	2138	2	0.000	0.587	0.000	0.000
2139	2139	2	0.000	0.587	0.000	0.000
2140	2140	2	0.000	0.587	0.000	0.000
2141	2141	2	0.000	0.587	0.000	0.000
2142	2142	2	0.000	0.587	0.000	0.000
2143	2143	2	0.000	0.587	0.000	0.000
2144	2144	2	0.000	0.587	0.000	0.000
2145	2145	2	0.000	0.587	0.000	0.000
2146	2146	2	0.000	0.587	0.000	0.000
2147	2147	2	0.000	0.587	0.000	0.000
2148	2148	2	0.000	0.587	0.000	0.000
2149	2149	2	0.000	0.587	0.000	0.000
2150	2150	2	0.000	0.587	0.000	0.000
2151	2151	2	0.000	0.587	0.000	0.000
2011	2011	3	6.000	0.000	0.000	-1.438
2012	2012	3	3.963	0.000	0.000	-1.878
2013	2013	3	4.453	0.000	0.000	-2.438
2014	2014	3	0.807	0.000	0.000	-1.891
2015	2015	3	-2.124	0.000	0.000	-2.837
2016	2016	3	-1.596	0.000	0.000	-3.035
2017	2017	3	3.662	0.000	0.000	-2.830
2018	2018	3	6.268	0.000	0.000	-3.251
2019	2019	3	4.006	0.000	0.000	-3.618
2020	2020	3	-3.240	0.000	0.000	-3.931
2021	2021	3	9.768	0.000	0.000	-4.324
2022	2022	3	1.799	0.000	0.000	-4.776

2023	2023	3	-0.216	0.000	0.000	-5.300
2024	2024	3	-1.595	0.000	0.000	-5.915
2025	2025	3	1.049	0.000	0.000	-6.643
2026	2026	3	0.894	0.000	0.000	-7.520
2027	2027	3	-1.865	0.000	0.000	-8.594
2028	2028	3	-0.274	0.000	0.000	-9.934
2029	2029	3	-0.789	0.000	0.000	-11.657
2030	2030	3	1.876	0.000	0.000	-13.944
2031	2031	3	-0.287	0.000	0.000	-19.089
2032	2032	3	-2.211	0.000	0.000	-19.090
2033	2033	3	-2.565	0.000	0.000	-19.088
2034	2034	3	-1.399	0.000	0.000	-19.090
2035	2035	3	-1.444	0.000	0.000	-19.089
2036	2036	3	-0.695	0.000	0.000	-19.089
2037	2037	3	-0.258	0.000	0.000	-19.088
2038	2038	3	-0.856	0.000	0.000	-19.090
2039	2039	3	1.452	0.000	0.000	-19.092
2040	2040	3	-1.512	0.000	0.000	-19.088
2041	2041	3	0.000	0.000	0.000	-16.984
2042	2042	3	0.000	0.000	0.000	-5.099
2043	2043	3	0.000	0.000	0.000	-2.043
2044	2044	3	0.000	0.000	0.000	-6.009
2045	2045	3	0.000	0.000	0.000	-15.076
2046	2046	3	0.000	0.000	0.000	-9.204
2047	2047	3	0.000	0.000	0.000	-7.798
2048	2048	3	0.000	0.000	0.000	-5.087
2049	2049	3	0.000	0.000	0.000	-6.945
2050	2050	3	0.000	0.000	0.000	-1.718
2051	2051	3	0.000	0.000	0.000	0.000
2052	2052	3	0.000	0.000	0.000	0.000
2053	2053	3	0.000	0.000	0.000	0.000
2054	2054	3	0.000	0.000	0.000	0.000
2055	2055	3	0.000	0.000	0.000	0.000
2056	2056	3	0.000	0.000	0.000	0.000
2057	2057	3	0.000	0.000	0.000	0.000
2058	2058	3	0.000	0.000	0.000	0.000
2059	2059	3	0.000	0.000	0.000	0.000
2060	2060	3	0.000	0.000	0.000	0.000
2061	2061	3	0.000	0.000	0.000	0.000
2062	2062	3	0.000	0.000	0.000	0.000
2063	2063	3	0.000	0.000	0.000	0.000
2064	2064	3	0.000	0.000	0.000	0.000
2065	2065	3	0.000	0.000	0.000	0.000
2066	2066	3	0.000	0.000	0.000	0.000

2067	2067	3	0.000	0.000	0.000	0.000
2068	2068	3	0.000	0.000	0.000	0.000
2069	2069	3	0.000	0.000	0.000	0.000
2070	2070	3	0.000	0.000	0.000	0.000
2071	2071	3	0.000	0.000	0.000	0.000
2072	2072	3	0.000	0.000	0.000	0.000
2073	2073	3	0.000	0.000	0.000	0.000
2074	2074	3	0.000	0.000	0.000	0.000
2075	2075	3	0.000	0.000	0.000	0.000
2076	2076	3	0.000	0.000	0.000	0.000
2077	2077	3	0.000	0.000	0.000	0.000
2078	2078	3	0.000	0.000	0.000	0.000
2079	2079	3	0.000	0.000	0.000	0.000
2080	2080	3	0.000	0.000	0.000	0.000
2081	2081	3	0.000	0.000	0.000	0.000
2082	2082	3	0.000	0.000	0.000	0.000
2083	2083	3	0.000	0.000	0.000	0.000
2084	2084	3	0.000	0.000	0.000	0.000
2085	2085	3	0.000	0.000	0.000	0.000
2086	2086	3	0.000	0.000	0.000	0.000
2087	2087	3	0.000	0.000	0.000	0.000
2088	2088	3	0.000	0.000	0.000	0.000
2089	2089	3	0.000	0.000	0.000	0.000
2090	2090	3	0.000	0.000	0.000	0.000
2091	2091	3	0.000	0.000	0.000	0.000
2092	2092	3	0.000	0.000	0.000	0.000
2093	2093	3	0.000	0.000	0.000	0.000
2094	2094	3	0.000	0.000	0.000	0.000
2095	2095	3	0.000	0.000	0.000	0.000
2096	2096	3	0.000	0.000	0.000	0.000
2097	2097	3	0.000	0.000	0.000	0.000
2098	2098	3	0.000	0.000	0.000	0.000
2099	2099	3	0.000	0.000	0.000	0.000
2100	2100	3	0.000	0.000	0.000	0.000
2101	2101	3	0.000	0.000	0.000	0.000
2102	2102	3	0.000	0.000	0.000	0.000
2103	2103	3	0.000	0.000	0.000	0.000
2104	2104	3	0.000	0.000	0.000	0.000
2105	2105	3	0.000	0.000	0.000	0.000
2106	2106	3	0.000	0.000	0.000	0.000
2107	2107	3	0.000	0.000	0.000	0.000
2108	2108	3	0.000	0.000	0.000	0.000
2109	2109	3	0.000	0.000	0.000	0.000
2110	2110	3	0.000	0.000	0.000	0.000

2111	2111	3	0.000	0.000	0.000	0.000
2112	2112	3	0.000	0.000	0.000	0.000
2113	2113	3	0.000	0.000	0.000	0.000
2114	2114	3	0.000	0.000	0.000	0.000
2115	2115	3	0.000	0.000	0.000	0.000
2116	2116	3	0.000	0.000	0.000	0.000
2117	2117	3	0.000	0.000	0.000	0.000
2118	2118	3	0.000	0.000	0.000	0.000
2119	2119	3	0.000	0.000	0.000	0.000
2120	2120	3	0.000	0.000	0.000	0.000
2121	2121	3	0.000	0.000	0.000	0.000
2122	2122	3	0.000	0.000	0.000	0.000
2123	2123	3	0.000	0.000	0.000	0.000
2124	2124	3	0.000	0.000	0.000	0.000
2125	2125	3	0.000	0.000	0.000	0.000
2126	2126	3	0.000	0.000	0.000	0.000
2127	2127	3	0.000	0.000	0.000	0.000
2128	2128	3	0.000	0.000	0.000	0.000
2129	2129	3	0.000	0.000	0.000	0.000
2130	2130	3	0.000	0.000	0.000	0.000
2131	2131	3	0.000	0.000	0.000	0.000
2132	2132	3	0.000	0.000	0.000	0.000
2133	2133	3	0.000	0.000	0.000	0.000
2134	2134	3	0.000	0.000	0.000	0.000
2135	2135	3	0.000	0.000	0.000	0.000
2136	2136	3	0.000	0.000	0.000	0.000
2137	2137	3	0.000	0.000	0.000	0.000
2138	2138	3	0.000	0.000	0.000	0.000
2139	2139	3	0.000	0.000	0.000	0.000
2140	2140	3	0.000	0.000	0.000	0.000
2141	2141	3	0.000	0.000	0.000	0.000
2142	2142	3	0.000	0.000	0.000	0.000
2143	2143	3	0.000	0.000	0.000	0.000
2144	2144	3	0.000	0.000	0.000	0.000
2145	2145	3	0.000	0.000	0.000	0.000
2146	2146	3	0.000	0.000	0.000	0.000
2147	2147	3	0.000	0.000	0.000	0.000
2148	2148	3	0.000	0.000	0.000	0.000
2149	2149	3	0.000	0.000	0.000	0.000
2150	2150	3	0.000	0.000	0.000	0.000
2151	2151	3	0.000	0.000	0.000	0.000

FLEET - (used)

*veh_type %Petrol %Diesel %Electric

1	59.8962	40.0961	0.0077
2	3.4548	96.4566	0.0886
3	3.4548	96.4566	0.0886
4	0.0000	100.0000	0.0000
5	0.0000	100.0000	0.0000
6	0.0000	99.9221	0.0779
7	0.0000	100.0000	0.0000
8	0.0000	100.0000	0.0000

FLEET - (std)

*veh_type	%Petrol	%Diesel	%Electric
1	59.6299	40.3625	0.0076
2	3.4505	96.4583	0.0912
3	3.4505	96.4583	0.0912
4	0.0000	100.0000	0.0000
5	0.0000	100.0000	0.0000
6	0.0000	100.0000	0.0000
7	0.0000	100.0000	0.0000
8	0.0000	100.0000	0.0000

FLEET_CHANGES - (used)

*% p.a.

*Start_yr	End_yr	Veh_type	%Change_Petrol	%Change_Diesel	%Change_Electric
2011	2011	1	-3.5334	5.2644	72.7273
2012	2012	1	-3.5938	4.8952	77.4436
2013	2013	1	-3.6635	4.5816	52.5424
2014	2014	1	-3.5106	3.9580	142.2222
2015	2015	1	-3.2761	3.3338	105.1606
2016	2016	1	-2.7303	2.5141	65.3438
2017	2017	1	-0.9381	0.6152	48.4449
2018	2018	1	1.1306	-1.3993	39.2394
2019	2019	1	2.3623	-2.7214	36.5882
2020	2020	1	1.9473	-3.2533	75.2245
2021	2021	1	1.5292	-4.3172	87.2343
2022	2022	1	0.2404	-4.6395	72.5965
2023	2023	1	-0.8037	-5.4000	58.4144
2024	2024	1	-1.4484	-6.2086	43.9989
2025	2025	1	-2.0998	-7.3022	35.9550
2026	2026	1	-2.4509	-7.9695	27.7036
2027	2027	1	-2.9226	-8.6666	22.7674
2028	2028	1	-3.3225	-9.3402	18.9875
2029	2029	1	-3.6571	-9.8518	15.8753
2030	2030	1	-3.9691	-10.1168	13.3105
2031	2031	1	-4.0715	-10.1036	10.9677

2032	2032	1	-4.0434	-9.9044	9.0164
2033	2033	1	-4.1522	-9.4536	7.5826
2034	2034	1	-4.2021	-8.8854	6.4073
2035	2035	1	-4.0578	-8.4250	5.3933
2036	2036	1	-3.8855	-7.8288	4.5411
2037	2037	1	-3.8221	-7.0415	3.8820
2038	2038	1	-3.5816	-6.0722	3.2150
2039	2039	1	-3.3132	-5.1005	2.6551
2040	2040	1	-2.9987	-4.3872	2.2093
2041	2041	1	-2.5436	-3.6258	1.7546
2042	2042	1	-2.2945	-3.1222	1.4878
2043	2043	1	-1.9852	-2.7371	1.2411
2044	2044	1	-1.6650	-2.2924	1.0049
2045	2045	1	-1.4495	-1.9597	0.8450
2046	2046	1	-1.2558	-1.6572	0.7092
2047	2047	1	-1.0944	-1.4064	0.6005
2048	2048	1	-0.9945	-1.2353	0.5303
2049	2049	1	-0.8969	-1.0790	0.4665
2050	2050	1	-0.7964	-0.9332	0.4054
2011	2011	2	-9.9745	0.3593	-2.2573
2012	2012	2	-8.1699	0.2539	9.5843
2013	2013	2	-8.1580	0.2422	-2.1075
2014	2014	2	-8.2993	0.2019	22.8202
2015	2015	2	-7.8448	0.1740	16.8273
2016	2016	2	-8.3367	0.1676	15.7539
2017	2017	2	-1.9981	0.0132	17.9520
2018	2018	2	3.9723	-0.1194	20.7143
2019	2019	2	2.8159	-0.1663	47.4283
2020	2020	2	0.6107	-0.2061	58.0426
2021	2021	2	-7.3773	-0.2553	79.4296
2022	2022	2	-1.0385	-0.1683	20.0218
2023	2023	2	-1.0646	-0.1605	16.0196
2024	2024	2	-0.8959	-0.1530	12.9320
2025	2025	2	-0.8468	-0.2198	15.8266
2026	2026	2	-0.8017	-0.2901	17.6330
2027	2027	2	-0.8082	-0.3992	20.2846
2028	2028	2	-0.9106	-0.5771	24.0664
2029	2029	2	-1.0264	-0.7144	23.8074
2030	2030	2	-1.3629	-1.0477	27.9255
2031	2031	2	-1.8716	-1.4764	30.4203
2032	2032	2	-2.3561	-1.9387	30.1393
2033	2033	2	-2.9243	-2.4870	29.1112
2034	2034	2	-3.4326	-2.9768	26.3028
2035	2035	2	-3.8181	-3.3308	22.6024

2036	2036	2	-4.0270	-3.5179	18.8201
2037	2037	2	-4.0964	-3.5581	15.4568
2038	2038	2	-4.1052	-3.5435	12.8578
2039	2039	2	-3.7973	-3.2205	9.9910
2040	2040	2	-3.7896	-3.2207	8.7892
2041	2041	2	-3.3695	-2.8372	6.8894
2042	2042	2	-3.3659	-2.8357	6.2576
2043	2043	2	-3.3161	-2.7852	5.6196
2044	2044	2	-3.2138	-2.6951	5.0050
2045	2045	2	-3.0706	-2.5788	4.4374
2046	2046	2	-2.8271	-2.3669	3.7986
2047	2047	2	-2.6535	-2.2117	3.3391
2048	2048	2	-2.4825	-2.0531	2.9326
2049	2049	2	-2.2761	-1.8776	2.5526
2050	2050	2	-2.0738	-1.6824	2.1886
2011	2011	3	-9.9745	0.3593	-2.2573
2012	2012	3	-8.1699	0.2539	9.5843
2013	2013	3	-8.1580	0.2422	-2.1075
2014	2014	3	-8.2993	0.2019	22.8202
2015	2015	3	-7.8448	0.1740	16.8273
2016	2016	3	-8.3367	0.1676	15.7539
2017	2017	3	-1.9981	0.0132	17.9520
2018	2018	3	3.9723	-0.1194	20.7143
2019	2019	3	2.8159	-0.1663	47.4283
2020	2020	3	0.6107	-0.2061	58.0426
2021	2021	3	-7.3773	-0.2553	79.4296
2022	2022	3	-1.0385	-0.1683	20.0218
2023	2023	3	-1.0646	-0.1605	16.0196
2024	2024	3	-0.8959	-0.1530	12.9320
2025	2025	3	-0.8468	-0.2198	15.8266
2026	2026	3	-0.8017	-0.2901	17.6330
2027	2027	3	-0.8082	-0.3992	20.2846
2028	2028	3	-0.9106	-0.5771	24.0664
2029	2029	3	-1.0264	-0.7144	23.8074
2030	2030	3	-1.3629	-1.0477	27.9255
2031	2031	3	-1.8716	-1.4764	30.4203
2032	2032	3	-2.3561	-1.9387	30.1393
2033	2033	3	-2.9243	-2.4870	29.1112
2034	2034	3	-3.4326	-2.9768	26.3028
2035	2035	3	-3.8181	-3.3308	22.6024
2036	2036	3	-4.0270	-3.5179	18.8201
2037	2037	3	-4.0964	-3.5581	15.4568
2038	2038	3	-4.1052	-3.5435	12.8578
2039	2039	3	-3.7973	-3.2205	9.9910

2040	2040	3	-3.7896	-3.2207	8.7892
2041	2041	3	-3.3695	-2.8372	6.8894
2042	2042	3	-3.3659	-2.8357	6.2576
2043	2043	3	-3.3161	-2.7852	5.6196
2044	2044	3	-3.2138	-2.6951	5.0050
2045	2045	3	-3.0706	-2.5788	4.4374
2046	2046	3	-2.8271	-2.3669	3.7986
2047	2047	3	-2.6535	-2.2117	3.3391
2048	2048	3	-2.4825	-2.0531	2.9326
2049	2049	3	-2.2761	-1.8776	2.5526
2050	2050	3	-2.0738	-1.6824	2.1886
2011	2011	6	0.0000	-0.0011	1.4121
2012	2012	6	0.0000	-0.0202	25.5696
2013	2013	6	0.0000	-0.0327	32.9637
2014	2014	6	0.0000	-0.0723	54.7384
2015	2015	6	0.0000	-0.0313	15.2866
2016	2016	6	0.0000	-0.0935	39.6515
2017	2017	6	0.0000	-0.0617	18.7158
2018	2018	6	0.0000	-0.1298	33.1453
2019	2019	6	0.0000	-0.3121	59.7805
2020	2020	6	0.0000	-0.2987	35.6910
2021	2021	6	0.0000	-0.7068	62.0549
2022	2022	6	0.0000	-4.7142	253.6139
2023	2023	6	0.0000	-4.4616	64.6774
2024	2024	6	0.0000	-2.5792	21.6914
2025	2025	6	0.0000	-3.3217	22.3641
2026	2026	6	0.0000	-2.9956	15.9353
2027	2027	6	0.0000	-3.3685	14.9927
2028	2028	6	0.0000	-3.8909	14.5529
2029	2029	6	0.0000	-3.5896	11.2641
2030	2030	6	0.0000	-1.2289	3.3416
2031	2031	6	0.0000	-1.0185	2.6469
2032	2032	6	0.0000	-0.7730	1.9371
2033	2033	6	0.0000	-0.6043	1.4741
2034	2034	6	0.0000	-0.4783	1.1429
2035	2035	6	0.0000	-0.3495	0.8217
2036	2036	6	0.0000	-0.2085	0.4846
2037	2037	6	0.0000	-0.0851	0.1965
2038	2038	6	0.0000	0.0268	-0.0617
2039	2039	6	0.0000	0.0965	-0.2223
2040	2040	6	0.0000	-0.6920	1.5991
2041	2041	6	0.0000	-0.5875	1.3269
2042	2042	6	0.0000	-0.5265	1.1667
2043	2043	6	0.0000	-0.4615	1.0055

2044	2044	6	0.0000	-0.3947	0.8475
2045	2045	6	0.0000	-0.3467	0.7352
2046	2046	6	0.0000	-0.3361	0.7051
2047	2047	6	0.0000	-0.3365	0.6986
2048	2048	6	0.0000	-0.3394	0.6974
2049	2049	6	0.0000	-0.3277	0.6665
2050	2050	6	0.0000	-0.3043	0.6127
2051	2151	1	0.0000	0.0000	0.0000
2051	2151	2	0.0000	0.0000	0.0000
2051	2151	3	0.0000	0.0000	0.0000
2011	2151	4	0.0000	0.0000	0.0000
2011	2151	5	0.0000	0.0000	0.0000
2051	2151	6	0.0000	0.0000	0.0000

FLEET_CHANGES - (std)

*% p.a.

*Start_yr	End_yr	Veh_type	%Change_Petrol	%Change_Diesel	%Change_Electric
2011	2011	1	-3.5474	5.2271	72.3684
2012	2012	1	-3.6255	4.8862	75.5725
2013	2013	1	-3.7045	4.5823	52.6087
2014	2014	1	-3.5372	3.9494	137.0370
2015	2015	1	-3.3037	3.3379	101.4423
2016	2016	1	-2.7361	2.5097	63.3652
2017	2017	1	-0.8923	0.5861	47.9912
2018	2018	1	1.1991	-1.4201	38.8203
2019	2019	1	1.7017	-1.9941	33.4222
2020	2020	1	1.8536	-2.2461	27.1952
2021	2021	1	1.6150	-2.5074	42.8975
2022	2022	1	1.4618	-2.7336	40.4296
2023	2023	1	1.3175	-3.0441	37.7636
2024	2024	1	0.9803	-3.5199	40.2425
2025	2025	1	0.2872	-4.2813	45.8903
2026	2026	1	-0.0235	-4.6731	36.0447
2027	2027	1	-0.1975	-4.8289	27.3620
2028	2028	1	-0.3930	-4.9178	21.9646
2029	2029	1	-0.6139	-4.9385	18.2947
2030	2030	1	-0.9186	-4.8594	15.7936
2031	2031	1	-1.1396	-4.5854	13.2690
2032	2032	1	-1.3598	-4.2639	11.3740
2033	2033	1	-1.5543	-3.9092	9.8508
2034	2034	1	-1.7099	-3.6116	8.6724
2035	2035	1	-1.8177	-3.2999	7.6247
2036	2036	1	-1.8688	-3.0327	6.7218
2037	2037	1	-1.8936	-2.8160	5.9844

2038	2038	1	-1.8686	-2.5621	5.2552
2039	2039	1	-1.8261	-2.3161	4.6228
2040	2040	1	-2.0337	-2.4757	4.7437
2041	2041	1	-1.9404	-2.3503	4.2169
2042	2042	1	-1.8614	-2.2344	3.7873
2043	2043	1	-1.7986	-2.0982	3.4172
2044	2044	1	-1.8062	-2.0617	3.2286
2045	2045	1	-1.7138	-1.9060	2.8834
2046	2046	1	-1.6902	-1.8698	2.7094
2047	2047	1	-1.6879	-1.8470	2.5779
2048	2048	1	-1.6589	-1.8011	2.4200
2049	2049	1	-1.6009	-1.7231	2.2342
2050	2050	1	-1.5935	-1.7035	2.1344
2011	2011	2	-9.9551	0.3589	-2.9605
2012	2012	2	-8.0850	0.2503	10.1695
2013	2013	2	-8.1413	0.2417	-2.2564
2014	2014	2	-8.3635	0.2034	22.5603
2015	2015	2	-7.9288	0.1755	16.6952
2016	2016	2	-8.3676	0.1677	15.7007
2017	2017	2	-1.9723	0.0123	17.7552
2018	2018	2	4.0994	-0.1225	20.6247
2019	2019	2	-1.5414	-0.0689	44.2857
2020	2020	2	-1.2465	0.0340	-2.4134
2021	2021	2	-0.1690	-0.0505	16.7089
2022	2022	2	0.1344	-0.0690	17.5767
2023	2023	2	0.9644	-0.1262	23.9603
2024	2024	2	2.0384	-0.2103	30.4753
2025	2025	2	4.5262	-0.4417	47.9714
2026	2026	2	3.4807	-0.4261	32.5352
2027	2027	2	3.9436	-0.5348	31.1116
2028	2028	2	4.5536	-0.6795	30.2961
2029	2029	2	4.8684	-0.7989	27.3836
2030	2030	2	4.9673	-0.9096	24.5096
2031	2031	2	5.0865	-0.9474	20.1742
2032	2032	2	4.8793	-1.0056	17.7808
2033	2033	2	4.6320	-1.0543	15.7803
2034	2034	2	4.3655	-1.0969	14.1249
2035	2035	2	4.0807	-1.1390	12.8123
2036	2036	2	3.8076	-1.1648	11.5496
2037	2037	2	3.5417	-1.1887	10.5057
2038	2038	2	3.2793	-1.2049	9.5762
2039	2039	2	3.0357	-1.2185	8.7799
2040	2040	2	2.8032	-1.2286	8.0825
2041	2041	2	2.5647	-1.2034	7.2582

2042	2042	2	2.4018	-1.2091	6.7416
2043	2043	2	2.2033	-1.2237	6.3558
2044	2044	2	2.0402	-1.2164	5.8890
2045	2045	2	1.8815	-1.2057	5.4663
2046	2046	2	1.6834	-1.1668	4.9758
2047	2047	2	1.5551	-1.1570	4.6635
2048	2048	2	1.4237	-1.1416	4.3618
2049	2049	2	1.2542	-1.1392	4.1548
2050	2050	2	1.1467	-1.1150	3.8719
2011	2011	3	-9.9551	0.3589	-2.9605
2012	2012	3	-8.0850	0.2503	10.1695
2013	2013	3	-8.1413	0.2417	-2.2564
2014	2014	3	-8.3635	0.2034	22.5603
2015	2015	3	-7.9288	0.1755	16.6952
2016	2016	3	-8.3676	0.1677	15.7007
2017	2017	3	-1.9723	0.0123	17.7552
2018	2018	3	4.0994	-0.1225	20.6247
2019	2019	3	-1.5414	-0.0689	44.2857
2020	2020	3	-1.2465	0.0340	-2.4134
2021	2021	3	-0.1690	-0.0505	16.7089
2022	2022	3	0.1344	-0.0690	17.5767
2023	2023	3	0.9644	-0.1262	23.9603
2024	2024	3	2.0384	-0.2103	30.4753
2025	2025	3	4.5262	-0.4417	47.9714
2026	2026	3	3.4807	-0.4261	32.5352
2027	2027	3	3.9436	-0.5348	31.1116
2028	2028	3	4.5536	-0.6795	30.2961
2029	2029	3	4.8684	-0.7989	27.3836
2030	2030	3	4.9673	-0.9096	24.5096
2031	2031	3	5.0865	-0.9474	20.1742
2032	2032	3	4.8793	-1.0056	17.7808
2033	2033	3	4.6320	-1.0543	15.7803
2034	2034	3	4.3655	-1.0969	14.1249
2035	2035	3	4.0807	-1.1390	12.8123
2036	2036	3	3.8076	-1.1648	11.5496
2037	2037	3	3.5417	-1.1887	10.5057
2038	2038	3	3.2793	-1.2049	9.5762
2039	2039	3	3.0357	-1.2185	8.7799
2040	2040	3	2.8032	-1.2286	8.0825
2041	2041	3	2.5647	-1.2034	7.2582
2042	2042	3	2.4018	-1.2091	6.7416
2043	2043	3	2.2033	-1.2237	6.3558
2044	2044	3	2.0402	-1.2164	5.8890
2045	2045	3	1.8815	-1.2057	5.4663

2046	2046	3	1.6834	-1.1668	4.9758
2047	2047	3	1.5551	-1.1570	4.6635
2048	2048	3	1.4237	-1.1416	4.3618
2049	2049	3	1.2542	-1.1392	4.1548
2050	2050	3	1.1467	-1.1150	3.8719
2051	2151	1	0.0000	0.0000	0.0000
2051	2151	2	0.0000	0.0000	0.0000
2051	2151	3	0.0000	0.0000	0.0000
2011	2151	4	0.0000	0.0000	0.0000
2011	2151	5	0.0000	0.0000	0.0000
2011	2151	6	0.0000	0.0000	0.0000

FUEL_CONSUMPTION - (used)

*veh_type	fuel_type	a_fuel	b_fuel	c_fuel	d_fuel	cut-off_speeds(km/h)	
		max		min			
1	1	0.4666	0.09917	-0.11296E-02	0.74815E-05	130	10
1	2	0.5050	0.07241	-0.69660E-03	0.54893E-05	130	10
1	3	0.0000	0.22466	0.00000E+00	0.00000E+00	120	10
2	1	0.3518	0.19727	-0.30966E-02	0.19998E-04	120	10
2	2	0.4682	0.11444	-0.16510E-02	0.13977E-04	110	10
2	3	0.0000	0.25706	0.00000E+00	0.00000E+00	120	10
3	1	0.3518	0.19727	-0.30966E-02	0.19998E-04	120	10
3	2	0.4682	0.11444	-0.16510E-02	0.13977E-04	110	10
3	3	0.0000	0.25706	0.00000E+00	0.00000E+00	120	10
4	2	2.6039	0.13816	-0.99860E-03	0.10906E-04	85	12
5	2	5.7277	0.29745	-0.19708E-02	0.11746E-04	85	12
6	2	3.3350	0.29304	-0.31851E-02	0.23364E-04	85	12
6	3	0.0000	1.17983	0.00000E+00	0.00000E+00	85	12

FUEL_CONSUMPTION - (std)

*veh_type	fuel_type	a_fuel	b_fuel	c_fuel	d_fuel	cut-off_speeds(km/h)	
		max		min			
1	1	0.4707	0.10003	-0.11394E-02	0.75462E-05	130	10
1	2	0.5069	0.07268	-0.69920E-03	0.55097E-05	130	10
1	3	0.0000	0.21366	0.00000E+00	0.00000E+00	120	10
2	1	0.3487	0.19552	-0.30690E-02	0.19819E-04	120	10
2	2	0.4688	0.11457	-0.16529E-02	0.13993E-04	110	10
2	3	0.0000	0.23232	0.00000E+00	0.00000E+00	120	10
3	1	0.3487	0.19552	-0.30690E-02	0.19819E-04	120	10
3	2	0.4688	0.11457	-0.16529E-02	0.13993E-04	110	10
3	3	0.0000	0.23232	0.00000E+00	0.00000E+00	120	10
4	2	2.6115	0.13856	-0.10015E-02	0.10938E-04	85	12
5	2	5.7221	0.29716	-0.19688E-02	0.11735E-04	85	12
6	2	3.3602	0.29525	-0.32091E-02	0.23540E-04	85	12

FUEL_EFFICIENCY - (used)

*% p.a.

*Start_yr	End_yr	veh_type	fuel_type	change
2011	2011	1	1	0.662
2011	2011	1	2	0.817
2011	2011	1	3	-0.025
2011	2011	2	1	-0.095
2011	2011	2	2	0.139
2011	2011	2	3	0.000
2011	2011	3	1	-0.095
2011	2011	3	2	0.139
2011	2011	3	3	0.000
2011	2011	4	2	-0.217
2011	2011	4	3	0.000
2011	2011	5	2	-0.047
2011	2011	5	3	0.000
2011	2011	6	2	-0.140
2011	2011	6	3	0.000
2012	2012	1	1	0.824
2012	2012	1	2	0.877
2012	2012	1	3	0.491
2012	2012	2	1	-0.074
2012	2012	2	2	0.386
2012	2012	2	3	0.000
2012	2012	3	1	-0.074
2012	2012	3	2	0.386
2012	2012	3	3	0.000
2012	2012	4	2	-3.140
2012	2012	4	3	0.000
2012	2012	5	2	0.414
2012	2012	5	3	0.000
2012	2012	6	2	-0.258
2012	2012	6	3	0.000
2013	2013	1	1	1.035
2013	2013	1	2	0.939
2013	2013	1	3	0.025
2013	2013	2	1	0.178
2013	2013	2	2	0.142
2013	2013	2	3	0.000
2013	2013	3	1	0.178
2013	2013	3	2	0.142
2013	2013	3	3	0.000
2013	2013	4	2	0.524

2013	2013	4	3	0.000
2013	2013	5	2	0.199
2013	2013	5	3	0.000
2013	2013	6	2	-0.069
2013	2013	6	3	0.000
2014	2014	1	1	-0.594
2014	2014	1	2	0.712
2014	2014	1	3	0.709
2014	2014	2	1	-0.410
2014	2014	2	2	0.114
2014	2014	2	3	-0.064
2014	2014	3	1	-0.410
2014	2014	3	2	0.114
2014	2014	3	3	-0.064
2014	2014	4	2	-1.002
2014	2014	4	3	0.000
2014	2014	5	2	0.195
2014	2014	5	3	0.000
2014	2014	6	2	-0.064
2014	2014	6	3	0.000
2015	2015	1	1	1.252
2015	2015	1	2	1.319
2015	2015	1	3	0.591
2015	2015	2	1	2.511
2015	2015	2	2	0.235
2015	2015	2	3	-0.700
2015	2015	3	1	2.511
2015	2015	3	2	0.235
2015	2015	3	3	-0.700
2015	2015	4	2	0.295
2015	2015	4	3	0.000
2015	2015	5	2	0.327
2015	2015	5	3	0.000
2015	2015	6	2	-0.221
2015	2015	6	3	0.000
2016	2016	1	1	1.373
2016	2016	1	2	1.203
2016	2016	1	3	0.418
2016	2016	2	1	-0.117
2016	2016	2	2	0.703
2016	2016	2	3	-0.216
2016	2016	3	1	-0.117
2016	2016	3	2	0.703
2016	2016	3	3	-0.216

2016	2016	4	2	0.922
2016	2016	4	3	0.000
2016	2016	5	2	0.233
2016	2016	5	3	0.000
2016	2016	6	2	-0.060
2016	2016	6	3	-0.097
2017	2017	1	1	1.236
2017	2017	1	2	0.778
2017	2017	1	3	0.132
2017	2017	2	1	1.631
2017	2017	2	2	1.238
2017	2017	2	3	-0.009
2017	2017	3	1	1.631
2017	2017	3	2	1.238
2017	2017	3	3	-0.009
2017	2017	4	2	-0.773
2017	2017	4	3	0.000
2017	2017	5	2	0.317
2017	2017	5	3	0.000
2017	2017	6	2	-0.036
2017	2017	6	3	-0.080
2018	2018	1	1	0.987
2018	2018	1	2	0.058
2018	2018	1	3	0.092
2018	2018	2	1	3.066
2018	2018	2	2	0.884
2018	2018	2	3	-0.418
2018	2018	3	1	3.066
2018	2018	3	2	0.884
2018	2018	3	3	-0.418
2018	2018	4	2	0.421
2018	2018	4	3	0.000
2018	2018	5	2	0.544
2018	2018	5	3	0.000
2018	2018	6	2	-0.161
2018	2018	6	3	-0.191
2019	2019	1	1	0.626
2019	2019	1	2	-0.319
2019	2019	1	3	-0.347
2019	2019	2	1	1.138
2019	2019	2	2	0.740
2019	2019	2	3	0.088
2019	2019	3	1	1.138
2019	2019	3	2	0.740

2019	2019	3	3	0.088
2019	2019	4	2	-0.944
2019	2019	4	3	0.000
2019	2019	5	2	0.546
2019	2019	5	3	0.000
2019	2019	6	2	-0.168
2019	2019	6	3	-0.223
2020	2020	1	1	0.927
2020	2020	1	2	-0.092
2020	2020	1	3	-0.578
2020	2020	2	1	1.902
2020	2020	2	2	0.372
2020	2020	2	3	-0.341
2020	2020	3	1	1.902
2020	2020	3	2	0.372
2020	2020	3	3	-0.341
2020	2020	4	2	-0.700
2020	2020	4	3	0.000
2020	2020	5	2	0.352
2020	2020	5	3	0.000
2020	2020	6	2	-0.118
2020	2020	6	3	-0.337
2021	2021	1	1	1.169
2021	2021	1	2	-0.014
2021	2021	1	3	3.385
2021	2021	2	1	2.499
2021	2021	2	2	1.189
2021	2021	2	3	0.466
2021	2021	3	1	2.499
2021	2021	3	2	1.189
2021	2021	3	3	0.466
2021	2021	4	2	0.532
2021	2021	4	3	0.000
2021	2021	5	2	0.644
2021	2021	5	3	0.000
2021	2021	6	2	-0.093
2021	2021	6	3	0.885
2022	2022	1	1	-0.836
2022	2022	1	2	0.006
2022	2022	1	3	3.869
2022	2022	2	1	4.304
2022	2022	2	2	0.815
2022	2022	2	3	-0.062
2022	2022	3	1	4.304

2022	2022	3	2	0.815
2022	2022	3	3	-0.062
2022	2022	4	2	0.589
2022	2022	4	3	0.000
2022	2022	5	2	0.547
2022	2022	5	3	0.000
2022	2022	6	2	-0.120
2022	2022	6	3	3.311
2023	2023	1	1	0.823
2023	2023	1	2	-0.026
2023	2023	1	3	2.928
2023	2023	2	1	2.131
2023	2023	2	2	0.721
2023	2023	2	3	0.297
2023	2023	3	1	2.131
2023	2023	3	2	0.721
2023	2023	3	3	0.297
2023	2023	4	2	0.577
2023	2023	4	3	0.000
2023	2023	5	2	0.560
2023	2023	5	3	0.000
2023	2023	6	2	-0.095
2023	2023	6	3	1.901
2024	2024	1	1	0.593
2024	2024	1	2	-0.057
2024	2024	1	3	2.092
2024	2024	2	1	2.062
2024	2024	2	2	0.675
2024	2024	2	3	0.341
2024	2024	3	1	2.062
2024	2024	3	2	0.675
2024	2024	3	3	0.341
2024	2024	4	2	0.567
2024	2024	4	3	0.000
2024	2024	5	2	0.586
2024	2024	5	3	0.000
2024	2024	6	2	0.011
2024	2024	6	3	1.362
2025	2025	1	1	0.334
2025	2025	1	2	-0.072
2025	2025	1	3	1.828
2025	2025	2	1	2.658
2025	2025	2	2	1.643
2025	2025	2	3	0.472

2025	2025	3	1	2.658
2025	2025	3	2	1.643
2025	2025	3	3	0.472
2025	2025	4	2	1.078
2025	2025	4	3	0.000
2025	2025	5	2	1.849
2025	2025	5	3	0.000
2025	2025	6	2	0.031
2025	2025	6	3	1.886
2026	2026	1	1	0.238
2026	2026	1	2	-0.115
2026	2026	1	3	1.458
2026	2026	2	1	2.532
2026	2026	2	2	1.489
2026	2026	2	3	0.578
2026	2026	3	1	2.532
2026	2026	3	2	1.489
2026	2026	3	3	0.578
2026	2026	4	2	1.050
2026	2026	4	3	0.000
2026	2026	5	2	1.888
2026	2026	5	3	0.000
2026	2026	6	2	0.052
2026	2026	6	3	1.530
2027	2027	1	1	0.159
2027	2027	1	2	-0.159
2027	2027	1	3	1.326
2027	2027	2	1	4.516
2027	2027	2	2	1.360
2027	2027	2	3	0.506
2027	2027	3	1	4.516
2027	2027	3	2	1.360
2027	2027	3	3	0.506
2027	2027	4	2	1.010
2027	2027	4	3	0.000
2027	2027	5	2	1.827
2027	2027	5	3	0.000
2027	2027	6	2	0.127
2027	2027	6	3	1.497
2028	2028	1	1	0.087
2028	2028	1	2	-0.216
2028	2028	1	3	1.215
2028	2028	2	1	2.106
2028	2028	2	2	1.237

2028	2028	2	3	0.556
2028	2028	3	1	2.106
2028	2028	3	2	1.237
2028	2028	3	3	0.556
2028	2028	4	2	0.976
2028	2028	4	3	0.000
2028	2028	5	2	1.778
2028	2028	5	3	0.000
2028	2028	6	2	0.136
2028	2028	6	3	1.429
2029	2029	1	1	0.024
2029	2029	1	2	-0.284
2029	2029	1	3	1.180
2029	2029	2	1	1.991
2029	2029	2	2	1.142
2029	2029	2	3	0.357
2029	2029	3	1	1.991
2029	2029	3	2	1.142
2029	2029	3	3	0.357
2029	2029	4	2	0.948
2029	2029	4	3	0.000
2029	2029	5	2	1.702
2029	2029	5	3	0.000
2029	2029	6	2	0.148
2029	2029	6	3	1.250
2030	2030	1	1	0.021
2030	2030	1	2	-0.366
2030	2030	1	3	1.123
2030	2030	2	1	2.720
2030	2030	2	2	2.177
2030	2030	2	3	-0.469
2030	2030	3	1	2.720
2030	2030	3	2	2.177
2030	2030	3	3	-0.469
2030	2030	4	2	1.599
2030	2030	4	3	0.000
2030	2030	5	2	3.302
2030	2030	5	3	0.000
2030	2030	6	2	0.190
2030	2030	6	3	0.841
2031	2031	1	1	-0.068
2031	2031	1	2	-0.361
2031	2031	1	3	0.961
2031	2031	2	1	0.062

2031	2031	2	2	2.084
2031	2031	2	3	-1.235
2031	2031	3	1	0.062
2031	2031	3	2	2.084
2031	2031	3	3	-1.235
2031	2031	4	2	1.522
2031	2031	4	3	0.000
2031	2031	5	2	3.277
2031	2031	5	3	0.000
2031	2031	6	2	0.192
2031	2031	6	3	0.787
2032	2032	1	1	-0.106
2032	2032	1	2	-0.381
2032	2032	1	3	0.857
2032	2032	2	1	2.503
2032	2032	2	2	1.668
2032	2032	2	3	-1.684
2032	2032	3	1	2.503
2032	2032	3	2	1.668
2032	2032	3	3	-1.684
2032	2032	4	2	1.484
2032	2032	4	3	0.000
2032	2032	5	2	3.008
2032	2032	5	3	0.000
2032	2032	6	2	0.084
2032	2032	6	3	0.750
2033	2033	1	1	-0.116
2033	2033	1	2	-0.386
2033	2033	1	3	0.790
2033	2033	2	1	2.964
2033	2033	2	2	1.626
2033	2033	2	3	-1.777
2033	2033	3	1	2.964
2033	2033	3	2	1.626
2033	2033	3	3	-1.777
2033	2033	4	2	1.404
2033	2033	4	3	0.000
2033	2033	5	2	2.748
2033	2033	5	3	0.000
2033	2033	6	2	0.145
2033	2033	6	3	0.721
2034	2034	1	1	-0.126
2034	2034	1	2	-0.393
2034	2034	1	3	0.748

2034	2034	2	1	4.667
2034	2034	2	2	1.264
2034	2034	2	3	-1.521
2034	2034	3	1	4.667
2034	2034	3	2	1.264
2034	2034	3	3	-1.521
2034	2034	4	2	1.321
2034	2034	4	3	0.000
2034	2034	5	2	2.559
2034	2034	5	3	0.000
2034	2034	6	2	0.401
2034	2034	6	3	0.724
2035	2035	1	1	-0.173
2035	2035	1	2	-0.358
2035	2035	1	3	0.722
2035	2035	2	1	-2.719
2035	2035	2	2	1.183
2035	2035	2	3	-1.133
2035	2035	3	1	-2.719
2035	2035	3	2	1.183
2035	2035	3	3	-1.133
2035	2035	4	2	1.229
2035	2035	4	3	0.000
2035	2035	5	2	2.323
2035	2035	5	3	0.000
2035	2035	6	2	0.252
2035	2035	6	3	0.748
2036	2036	1	1	-0.188
2036	2036	1	2	-0.251
2036	2036	1	3	0.712
2036	2036	2	1	2.305
2036	2036	2	2	1.146
2036	2036	2	3	-0.751
2036	2036	3	1	2.305
2036	2036	3	2	1.146
2036	2036	3	3	-0.751
2036	2036	4	2	1.142
2036	2036	4	3	0.000
2036	2036	5	2	2.020
2036	2036	5	3	0.000
2036	2036	6	2	0.188
2036	2036	6	3	0.761
2037	2037	1	1	-0.232
2037	2037	1	2	-0.323

2037	2037	1	3	0.717
2037	2037	2	1	1.801
2037	2037	2	2	1.152
2037	2037	2	3	-0.441
2037	2037	3	1	1.801
2037	2037	3	2	1.152
2037	2037	3	3	-0.441
2037	2037	4	2	1.035
2037	2037	4	3	0.000
2037	2037	5	2	1.558
2037	2037	5	3	0.000
2037	2037	6	2	0.354
2037	2037	6	3	0.782
2038	2038	1	1	-0.236
2038	2038	1	2	-0.424
2038	2038	1	3	0.717
2038	2038	2	1	5.995
2038	2038	2	2	1.204
2038	2038	2	3	-0.217
2038	2038	3	1	5.995
2038	2038	3	2	1.204
2038	2038	3	3	-0.217
2038	2038	4	2	0.915
2038	2038	4	3	0.000
2038	2038	5	2	1.195
2038	2038	5	3	0.000
2038	2038	6	2	0.272
2038	2038	6	3	0.805
2039	2039	1	1	-0.233
2039	2039	1	2	-0.611
2039	2039	1	3	0.713
2039	2039	2	1	-0.357
2039	2039	2	2	0.702
2039	2039	2	3	0.021
2039	2039	3	1	-0.357
2039	2039	3	2	0.702
2039	2039	3	3	0.021
2039	2039	4	2	0.794
2039	2039	4	3	0.000
2039	2039	5	2	0.889
2039	2039	5	3	0.000
2039	2039	6	2	0.201
2039	2039	6	3	0.822
2040	2040	1	1	-0.203

2040	2040	1	2	-0.411
2040	2040	1	3	0.720
2040	2040	2	1	1.080
2040	2040	2	2	0.723
2040	2040	2	3	0.104
2040	2040	3	1	1.080
2040	2040	3	2	0.723
2040	2040	3	3	0.104
2040	2040	4	2	0.689
2040	2040	4	3	0.000
2040	2040	5	2	0.664
2040	2040	5	3	0.000
2040	2040	6	2	0.256
2040	2040	6	3	0.928
2041	2041	1	1	0.027
2041	2041	1	2	0.054
2041	2041	1	3	0.701
2041	2041	2	1	4.247
2041	2041	2	2	0.511
2041	2041	2	3	0.157
2041	2041	3	1	4.247
2041	2041	3	2	0.511
2041	2041	3	3	0.157
2041	2041	4	2	0.607
2041	2041	4	3	0.000
2041	2041	5	2	0.494
2041	2041	5	3	0.000
2041	2041	6	2	0.423
2041	2041	6	3	0.866
2042	2042	1	1	-0.082
2042	2042	1	2	-0.073
2042	2042	1	3	0.685
2042	2042	2	1	2.107
2042	2042	2	2	0.932
2042	2042	2	3	0.161
2042	2042	3	1	2.107
2042	2042	3	2	0.932
2042	2042	3	3	0.161
2042	2042	4	2	0.538
2042	2042	4	3	0.000
2042	2042	5	2	0.370
2042	2042	5	3	0.000
2042	2042	6	2	0.288
2042	2042	6	3	0.802

2043	2043	1	1	-0.107
2043	2043	1	2	-0.009
2043	2043	1	3	0.662
2043	2043	2	1	0.816
2043	2043	2	2	0.626
2043	2043	2	3	0.170
2043	2043	3	1	0.816
2043	2043	3	2	0.626
2043	2043	3	3	0.170
2043	2043	4	2	0.485
2043	2043	4	3	0.000
2043	2043	5	2	0.292
2043	2043	5	3	0.000
2043	2043	6	2	0.262
2043	2043	6	3	0.744
2044	2044	1	1	-0.075
2044	2044	1	2	-0.004
2044	2044	1	3	0.639
2044	2044	2	1	0.451
2044	2044	2	2	0.395
2044	2044	2	3	0.197
2044	2044	3	1	0.451
2044	2044	3	2	0.395
2044	2044	3	3	0.197
2044	2044	4	2	0.446
2044	2044	4	3	0.000
2044	2044	5	2	0.234
2044	2044	5	3	0.000
2044	2044	6	2	0.256
2044	2044	6	3	0.710
2045	2045	1	1	-0.046
2045	2045	1	2	-0.001
2045	2045	1	3	0.620
2045	2045	2	1	0.400
2045	2045	2	2	0.339
2045	2045	2	3	0.217
2045	2045	3	1	0.400
2045	2045	3	2	0.339
2045	2045	3	3	0.217
2045	2045	4	2	0.415
2045	2045	4	3	0.000
2045	2045	5	2	0.199
2045	2045	5	3	0.000
2045	2045	6	2	0.255

2045	2045	6	3	0.674
2046	2046	1	1	-0.022
2046	2046	1	2	0.000
2046	2046	1	3	0.603
2046	2046	2	1	1.958
2046	2046	2	2	1.266
2046	2046	2	3	0.233
2046	2046	3	1	1.958
2046	2046	3	2	1.266
2046	2046	3	3	0.233
2046	2046	4	2	0.425
2046	2046	4	3	0.000
2046	2046	5	2	0.214
2046	2046	5	3	0.000
2046	2046	6	2	0.248
2046	2046	6	3	0.634
2047	2047	1	1	-0.009
2047	2047	1	2	0.002
2047	2047	1	3	0.581
2047	2047	2	1	0.207
2047	2047	2	2	0.178
2047	2047	2	3	0.264
2047	2047	3	1	0.207
2047	2047	3	2	0.178
2047	2047	3	3	0.264
2047	2047	4	2	0.362
2047	2047	4	3	0.000
2047	2047	5	2	0.138
2047	2047	5	3	0.000
2047	2047	6	2	0.247
2047	2047	6	3	0.577
2048	2048	1	1	0.004
2048	2048	1	2	0.003
2048	2048	1	3	0.565
2048	2048	2	1	0.179
2048	2048	2	2	0.147
2048	2048	2	3	0.285
2048	2048	3	1	0.179
2048	2048	3	2	0.147
2048	2048	3	3	0.285
2048	2048	4	2	0.349
2048	2048	4	3	0.000
2048	2048	5	2	0.124
2048	2048	5	3	0.000

2048	2048	6	2	0.252
2048	2048	6	3	0.549
2049	2049	1	1	0.013
2049	2049	1	2	0.004
2049	2049	1	3	0.545
2049	2049	2	1	0.156
2049	2049	2	2	0.124
2049	2049	2	3	0.310
2049	2049	3	1	0.156
2049	2049	3	2	0.124
2049	2049	3	3	0.310
2049	2049	4	2	0.340
2049	2049	4	3	0.000
2049	2049	5	2	0.116
2049	2049	5	3	0.000
2049	2049	6	2	0.241
2049	2049	6	3	0.528
2050	2050	1	1	0.019
2050	2050	1	2	0.004
2050	2050	1	3	0.529
2050	2050	2	1	0.139
2050	2050	2	2	0.106
2050	2050	2	3	0.332
2050	2050	3	1	0.139
2050	2050	3	2	0.106
2050	2050	3	3	0.332
2050	2050	4	2	0.333
2050	2050	4	3	0.000
2050	2050	5	2	0.109
2050	2050	5	3	0.000
2050	2050	6	2	0.270
2050	2050	6	3	0.512
2051	2151	1	1	0.000
2051	2151	1	2	0.000
2051	2151	1	3	0.000
2051	2151	2	1	0.000
2051	2151	2	2	0.000
2051	2151	2	3	0.000
2051	2151	3	1	0.000
2051	2151	3	2	0.000
2051	2151	3	3	0.000
2051	2151	4	2	0.000
2051	2151	4	3	0.000
2051	2151	5	2	0.000

2051	2151	5	3	0.000
2051	2151	6	2	0.000
2051	2151	6	3	0.000

FUEL_EFFICIENCY - (std)

*% p.a.

*Start_yr	End_yr	veh_type	fuel_type	change
2011	2011	1	1	0.604
2011	2011	1	2	0.874
2011	2011	1	3	0.032
2011	2011	2	1	-0.168
2011	2011	2	2	0.177
2011	2011	2	3	0.000
2011	2011	3	1	-0.168
2011	2011	3	2	0.177
2011	2011	3	3	0.000
2011	2011	4	2	-0.113
2011	2011	5	2	0.011
2012	2012	1	1	0.285
2012	2012	1	2	0.975
2012	2012	1	3	-0.707
2012	2012	2	1	-0.630
2012	2012	2	2	0.468
2012	2012	2	3	0.000
2012	2012	3	1	-0.630
2012	2012	3	2	0.468
2012	2012	3	3	0.000
2012	2012	4	2	-2.932
2012	2012	5	2	0.288
2013	2013	1	1	0.891
2013	2013	1	2	0.920
2013	2013	1	3	0.085
2013	2013	2	1	0.031
2013	2013	2	2	0.107
2013	2013	2	3	0.000
2013	2013	3	1	0.031
2013	2013	3	2	0.107
2013	2013	3	3	0.000
2013	2013	4	2	0.475
2013	2013	5	2	0.068
2014	2014	1	1	0.979
2014	2014	1	2	0.945
2014	2014	1	3	-1.015
2014	2014	2	1	-0.518

2014	2014	2	2	0.057
2014	2014	2	3	-0.042
2014	2014	3	1	-0.518
2014	2014	3	2	0.057
2014	2014	3	3	-0.042
2014	2014	4	2	-1.038
2014	2014	5	2	0.144
2015	2015	1	1	1.281
2015	2015	1	2	1.319
2015	2015	1	3	-0.927
2015	2015	2	1	2.498
2015	2015	2	2	0.323
2015	2015	2	3	-0.454
2015	2015	3	1	2.498
2015	2015	3	2	0.323
2015	2015	3	3	-0.454
2015	2015	4	2	0.361
2015	2015	5	2	0.480
2016	2016	1	1	1.406
2016	2016	1	2	1.207
2016	2016	1	3	1.034
2016	2016	2	1	-0.062
2016	2016	2	2	0.705
2016	2016	2	3	0.340
2016	2016	3	1	-0.062
2016	2016	3	2	0.705
2016	2016	3	3	0.340
2016	2016	4	2	0.747
2016	2016	5	2	0.239
2017	2017	1	1	1.270
2017	2017	1	2	0.783
2017	2017	1	3	1.188
2017	2017	2	1	1.646
2017	2017	2	2	1.249
2017	2017	2	3	0.804
2017	2017	3	1	1.646
2017	2017	3	2	1.249
2017	2017	3	3	0.804
2017	2017	4	2	-0.771
2017	2017	5	2	0.316
2018	2018	1	1	1.029
2018	2018	1	2	0.063
2018	2018	1	3	1.035
2018	2018	2	1	3.029

2018	2018	2	2	0.770
2018	2018	2	3	0.708
2018	2018	3	1	3.029
2018	2018	3	2	0.770
2018	2018	3	3	0.708
2018	2018	4	2	-0.058
2018	2018	5	2	0.407
2019	2019	1	1	0.990
2019	2019	1	2	-0.041
2019	2019	1	3	2.359
2019	2019	2	1	1.141
2019	2019	2	2	0.522
2019	2019	2	3	2.118
2019	2019	3	1	1.141
2019	2019	3	2	0.522
2019	2019	3	3	2.118
2019	2019	4	2	0.247
2019	2019	5	2	0.388
2020	2020	1	1	2.680
2020	2020	1	2	1.323
2020	2020	1	3	2.699
2020	2020	2	1	1.842
2020	2020	2	2	1.432
2020	2020	2	3	-2.324
2020	2020	3	1	1.842
2020	2020	3	2	1.432
2020	2020	3	3	-2.324
2020	2020	4	2	0.341
2020	2020	5	2	0.470
2021	2021	1	1	2.289
2021	2021	1	2	1.469
2021	2021	1	3	5.660
2021	2021	2	1	1.283
2021	2021	2	2	1.165
2021	2021	2	3	-0.804
2021	2021	3	1	1.283
2021	2021	3	2	1.165
2021	2021	3	3	-0.804
2021	2021	4	2	0.484
2021	2021	5	2	0.523
2022	2022	1	1	2.080
2022	2022	1	2	1.497
2022	2022	1	3	3.960
2022	2022	2	1	2.960

2022	2022	2	2	1.102
2022	2022	2	3	-0.880
2022	2022	3	1	2.960
2022	2022	3	2	1.102
2022	2022	3	3	-0.880
2022	2022	4	2	0.491
2022	2022	5	2	0.531
2023	2023	1	1	1.895
2023	2023	1	2	1.393
2023	2023	1	3	2.637
2023	2023	2	1	1.045
2023	2023	2	2	0.925
2023	2023	2	3	-1.450
2023	2023	3	1	1.045
2023	2023	3	2	0.925
2023	2023	3	3	-1.450
2023	2023	4	2	0.500
2023	2023	5	2	0.548
2024	2024	1	1	1.891
2024	2024	1	2	1.258
2024	2024	1	3	2.035
2024	2024	2	1	1.277
2024	2024	2	2	0.822
2024	2024	2	3	-1.389
2024	2024	3	1	1.277
2024	2024	3	2	0.822
2024	2024	3	3	-1.389
2024	2024	4	2	0.490
2024	2024	5	2	0.544
2025	2025	1	1	1.650
2025	2025	1	2	1.164
2025	2025	1	3	1.843
2025	2025	2	1	2.913
2025	2025	2	2	1.999
2025	2025	2	3	-1.541
2025	2025	3	1	2.913
2025	2025	3	2	1.999
2025	2025	3	3	-1.541
2025	2025	4	2	0.918
2025	2025	5	2	1.864
2026	2026	1	1	1.468
2026	2026	1	2	1.107
2026	2026	1	3	1.211
2026	2026	2	1	2.351

2026	2026	2	2	1.780
2026	2026	2	3	-0.553
2026	2026	3	1	2.351
2026	2026	3	2	1.780
2026	2026	3	3	-0.553
2026	2026	4	2	0.900
2026	2026	5	2	1.854
2027	2027	1	1	1.372
2027	2027	1	2	1.130
2027	2027	1	3	0.922
2027	2027	2	1	3.660
2027	2027	2	2	1.600
2027	2027	2	3	-0.253
2027	2027	3	1	3.660
2027	2027	3	2	1.600
2027	2027	3	3	-0.253
2027	2027	4	2	0.874
2027	2027	5	2	1.767
2028	2028	1	1	1.234
2028	2028	1	2	1.148
2028	2028	1	3	0.747
2028	2028	2	1	1.853
2028	2028	2	2	1.433
2028	2028	2	3	0.019
2028	2028	3	1	1.853
2028	2028	3	2	1.433
2028	2028	3	3	0.019
2028	2028	4	2	0.846
2028	2028	5	2	1.644
2029	2029	1	1	1.110
2029	2029	1	2	1.140
2029	2029	1	3	0.694
2029	2029	2	1	1.699
2029	2029	2	2	1.299
2029	2029	2	3	0.258
2029	2029	3	1	1.699
2029	2029	3	2	1.299
2029	2029	3	3	0.258
2029	2029	4	2	0.808
2029	2029	5	2	1.531
2030	2030	1	1	2.306
2030	2030	1	2	2.305
2030	2030	1	3	0.690
2030	2030	2	1	3.530

2030	2030	2	2	2.726
2030	2030	2	3	0.398
2030	2030	3	1	3.530
2030	2030	3	2	2.726
2030	2030	3	3	0.398
2030	2030	4	2	1.394
2030	2030	5	2	3.225
2031	2031	1	1	2.230
2031	2031	1	2	2.375
2031	2031	1	3	0.571
2031	2031	2	1	1.740
2031	2031	2	2	2.564
2031	2031	2	3	0.251
2031	2031	3	1	1.740
2031	2031	3	2	2.564
2031	2031	3	3	0.251
2031	2031	4	2	1.307
2031	2031	5	2	3.126
2032	2032	1	1	2.088
2032	2032	1	2	2.387
2032	2032	1	3	0.492
2032	2032	2	1	2.870
2032	2032	2	2	2.133
2032	2032	2	3	0.170
2032	2032	3	1	2.870
2032	2032	3	2	2.133
2032	2032	3	3	0.170
2032	2032	4	2	1.294
2032	2032	5	2	2.946
2033	2033	1	1	2.021
2033	2033	1	2	2.185
2033	2033	1	3	0.435
2033	2033	2	1	2.820
2033	2033	2	2	2.016
2033	2033	2	3	0.145
2033	2033	3	1	2.820
2033	2033	3	2	2.016
2033	2033	3	3	0.145
2033	2033	4	2	1.240
2033	2033	5	2	2.667
2034	2034	1	1	1.933
2034	2034	1	2	1.998
2034	2034	1	3	0.405
2034	2034	2	1	3.326

2034	2034	2	2	1.646
2034	2034	2	3	0.151
2034	2034	3	1	3.326
2034	2034	3	2	1.646
2034	2034	3	3	0.151
2034	2034	4	2	1.176
2034	2034	5	2	2.450
2035	2035	1	1	1.795
2035	2035	1	2	1.826
2035	2035	1	3	0.374
2035	2035	2	1	-0.177
2035	2035	2	2	1.517
2035	2035	2	3	0.162
2035	2035	3	1	-0.177
2035	2035	3	2	1.517
2035	2035	3	3	0.162
2035	2035	4	2	1.110
2035	2035	5	2	2.072
2036	2036	1	1	1.602
2036	2036	1	2	1.723
2036	2036	1	3	0.362
2036	2036	2	1	1.873
2036	2036	2	2	1.401
2036	2036	2	3	0.192
2036	2036	3	1	1.873
2036	2036	3	2	1.401
2036	2036	3	3	0.192
2036	2036	4	2	1.026
2036	2036	5	2	1.652
2037	2037	1	1	1.499
2037	2037	1	2	1.565
2037	2037	1	3	0.374
2037	2037	2	1	1.484
2037	2037	2	2	1.325
2037	2037	2	3	0.232
2037	2037	3	1	1.484
2037	2037	3	2	1.325
2037	2037	3	3	0.232
2037	2037	4	2	0.935
2037	2037	5	2	1.356
2038	2038	1	1	1.372
2038	2038	1	2	1.357
2038	2038	1	3	0.386
2038	2038	2	1	2.766

2038	2038	2	2	1.280
2038	2038	2	3	0.263
2038	2038	3	1	2.766
2038	2038	3	2	1.280
2038	2038	3	3	0.263
2038	2038	4	2	0.848
2038	2038	5	2	1.046
2039	2039	1	1	1.233
2039	2039	1	2	1.098
2039	2039	1	3	0.402
2039	2039	2	1	0.398
2039	2039	2	2	0.831
2039	2039	2	3	0.296
2039	2039	3	1	0.398
2039	2039	3	2	0.831
2039	2039	3	3	0.296
2039	2039	4	2	0.758
2039	2039	5	2	0.806
2040	2040	1	1	1.198
2040	2040	1	2	1.161
2040	2040	1	3	0.342
2040	2040	2	1	0.753
2040	2040	2	2	0.771
2040	2040	2	3	0.329
2040	2040	3	1	0.753
2040	2040	3	2	0.771
2040	2040	3	3	0.329
2040	2040	4	2	0.660
2040	2040	5	2	0.599
2041	2041	1	1	1.300
2041	2041	1	2	1.581
2041	2041	1	3	0.360
2041	2041	2	1	1.010
2041	2041	2	2	1.026
2041	2041	2	3	0.390
2041	2041	3	1	1.010
2041	2041	3	2	1.026
2041	2041	3	3	0.390
2041	2041	4	2	0.582
2041	2041	5	2	0.436
2042	2042	1	1	0.879
2042	2042	1	2	0.843
2042	2042	1	3	0.374
2042	2042	2	1	0.496

2042	2042	2	2	0.525
2042	2042	2	3	0.477
2042	2042	3	1	0.496
2042	2042	3	2	0.525
2042	2042	3	3	0.477
2042	2042	4	2	0.512
2042	2042	5	2	0.335
2043	2043	1	1	0.765
2043	2043	1	2	0.693
2043	2043	1	3	0.385
2043	2043	2	1	0.415
2043	2043	2	2	0.437
2043	2043	2	3	0.533
2043	2043	3	1	0.415
2043	2043	3	2	0.437
2043	2043	3	3	0.533
2043	2043	4	2	0.451
2043	2043	5	2	0.259
2044	2044	1	1	0.624
2044	2044	1	2	0.557
2044	2044	1	3	0.405
2044	2044	2	1	0.345
2044	2044	2	2	0.357
2044	2044	2	3	0.581
2044	2044	3	1	0.345
2044	2044	3	2	0.357
2044	2044	3	3	0.581
2044	2044	4	2	0.404
2044	2044	5	2	0.202
2045	2045	1	1	0.483
2045	2045	1	2	0.421
2045	2045	1	3	0.407
2045	2045	2	1	0.285
2045	2045	2	2	0.288
2045	2045	2	3	0.623
2045	2045	3	1	0.285
2045	2045	3	2	0.288
2045	2045	3	3	0.623
2045	2045	4	2	0.365
2045	2045	5	2	0.160
2046	2046	1	1	0.320
2046	2046	1	2	0.344
2046	2046	1	3	0.428
2046	2046	2	1	0.652

2046	2046	2	2	0.858
2046	2046	2	3	0.645
2046	2046	3	1	0.652
2046	2046	3	2	0.858
2046	2046	3	3	0.645
2046	2046	4	2	0.374
2046	2046	5	2	0.157
2047	2047	1	1	0.238
2047	2047	1	2	0.257
2047	2047	1	3	0.441
2047	2047	2	1	0.150
2047	2047	2	2	0.136
2047	2047	2	3	0.686
2047	2047	3	1	0.150
2047	2047	3	2	0.136
2047	2047	3	3	0.686
2047	2047	4	2	0.304
2047	2047	5	2	0.087
2048	2048	1	1	0.179
2048	2048	1	2	0.195
2048	2048	1	3	0.452
2048	2048	2	1	0.126
2048	2048	2	2	0.108
2048	2048	2	3	0.717
2048	2048	3	1	0.126
2048	2048	3	2	0.108
2048	2048	3	3	0.717
2048	2048	4	2	0.288
2048	2048	5	2	0.074
2049	2049	1	1	0.135
2049	2049	1	2	0.148
2049	2049	1	3	0.461
2049	2049	2	1	0.106
2049	2049	2	2	0.087
2049	2049	2	3	0.745
2049	2049	3	1	0.106
2049	2049	3	2	0.087
2049	2049	3	3	0.745
2049	2049	4	2	0.275
2049	2049	5	2	0.062
2050	2050	1	1	0.103
2050	2050	1	2	0.114
2050	2050	1	3	0.472
2050	2050	2	1	0.091

2050	2050	2	2	0.072
2050	2050	2	3	0.770
2050	2050	3	1	0.091
2050	2050	3	2	0.072
2050	2050	3	3	0.770
2050	2050	4	2	0.266
2050	2050	5	2	0.055
2051	2151	1	1	0.000
2051	2151	1	2	0.000
2051	2151	1	3	0.000
2051	2151	2	1	0.000
2051	2151	2	2	0.000
2051	2151	2	3	0.000
2051	2151	3	1	0.000
2051	2151	3	2	0.000
2051	2151	3	3	0.000
2051	2151	4	2	0.000
2051	2151	5	2	0.000
2011	2151	6	2	0.000

INPUT_SUMMARY

Run name TUBA-1_Warren_Hill_FBC_OB_20_Perc_V3
DM scheme DM
DS scheme DS

Economic parameter file L:\60625845_A614 MRN DFT responses\2023_Draft_FBC\TUBA\Economics_TAG_db1_20_2.txt

Scheme parameter file L:\60625845_A614 MRN DFT responses\2023_Draft_FBC\TUBA\MasterFile -Warren_Hill_cost_only_Draft_FBC_OB_20_Percent_V3.txt

First year of scheme costs 2023

First Appraisal Year 2023

Last Appraisal Year 2082

Modelled years 2023 2037

Time period	Total hours
AM peak	648
PM peak	667
Inter-peak	2997
Off-peak	4438
Total	8750

Note: All monetary values are in 2010 market prices. All monetary values discounted to 2010 unless otherwise stated.

DM_SCHEME_COSTS

Road	2045	0	0	0	0	0	0	0	0
Road	2046	0	0	0	0	0	0	0	0
Road	2047	0	0	0	0	0	0	0	0
Road	2048	0	0	0	0	0	0	0	0
Road	2049	0	0	0	0	0	0	0	0
Road	2050	0	0	0	0	0	0	0	0
Road	2051	0	0	0	0	0	0	0	0
Road	2052	0	0	0	0	0	0	0	0
Road	2053	0	0	0	0	0	0	0	0
Road	2054	0	0	0	0	0	0	0	0
Road	2055	0	0	0	0	0	0	0	0
Road	2056	0	0	0	0	0	0	0	0
Road	2057	0	0	0	0	0	0	0	0
Road	2058	0	0	0	0	0	0	0	0
Road	2059	0	0	0	0	0	0	0	0
Road	2060	0	0	0	0	0	0	0	0
Road	2061	0	0	0	0	0	0	0	0
Road	2062	0	0	0	0	0	0	0	0
Road	2063	0	0	0	0	0	0	0	0
Road	2064	0	0	0	0	0	0	0	0
Road	2065	0	0	0	0	0	0	0	0
Road	2066	0	0	0	0	0	0	0	0
Road	2067	0	0	0	0	0	0	0	0
Road	2068	0	0	0	0	0	0	0	0
Road	2069	0	0	0	0	0	0	0	0
Road	2070	0	0	0	0	0	0	0	0
Road	2071	0	0	0	0	0	0	0	0
Road	2072	0	0	0	0	0	0	0	0
Road	2073	0	0	0	0	0	0	0	0
Road	2074	0	0	0	0	0	0	0	0
Road	2075	0	0	0	0	0	0	0	0
Road	2076	0	0	0	0	0	0	0	0
Road	2077	0	0	0	0	0	0	0	0
Road	2078	0	0	0	0	0	0	0	0
Road	2079	0	0	0	0	0	0	0	0
Road	2080	0	0	0	0	0	0	0	0
Road	2081	0	0	0	0	0	0	0	0
Road	2082	0	0	0	0	0	0	0	0

PRESENT_VALUE_COSTS

Scheme investment and operating costs (i.e. excluding grant/subsidy, developer contributions and delays) and differences. £000s.

Mode	Year	DM_scheme_costs	DS_scheme_costs	Difference
Road	2023	0	8	8
Road	2024	0	127	127

Road	2025	0	0	0
Road	2026	0	0	0
Road	2027	0	0	0
Road	2028	0	0	0
Road	2029	0	0	0
Road	2030	0	0	0
Road	2031	0	0	0
Road	2032	0	0	0
Road	2033	0	0	0
Road	2034	0	0	0
Road	2035	0	0	0
Road	2036	0	0	0
Road	2037	0	0	0
Road	2038	0	0	0
Road	2039	0	0	0
Road	2040	0	0	0
Road	2041	0	0	0
Road	2042	0	0	0
Road	2043	0	0	0
Road	2044	0	0	0
Road	2045	0	0	0
Road	2046	0	0	0
Road	2047	0	0	0
Road	2048	0	0	0
Road	2049	0	0	0
Road	2050	0	0	0
Road	2051	0	0	0
Road	2052	0	0	0
Road	2053	0	0	0
Road	2054	0	0	0
Road	2055	0	0	0
Road	2056	0	0	0
Road	2057	0	0	0
Road	2058	0	0	0
Road	2059	0	0	0
Road	2060	0	0	0
Road	2061	0	0	0
Road	2062	0	0	0
Road	2063	0	0	0
Road	2064	0	0	0
Road	2065	0	0	0
Road	2066	0	0	0
Road	2067	0	0	0
Road	2068	0	0	0

Road	2069	0	0	0
Road	2070	0	0	0
Road	2071	0	0	0
Road	2072	0	0	0
Road	2073	0	0	0
Road	2074	0	0	0
Road	2075	0	0	0
Road	2076	0	0	0
Road	2077	0	0	0
Road	2078	0	0	0
Road	2079	0	0	0
Road	2080	0	0	0
Road	2081	0	0	0
Road	2082	0	0	0
Road	Total	0	135	135

TRIP_MATRIX_TOTALS

Annualised total trip numbers(thousands)

Submode	Year	Time period	DO MIN	DO SOM
Car	2023	AM peak	0	0
Car	2023	PM peak	0	0
Car	2023	Inter-peak	0	0
Car	2023	Off-peak	0	0
Car	2023	All	0	0
Car	2037	AM peak	0	0
Car	2037	PM peak	0	0
Car	2037	Inter-peak	0	0
Car	2037	Off-peak	0	0
Car	2037	All	0	0
LGV Personal	2023	AM peak	0	0
LGV Personal	2023	PM peak	0	0
LGV Personal	2023	Inter-peak	0	0
LGV Personal	2023	Off-peak	0	0
LGV Personal	2023	All	0	0
LGV Personal	2037	AM peak	0	0
LGV Personal	2037	PM peak	0	0
LGV Personal	2037	Inter-peak	0	0
LGV Personal	2037	Off-peak	0	0
LGV Personal	2037	All	0	0
LGV Freight	2023	AM peak	0	0
LGV Freight	2023	PM peak	0	0
LGV Freight	2023	Inter-peak	0	0
LGV Freight	2023	Off-peak	0	0
LGV Freight	2023	All	0	0

LGV Freight	2037 AM peak	0	0
LGV Freight	2037 PM peak	0	0
LGV Freight	2037 Inter-peak	0	0
LGV Freight	2037 Off-peak	0	0
LGV Freight	2037 All	0	0
OGV1	2023 AM peak	0	0
OGV1	2023 PM peak	0	0
OGV1	2023 Inter-peak	0	0
OGV1	2023 Off-peak	0	0
OGV1	2023 All	0	0
OGV1	2037 AM peak	0	0
OGV1	2037 PM peak	0	0
OGV1	2037 Inter-peak	0	0
OGV1	2037 Off-peak	0	0
OGV1	2037 All	0	0
OGV2	2023 AM peak	0	0
OGV2	2023 PM peak	0	0
OGV2	2023 Inter-peak	0	0
OGV2	2023 Off-peak	0	0
OGV2	2023 All	0	0
OGV2	2037 AM peak	0	0
OGV2	2037 PM peak	0	0
OGV2	2037 Inter-peak	0	0
OGV2	2037 Off-peak	0	0
OGV2	2037 All	0	0
All	2023 AM peak	0	0
All	2023 PM peak	0	0
All	2023 Inter-peak	0	0
All	2023 Off-peak	0	0
All	2023 All	0	0
All	2037 AM peak	0	0
All	2037 PM peak	0	0
All	2037 Inter-peak	0	0
All	2037 Off-peak	0	0
All	2037 All	0	0

DM&DS_USER_COSTS

Total value of user costs, DM and DS. £000s.

Mode	Year	DMtot_time	DMtot_charge	DMtot_fuel	DMtot_nonfuel	DStot_time	DStot_charge	DStot_fuel	DStot_nonfuel
Road	2023	0	0	0	0	0	0	0	0
Road	2037	0	0	0	0	0	0	0	0

FUEL_CONSUMPTION

Total fuel consumption, DM and DS. kilounits.

MODE

User benefits and changes in revenues by mode, all years. £000s.

Mode	Year	User	User_Charges	Vehicle_Operating_Cost		Operator_Rev	Indirect
		Time	PT_fares_(pri)	Fuel	Non_fuel	PT_fares_(pri)	
Road	2023	0	0	0	0	0	0
Road	2024	0	0	0	0	0	0
Road	2025	0	0	0	0	0	0
Road	2026	0	0	0	0	0	0
Road	2027	0	0	0	0	0	0
Road	2028	0	0	0	0	0	0
Road	2029	0	0	0	0	0	0
Road	2030	0	0	0	0	0	0
Road	2031	0	0	0	0	0	0
Road	2032	0	0	0	0	0	0
Road	2033	0	0	0	0	0	0
Road	2034	0	0	0	0	0	0
Road	2035	0	0	0	0	0	0
Road	2036	0	0	0	0	0	0
Road	2037	0	0	0	0	0	0
Road	2038	0	0	0	0	0	0
Road	2039	0	0	0	0	0	0
Road	2040	0	0	0	0	0	0
Road	2041	0	0	0	0	0	0
Road	2042	0	0	0	0	0	0
Road	2043	0	0	0	0	0	0
Road	2044	0	0	0	0	0	0
Road	2045	0	0	0	0	0	0
Road	2046	0	0	0	0	0	0
Road	2047	0	0	0	0	0	0
Road	2048	0	0	0	0	0	0
Road	2049	0	0	0	0	0	0
Road	2050	0	0	0	0	0	0
Road	2051	0	0	0	0	0	0
Road	2052	0	0	0	0	0	0
Road	2053	0	0	0	0	0	0
Road	2054	0	0	0	0	0	0
Road	2055	0	0	0	0	0	0
Road	2056	0	0	0	0	0	0
Road	2057	0	0	0	0	0	0
Road	2058	0	0	0	0	0	0
Road	2059	0	0	0	0	0	0
Road	2060	0	0	0	0	0	0
Road	2061	0	0	0	0	0	0
Road	2062	0	0	0	0	0	0

Road	2063	0	0	0	0	0	0
Road	2064	0	0	0	0	0	0
Road	2065	0	0	0	0	0	0
Road	2066	0	0	0	0	0	0
Road	2067	0	0	0	0	0	0
Road	2068	0	0	0	0	0	0
Road	2069	0	0	0	0	0	0
Road	2070	0	0	0	0	0	0
Road	2071	0	0	0	0	0	0
Road	2072	0	0	0	0	0	0
Road	2073	0	0	0	0	0	0
Road	2074	0	0	0	0	0	0
Road	2075	0	0	0	0	0	0
Road	2076	0	0	0	0	0	0
Road	2077	0	0	0	0	0	0
Road	2078	0	0	0	0	0	0
Road	2079	0	0	0	0	0	0
Road	2080	0	0	0	0	0	0
Road	2081	0	0	0	0	0	0
Road	2082	0	0	0	0	0	0
Road	Total	0	0	0	0	0	0

SUBMODE

User benefits and changes in revenues by submode/vehicle type, modelled years and total. £000s.

Submode	Year	User	User_Charges	Vehicle_Operating_Cost		Operator_Rev	Indirect
		Time	PT_fares_(pri)	Fuel	Non_fuel	PT_fares_(pri)	
Car	2023	0	0	0	0	0	0
Car	2037	0	0	0	0	0	0
LGV Personal	2023	0	0	0	0	0	0
LGV Personal	2037	0	0	0	0	0	0
LGV Freight	2023	0	0	0	0	0	0
LGV Freight	2037	0	0	0	0	0	0
OGV1	2023	0	0	0	0	0	0
OGV1	2037	0	0	0	0	0	0
OGV2	2023	0	0	0	0	0	0
OGV2	2037	0	0	0	0	0	0
All	2023	0	0	0	0	0	0
All	2037	0	0	0	0	0	0
Car	Total	0	0	0	0	0	0
LGV Personal	Total	0	0	0	0	0	0
LGV Freight	Total	0	0	0	0	0	0
OGV1	Total	0	0	0	0	0	0
OGV2	Total	0	0	0	0	0	0
All	Total	0	0	0	0	0	0

PERSON_TYPES

User benefits and changes in revenues by person type, modelled years and total. £000s.

Person_type	Year	User	User_Charges	Vehicle_Operating_Cost		Operator_Rev	Indirect
		Time	PT_fares_(pri)	Fuel	Non_fuel	PT_fares_(pri)	
All	2023	0	0	0	0	0	0
All	2037	0	0	0	0	0	0
All	Total	0	0	0	0	0	0

PURPOSE

User benefits and changes in revenues by trip purpose, modelled years and total. £000s.

Purpose	Year	User	User_Charges	Vehicle_Operating_Cost		Operator_Rev	Indirect
		Time	PT_fares_(pri)	Fuel	Non_fuel	PT_fares_(pri)	
Business	2023	0	0	0	0	0	0
Business	2037	0	0	0	0	0	0
Commuting	2023	0	0	0	0	0	0
Commuting	2037	0	0	0	0	0	0
Other	2023	0	0	0	0	0	0
Other	2037	0	0	0	0	0	0
Business	Total	0	0	0	0	0	0
Commuting	Total	0	0	0	0	0	0
Other	Total	0	0	0	0	0	0

PERIOD

User benefits and changes in revenues by time period, modelled years and total. £000s.

Period	Year	User	User_Charges	Vehicle_Operating_Cost		Operator_Rev	Indirect
		Time	PT_fares_(pri)	Fuel	Non_fuel	PT_fares_(pri)	
AM peak	2023	0	0	0	0	0	0
AM peak	2037	0	0	0	0	0	0
PM peak	2023	0	0	0	0	0	0
PM peak	2037	0	0	0	0	0	0
Inter-peak	2023	0	0	0	0	0	0
Inter-peak	2037	0	0	0	0	0	0
Off-peak	2023	0	0	0	0	0	0
Off-peak	2037	0	0	0	0	0	0
AM peak	Total	0	0	0	0	0	0
PM peak	Total	0	0	0	0	0	0
Inter-peak	Total	0	0	0	0	0	0
Off-peak	Total	0	0	0	0	0	0

NON MONETISED TIME BENEFITS BY TIME SAVING

Time benefits (thousands of person hrs) by size of time saving

Vehicle type	Purpose	Year	< -5 mins	-5 to -2 mins	-2 to 0 mins	0 to 2 mins	2 to 5 mins	> 5 mins
Car	Business	2023	0	0	0	0	0	0

Car	Business	2037	0	0	0	0	0	0
Car	Business	Total	0	0	0	0	0	0
Car	Commuting	2023	0	0	0	0	0	0
Car	Commuting	2037	0	0	0	0	0	0
Car	Commuting	Total	0	0	0	0	0	0
Car	Other	2023	0	0	0	0	0	0
Car	Other	2037	0	0	0	0	0	0
Car	Other	Total	0	0	0	0	0	0
LGV Personal	Business	2023	0	0	0	0	0	0
LGV Personal	Business	2037	0	0	0	0	0	0
LGV Personal	Business	Total	0	0	0	0	0	0
LGV Personal	Commuting	2023	0	0	0	0	0	0
LGV Personal	Commuting	2037	0	0	0	0	0	0
LGV Personal	Commuting	Total	0	0	0	0	0	0
LGV Personal	Other	2023	0	0	0	0	0	0
LGV Personal	Other	2037	0	0	0	0	0	0
LGV Personal	Other	Total	0	0	0	0	0	0
LGV Freight	Business	2023	0	0	0	0	0	0
LGV Freight	Business	2037	0	0	0	0	0	0
LGV Freight	Business	Total	0	0	0	0	0	0
LGV Freight	Commuting	2023	0	0	0	0	0	0
LGV Freight	Commuting	2037	0	0	0	0	0	0
LGV Freight	Commuting	Total	0	0	0	0	0	0
LGV Freight	Other	2023	0	0	0	0	0	0
LGV Freight	Other	2037	0	0	0	0	0	0
LGV Freight	Other	Total	0	0	0	0	0	0
OGV1	Business	2023	0	0	0	0	0	0
OGV1	Business	2037	0	0	0	0	0	0
OGV1	Business	Total	0	0	0	0	0	0
OGV1	Commuting	2023	0	0	0	0	0	0
OGV1	Commuting	2037	0	0	0	0	0	0
OGV1	Commuting	Total	0	0	0	0	0	0
OGV1	Other	2023	0	0	0	0	0	0
OGV1	Other	2037	0	0	0	0	0	0
OGV1	Other	Total	0	0	0	0	0	0
OGV2	Business	2023	0	0	0	0	0	0
OGV2	Business	2037	0	0	0	0	0	0
OGV2	Business	Total	0	0	0	0	0	0
OGV2	Commuting	2023	0	0	0	0	0	0
OGV2	Commuting	2037	0	0	0	0	0	0
OGV2	Commuting	Total	0	0	0	0	0	0
OGV2	Other	2023	0	0	0	0	0	0
OGV2	Other	2037	0	0	0	0	0	0
OGV2	Other	Total	0	0	0	0	0	0

MONETISED TIME BENEFITS BY TIME SAVING

Time benefits (£000s) by size of time saving

Vehicle type	Purpose	Year	< -5 mins	-5 to -2 mins	-2 to 0 mins	0 to 2 mins	2 to 5 mins	> 5 mins
Car	Business	2023	0	0	0	0	0	0
Car	Business	2037	0	0	0	0	0	0
Car	Business	Total	0	0	0	0	0	0
Car	Commuting	2023	0	0	0	0	0	0
Car	Commuting	2037	0	0	0	0	0	0
Car	Commuting	Total	0	0	0	0	0	0
Car	Other	2023	0	0	0	0	0	0
Car	Other	2037	0	0	0	0	0	0
Car	Other	Total	0	0	0	0	0	0
LGV Personal	Business	2023	0	0	0	0	0	0
LGV Personal	Business	2037	0	0	0	0	0	0
LGV Personal	Business	Total	0	0	0	0	0	0
LGV Personal	Commuting	2023	0	0	0	0	0	0
LGV Personal	Commuting	2037	0	0	0	0	0	0
LGV Personal	Commuting	Total	0	0	0	0	0	0
LGV Personal	Other	2023	0	0	0	0	0	0
LGV Personal	Other	2037	0	0	0	0	0	0
LGV Personal	Other	Total	0	0	0	0	0	0
LGV Freight	Business	2023	0	0	0	0	0	0
LGV Freight	Business	2037	0	0	0	0	0	0
LGV Freight	Business	Total	0	0	0	0	0	0
LGV Freight	Commuting	2023	0	0	0	0	0	0
LGV Freight	Commuting	2037	0	0	0	0	0	0
LGV Freight	Commuting	Total	0	0	0	0	0	0
LGV Freight	Other	2023	0	0	0	0	0	0
LGV Freight	Other	2037	0	0	0	0	0	0
LGV Freight	Other	Total	0	0	0	0	0	0
OGV1	Business	2023	0	0	0	0	0	0
OGV1	Business	2037	0	0	0	0	0	0
OGV1	Business	Total	0	0	0	0	0	0
OGV1	Commuting	2023	0	0	0	0	0	0
OGV1	Commuting	2037	0	0	0	0	0	0
OGV1	Commuting	Total	0	0	0	0	0	0
OGV1	Other	2023	0	0	0	0	0	0
OGV1	Other	2037	0	0	0	0	0	0
OGV1	Other	Total	0	0	0	0	0	0
OGV2	Business	2023	0	0	0	0	0	0
OGV2	Business	2037	0	0	0	0	0	0
OGV2	Business	Total	0	0	0	0	0	0
OGV2	Commuting	2023	0	0	0	0	0	0

OGV2	Commuting	2037	0	0	0	0	0	0
OGV2	Commuting	Total	0	0	0	0	0	0
OGV2	Other	2023	0	0	0	0	0	0
OGV2	Other	2037	0	0	0	0	0	0
OGV2	Other	Total	0	0	0	0	0	0

TOTAL BENEFITS BY TIME SAVING

Total benefits (£000s) by size of time saving

Vehicle type	Purpose	Year	< -5 mins	-5 to -2 mins	-2 to 0 mins	0 to 2 mins	2 to 5 mins	> 5 mins
Car	Business	2023	0	0	0	0	0	0
Car	Business	2037	0	0	0	0	0	0
Car	Business	Total	0	0	0	0	0	0
Car	Commuting	2023	0	0	0	0	0	0
Car	Commuting	2037	0	0	0	0	0	0
Car	Commuting	Total	0	0	0	0	0	0
Car	Other	2023	0	0	0	0	0	0
Car	Other	2037	0	0	0	0	0	0
Car	Other	Total	0	0	0	0	0	0
LGV Personal	Business	2023	0	0	0	0	0	0
LGV Personal	Business	2037	0	0	0	0	0	0
LGV Personal	Business	Total	0	0	0	0	0	0
LGV Personal	Commuting	2023	0	0	0	0	0	0
LGV Personal	Commuting	2037	0	0	0	0	0	0
LGV Personal	Commuting	Total	0	0	0	0	0	0
LGV Personal	Other	2023	0	0	0	0	0	0
LGV Personal	Other	2037	0	0	0	0	0	0
LGV Personal	Other	Total	0	0	0	0	0	0
LGV Freight	Business	2023	0	0	0	0	0	0
LGV Freight	Business	2037	0	0	0	0	0	0
LGV Freight	Business	Total	0	0	0	0	0	0
LGV Freight	Commuting	2023	0	0	0	0	0	0
LGV Freight	Commuting	2037	0	0	0	0	0	0
LGV Freight	Commuting	Total	0	0	0	0	0	0
LGV Freight	Other	2023	0	0	0	0	0	0
LGV Freight	Other	2037	0	0	0	0	0	0
LGV Freight	Other	Total	0	0	0	0	0	0
OGV1	Business	2023	0	0	0	0	0	0
OGV1	Business	2037	0	0	0	0	0	0
OGV1	Business	Total	0	0	0	0	0	0
OGV1	Commuting	2023	0	0	0	0	0	0
OGV1	Commuting	2037	0	0	0	0	0	0
OGV1	Commuting	Total	0	0	0	0	0	0
OGV1	Other	2023	0	0	0	0	0	0
OGV1	Other	2037	0	0	0	0	0	0

LGV Freight	Business	Total	0	0	0	0	0	0	0	0
LGV Freight	Commuting	2023	0	0	0	0	0	0	0	0
LGV Freight	Commuting	2037	0	0	0	0	0	0	0	0
LGV Freight	Commuting	Total	0	0	0	0	0	0	0	0
LGV Freight	Other	2023	0	0	0	0	0	0	0	0
LGV Freight	Other	2037	0	0	0	0	0	0	0	0
LGV Freight	Other	Total	0	0	0	0	0	0	0	0
OGV1	Business	2023	0	0	0	0	0	0	0	0
OGV1	Business	2037	0	0	0	0	0	0	0	0
OGV1	Business	Total	0	0	0	0	0	0	0	0
OGV1	Commuting	2023	0	0	0	0	0	0	0	0
OGV1	Commuting	2037	0	0	0	0	0	0	0	0
OGV1	Commuting	Total	0	0	0	0	0	0	0	0
OGV1	Other	2023	0	0	0	0	0	0	0	0
OGV1	Other	2037	0	0	0	0	0	0	0	0
OGV1	Other	Total	0	0	0	0	0	0	0	0
OGV2	Business	2023	0	0	0	0	0	0	0	0
OGV2	Business	2037	0	0	0	0	0	0	0	0
OGV2	Business	Total	0	0	0	0	0	0	0	0
OGV2	Commuting	2023	0	0	0	0	0	0	0	0
OGV2	Commuting	2037	0	0	0	0	0	0	0	0
OGV2	Commuting	Total	0	0	0	0	0	0	0	0
OGV2	Other	2023	0	0	0	0	0	0	0	0
OGV2	Other	2037	0	0	0	0	0	0	0	0
OGV2	Other	Total	0	0	0	0	0	0	0	0

SENSITIVITY

Total user benefits as a percentage of total DM user costs

Modelled Years		
Mode	2023	2037
Road	0.00%	0.00%

Economy:Economic Efficiency of the Transport System (TEE)

Consumer - Commuting user benefits	All Modes	Road
Travel Time	0	0
Vehicle operating costs	0	0
User charges	0	0
During Construction & Maintenance	0	0
NET CONSUMER - COMMUTING BENEFITS	0	0

Consumer - Other user benefits	All Modes	Road
Travel Time	0	0
Vehicle operating costs	0	0

User charges	0	0	
During Construction & Maintenance	0	0	0
NET CONSUMER - OTHER BENEFITS	0	0	0

Business	All Modes	Road Personal	Road Freight
Travel Time	0	0	0
Vehicle operating costs	0	0	0
User charges	0	0	0
During Construction & Maintenance	0	0	0
Subtotal	0	0	0

Private Sector Provider Impacts

Revenue	0	0
Operating costs	0	0
Investment costs	0	0
Grant/subsidy	0	0
Subtotal	0	0

Other business Impacts

Developer contributions	0	0
NET BUSINESS IMPACT	0	

TOTAL

Present Value of Transport Economic

Efficiency Benefits (TEE)	0
---------------------------	---

Note: Benefits appear as positive numbers, while costs appear as negative numbers.

Note: All entries are present values discounted to 2010, in 2010 prices

Public Accounts

Local Government Funding	ALL MODES	Road
Revenue	0	0
Operating Costs	0	0
Investment Costs	20	20
Developer Contributions	0	0
Grant/Subsidy Payments	0	0
NET IMPACT	20	20

Central Government Funding: Transport

	ALL MODES	Road
Revenue	0	0
Operating costs	0	0
Investment costs	115	115
Developer Contributions	0	0
Grant/Subsidy Payments	0	0

NET IMPACT 115 115

Central Government Funding: Non-Transport

Indirect Tax Revenues 0 0

TOTALS

Broad Transport Budget 135 135

Wider Public Finances 0 0

Note: Costs appear as positive numbers, while revenues and developer contributions appear as negative numbers.

Note: All entries are present values discounted to 2010, in 2010 prices

Analysis of Monetised Costs and Benefits

Greenhouse Gases 0

Economic Efficiency: Consumer Users (Commuting) 0

Economic Efficiency: Consumer Users (Other) 0

Economic Efficiency: Business Users and Providers 0

Wider Public Finances (Indirect Taxation Revenues) 0

Present Value of Benefits (PVB) 0

Broad Transport Budget 135

Present Value of Costs (PVC) 135

OVERALL IMPACTS

Net Present Value (NPV) -135

Benefit to Cost Ratio (BCR) 0.000

Note: This table includes costs and benefits which are regularly or occasionally presented in monetised form in transport appraisals, together with some where monetisation is in prospect. There may also be other significant costs and benefits, some of which cannot be presented in monetised form. Where this is the case, the analysis presented above does NOT provide a good measure of value for money and should not be used as the sole basis for decisions.

TUBA Run Information

- calculations completed

File Summary

* Run Name : TUBA-1_Warren_Hill_FBC_OB_20_Perc_V3

* Scheme File : L:\60625845_A614 MRN DFT responses\2023_Draft_FBC\TUBA\MasterFile -Warren_Hill_cost_only_Draft_FBC_OB_20_Percent_V3.txt

* Economic File : L:\60625845_A614 MRN DFT responses\2023_Draft_FBC\TUBA\Economics_TAG_db1_20_2.txt

* Output File : L:\60625845_A614 MRN DFT responses\2023_Draft_FBC\TUBA\Warren_Hill_FBC_OB_V3.OUT

* Log File : L:\60625845_A614 MRN DFT responses\2023_Draft_FBC\TUBA\Warren_Hill_FBC_OB_V3.log

* User ID : philip.g.jones

* Computer ID : UKDBYLFHQB1T3

Elapsed time : 0hrs 0mins 1secs

Appendix I Lowdham TUBA – OB

SCHEME SPECIFIC PARAMETERS

PARAMETERS

TUBA_version 1.9.17
run_name TUBA-6_Lowdham_FBC_OB_20_Perc_V3
do_min_name DM
do_som_name DS

first_yr 2023
horizon_yr 2082
modelled_yrs 2023 2037
detail Yes
current_yr 2023
print_warn 20
P&R_car_speed 65.0
zones_as_sectors No

TIME_SLICES

*no.	duration(min)	annualisation	period	description
1	60	648	1	peak hour am 08:00-09:00
2	60	667	2	peak hour pm 17:00-18:00
3	60	2997	3	peak hour ip 10:00-16:00
4	60	4438	4	off peak hour

SCHEMES_DM

*Mode 1st Construction year Opening_yr Stage

DO_MIN_COSTS

*Type Mode Funding Cost Price RPI

DO_MIN_PROFILE

*Year Mode %Const %Land %Prep %Super %Maint %Op %Grant %Dev

DO_MIN_DELAY_COSTS

*Year Mode Business Commuting Other Freight

SCHEMES_DS

*Mode 1st Construction year Opening_yr Stage

1 2024 2027 SI

DO_SOM_COSTS

*Type	Mode	Funding	Cost	Price	RPI			
M	1		LOC	202.91	F	123.41	1	
P	1		CEN	651.49	F	133.39	1.00	
C	1		CEN	4201.05	F	133.39	1.00	
L	1		CEN	227.90	F	133.39	1.00	
S	1		CEN	32.06	F	133.39	1.00	
P	1		LOC	183.65	F	133.39	1.00	
C	1		LOC	2411.39	F	133.39	1.00	
L	1		LOC	9.38	F	133.39	1.00	
S	1		LOC	23.96	F	133.39	1.00	
D	1		LOC	50.00	F	133.39	1.00	

DO_SOM_PROFILE

*Year	Mode	%Const	%Land	%Prep	%Super	%Maint	%Op	%Grant	%Dev
2023	1	0.97			100.00	30.39	0.00	0.00	0.00
2024	1	0.00			0.00	12.87	0.00	0.00	0.00
2025	1	37.83			0.00	28.37	20.00	0.00	0.00
2026	1	61.20			0.00	28.37	80.00	0.00	100.00
2027	1	0			0	0	0.911	0	0
2028	1	0			0	0	1.788	0	0
2029	1	0			0	0	0.87	0	0
2030	1	0			0	0	0.851	0	0
2031	1	0			0	0	0.831	0	0
2032	1	0			0	0	0.813	0	0
2033	1	0			0	0	5.028	0	0
2034	1	0			0	0	0.777	0	0
2035	1	0			0	0	0.759	0	0
2036	1	0			0	0	0.742	0	0
2037	1	0			0	0	0.725	0	0
2038	1	0			0	0	1.424	0	0
2039	1	0			0	0	0.693	0	0
2040	1	0			0	0	0.678	0	0
2041	1	0			0	0	0.662	0	0
2042	1	0			0	0	0.647	0	0
2043	1	0			0	0	27.234	0	0
2044	1	0			0	0	0.619	0	0
2045	1	0			0	0	0.605	0	0
2046	1	0			0	0	0.591	0	0
2047	1	0			0	0	0.578	0	0
2048	1	0			0	0	2.458	0	0
2049	1	0			0	0	0.552	0	0
2050	1	0			0	0	0.54	0	0
2051	1	0			0	0	0.528	0	0
2052	1	0			0	0	0.516	0	0

2053	1	0	0	0	0	3.19	0	0	0
2054	1	0	0	0	0	0.493	0	0	0
2055	1	0	0	0	0	0.482	0	0	0
2056	1	0	0	0	0	0.471	0	0	0
2057	1	0	0	0	0	0.46	0	0	0
2058	1	0	0	0	0	0.904	0	0	0
2059	1	0	0	0	0	0.44	0	0	0
2060	1	0	0	0	0	0.43	0	0	0
2061	1	0	0	0	0	0.42	0	0	0
2062	1	0	0	0	0	0.411	0	0	0
2063	1	0	0	0	0	27.041	0	0	0
2064	1	0	0	0	0	0.393	0	0	0
2065	1	0	0	0	0	0.384	0	0	0
2066	1	0	0	0	0	0.375	0	0	0
2067	1	0	0	0	0	0.367	0	0	0
2068	1	0	0	0	0	0.72	0	0	0
2069	1	0	0	0	0	0.35	0	0	0
2070	1	0	0	0	0	0.343	0	0	0
2071	1	0	0	0	0	0.335	0	0	0
2072	1	0	0	0	0	0.327	0	0	0
2073	1	0	0	0	0	3.524	0	0	0
2074	1	0	0	0	0	0.313	0	0	0
2075	1	0	0	0	0	0.306	0	0	0
2076	1	0	0	0	0	0.299	0	0	0
2077	1	0	0	0	0	0.292	0	0	0
2078	1	0	0	0	0	0.573	0	0	0
2079	1	0	0	0	0	0.279	0	0	0
2080	1	0	0	0	0	0.272	0	0	0
2081	1	0	0	0	0	0.266	0	0	0
2082	1	0	0	0	0	3.12	0	0	0

DO_SOM_DELAY_COSTS

*Year Mode Business Commuting Other Freight

BENEFIT_CHANGE

*% change p.a.

*Start_yr End_yr Submode ChangePer1 ChangePer2 ChangePer3 ChangePer4 ChangePer5

USER_CLASSES

*no. Veh/submode purpose person_type

1 1 1 0

2	1	2	0
3	1	3	0
4	2	3	0
5	3	1	0
6	4	1	0
7	5	1	0

INPUT_MATRICES

*no.	userclasses	timeslice	type	format	scenario	year	factor	filename
1	1	1	V	1	0	2023	0.05743	L:\60625845_A614 MRN DFT responses\2023_Draft_FBC\TUBA\6-Lowdham\Outputs_V4\V_6_Lowdham_V4 AM 2023 DM.txt
2	2	1	V	1	0	2023	0.31641	L:\60625845_A614 MRN DFT responses\2023_Draft_FBC\TUBA\6-Lowdham\Outputs_V4\V_6_Lowdham_V4 AM 2023 DM.txt
3	3	1	V	1	0	2023	0.45226	L:\60625845_A614 MRN DFT responses\2023_Draft_FBC\TUBA\6-Lowdham\Outputs_V4\V_6_Lowdham_V4 AM 2023 DM.txt
4	4	1	V	1	0	2023	0.01500	L:\60625845_A614 MRN DFT responses\2023_Draft_FBC\TUBA\6-Lowdham\Outputs_V4\V_6_Lowdham_V4 AM 2023 DM.txt
5	5	1	V	1	0	2023	0.11000	L:\60625845_A614 MRN DFT responses\2023_Draft_FBC\TUBA\6-Lowdham\Outputs_V4\V_6_Lowdham_V4 AM 2023 DM.txt
6	6	1	V	1	0	2023	0.03010	L:\60625845_A614 MRN DFT responses\2023_Draft_FBC\TUBA\6-Lowdham\Outputs_V4\V_6_Lowdham_V4 AM 2023 DM.txt
7	7	1	V	1	0	2023	0.01880	L:\60625845_A614 MRN DFT responses\2023_Draft_FBC\TUBA\6-Lowdham\Outputs_V4\V_6_Lowdham_V4 AM 2023 DM.txt
8	1	2	V	1	0	2023	0.04320	L:\60625845_A614 MRN DFT responses\2023_Draft_FBC\TUBA\6-Lowdham\Outputs_V4\V_6_Lowdham_V4 PM 2023 DM.txt
9	2	2	V	1	0	2023	0.27515	L:\60625845_A614 MRN DFT responses\2023_Draft_FBC\TUBA\6-Lowdham\Outputs_V4\V_6_Lowdham_V4 PM 2023 DM.txt
10	3	2	V	1	0	2023	0.52626	L:\60625845_A614 MRN DFT responses\2023_Draft_FBC\TUBA\6-Lowdham\Outputs_V4\V_6_Lowdham_V4 PM 2023 DM.txt
11	4	2	V	1	0	2023	0.01470	L:\60625845_A614 MRN DFT responses\2023_Draft_FBC\TUBA\6-Lowdham\Outputs_V4\V_6_Lowdham_V4 PM 2023 DM.txt
12	5	2	V	1	0	2023	0.10780	L:\60625845_A614 MRN DFT responses\2023_Draft_FBC\TUBA\6-Lowdham\Outputs_V4\V_6_Lowdham_V4 PM 2023 DM.txt
13	6	2	V	1	0	2023	0.01850	L:\60625845_A614 MRN DFT responses\2023_Draft_FBC\TUBA\6-Lowdham\Outputs_V4\V_6_Lowdham_V4 PM 2023 DM.txt
14	7	2	V	1	0	2023	0.01430	L:\60625845_A614 MRN DFT responses\2023_Draft_FBC\TUBA\6-Lowdham\Outputs_V4\V_6_Lowdham_V4 PM 2023 DM.txt
15	1	3	V	1	0	2023	0.05581	L:\60625845_A614 MRN DFT responses\2023_Draft_FBC\TUBA\6-Lowdham\Outputs_V4\V_6_Lowdham_V4 IP 2023 DM.txt
16	2	3	V	1	0	2023	0.08757	L:\60625845_A614 MRN DFT responses\2023_Draft_FBC\TUBA\6-Lowdham\Outputs_V4\V_6_Lowdham_V4 IP 2023 DM.txt
17	3	3	V	1	0	2023	0.63282	L:\60625845_A614 MRN DFT responses\2023_Draft_FBC\TUBA\6-Lowdham\Outputs_V4\V_6_Lowdham_V4 IP 2023 DM.txt
18	4	3	V	1	0	2023	0.01636	L:\60625845_A614 MRN DFT responses\2023_Draft_FBC\TUBA\6-Lowdham\Outputs_V4\V_6_Lowdham_V4 IP 2023 DM.txt
19	5	3	V	1	0	2023	0.11994	L:\60625845_A614 MRN DFT responses\2023_Draft_FBC\TUBA\6-Lowdham\Outputs_V4\V_6_Lowdham_V4 IP 2023 DM.txt
20	6	3	V	1	0	2023	0.05730	L:\60625845_A614 MRN DFT responses\2023_Draft_FBC\TUBA\6-Lowdham\Outputs_V4\V_6_Lowdham_V4 IP 2023 DM.txt
21	7	3	V	1	0	2023	0.03020	L:\60625845_A614 MRN DFT responses\2023_Draft_FBC\TUBA\6-Lowdham\Outputs_V4\V_6_Lowdham_V4 IP 2023 DM.txt
22	1	4	V	1	0	2023	0.03345	L:\60625845_A614 MRN DFT responses\2023_Draft_FBC\TUBA\6-Lowdham\Outputs_V4\V_6_Lowdham_V4 OP 2023 DM.txt
23	2	4	V	1	0	2023	0.22320	L:\60625845_A614 MRN DFT responses\2023_Draft_FBC\TUBA\6-Lowdham\Outputs_V4\V_6_Lowdham_V4 OP 2023 DM.txt

170 2 DM.txt	1	V	1	0	2037	0.31641	L:\60625845_A614 MRN DfT responses\2023_Draft_FBC\TUBA\6-Lowdham\Outputs_V4\W_6_Lowdham_V4 AM 2037
171 3 DM.txt	1	V	1	0	2037	0.45226	L:\60625845_A614 MRN DfT responses\2023_Draft_FBC\TUBA\6-Lowdham\Outputs_V4\W_6_Lowdham_V4 AM 2037
172 4 DM.txt	1	V	1	0	2037	0.01500	L:\60625845_A614 MRN DfT responses\2023_Draft_FBC\TUBA\6-Lowdham\Outputs_V4\W_6_Lowdham_V4 AM 2037
173 5 DM.txt	1	V	1	0	2037	0.11000	L:\60625845_A614 MRN DfT responses\2023_Draft_FBC\TUBA\6-Lowdham\Outputs_V4\W_6_Lowdham_V4 AM 2037
174 6 DM.txt	1	V	1	0	2037	0.03010	L:\60625845_A614 MRN DfT responses\2023_Draft_FBC\TUBA\6-Lowdham\Outputs_V4\W_6_Lowdham_V4 AM 2037
175 7 DM.txt	1	V	1	0	2037	0.01880	L:\60625845_A614 MRN DfT responses\2023_Draft_FBC\TUBA\6-Lowdham\Outputs_V4\W_6_Lowdham_V4 AM 2037
176 1 DM.txt	2	V	1	0	2037	0.04320	L:\60625845_A614 MRN DfT responses\2023_Draft_FBC\TUBA\6-Lowdham\Outputs_V4\W_6_Lowdham_V4 PM 2037
177 2 DM.txt	2	V	1	0	2037	0.27515	L:\60625845_A614 MRN DfT responses\2023_Draft_FBC\TUBA\6-Lowdham\Outputs_V4\W_6_Lowdham_V4 PM 2037
178 3 DM.txt	2	V	1	0	2037	0.52626	L:\60625845_A614 MRN DfT responses\2023_Draft_FBC\TUBA\6-Lowdham\Outputs_V4\W_6_Lowdham_V4 PM 2037
179 4 DM.txt	2	V	1	0	2037	0.01470	L:\60625845_A614 MRN DfT responses\2023_Draft_FBC\TUBA\6-Lowdham\Outputs_V4\W_6_Lowdham_V4 PM 2037
180 5 DM.txt	2	V	1	0	2037	0.10780	L:\60625845_A614 MRN DfT responses\2023_Draft_FBC\TUBA\6-Lowdham\Outputs_V4\W_6_Lowdham_V4 PM 2037
181 6 DM.txt	2	V	1	0	2037	0.01850	L:\60625845_A614 MRN DfT responses\2023_Draft_FBC\TUBA\6-Lowdham\Outputs_V4\W_6_Lowdham_V4 PM 2037
182 7 DM.txt	2	V	1	0	2037	0.01430	L:\60625845_A614 MRN DfT responses\2023_Draft_FBC\TUBA\6-Lowdham\Outputs_V4\W_6_Lowdham_V4 PM 2037
183 1 DM.txt	3	V	1	0	2037	0.05581	L:\60625845_A614 MRN DfT responses\2023_Draft_FBC\TUBA\6-Lowdham\Outputs_V4\W_6_Lowdham_V4 IP 2037
184 2 DM.txt	3	V	1	0	2037	0.08757	L:\60625845_A614 MRN DfT responses\2023_Draft_FBC\TUBA\6-Lowdham\Outputs_V4\W_6_Lowdham_V4 IP 2037
185 3 DM.txt	3	V	1	0	2037	0.63282	L:\60625845_A614 MRN DfT responses\2023_Draft_FBC\TUBA\6-Lowdham\Outputs_V4\W_6_Lowdham_V4 IP 2037
186 4 DM.txt	3	V	1	0	2037	0.01636	L:\60625845_A614 MRN DfT responses\2023_Draft_FBC\TUBA\6-Lowdham\Outputs_V4\W_6_Lowdham_V4 IP 2037
187 5 DM.txt	3	V	1	0	2037	0.11994	L:\60625845_A614 MRN DfT responses\2023_Draft_FBC\TUBA\6-Lowdham\Outputs_V4\W_6_Lowdham_V4 IP 2037
188 6 DM.txt	3	V	1	0	2037	0.05730	L:\60625845_A614 MRN DfT responses\2023_Draft_FBC\TUBA\6-Lowdham\Outputs_V4\W_6_Lowdham_V4 IP 2037
189 7 DM.txt	3	V	1	0	2037	0.03020	L:\60625845_A614 MRN DfT responses\2023_Draft_FBC\TUBA\6-Lowdham\Outputs_V4\W_6_Lowdham_V4 IP 2037
190 1 DM.txt	4	V	1	0	2037	0.03345	L:\60625845_A614 MRN DfT responses\2023_Draft_FBC\TUBA\6-Lowdham\Outputs_V4\W_6_Lowdham_V4 OP 2037
191 2 DM.txt	4	V	1	0	2037	0.22320	L:\60625845_A614 MRN DfT responses\2023_Draft_FBC\TUBA\6-Lowdham\Outputs_V4\W_6_Lowdham_V4 OP 2037
192 3 DM.txt	4	V	1	0	2037	0.51955	L:\60625845_A614 MRN DfT responses\2023_Draft_FBC\TUBA\6-Lowdham\Outputs_V4\W_6_Lowdham_V4 OP 2037
193 4 DM.txt	4	V	1	0	2037	0.01636	L:\60625845_A614 MRN DfT responses\2023_Draft_FBC\TUBA\6-Lowdham\Outputs_V4\W_6_Lowdham_V4 OP 2037
194 5 DM.txt	4	V	1	0	2037	0.11994	L:\60625845_A614 MRN DfT responses\2023_Draft_FBC\TUBA\6-Lowdham\Outputs_V4\W_6_Lowdham_V4 OP 2037
195 6 DM.txt	4	V	1	0	2037	0.05730	L:\60625845_A614 MRN DfT responses\2023_Draft_FBC\TUBA\6-Lowdham\Outputs_V4\W_6_Lowdham_V4 OP 2037
196 7 DM.txt	4	V	1	0	2037	0.03020	L:\60625845_A614 MRN DfT responses\2023_Draft_FBC\TUBA\6-Lowdham\Outputs_V4\W_6_Lowdham_V4 OP 2037
197 1 DS.txt	1	V	1	1	2037	0.05743	L:\60625845_A614 MRN DfT responses\2023_Draft_FBC\TUBA\6-Lowdham\Outputs_V4\W_6_Lowdham_V4 AM 2037
198 2 DS.txt	1	V	1	1	2037	0.31641	L:\60625845_A614 MRN DfT responses\2023_Draft_FBC\TUBA\6-Lowdham\Outputs_V4\W_6_Lowdham_V4 AM 2037

199	3	1	V	1	1	2037	0.45226	L:\60625845_A614 MRN DfT responses\2023_Draft_FBC\TUBA\6-Lowdham\Outputs_V4\W_6_Lowdham_V4	AM 2037	DS.txt
200	4	1	V	1	1	2037	0.01500	L:\60625845_A614 MRN DfT responses\2023_Draft_FBC\TUBA\6-Lowdham\Outputs_V4\W_6_Lowdham_V4	AM 2037	DS.txt
201	5	1	V	1	1	2037	0.11000	L:\60625845_A614 MRN DfT responses\2023_Draft_FBC\TUBA\6-Lowdham\Outputs_V4\W_6_Lowdham_V4	AM 2037	DS.txt
202	6	1	V	1	1	2037	0.03010	L:\60625845_A614 MRN DfT responses\2023_Draft_FBC\TUBA\6-Lowdham\Outputs_V4\W_6_Lowdham_V4	AM 2037	DS.txt
203	7	1	V	1	1	2037	0.01880	L:\60625845_A614 MRN DfT responses\2023_Draft_FBC\TUBA\6-Lowdham\Outputs_V4\W_6_Lowdham_V4	AM 2037	DS.txt
204	1	2	V	1	1	2037	0.04320	L:\60625845_A614 MRN DfT responses\2023_Draft_FBC\TUBA\6-Lowdham\Outputs_V4\W_6_Lowdham_V4	PM 2037	DS.txt
205	2	2	V	1	1	2037	0.27515	L:\60625845_A614 MRN DfT responses\2023_Draft_FBC\TUBA\6-Lowdham\Outputs_V4\W_6_Lowdham_V4	PM 2037	DS.txt
206	3	2	V	1	1	2037	0.52626	L:\60625845_A614 MRN DfT responses\2023_Draft_FBC\TUBA\6-Lowdham\Outputs_V4\W_6_Lowdham_V4	PM 2037	DS.txt
207	4	2	V	1	1	2037	0.01470	L:\60625845_A614 MRN DfT responses\2023_Draft_FBC\TUBA\6-Lowdham\Outputs_V4\W_6_Lowdham_V4	PM 2037	DS.txt
208	5	2	V	1	1	2037	0.10780	L:\60625845_A614 MRN DfT responses\2023_Draft_FBC\TUBA\6-Lowdham\Outputs_V4\W_6_Lowdham_V4	PM 2037	DS.txt
209	6	2	V	1	1	2037	0.01850	L:\60625845_A614 MRN DfT responses\2023_Draft_FBC\TUBA\6-Lowdham\Outputs_V4\W_6_Lowdham_V4	PM 2037	DS.txt
210	7	2	V	1	1	2037	0.01430	L:\60625845_A614 MRN DfT responses\2023_Draft_FBC\TUBA\6-Lowdham\Outputs_V4\W_6_Lowdham_V4	PM 2037	DS.txt
211	1	3	V	1	1	2037	0.05581	L:\60625845_A614 MRN DfT responses\2023_Draft_FBC\TUBA\6-Lowdham\Outputs_V4\W_6_Lowdham_V4	IP 2037	DS.txt
212	2	3	V	1	1	2037	0.08757	L:\60625845_A614 MRN DfT responses\2023_Draft_FBC\TUBA\6-Lowdham\Outputs_V4\W_6_Lowdham_V4	IP 2037	DS.txt
213	3	3	V	1	1	2037	0.63282	L:\60625845_A614 MRN DfT responses\2023_Draft_FBC\TUBA\6-Lowdham\Outputs_V4\W_6_Lowdham_V4	IP 2037	DS.txt
214	4	3	V	1	1	2037	0.01636	L:\60625845_A614 MRN DfT responses\2023_Draft_FBC\TUBA\6-Lowdham\Outputs_V4\W_6_Lowdham_V4	IP 2037	DS.txt
215	5	3	V	1	1	2037	0.11994	L:\60625845_A614 MRN DfT responses\2023_Draft_FBC\TUBA\6-Lowdham\Outputs_V4\W_6_Lowdham_V4	IP 2037	DS.txt
216	6	3	V	1	1	2037	0.05730	L:\60625845_A614 MRN DfT responses\2023_Draft_FBC\TUBA\6-Lowdham\Outputs_V4\W_6_Lowdham_V4	IP 2037	DS.txt
217	7	3	V	1	1	2037	0.03020	L:\60625845_A614 MRN DfT responses\2023_Draft_FBC\TUBA\6-Lowdham\Outputs_V4\W_6_Lowdham_V4	IP 2037	DS.txt
218	1	4	V	1	1	2037	0.03345	L:\60625845_A614 MRN DfT responses\2023_Draft_FBC\TUBA\6-Lowdham\Outputs_V4\W_6_Lowdham_V4	OP 2037	DS.txt
219	2	4	V	1	1	2037	0.22320	L:\60625845_A614 MRN DfT responses\2023_Draft_FBC\TUBA\6-Lowdham\Outputs_V4\W_6_Lowdham_V4	OP 2037	DS.txt
220	3	4	V	1	1	2037	0.51955	L:\60625845_A614 MRN DfT responses\2023_Draft_FBC\TUBA\6-Lowdham\Outputs_V4\W_6_Lowdham_V4	OP 2037	DS.txt
221	4	4	V	1	1	2037	0.01636	L:\60625845_A614 MRN DfT responses\2023_Draft_FBC\TUBA\6-Lowdham\Outputs_V4\W_6_Lowdham_V4	OP 2037	DS.txt
222	5	4	V	1	1	2037	0.11994	L:\60625845_A614 MRN DfT responses\2023_Draft_FBC\TUBA\6-Lowdham\Outputs_V4\W_6_Lowdham_V4	OP 2037	DS.txt
223	6	4	V	1	1	2037	0.05730	L:\60625845_A614 MRN DfT responses\2023_Draft_FBC\TUBA\6-Lowdham\Outputs_V4\W_6_Lowdham_V4	OP 2037	DS.txt
224	7	4	V	1	1	2037	0.03020	L:\60625845_A614 MRN DfT responses\2023_Draft_FBC\TUBA\6-Lowdham\Outputs_V4\W_6_Lowdham_V4	OP 2037	DS.txt
225	1	1	T	1	0	2037	1.00000	L:\60625845_A614 MRN DfT responses\2023_Draft_FBC\TUBA\6-Lowdham\Outputs_V4\T_6_Lowdham_V4	AM 2037	DM.txt
226	2	1	T	1	0	2037	1.00000	L:\60625845_A614 MRN DfT responses\2023_Draft_FBC\TUBA\6-Lowdham\Outputs_V4\T_6_Lowdham_V4	AM 2037	DM.txt
227	3	1	T	1	0	2037	1.00000	L:\60625845_A614 MRN DfT responses\2023_Draft_FBC\TUBA\6-Lowdham\Outputs_V4\T_6_Lowdham_V4	AM 2037	DM.txt

SECTORS

*mode Sector_file_name

ERRORS AND WARNINGS

Warning: Scheme parameter zones_as_sectors set to no: Possibility that small aggregation errors may occur in the TEE table for some appraisals. Recommend undertaking a sensitivity test using a sector system (and some sectors) to check.

2053 Warnings found in total (including any above)

Warning (147 serious): Ratio of DM to DS travel time higher than limit for the following:

Origin	Destination	Time_slice	Veh_type	Purpose	Person_type	Year	DM_time	DS_time	Ratio	DM_trips	DS_trips
4	1	2	LGV Personal	Other	All	2037	0.090	0.001	68.885	4.248	4.248
4	2	2	LGV Personal	Other	All	2037	0.090	0.001	68.885	4.704	4.704
4	3	2	LGV Personal	Other	All	2037	0.090	0.001	68.885	3.837	3.837
4	1	2	Car	Business	All	2037	0.090	0.001	68.885	12.485	12.485
4	2	2	Car	Business	All	2037	0.090	0.001	68.885	13.824	13.824
4	3	2	Car	Business	All	2037	0.090	0.001	68.885	11.275	11.275
4	1	2	LGV Freight	Business	All	2037	0.090	0.001	68.885	31.154	31.154
4	2	2	LGV Freight	Business	All	2037	0.090	0.001	68.885	34.496	34.496
4	3	2	LGV Freight	Business	All	2037	0.090	0.001	68.885	28.136	28.136
4	1	2	Car	Commuting	All	2037	0.090	0.001	68.885	79.518	79.518
4	2	2	Car	Commuting	All	2037	0.090	0.001	68.885	88.048	88.048
4	3	2	Car	Commuting	All	2037	0.090	0.001	68.885	71.814	71.814
4	1	2	OGV1	Business	All	2037	0.090	0.001	68.885	5.346	5.346
4	2	2	OGV1	Business	All	2037	0.090	0.001	68.885	5.920	5.920
4	3	2	OGV1	Business	All	2037	0.090	0.001	68.885	4.829	4.829
4	1	2	Car	Other	All	2037	0.090	0.001	68.885	152.089	152.089
4	2	2	Car	Other	All	2037	0.090	0.001	68.885	168.403	168.403
4	3	2	Car	Other	All	2037	0.090	0.001	68.885	137.354	137.354
4	1	2	OGV2	Business	All	2037	0.090	0.001	68.885	4.133	4.133
4	2	2	OGV2	Business	All	2037	0.090	0.001	68.885	4.576	4.576

Displayed 20 warnings of a total of 315 of this type.

Warning: DM speeds greater than limit for the following:

Origin	Destination	Time_slice	Veh_type	Purpose	Person_type	Year	DM_dist	DM_time	Cal_Speed	DM_trips	VOC_Speed
1	1	4	OGV1	Business	All	2023	2.000	0.000	4081.633	0.000	85.000
1	2	4	OGV1	Business	All	2023	2.000	0.000	4081.633	0.573	85.000
1	3	4	OGV1	Business	All	2023	2.000	0.000	4081.633	2.521	85.000
1	4	4	OGV1	Business	All	2023	2.000	0.000	4081.633	0.745	85.000
1	1	4	OGV2	Business	All	2023	2.000	0.000	4081.633	0.000	85.000
1	2	4	OGV2	Business	All	2023	2.000	0.000	4081.633	0.302	85.000
1	3	4	OGV2	Business	All	2023	2.000	0.000	4081.633	1.329	85.000
1	4	4	OGV2	Business	All	2023	2.000	0.000	4081.633	0.393	85.000

1	1	4	Car	Business	All	2023	2.000	0.000	4081.633	0.000	130.000
1	2	4	Car	Business	All	2023	2.000	0.000	4081.633	0.335	130.000
1	3	4	Car	Business	All	2023	2.000	0.000	4081.633	1.472	130.000
1	4	4	Car	Business	All	2023	2.000	0.000	4081.633	0.435	130.000
1	1	4	LGV Freight	Business	All	2023	2.000	0.000	4081.633	0.000	110.000
1	2	4	LGV Freight	Business	All	2023	2.000	0.000	4081.633	1.199	110.000
1	3	4	LGV Freight	Business	All	2023	2.000	0.000	4081.633	5.277	110.000
1	4	4	LGV Freight	Business	All	2023	2.000	0.000	4081.633	1.559	110.000
1	1	4	Car	Commuting	All	2023	2.000	0.000	4081.633	0.000	130.000
1	2	4	Car	Commuting	All	2023	2.000	0.000	4081.633	2.232	130.000
1	3	4	Car	Commuting	All	2023	2.000	0.000	4081.633	9.821	130.000
1	4	4	Car	Commuting	All	2023	2.000	0.000	4081.633	2.902	130.000

Displayed 20 warnings of a total of 840 of this type.

Warning: DS speeds greater than limit for the following:

Origin	Destination	Time_slice	Veh_type	Purpose	Person_type	Year	DS_dist	DS_time	Ca_Speed	DS_trips	VOC_Speed
4	1	4	LGV Freight	Business	All	2023	2.000	0.000	5128.205	2.039	110.000
4	2	4	LGV Freight	Business	All	2023	2.000	0.000	5128.205	2.159	110.000
4	3	4	LGV Freight	Business	All	2023	2.000	0.000	5128.205	2.759	110.000
4	4	4	LGV Freight	Business	All	2023	2.000	0.000	5128.205	0.000	110.000
4	1	4	OGV1	Business	All	2023	2.000	0.000	5128.205	0.974	85.000
4	2	4	OGV1	Business	All	2023	2.000	0.000	5128.205	1.031	85.000
4	3	4	OGV1	Business	All	2023	2.000	0.000	5128.205	1.318	85.000
4	4	4	OGV1	Business	All	2023	2.000	0.000	5128.205	0.000	85.000
4	1	4	OGV2	Business	All	2023	2.000	0.000	5128.205	0.513	85.000
4	2	4	OGV2	Business	All	2023	2.000	0.000	5128.205	0.544	85.000
4	3	4	OGV2	Business	All	2023	2.000	0.000	5128.205	0.695	85.000
4	4	4	OGV2	Business	All	2023	2.000	0.000	5128.205	0.000	85.000
4	1	4	Car	Business	All	2023	2.000	0.000	5128.205	0.569	130.000
4	2	4	Car	Business	All	2023	2.000	0.000	5128.205	0.602	130.000
4	3	4	Car	Business	All	2023	2.000	0.000	5128.205	0.769	130.000
4	4	4	Car	Business	All	2023	2.000	0.000	5128.205	0.000	130.000
4	1	4	Car	Commuting	All	2023	2.000	0.000	5128.205	3.794	130.000
4	2	4	Car	Commuting	All	2023	2.000	0.000	5128.205	4.018	130.000
4	3	4	Car	Commuting	All	2023	2.000	0.000	5128.205	5.134	130.000
4	4	4	Car	Commuting	All	2023	2.000	0.000	5128.205	0.000	130.000

Displayed 20 warnings of a total of 896 of this type.

TUBA ECONOMICS FILE DIFFERENCES

PARAMETERS - (used)

TUBA_version 1.9.17

base_year 2010

pres_val_year 2010

GDP_base 100.00 0.00 0.00
av_ind_tax 19.00 0.00 0.00
nt_carbdxvalues 83.64 250.92 167.28
t_carbdxvalues 83.64250.92167.28

PARAMETERS - (std)

TUBA_version 1.9.17
base_year 2010
pres_val_year 2010
GDP_base 100.00 0.00 0.00
av_ind_tax 19.00 0.00 0.00
nt_carbdxvalues 82.97 248.92 165.94
t_carbdxvalues 82.97248.92165.94

GDP_PER_CAPITA_GROWTH - (used)

*% change p.a.

*Start_yr End_yr VOT_Gr_purpose1 VOT_Gr_purpose2 VOT_Gr_purpose3 ..

2011	2011	0.615	0.615	0.615
2012	2012	0.801	0.801	0.801
2013	2013	1.253	1.253	1.253
2014	2014	2.208	2.208	2.208
2015	2015	1.814	1.814	1.814
2016	2016	1.425	1.425	1.425
2017	2017	1.528	1.528	1.528
2018	2018	1.046	1.046	1.046
2019	2019	1.122	1.122	1.122
2020	2020	0.099	0.099	0.099
2021	2021	0.100	0.100	0.100
2022	2022	0.099	0.099	0.099
2023	2023	-1.769	-1.769	-1.769
2024	2024	0.956	0.956	0.956
2025	2025	2.307	2.307	2.307
2026	2026	2.347	2.347	2.347
2027	2027	1.954	1.954	1.954
2028	2028	1.687	1.687	1.687
2029	2029	1.657	1.657	1.657
2030	2030	1.621	1.621	1.621
2031	2031	1.570	1.570	1.570
2032	2032	1.552	1.552	1.552
2033	2033	1.539	1.539	1.539
2034	2034	1.518	1.518	1.518
2035	2035	1.505	1.505	1.505
2036	2036	1.638	1.638	1.638
2037	2037	1.611	1.611	1.611

2038	2038	1.578	1.578	1.578
2039	2039	1.546	1.546	1.546
2040	2040	1.506	1.506	1.506
2041	2041	1.476	1.476	1.476
2042	2042	1.439	1.439	1.439
2043	2043	1.401	1.401	1.401
2044	2044	1.369	1.369	1.369
2045	2045	1.350	1.350	1.350
2046	2046	1.342	1.342	1.342
2047	2047	1.321	1.321	1.321
2048	2048	1.302	1.302	1.302
2049	2049	1.282	1.282	1.282
2050	2050	1.277	1.277	1.277
2051	2051	1.278	1.278	1.278
2052	2052	1.281	1.281	1.281
2053	2053	1.286	1.286	1.286
2054	2054	1.294	1.294	1.294
2055	2055	1.312	1.312	1.312
2056	2056	1.325	1.325	1.325
2057	2057	1.339	1.339	1.339
2058	2058	1.349	1.349	1.349
2059	2059	1.359	1.359	1.359
2060	2060	1.370	1.370	1.370
2061	2061	1.379	1.379	1.379
2062	2062	1.387	1.387	1.387
2063	2063	1.399	1.399	1.399
2064	2064	1.406	1.406	1.406
2065	2065	1.413	1.413	1.413
2066	2066	1.418	1.418	1.418
2067	2067	1.420	1.420	1.420
2068	2068	1.421	1.421	1.421
2069	2069	1.428	1.428	1.428
2070	2070	1.468	1.468	1.468
2071	2071	1.534	1.534	1.534
2072	2072	1.592	1.592	1.592
2073	2073	1.548	1.548	1.548
2074	2074	1.472	1.472	1.472
2075	2075	1.426	1.426	1.426
2076	2076	1.358	1.358	1.358
2077	2077	1.363	1.363	1.363
2078	2078	1.337	1.337	1.337
2079	2079	1.299	1.299	1.299
2080	2080	1.269	1.269	1.269
2081	2081	1.321	1.321	1.321

2082	2082	1.359	1.359	1.359
2083	2083	1.372	1.372	1.372
2084	2084	1.369	1.369	1.369
2085	2085	1.420	1.420	1.420
2086	2086	1.469	1.469	1.469
2087	2087	1.528	1.528	1.528
2088	2088	1.589	1.589	1.589
2089	2089	1.666	1.666	1.666
2090	2090	1.690	1.690	1.690
2091	2091	1.703	1.703	1.703
2092	2092	1.699	1.699	1.699
2093	2093	1.700	1.700	1.700
2094	2094	1.705	1.705	1.705
2095	2095	1.709	1.709	1.709
2096	2096	1.712	1.712	1.712
2097	2097	1.712	1.712	1.712
2098	2098	1.711	1.711	1.711
2099	2099	1.708	1.708	1.708
2100	2100	1.702	1.702	1.702
2101	2101	1.702	1.702	1.702
2102	2102	1.702	1.702	1.702
2103	2103	1.702	1.702	1.702
2104	2104	1.702	1.702	1.702
2105	2105	1.702	1.702	1.702
2106	2106	1.702	1.702	1.702
2107	2107	1.702	1.702	1.702
2108	2108	1.702	1.702	1.702
2109	2109	1.702	1.702	1.702
2110	2110	1.702	1.702	1.702
2111	2111	1.702	1.702	1.702
2112	2112	1.702	1.702	1.702
2113	2113	1.702	1.702	1.702
2114	2114	1.702	1.702	1.702
2115	2115	1.702	1.702	1.702
2116	2116	1.702	1.702	1.702
2117	2117	1.702	1.702	1.702
2118	2118	1.702	1.702	1.702
2119	2119	1.702	1.702	1.702
2120	2120	1.702	1.702	1.702
2121	2121	1.702	1.702	1.702
2122	2122	1.702	1.702	1.702
2123	2123	1.702	1.702	1.702
2124	2124	1.702	1.702	1.702
2125	2125	1.702	1.702	1.702

2126	2126	1.702	1.702	1.702
2127	2127	1.702	1.702	1.702
2128	2128	1.702	1.702	1.702
2129	2129	1.702	1.702	1.702
2130	2130	1.702	1.702	1.702
2131	2131	1.702	1.702	1.702
2132	2132	1.702	1.702	1.702
2133	2133	1.702	1.702	1.702
2134	2134	1.702	1.702	1.702
2135	2135	1.702	1.702	1.702
2136	2136	1.702	1.702	1.702
2137	2137	1.702	1.702	1.702
2138	2138	1.702	1.702	1.702
2139	2139	1.702	1.702	1.702
2140	2140	1.702	1.702	1.702
2141	2141	1.702	1.702	1.702
2142	2142	1.702	1.702	1.702
2143	2143	1.702	1.702	1.702
2144	2144	1.702	1.702	1.702
2145	2145	1.702	1.702	1.702
2146	2146	1.702	1.702	1.702
2147	2147	1.702	1.702	1.702
2148	2148	1.702	1.702	1.702
2149	2149	1.702	1.702	1.702
2150	2150	1.702	1.702	1.702
2151	2151	1.702	1.702	1.702

GDP_PER_CAPITA_GROWTH - (std)

*% change p.a.

*Start_yr	End_yr	VOT_Gr_purpose1	VOT_Gr_purpose2	VOT_Gr_purpose3 ..
2011	2011	0.435	0.435	0.435
2012	2012	0.762	0.762	0.762
2013	2013	1.548	1.548	1.548
2014	2014	2.080	2.080	2.080
2015	2015	1.556	1.556	1.556
2016	2016	0.888	0.888	0.888
2017	2017	1.137	1.137	1.137
2018	2018	0.650	0.650	0.650
2019	2019	0.885	0.885	0.885
2020	2020	0.269	0.269	0.269
2021	2021	0.267	0.267	0.267
2022	2022	0.267	0.267	0.267
2023	2023	1.654	1.654	1.654
2024	2024	0.975	0.975	0.975

2025	2025	1.311	1.311	1.311
2026	2026	1.412	1.412	1.412
2027	2027	1.480	1.480	1.480
2028	2028	1.480	1.480	1.480
2029	2029	1.463	1.463	1.463
2030	2030	1.440	1.440	1.440
2031	2031	1.413	1.413	1.413
2032	2032	1.389	1.389	1.389
2033	2033	1.387	1.387	1.387
2034	2034	1.372	1.372	1.372
2035	2035	1.345	1.345	1.345
2036	2036	1.477	1.477	1.477
2037	2037	1.475	1.475	1.475
2038	2038	1.467	1.467	1.467
2039	2039	1.443	1.443	1.443
2040	2040	1.416	1.416	1.416
2041	2041	1.397	1.397	1.397
2042	2042	1.375	1.375	1.375
2043	2043	1.351	1.351	1.351
2044	2044	1.332	1.332	1.332
2045	2045	1.320	1.320	1.320
2046	2046	1.309	1.309	1.309
2047	2047	1.292	1.292	1.292
2048	2048	1.282	1.282	1.282
2049	2049	1.281	1.281	1.281
2050	2050	1.291	1.291	1.291
2051	2051	1.307	1.307	1.307
2052	2052	1.320	1.320	1.320
2053	2053	1.332	1.332	1.332
2054	2054	1.338	1.338	1.338
2055	2055	1.358	1.358	1.358
2056	2056	1.370	1.370	1.370
2057	2057	1.385	1.385	1.385
2058	2058	1.398	1.398	1.398
2059	2059	1.406	1.406	1.406
2060	2060	1.417	1.417	1.417
2061	2061	1.437	1.437	1.437
2062	2062	1.444	1.444	1.444
2063	2063	1.456	1.456	1.456
2064	2064	1.466	1.466	1.466
2065	2065	1.482	1.482	1.482
2066	2066	1.540	1.540	1.540
2067	2067	1.607	1.607	1.607
2068	2068	1.531	1.531	1.531

2069	2069	1.521	1.521	1.521
2070	2070	1.493	1.493	1.493
2071	2071	1.518	1.518	1.518
2072	2072	1.463	1.463	1.463
2073	2073	1.426	1.426	1.426
2074	2074	1.355	1.355	1.355
2075	2075	1.317	1.317	1.317
2076	2076	1.256	1.256	1.256
2077	2077	1.271	1.271	1.271
2078	2078	1.253	1.253	1.253
2079	2079	1.219	1.219	1.219
2080	2080	1.193	1.193	1.193
2081	2081	1.251	1.251	1.251
2082	2082	1.293	1.293	1.293
2083	2083	1.309	1.309	1.309
2084	2084	1.310	1.310	1.310
2085	2085	1.364	1.364	1.364
2086	2086	1.422	1.422	1.422
2087	2087	1.488	1.488	1.488
2088	2088	1.487	1.487	1.487
2089	2089	1.498	1.498	1.498
2090	2090	1.508	1.508	1.508
2091	2091	1.513	1.513	1.513
2092	2092	1.511	1.511	1.511
2093	2093	1.508	1.508	1.508
2094	2094	1.505	1.505	1.505
2095	2095	1.501	1.501	1.501
2096	2096	1.497	1.497	1.497
2097	2097	1.491	1.491	1.491
2098	2098	1.484	1.484	1.484
2099	2099	1.476	1.476	1.476
2100	2100	1.467	1.467	1.467
2101	2101	1.467	1.467	1.467
2102	2102	1.467	1.467	1.467
2103	2103	1.467	1.467	1.467
2104	2104	1.467	1.467	1.467
2105	2105	1.467	1.467	1.467
2106	2106	1.467	1.467	1.467
2107	2107	1.467	1.467	1.467
2108	2108	1.467	1.467	1.467
2109	2109	1.467	1.467	1.467
2110	2110	1.467	1.467	1.467
2111	2111	1.467	1.467	1.467
2112	2112	1.467	1.467	1.467

2113	2113	1.467	1.467	1.467
2114	2114	1.467	1.467	1.467
2115	2115	1.467	1.467	1.467
2116	2116	1.467	1.467	1.467
2117	2117	1.467	1.467	1.467
2118	2118	1.467	1.467	1.467
2119	2119	1.467	1.467	1.467
2120	2120	1.467	1.467	1.467
2121	2121	1.467	1.467	1.467
2122	2122	1.467	1.467	1.467
2123	2123	1.467	1.467	1.467
2124	2124	1.467	1.467	1.467
2125	2125	1.467	1.467	1.467
2126	2126	1.467	1.467	1.467
2127	2127	1.467	1.467	1.467
2128	2128	1.467	1.467	1.467
2129	2129	1.467	1.467	1.467
2130	2130	1.467	1.467	1.467
2131	2131	1.467	1.467	1.467
2132	2132	1.467	1.467	1.467
2133	2133	1.467	1.467	1.467
2134	2134	1.467	1.467	1.467
2135	2135	1.467	1.467	1.467
2136	2136	1.467	1.467	1.467
2137	2137	1.467	1.467	1.467
2138	2138	1.467	1.467	1.467
2139	2139	1.467	1.467	1.467
2140	2140	1.467	1.467	1.467
2141	2141	1.467	1.467	1.467
2142	2142	1.467	1.467	1.467
2143	2143	1.467	1.467	1.467
2144	2144	1.467	1.467	1.467
2145	2145	1.467	1.467	1.467
2146	2146	1.467	1.467	1.467
2147	2147	1.467	1.467	1.467
2148	2148	1.467	1.467	1.467
2149	2149	1.467	1.467	1.467
2150	2150	1.467	1.467	1.467
2151	2151	1.467	1.467	1.467

FUEL_COST - (used)

*type resource(p/unit) duty(p/unit) VAT(%) CO2_grammes/unit (unit=litre for fuel types 1 & 2; unit=KWH for electric)

1	42.6	57.2	17.5	2230.00
2	44.3	57.2	17.5	2562.00

3	11.8	0.0	5.0	389.00
---	------	-----	-----	--------

FUEL_COST - (std)

*type resource(p/unit) duty(p/unit) VAT(%) CO2_grammes/unit (unit=litre for fuel types 1 & 2; unit=KWH for electric)

1	42.6	57.2	17.5	2230.00
2	44.3	57.2	17.5	2562.00
3	11.9	0.0	5.0	389.00

FUEL_COST_CHANGES - (used)

*% change p.a.

*Start_yr End_yr fuel_type resource duty VAT CO2_Den_change

2011	2011	1	22.306	-0.354	14.286	1.171
2012	2012	1	1.986	-2.001	0.000	-1.031
2013	2013	1	-3.443	-1.746	0.000	-0.302
2014	2014	1	-11.771	-1.707	0.000	0.153
2015	2015	1	-28.520	-0.562	0.000	-0.016
2016	2016	1	-7.312	-1.719	0.000	-0.027
2017	2017	1	19.734	-1.752	0.000	-0.106
2018	2018	1	13.204	-2.472	0.000	0.128
2019	2019	1	-2.520	-2.412	0.000	0.010
2020	2020	1	-23.823	-6.920	0.000	0.015
2021	2021	1	37.033	0.586	0.000	-0.106
2022	2022	1	63.199	-5.002	0.000	-5.260
2023	2023	1	-5.410	5.535	0.000	0.000
2024	2024	1	-12.463	2.683	0.000	0.000
2025	2025	1	-3.454	0.465	0.000	0.000
2026	2026	1	-4.677	0.417	0.000	0.000
2027	2027	1	2.609	0.740	0.000	0.000
2028	2028	1	2.785	0.731	0.000	0.000
2029	2029	1	1.806	0.723	0.000	0.000
2030	2030	1	2.661	-0.293	0.000	0.000
2031	2031	1	1.728	-0.293	0.000	0.000
2032	2032	1	1.699	-0.293	0.000	0.000
2033	2033	1	2.506	-0.293	0.000	0.000
2034	2034	1	2.444	-0.293	0.000	0.000
2035	2035	1	1.591	-0.293	0.000	0.000
2036	2036	1	0.000	-0.293	0.000	0.000
2037	2037	1	0.000	-0.293	0.000	0.000
2038	2038	1	0.000	-0.293	0.000	0.000
2039	2039	1	0.000	-0.293	0.000	0.000
2040	2040	1	0.000	-0.293	0.000	0.000
2041	2041	1	0.000	-0.293	0.000	0.000
2042	2042	1	0.000	-0.293	0.000	0.000
2043	2043	1	0.000	-0.293	0.000	0.000

2044	2044	1	0.000	-0.293	0.000	0.000
2045	2045	1	0.000	-0.293	0.000	0.000
2046	2046	1	0.000	-0.293	0.000	0.000
2047	2047	1	0.000	-0.293	0.000	0.000
2048	2048	1	0.000	-0.293	0.000	0.000
2049	2049	1	0.000	-0.293	0.000	0.000
2050	2050	1	0.000	-0.293	0.000	0.000
2051	2051	1	0.000	-0.293	0.000	0.000
2052	2052	1	0.000	-0.293	0.000	0.000
2053	2053	1	0.000	-0.293	0.000	0.000
2054	2054	1	0.000	-0.293	0.000	0.000
2055	2055	1	0.000	-0.293	0.000	0.000
2056	2056	1	0.000	-0.293	0.000	0.000
2057	2057	1	0.000	-0.293	0.000	0.000
2058	2058	1	0.000	-0.293	0.000	0.000
2059	2059	1	0.000	-0.293	0.000	0.000
2060	2060	1	0.000	-0.293	0.000	0.000
2061	2061	1	0.000	-0.293	0.000	0.000
2062	2062	1	0.000	-0.293	0.000	0.000
2063	2063	1	0.000	-0.293	0.000	0.000
2064	2064	1	0.000	-0.293	0.000	0.000
2065	2065	1	0.000	-0.293	0.000	0.000
2066	2066	1	0.000	-0.293	0.000	0.000
2067	2067	1	0.000	-0.293	0.000	0.000
2068	2068	1	0.000	-0.293	0.000	0.000
2069	2069	1	0.000	-0.293	0.000	0.000
2070	2070	1	0.000	-0.293	0.000	0.000
2071	2071	1	0.000	-0.293	0.000	0.000
2072	2072	1	0.000	-0.293	0.000	0.000
2073	2073	1	0.000	-0.293	0.000	0.000
2074	2074	1	0.000	-0.293	0.000	0.000
2075	2075	1	0.000	-0.293	0.000	0.000
2076	2076	1	0.000	-0.293	0.000	0.000
2077	2077	1	0.000	-0.293	0.000	0.000
2078	2078	1	0.000	-0.293	0.000	0.000
2079	2079	1	0.000	-0.293	0.000	0.000
2080	2080	1	0.000	-0.293	0.000	0.000
2081	2081	1	0.000	-0.293	0.000	0.000
2082	2082	1	0.000	-0.293	0.000	0.000
2083	2083	1	0.000	-0.293	0.000	0.000
2084	2084	1	0.000	-0.293	0.000	0.000
2085	2085	1	0.000	-0.293	0.000	0.000
2086	2086	1	0.000	-0.293	0.000	0.000
2087	2087	1	0.000	-0.293	0.000	0.000

2088	2088	1	0.000	-0.293	0.000	0.000
2089	2089	1	0.000	-0.293	0.000	0.000
2090	2090	1	0.000	-0.293	0.000	0.000
2091	2091	1	0.000	-0.293	0.000	0.000
2092	2092	1	0.000	-0.293	0.000	0.000
2093	2093	1	0.000	-0.293	0.000	0.000
2094	2094	1	0.000	-0.293	0.000	0.000
2095	2095	1	0.000	-0.293	0.000	0.000
2096	2096	1	0.000	-0.293	0.000	0.000
2097	2097	1	0.000	-0.293	0.000	0.000
2098	2098	1	0.000	-0.293	0.000	0.000
2099	2099	1	0.000	-0.293	0.000	0.000
2100	2100	1	0.000	-0.293	0.000	0.000
2101	2101	1	0.000	-0.293	0.000	0.000
2102	2102	1	0.000	-0.293	0.000	0.000
2103	2103	1	0.000	-0.293	0.000	0.000
2104	2104	1	0.000	-0.293	0.000	0.000
2105	2105	1	0.000	-0.293	0.000	0.000
2106	2106	1	0.000	-0.293	0.000	0.000
2107	2107	1	0.000	-0.293	0.000	0.000
2108	2108	1	0.000	-0.293	0.000	0.000
2109	2109	1	0.000	-0.293	0.000	0.000
2110	2110	1	0.000	-0.293	0.000	0.000
2111	2111	1	0.000	-0.293	0.000	0.000
2112	2112	1	0.000	-0.293	0.000	0.000
2113	2113	1	0.000	-0.293	0.000	0.000
2114	2114	1	0.000	-0.293	0.000	0.000
2115	2115	1	0.000	-0.293	0.000	0.000
2116	2116	1	0.000	-0.293	0.000	0.000
2117	2117	1	0.000	-0.293	0.000	0.000
2118	2118	1	0.000	-0.293	0.000	0.000
2119	2119	1	0.000	-0.293	0.000	0.000
2120	2120	1	0.000	-0.293	0.000	0.000
2121	2121	1	0.000	-0.293	0.000	0.000
2122	2122	1	0.000	-0.293	0.000	0.000
2123	2123	1	0.000	-0.293	0.000	0.000
2124	2124	1	0.000	-0.293	0.000	0.000
2125	2125	1	0.000	-0.293	0.000	0.000
2126	2126	1	0.000	-0.293	0.000	0.000
2127	2127	1	0.000	-0.293	0.000	0.000
2128	2128	1	0.000	-0.293	0.000	0.000
2129	2129	1	0.000	-0.293	0.000	0.000
2130	2130	1	0.000	-0.293	0.000	0.000
2131	2131	1	0.000	-0.293	0.000	0.000

2132	2132	1	0.000	-0.293	0.000	0.000
2133	2133	1	0.000	-0.293	0.000	0.000
2134	2134	1	0.000	-0.293	0.000	0.000
2135	2135	1	0.000	-0.293	0.000	0.000
2136	2136	1	0.000	-0.293	0.000	0.000
2137	2137	1	0.000	-0.293	0.000	0.000
2138	2138	1	0.000	-0.293	0.000	0.000
2139	2139	1	0.000	-0.293	0.000	0.000
2140	2140	1	0.000	-0.293	0.000	0.000
2141	2141	1	0.000	-0.293	0.000	0.000
2142	2142	1	0.000	-0.293	0.000	0.000
2143	2143	1	0.000	-0.293	0.000	0.000
2144	2144	1	0.000	-0.293	0.000	0.000
2145	2145	1	0.000	-0.293	0.000	0.000
2146	2146	1	0.000	-0.293	0.000	0.000
2147	2147	1	0.000	-0.293	0.000	0.000
2148	2148	1	0.000	-0.293	0.000	0.000
2149	2149	1	0.000	-0.293	0.000	0.000
2150	2150	1	0.000	-0.293	0.000	0.000
2151	2151	1	0.000	-0.293	0.000	0.000
2011	2011	2	26.996	-0.354	14.286	1.917
2012	2012	2	3.197	-2.001	0.000	-1.071
2013	2013	2	-3.680	-1.746	0.000	4.731
2014	2014	2	-11.343	-1.707	0.000	-0.016
2015	2015	2	-29.504	-0.562	0.000	-0.020
2016	2016	2	-12.397	-1.719	0.000	0.004
2017	2017	2	22.316	-1.752	0.000	0.021
2018	2018	2	16.802	-2.472	0.000	-0.267
2019	2019	2	0.348	-2.412	0.000	-1.513
2020	2020	2	-24.318	-6.920	0.000	-4.516
2021	2021	2	30.464	0.586	0.000	-0.553
2022	2022	2	60.563	-5.002	0.000	0.295
2023	2023	2	-5.550	5.535	0.000	-0.288
2024	2024	2	-13.119	2.683	0.000	-0.174
2025	2025	2	-3.997	0.465	0.000	-0.148
2026	2026	2	-5.278	0.417	0.000	-0.034
2027	2027	2	2.671	0.740	0.000	-0.046
2028	2028	2	2.847	0.731	0.000	-0.036
2029	2029	2	1.845	0.723	0.000	-0.036
2030	2030	2	2.718	-0.293	0.000	-0.040
2031	2031	2	1.764	-0.293	0.000	-0.027
2032	2032	2	1.733	-0.293	0.000	-0.027
2033	2033	2	2.556	-0.293	0.000	0.000
2034	2034	2	2.492	-0.293	0.000	0.000

2035	2035	2	1.621	-0.293	0.000	0.000
2036	2036	2	0.000	-0.293	0.000	0.000
2037	2037	2	0.000	-0.293	0.000	0.000
2038	2038	2	0.000	-0.293	0.000	0.000
2039	2039	2	0.000	-0.293	0.000	0.000
2040	2040	2	0.000	-0.293	0.000	0.000
2041	2041	2	0.000	-0.293	0.000	0.000
2042	2042	2	0.000	-0.293	0.000	0.000
2043	2043	2	0.000	-0.293	0.000	0.000
2044	2044	2	0.000	-0.293	0.000	0.000
2045	2045	2	0.000	-0.293	0.000	0.000
2046	2046	2	0.000	-0.293	0.000	0.000
2047	2047	2	0.000	-0.293	0.000	0.000
2048	2048	2	0.000	-0.293	0.000	0.000
2049	2049	2	0.000	-0.293	0.000	0.000
2050	2050	2	0.000	-0.293	0.000	0.000
2051	2051	2	0.000	-0.293	0.000	0.000
2052	2052	2	0.000	-0.293	0.000	0.000
2053	2053	2	0.000	-0.293	0.000	0.000
2054	2054	2	0.000	-0.293	0.000	0.000
2055	2055	2	0.000	-0.293	0.000	0.000
2056	2056	2	0.000	-0.293	0.000	0.000
2057	2057	2	0.000	-0.293	0.000	0.000
2058	2058	2	0.000	-0.293	0.000	0.000
2059	2059	2	0.000	-0.293	0.000	0.000
2060	2060	2	0.000	-0.293	0.000	0.000
2061	2061	2	0.000	-0.293	0.000	0.000
2062	2062	2	0.000	-0.293	0.000	0.000
2063	2063	2	0.000	-0.293	0.000	0.000
2064	2064	2	0.000	-0.293	0.000	0.000
2065	2065	2	0.000	-0.293	0.000	0.000
2066	2066	2	0.000	-0.293	0.000	0.000
2067	2067	2	0.000	-0.293	0.000	0.000
2068	2068	2	0.000	-0.293	0.000	0.000
2069	2069	2	0.000	-0.293	0.000	0.000
2070	2070	2	0.000	-0.293	0.000	0.000
2071	2071	2	0.000	-0.293	0.000	0.000
2072	2072	2	0.000	-0.293	0.000	0.000
2073	2073	2	0.000	-0.293	0.000	0.000
2074	2074	2	0.000	-0.293	0.000	0.000
2075	2075	2	0.000	-0.293	0.000	0.000
2076	2076	2	0.000	-0.293	0.000	0.000
2077	2077	2	0.000	-0.293	0.000	0.000
2078	2078	2	0.000	-0.293	0.000	0.000

2079	2079	2	0.000	-0.293	0.000	0.000
2080	2080	2	0.000	-0.293	0.000	0.000
2081	2081	2	0.000	-0.293	0.000	0.000
2082	2082	2	0.000	-0.293	0.000	0.000
2083	2083	2	0.000	-0.293	0.000	0.000
2084	2084	2	0.000	-0.293	0.000	0.000
2085	2085	2	0.000	-0.293	0.000	0.000
2086	2086	2	0.000	-0.293	0.000	0.000
2087	2087	2	0.000	-0.293	0.000	0.000
2088	2088	2	0.000	-0.293	0.000	0.000
2089	2089	2	0.000	-0.293	0.000	0.000
2090	2090	2	0.000	-0.293	0.000	0.000
2091	2091	2	0.000	-0.293	0.000	0.000
2092	2092	2	0.000	-0.293	0.000	0.000
2093	2093	2	0.000	-0.293	0.000	0.000
2094	2094	2	0.000	-0.293	0.000	0.000
2095	2095	2	0.000	-0.293	0.000	0.000
2096	2096	2	0.000	-0.293	0.000	0.000
2097	2097	2	0.000	-0.293	0.000	0.000
2098	2098	2	0.000	-0.293	0.000	0.000
2099	2099	2	0.000	-0.293	0.000	0.000
2100	2100	2	0.000	-0.293	0.000	0.000
2101	2101	2	0.000	-0.293	0.000	0.000
2102	2102	2	0.000	-0.293	0.000	0.000
2103	2103	2	0.000	-0.293	0.000	0.000
2104	2104	2	0.000	-0.293	0.000	0.000
2105	2105	2	0.000	-0.293	0.000	0.000
2106	2106	2	0.000	-0.293	0.000	0.000
2107	2107	2	0.000	-0.293	0.000	0.000
2108	2108	2	0.000	-0.293	0.000	0.000
2109	2109	2	0.000	-0.293	0.000	0.000
2110	2110	2	0.000	-0.293	0.000	0.000
2111	2111	2	0.000	-0.293	0.000	0.000
2112	2112	2	0.000	-0.293	0.000	0.000
2113	2113	2	0.000	-0.293	0.000	0.000
2114	2114	2	0.000	-0.293	0.000	0.000
2115	2115	2	0.000	-0.293	0.000	0.000
2116	2116	2	0.000	-0.293	0.000	0.000
2117	2117	2	0.000	-0.293	0.000	0.000
2118	2118	2	0.000	-0.293	0.000	0.000
2119	2119	2	0.000	-0.293	0.000	0.000
2120	2120	2	0.000	-0.293	0.000	0.000
2121	2121	2	0.000	-0.293	0.000	0.000
2122	2122	2	0.000	-0.293	0.000	0.000

2123	2123	2	0.000	-0.293	0.000	0.000
2124	2124	2	0.000	-0.293	0.000	0.000
2125	2125	2	0.000	-0.293	0.000	0.000
2126	2126	2	0.000	-0.293	0.000	0.000
2127	2127	2	0.000	-0.293	0.000	0.000
2128	2128	2	0.000	-0.293	0.000	0.000
2129	2129	2	0.000	-0.293	0.000	0.000
2130	2130	2	0.000	-0.293	0.000	0.000
2131	2131	2	0.000	-0.293	0.000	0.000
2132	2132	2	0.000	-0.293	0.000	0.000
2133	2133	2	0.000	-0.293	0.000	0.000
2134	2134	2	0.000	-0.293	0.000	0.000
2135	2135	2	0.000	-0.293	0.000	0.000
2136	2136	2	0.000	-0.293	0.000	0.000
2137	2137	2	0.000	-0.293	0.000	0.000
2138	2138	2	0.000	-0.293	0.000	0.000
2139	2139	2	0.000	-0.293	0.000	0.000
2140	2140	2	0.000	-0.293	0.000	0.000
2141	2141	2	0.000	-0.293	0.000	0.000
2142	2142	2	0.000	-0.293	0.000	0.000
2143	2143	2	0.000	-0.293	0.000	0.000
2144	2144	2	0.000	-0.293	0.000	0.000
2145	2145	2	0.000	-0.293	0.000	0.000
2146	2146	2	0.000	-0.293	0.000	0.000
2147	2147	2	0.000	-0.293	0.000	0.000
2148	2148	2	0.000	-0.293	0.000	0.000
2149	2149	2	0.000	-0.293	0.000	0.000
2150	2150	2	0.000	-0.293	0.000	0.000
2151	2151	2	0.000	-0.293	0.000	0.000
2011	2011	3	6.623	0.000	0.000	-1.438
2012	2012	3	3.751	0.000	0.000	-1.878
2013	2013	3	4.428	0.000	0.000	-2.438
2014	2014	3	3.495	0.000	0.000	-1.891
2015	2015	3	-1.703	0.000	0.000	-2.837
2016	2016	3	-3.286	0.000	0.000	-3.035
2017	2017	3	4.940	0.000	0.000	-2.830
2018	2018	3	6.255	0.000	0.000	-3.251
2019	2019	3	7.007	0.000	0.000	-3.618
2020	2020	3	-4.724	0.000	0.000	-3.931
2021	2021	3	8.209	0.000	0.000	-4.324
2022	2022	3	44.098	0.000	0.000	-4.776
2023	2023	3	35.732	0.000	0.000	-5.300
2024	2024	3	-3.272	0.000	0.000	-5.915
2025	2025	3	-13.652	0.000	0.000	-6.643

2026	2026	3	-35.980	0.000	0.000	-7.520
2027	2027	3	-4.450	0.000	0.000	-8.594
2028	2028	3	-2.634	0.000	0.000	-9.934
2029	2029	3	-0.114	0.000	0.000	-11.657
2030	2030	3	-0.506	0.000	0.000	-13.944
2031	2031	3	-4.229	0.000	0.000	-19.089
2032	2032	3	0.441	0.000	0.000	-19.090
2033	2033	3	1.228	0.000	0.000	-19.088
2034	2034	3	1.712	0.000	0.000	-19.090
2035	2035	3	-0.946	0.000	0.000	-19.089
2036	2036	3	-0.271	0.000	0.000	-19.089
2037	2037	3	-2.629	0.000	0.000	-19.088
2038	2038	3	1.153	0.000	0.000	-19.090
2039	2039	3	-0.823	0.000	0.000	-19.092
2040	2040	3	2.635	0.000	0.000	-19.088
2041	2041	3	-1.504	0.000	0.000	-16.984
2042	2042	3	-0.001	0.000	0.000	-5.099
2043	2043	3	-0.216	0.000	0.000	-2.043
2044	2044	3	1.039	0.000	0.000	-6.009
2045	2045	3	-2.180	0.000	0.000	-15.076
2046	2046	3	1.866	0.000	0.000	-9.204
2047	2047	3	-1.602	0.000	0.000	-7.798
2048	2048	3	-2.514	0.000	0.000	-5.087
2049	2049	3	1.769	0.000	0.000	-6.945
2050	2050	3	-1.947	0.000	0.000	-1.718
2051	2051	3	0.000	0.000	0.000	0.000
2052	2052	3	0.000	0.000	0.000	0.000
2053	2053	3	0.000	0.000	0.000	0.000
2054	2054	3	0.000	0.000	0.000	0.000
2055	2055	3	0.000	0.000	0.000	0.000
2056	2056	3	0.000	0.000	0.000	0.000
2057	2057	3	0.000	0.000	0.000	0.000
2058	2058	3	0.000	0.000	0.000	0.000
2059	2059	3	0.000	0.000	0.000	0.000
2060	2060	3	0.000	0.000	0.000	0.000
2061	2061	3	0.000	0.000	0.000	0.000
2062	2062	3	0.000	0.000	0.000	0.000
2063	2063	3	0.000	0.000	0.000	0.000
2064	2064	3	0.000	0.000	0.000	0.000
2065	2065	3	0.000	0.000	0.000	0.000
2066	2066	3	0.000	0.000	0.000	0.000
2067	2067	3	0.000	0.000	0.000	0.000
2068	2068	3	0.000	0.000	0.000	0.000
2069	2069	3	0.000	0.000	0.000	0.000

2070	2070	3	0.000	0.000	0.000	0.000
2071	2071	3	0.000	0.000	0.000	0.000
2072	2072	3	0.000	0.000	0.000	0.000
2073	2073	3	0.000	0.000	0.000	0.000
2074	2074	3	0.000	0.000	0.000	0.000
2075	2075	3	0.000	0.000	0.000	0.000
2076	2076	3	0.000	0.000	0.000	0.000
2077	2077	3	0.000	0.000	0.000	0.000
2078	2078	3	0.000	0.000	0.000	0.000
2079	2079	3	0.000	0.000	0.000	0.000
2080	2080	3	0.000	0.000	0.000	0.000
2081	2081	3	0.000	0.000	0.000	0.000
2082	2082	3	0.000	0.000	0.000	0.000
2083	2083	3	0.000	0.000	0.000	0.000
2084	2084	3	0.000	0.000	0.000	0.000
2085	2085	3	0.000	0.000	0.000	0.000
2086	2086	3	0.000	0.000	0.000	0.000
2087	2087	3	0.000	0.000	0.000	0.000
2088	2088	3	0.000	0.000	0.000	0.000
2089	2089	3	0.000	0.000	0.000	0.000
2090	2090	3	0.000	0.000	0.000	0.000
2091	2091	3	0.000	0.000	0.000	0.000
2092	2092	3	0.000	0.000	0.000	0.000
2093	2093	3	0.000	0.000	0.000	0.000
2094	2094	3	0.000	0.000	0.000	0.000
2095	2095	3	0.000	0.000	0.000	0.000
2096	2096	3	0.000	0.000	0.000	0.000
2097	2097	3	0.000	0.000	0.000	0.000
2098	2098	3	0.000	0.000	0.000	0.000
2099	2099	3	0.000	0.000	0.000	0.000
2100	2100	3	0.000	0.000	0.000	0.000
2101	2101	3	0.000	0.000	0.000	0.000
2102	2102	3	0.000	0.000	0.000	0.000
2103	2103	3	0.000	0.000	0.000	0.000
2104	2104	3	0.000	0.000	0.000	0.000
2105	2105	3	0.000	0.000	0.000	0.000
2106	2106	3	0.000	0.000	0.000	0.000
2107	2107	3	0.000	0.000	0.000	0.000
2108	2108	3	0.000	0.000	0.000	0.000
2109	2109	3	0.000	0.000	0.000	0.000
2110	2110	3	0.000	0.000	0.000	0.000
2111	2111	3	0.000	0.000	0.000	0.000
2112	2112	3	0.000	0.000	0.000	0.000
2113	2113	3	0.000	0.000	0.000	0.000

2114	2114	3	0.000	0.000	0.000	0.000
2115	2115	3	0.000	0.000	0.000	0.000
2116	2116	3	0.000	0.000	0.000	0.000
2117	2117	3	0.000	0.000	0.000	0.000
2118	2118	3	0.000	0.000	0.000	0.000
2119	2119	3	0.000	0.000	0.000	0.000
2120	2120	3	0.000	0.000	0.000	0.000
2121	2121	3	0.000	0.000	0.000	0.000
2122	2122	3	0.000	0.000	0.000	0.000
2123	2123	3	0.000	0.000	0.000	0.000
2124	2124	3	0.000	0.000	0.000	0.000
2125	2125	3	0.000	0.000	0.000	0.000
2126	2126	3	0.000	0.000	0.000	0.000
2127	2127	3	0.000	0.000	0.000	0.000
2128	2128	3	0.000	0.000	0.000	0.000
2129	2129	3	0.000	0.000	0.000	0.000
2130	2130	3	0.000	0.000	0.000	0.000
2131	2131	3	0.000	0.000	0.000	0.000
2132	2132	3	0.000	0.000	0.000	0.000
2133	2133	3	0.000	0.000	0.000	0.000
2134	2134	3	0.000	0.000	0.000	0.000
2135	2135	3	0.000	0.000	0.000	0.000
2136	2136	3	0.000	0.000	0.000	0.000
2137	2137	3	0.000	0.000	0.000	0.000
2138	2138	3	0.000	0.000	0.000	0.000
2139	2139	3	0.000	0.000	0.000	0.000
2140	2140	3	0.000	0.000	0.000	0.000
2141	2141	3	0.000	0.000	0.000	0.000
2142	2142	3	0.000	0.000	0.000	0.000
2143	2143	3	0.000	0.000	0.000	0.000
2144	2144	3	0.000	0.000	0.000	0.000
2145	2145	3	0.000	0.000	0.000	0.000
2146	2146	3	0.000	0.000	0.000	0.000
2147	2147	3	0.000	0.000	0.000	0.000
2148	2148	3	0.000	0.000	0.000	0.000
2149	2149	3	0.000	0.000	0.000	0.000
2150	2150	3	0.000	0.000	0.000	0.000
2151	2151	3	0.000	0.000	0.000	0.000

FUEL_COST_CHANGES - (std)

*% change p.a.

*Start_yr	End_yr	fuel_type	resource	duty	VAT	CO2_Den_change
2011	2011	1	22.226	-0.297	14.286	-0.844
2012	2012	1	2.040	-2.049	0.000	-0.023

2013	2013	1	-3.443	-1.746	0.000	-0.438
2014	2014	1	-11.771	-1.707	0.000	-0.537
2015	2015	1	-28.520	-0.661	0.000	0.000
2016	2016	1	-7.312	-2.068	0.000	0.000
2017	2017	1	19.734	-1.912	0.000	-1.352
2018	2018	1	13.204	-2.203	0.000	-1.370
2019	2019	1	-10.631	-2.442	0.000	-1.389
2020	2020	1	-11.341	-4.832	0.000	-1.409
2021	2021	1	3.590	1.236	0.000	0.000
2022	2022	1	5.005	3.364	0.000	0.000
2023	2023	1	1.744	0.601	0.000	0.000
2024	2024	1	1.726	0.550	0.000	0.000
2025	2025	1	1.765	0.745	0.000	0.000
2026	2026	1	2.597	0.658	0.000	0.000
2027	2027	1	1.476	0.681	0.000	0.000
2028	2028	1	1.433	0.674	0.000	0.000
2029	2029	1	1.391	0.663	0.000	0.000
2030	2030	1	1.352	0.653	0.000	0.000
2031	2031	1	2.246	0.653	0.000	0.000
2032	2032	1	1.259	0.650	0.000	0.000
2033	2033	1	1.225	0.644	0.000	0.000
2034	2034	1	1.193	0.637	0.000	0.000
2035	2035	1	1.162	0.645	0.000	0.000
2036	2036	1	0.000	0.640	0.000	0.000
2037	2037	1	0.000	0.635	0.000	0.000
2038	2038	1	0.000	0.630	0.000	0.000
2039	2039	1	0.000	0.649	0.000	0.000
2040	2040	1	0.000	0.681	0.000	0.000
2041	2041	1	0.000	0.629	0.000	0.000
2042	2042	1	0.000	0.592	0.000	0.000
2043	2043	1	0.000	0.587	0.000	0.000
2044	2044	1	0.000	0.587	0.000	0.000
2045	2045	1	0.000	0.586	0.000	0.000
2046	2046	1	0.000	0.587	0.000	0.000
2047	2047	1	0.000	0.587	0.000	0.000
2048	2048	1	0.000	0.587	0.000	0.000
2049	2049	1	0.000	0.586	0.000	0.000
2050	2050	1	0.000	0.587	0.000	0.000
2051	2051	1	0.000	0.587	0.000	0.000
2052	2052	1	0.000	0.587	0.000	0.000
2053	2053	1	0.000	0.587	0.000	0.000
2054	2054	1	0.000	0.587	0.000	0.000
2055	2055	1	0.000	0.587	0.000	0.000
2056	2056	1	0.000	0.587	0.000	0.000

2057	2057	1	0.000	0.587	0.000	0.000
2058	2058	1	0.000	0.586	0.000	0.000
2059	2059	1	0.000	0.587	0.000	0.000
2060	2060	1	0.000	0.587	0.000	0.000
2061	2061	1	0.000	0.587	0.000	0.000
2062	2062	1	0.000	0.587	0.000	0.000
2063	2063	1	0.000	0.587	0.000	0.000
2064	2064	1	0.000	0.587	0.000	0.000
2065	2065	1	0.000	0.587	0.000	0.000
2066	2066	1	0.000	0.587	0.000	0.000
2067	2067	1	0.000	0.587	0.000	0.000
2068	2068	1	0.000	0.587	0.000	0.000
2069	2069	1	-1.686	0.587	0.000	0.000
2070	2070	1	0.000	0.587	0.000	0.000
2071	2071	1	0.000	0.587	0.000	0.000
2072	2072	1	0.000	0.587	0.000	0.000
2073	2073	1	0.000	0.587	0.000	0.000
2074	2074	1	0.000	0.586	0.000	0.000
2075	2075	1	0.000	0.587	0.000	0.000
2076	2076	1	0.000	0.587	0.000	0.000
2077	2077	1	0.000	0.586	0.000	0.000
2078	2078	1	0.000	0.587	0.000	0.000
2079	2079	1	0.000	0.587	0.000	0.000
2080	2080	1	0.000	0.587	0.000	0.000
2081	2081	1	0.000	0.587	0.000	0.000
2082	2082	1	0.000	0.587	0.000	0.000
2083	2083	1	0.000	0.587	0.000	0.000
2084	2084	1	0.000	0.587	0.000	0.000
2085	2085	1	0.000	0.587	0.000	0.000
2086	2086	1	0.000	0.587	0.000	0.000
2087	2087	1	0.000	0.587	0.000	0.000
2088	2088	1	0.000	0.587	0.000	0.000
2089	2089	1	0.000	0.587	0.000	0.000
2090	2090	1	0.000	0.587	0.000	0.000
2091	2091	1	0.000	0.587	0.000	0.000
2092	2092	1	0.000	0.587	0.000	0.000
2093	2093	1	0.000	0.587	0.000	0.000
2094	2094	1	0.000	0.587	0.000	0.000
2095	2095	1	0.000	0.587	0.000	0.000
2096	2096	1	0.000	0.587	0.000	0.000
2097	2097	1	0.000	0.587	0.000	0.000
2098	2098	1	0.000	0.587	0.000	0.000
2099	2099	1	0.000	0.587	0.000	0.000
2100	2100	1	0.000	0.587	0.000	0.000

2101	2101	1	0.000	0.587	0.000	0.000
2102	2102	1	0.000	0.587	0.000	0.000
2103	2103	1	0.000	0.587	0.000	0.000
2104	2104	1	0.000	0.587	0.000	0.000
2105	2105	1	0.000	0.587	0.000	0.000
2106	2106	1	0.000	0.587	0.000	0.000
2107	2107	1	0.000	0.587	0.000	0.000
2108	2108	1	0.000	0.587	0.000	0.000
2109	2109	1	0.000	0.587	0.000	0.000
2110	2110	1	0.000	0.587	0.000	0.000
2111	2111	1	0.000	0.587	0.000	0.000
2112	2112	1	0.000	0.587	0.000	0.000
2113	2113	1	0.000	0.587	0.000	0.000
2114	2114	1	0.000	0.587	0.000	0.000
2115	2115	1	0.000	0.587	0.000	0.000
2116	2116	1	0.000	0.587	0.000	0.000
2117	2117	1	0.000	0.587	0.000	0.000
2118	2118	1	0.000	0.587	0.000	0.000
2119	2119	1	0.000	0.587	0.000	0.000
2120	2120	1	0.000	0.587	0.000	0.000
2121	2121	1	0.000	0.587	0.000	0.000
2122	2122	1	0.000	0.587	0.000	0.000
2123	2123	1	0.000	0.587	0.000	0.000
2124	2124	1	0.000	0.587	0.000	0.000
2125	2125	1	0.000	0.587	0.000	0.000
2126	2126	1	0.000	0.587	0.000	0.000
2127	2127	1	0.000	0.587	0.000	0.000
2128	2128	1	0.000	0.587	0.000	0.000
2129	2129	1	0.000	0.587	0.000	0.000
2130	2130	1	0.000	0.587	0.000	0.000
2131	2131	1	0.000	0.587	0.000	0.000
2132	2132	1	0.000	0.587	0.000	0.000
2133	2133	1	0.000	0.587	0.000	0.000
2134	2134	1	0.000	0.587	0.000	0.000
2135	2135	1	0.000	0.587	0.000	0.000
2136	2136	1	0.000	0.587	0.000	0.000
2137	2137	1	0.000	0.587	0.000	0.000
2138	2138	1	0.000	0.587	0.000	0.000
2139	2139	1	0.000	0.587	0.000	0.000
2140	2140	1	0.000	0.587	0.000	0.000
2141	2141	1	0.000	0.587	0.000	0.000
2142	2142	1	0.000	0.587	0.000	0.000
2143	2143	1	0.000	0.587	0.000	0.000
2144	2144	1	0.000	0.587	0.000	0.000

2145	2145	1	0.000	0.587	0.000	0.000
2146	2146	1	0.000	0.587	0.000	0.000
2147	2147	1	0.000	0.587	0.000	0.000
2148	2148	1	0.000	0.587	0.000	0.000
2149	2149	1	0.000	0.587	0.000	0.000
2150	2150	1	0.000	0.587	0.000	0.000
2151	2151	1	0.000	0.587	0.000	0.000
2011	2011	2	26.919	-0.297	14.286	0.188
2012	2012	2	3.247	-2.049	0.000	1.643
2013	2013	2	-3.680	-1.746	0.000	-0.436
2014	2014	2	-11.343	-1.707	0.000	0.153
2015	2015	2	-29.504	-0.661	0.000	0.004
2016	2016	2	-12.397	-2.068	0.000	0.003
2017	2017	2	22.316	-1.912	0.000	-1.744
2018	2018	2	16.802	-2.203	0.000	-1.775
2019	2019	2	-11.392	-2.442	0.000	-1.807
2020	2020	2	-11.913	-4.832	0.000	-1.841
2021	2021	2	3.816	1.236	0.000	0.000
2022	2022	2	5.133	3.364	0.000	0.000
2023	2023	2	1.862	0.601	0.000	0.000
2024	2024	2	1.853	0.550	0.000	0.000
2025	2025	2	1.886	0.745	0.000	0.000
2026	2026	2	2.790	0.658	0.000	0.000
2027	2027	2	1.583	0.681	0.000	0.000
2028	2028	2	1.535	0.674	0.000	0.000
2029	2029	2	1.489	0.663	0.000	0.000
2030	2030	2	1.445	0.653	0.000	0.000
2031	2031	2	2.399	0.653	0.000	0.000
2032	2032	2	1.343	0.650	0.000	0.000
2033	2033	2	1.306	0.644	0.000	0.000
2034	2034	2	1.270	0.637	0.000	0.000
2035	2035	2	1.236	0.645	0.000	0.000
2036	2036	2	0.000	0.640	0.000	0.000
2037	2037	2	0.000	0.635	0.000	0.000
2038	2038	2	0.000	0.630	0.000	0.000
2039	2039	2	0.000	0.649	0.000	0.000
2040	2040	2	0.000	0.681	0.000	0.000
2041	2041	2	0.000	0.629	0.000	0.000
2042	2042	2	0.000	0.592	0.000	0.000
2043	2043	2	0.000	0.587	0.000	0.000
2044	2044	2	0.000	0.587	0.000	0.000
2045	2045	2	0.000	0.586	0.000	0.000
2046	2046	2	0.000	0.587	0.000	0.000
2047	2047	2	0.000	0.587	0.000	0.000

2048	2048	2	0.000	0.587	0.000	0.000
2049	2049	2	0.000	0.586	0.000	0.000
2050	2050	2	0.000	0.587	0.000	0.000
2051	2051	2	0.000	0.587	0.000	0.000
2052	2052	2	0.000	0.587	0.000	0.000
2053	2053	2	0.000	0.587	0.000	0.000
2054	2054	2	0.000	0.587	0.000	0.000
2055	2055	2	0.000	0.587	0.000	0.000
2056	2056	2	0.000	0.587	0.000	0.000
2057	2057	2	0.000	0.587	0.000	0.000
2058	2058	2	0.000	0.586	0.000	0.000
2059	2059	2	0.000	0.587	0.000	0.000
2060	2060	2	0.000	0.587	0.000	0.000
2061	2061	2	0.000	0.587	0.000	0.000
2062	2062	2	0.000	0.587	0.000	0.000
2063	2063	2	0.000	0.587	0.000	0.000
2064	2064	2	0.000	0.587	0.000	0.000
2065	2065	2	0.000	0.587	0.000	0.000
2066	2066	2	0.000	0.587	0.000	0.000
2067	2067	2	0.000	0.587	0.000	0.000
2068	2068	2	0.000	0.587	0.000	0.000
2069	2069	2	-1.686	0.587	0.000	0.000
2070	2070	2	0.000	0.587	0.000	0.000
2071	2071	2	0.000	0.587	0.000	0.000
2072	2072	2	0.000	0.587	0.000	0.000
2073	2073	2	0.000	0.587	0.000	0.000
2074	2074	2	0.000	0.586	0.000	0.000
2075	2075	2	0.000	0.587	0.000	0.000
2076	2076	2	0.000	0.587	0.000	0.000
2077	2077	2	0.000	0.586	0.000	0.000
2078	2078	2	0.000	0.587	0.000	0.000
2079	2079	2	0.000	0.587	0.000	0.000
2080	2080	2	0.000	0.587	0.000	0.000
2081	2081	2	0.000	0.587	0.000	0.000
2082	2082	2	0.000	0.587	0.000	0.000
2083	2083	2	0.000	0.587	0.000	0.000
2084	2084	2	0.000	0.587	0.000	0.000
2085	2085	2	0.000	0.587	0.000	0.000
2086	2086	2	0.000	0.587	0.000	0.000
2087	2087	2	0.000	0.587	0.000	0.000
2088	2088	2	0.000	0.587	0.000	0.000
2089	2089	2	0.000	0.587	0.000	0.000
2090	2090	2	0.000	0.587	0.000	0.000
2091	2091	2	0.000	0.587	0.000	0.000

2092	2092	2	0.000	0.587	0.000	0.000
2093	2093	2	0.000	0.587	0.000	0.000
2094	2094	2	0.000	0.587	0.000	0.000
2095	2095	2	0.000	0.587	0.000	0.000
2096	2096	2	0.000	0.587	0.000	0.000
2097	2097	2	0.000	0.587	0.000	0.000
2098	2098	2	0.000	0.587	0.000	0.000
2099	2099	2	0.000	0.587	0.000	0.000
2100	2100	2	0.000	0.587	0.000	0.000
2101	2101	2	0.000	0.587	0.000	0.000
2102	2102	2	0.000	0.587	0.000	0.000
2103	2103	2	0.000	0.587	0.000	0.000
2104	2104	2	0.000	0.587	0.000	0.000
2105	2105	2	0.000	0.587	0.000	0.000
2106	2106	2	0.000	0.587	0.000	0.000
2107	2107	2	0.000	0.587	0.000	0.000
2108	2108	2	0.000	0.587	0.000	0.000
2109	2109	2	0.000	0.587	0.000	0.000
2110	2110	2	0.000	0.587	0.000	0.000
2111	2111	2	0.000	0.587	0.000	0.000
2112	2112	2	0.000	0.587	0.000	0.000
2113	2113	2	0.000	0.587	0.000	0.000
2114	2114	2	0.000	0.587	0.000	0.000
2115	2115	2	0.000	0.587	0.000	0.000
2116	2116	2	0.000	0.587	0.000	0.000
2117	2117	2	0.000	0.587	0.000	0.000
2118	2118	2	0.000	0.587	0.000	0.000
2119	2119	2	0.000	0.587	0.000	0.000
2120	2120	2	0.000	0.587	0.000	0.000
2121	2121	2	0.000	0.587	0.000	0.000
2122	2122	2	0.000	0.587	0.000	0.000
2123	2123	2	0.000	0.587	0.000	0.000
2124	2124	2	0.000	0.587	0.000	0.000
2125	2125	2	0.000	0.587	0.000	0.000
2126	2126	2	0.000	0.587	0.000	0.000
2127	2127	2	0.000	0.587	0.000	0.000
2128	2128	2	0.000	0.587	0.000	0.000
2129	2129	2	0.000	0.587	0.000	0.000
2130	2130	2	0.000	0.587	0.000	0.000
2131	2131	2	0.000	0.587	0.000	0.000
2132	2132	2	0.000	0.587	0.000	0.000
2133	2133	2	0.000	0.587	0.000	0.000
2134	2134	2	0.000	0.587	0.000	0.000
2135	2135	2	0.000	0.587	0.000	0.000

2136	2136	2	0.000	0.587	0.000	0.000
2137	2137	2	0.000	0.587	0.000	0.000
2138	2138	2	0.000	0.587	0.000	0.000
2139	2139	2	0.000	0.587	0.000	0.000
2140	2140	2	0.000	0.587	0.000	0.000
2141	2141	2	0.000	0.587	0.000	0.000
2142	2142	2	0.000	0.587	0.000	0.000
2143	2143	2	0.000	0.587	0.000	0.000
2144	2144	2	0.000	0.587	0.000	0.000
2145	2145	2	0.000	0.587	0.000	0.000
2146	2146	2	0.000	0.587	0.000	0.000
2147	2147	2	0.000	0.587	0.000	0.000
2148	2148	2	0.000	0.587	0.000	0.000
2149	2149	2	0.000	0.587	0.000	0.000
2150	2150	2	0.000	0.587	0.000	0.000
2151	2151	2	0.000	0.587	0.000	0.000
2011	2011	3	6.000	0.000	0.000	-1.438
2012	2012	3	3.963	0.000	0.000	-1.878
2013	2013	3	4.453	0.000	0.000	-2.438
2014	2014	3	0.807	0.000	0.000	-1.891
2015	2015	3	-2.124	0.000	0.000	-2.837
2016	2016	3	-1.596	0.000	0.000	-3.035
2017	2017	3	3.662	0.000	0.000	-2.830
2018	2018	3	6.268	0.000	0.000	-3.251
2019	2019	3	4.006	0.000	0.000	-3.618
2020	2020	3	-3.240	0.000	0.000	-3.931
2021	2021	3	9.768	0.000	0.000	-4.324
2022	2022	3	1.799	0.000	0.000	-4.776
2023	2023	3	-0.216	0.000	0.000	-5.300
2024	2024	3	-1.595	0.000	0.000	-5.915
2025	2025	3	1.049	0.000	0.000	-6.643
2026	2026	3	0.894	0.000	0.000	-7.520
2027	2027	3	-1.865	0.000	0.000	-8.594
2028	2028	3	-0.274	0.000	0.000	-9.934
2029	2029	3	-0.789	0.000	0.000	-11.657
2030	2030	3	1.876	0.000	0.000	-13.944
2031	2031	3	-0.287	0.000	0.000	-19.089
2032	2032	3	-2.211	0.000	0.000	-19.090
2033	2033	3	-2.565	0.000	0.000	-19.088
2034	2034	3	-1.399	0.000	0.000	-19.090
2035	2035	3	-1.444	0.000	0.000	-19.089
2036	2036	3	-0.695	0.000	0.000	-19.089
2037	2037	3	-0.258	0.000	0.000	-19.088
2038	2038	3	-0.856	0.000	0.000	-19.090

2039	2039	3	1.452	0.000	0.000	-19.092
2040	2040	3	-1.512	0.000	0.000	-19.088
2041	2041	3	0.000	0.000	0.000	-16.984
2042	2042	3	0.000	0.000	0.000	-5.099
2043	2043	3	0.000	0.000	0.000	-2.043
2044	2044	3	0.000	0.000	0.000	-6.009
2045	2045	3	0.000	0.000	0.000	-15.076
2046	2046	3	0.000	0.000	0.000	-9.204
2047	2047	3	0.000	0.000	0.000	-7.798
2048	2048	3	0.000	0.000	0.000	-5.087
2049	2049	3	0.000	0.000	0.000	-6.945
2050	2050	3	0.000	0.000	0.000	-1.718
2051	2051	3	0.000	0.000	0.000	0.000
2052	2052	3	0.000	0.000	0.000	0.000
2053	2053	3	0.000	0.000	0.000	0.000
2054	2054	3	0.000	0.000	0.000	0.000
2055	2055	3	0.000	0.000	0.000	0.000
2056	2056	3	0.000	0.000	0.000	0.000
2057	2057	3	0.000	0.000	0.000	0.000
2058	2058	3	0.000	0.000	0.000	0.000
2059	2059	3	0.000	0.000	0.000	0.000
2060	2060	3	0.000	0.000	0.000	0.000
2061	2061	3	0.000	0.000	0.000	0.000
2062	2062	3	0.000	0.000	0.000	0.000
2063	2063	3	0.000	0.000	0.000	0.000
2064	2064	3	0.000	0.000	0.000	0.000
2065	2065	3	0.000	0.000	0.000	0.000
2066	2066	3	0.000	0.000	0.000	0.000
2067	2067	3	0.000	0.000	0.000	0.000
2068	2068	3	0.000	0.000	0.000	0.000
2069	2069	3	0.000	0.000	0.000	0.000
2070	2070	3	0.000	0.000	0.000	0.000
2071	2071	3	0.000	0.000	0.000	0.000
2072	2072	3	0.000	0.000	0.000	0.000
2073	2073	3	0.000	0.000	0.000	0.000
2074	2074	3	0.000	0.000	0.000	0.000
2075	2075	3	0.000	0.000	0.000	0.000
2076	2076	3	0.000	0.000	0.000	0.000
2077	2077	3	0.000	0.000	0.000	0.000
2078	2078	3	0.000	0.000	0.000	0.000
2079	2079	3	0.000	0.000	0.000	0.000
2080	2080	3	0.000	0.000	0.000	0.000
2081	2081	3	0.000	0.000	0.000	0.000
2082	2082	3	0.000	0.000	0.000	0.000

2083	2083	3	0.000	0.000	0.000	0.000
2084	2084	3	0.000	0.000	0.000	0.000
2085	2085	3	0.000	0.000	0.000	0.000
2086	2086	3	0.000	0.000	0.000	0.000
2087	2087	3	0.000	0.000	0.000	0.000
2088	2088	3	0.000	0.000	0.000	0.000
2089	2089	3	0.000	0.000	0.000	0.000
2090	2090	3	0.000	0.000	0.000	0.000
2091	2091	3	0.000	0.000	0.000	0.000
2092	2092	3	0.000	0.000	0.000	0.000
2093	2093	3	0.000	0.000	0.000	0.000
2094	2094	3	0.000	0.000	0.000	0.000
2095	2095	3	0.000	0.000	0.000	0.000
2096	2096	3	0.000	0.000	0.000	0.000
2097	2097	3	0.000	0.000	0.000	0.000
2098	2098	3	0.000	0.000	0.000	0.000
2099	2099	3	0.000	0.000	0.000	0.000
2100	2100	3	0.000	0.000	0.000	0.000
2101	2101	3	0.000	0.000	0.000	0.000
2102	2102	3	0.000	0.000	0.000	0.000
2103	2103	3	0.000	0.000	0.000	0.000
2104	2104	3	0.000	0.000	0.000	0.000
2105	2105	3	0.000	0.000	0.000	0.000
2106	2106	3	0.000	0.000	0.000	0.000
2107	2107	3	0.000	0.000	0.000	0.000
2108	2108	3	0.000	0.000	0.000	0.000
2109	2109	3	0.000	0.000	0.000	0.000
2110	2110	3	0.000	0.000	0.000	0.000
2111	2111	3	0.000	0.000	0.000	0.000
2112	2112	3	0.000	0.000	0.000	0.000
2113	2113	3	0.000	0.000	0.000	0.000
2114	2114	3	0.000	0.000	0.000	0.000
2115	2115	3	0.000	0.000	0.000	0.000
2116	2116	3	0.000	0.000	0.000	0.000
2117	2117	3	0.000	0.000	0.000	0.000
2118	2118	3	0.000	0.000	0.000	0.000
2119	2119	3	0.000	0.000	0.000	0.000
2120	2120	3	0.000	0.000	0.000	0.000
2121	2121	3	0.000	0.000	0.000	0.000
2122	2122	3	0.000	0.000	0.000	0.000
2123	2123	3	0.000	0.000	0.000	0.000
2124	2124	3	0.000	0.000	0.000	0.000
2125	2125	3	0.000	0.000	0.000	0.000
2126	2126	3	0.000	0.000	0.000	0.000

2127	2127	3	0.000	0.000	0.000	0.000
2128	2128	3	0.000	0.000	0.000	0.000
2129	2129	3	0.000	0.000	0.000	0.000
2130	2130	3	0.000	0.000	0.000	0.000
2131	2131	3	0.000	0.000	0.000	0.000
2132	2132	3	0.000	0.000	0.000	0.000
2133	2133	3	0.000	0.000	0.000	0.000
2134	2134	3	0.000	0.000	0.000	0.000
2135	2135	3	0.000	0.000	0.000	0.000
2136	2136	3	0.000	0.000	0.000	0.000
2137	2137	3	0.000	0.000	0.000	0.000
2138	2138	3	0.000	0.000	0.000	0.000
2139	2139	3	0.000	0.000	0.000	0.000
2140	2140	3	0.000	0.000	0.000	0.000
2141	2141	3	0.000	0.000	0.000	0.000
2142	2142	3	0.000	0.000	0.000	0.000
2143	2143	3	0.000	0.000	0.000	0.000
2144	2144	3	0.000	0.000	0.000	0.000
2145	2145	3	0.000	0.000	0.000	0.000
2146	2146	3	0.000	0.000	0.000	0.000
2147	2147	3	0.000	0.000	0.000	0.000
2148	2148	3	0.000	0.000	0.000	0.000
2149	2149	3	0.000	0.000	0.000	0.000
2150	2150	3	0.000	0.000	0.000	0.000
2151	2151	3	0.000	0.000	0.000	0.000

FLEET - (used)

*veh_type	%Petrol	%Diesel	%Electric
1	59.8962	40.0961	0.0077
2	3.4548	96.4566	0.0886
3	3.4548	96.4566	0.0886
4	0.0000	100.0000	0.0000
5	0.0000	100.0000	0.0000
6	0.0000	99.9221	0.0779
7	0.0000	100.0000	0.0000
8	0.0000	100.0000	0.0000

FLEET - (std)

*veh_type	%Petrol	%Diesel	%Electric
1	59.6299	40.3625	0.0076
2	3.4505	96.4583	0.0912
3	3.4505	96.4583	0.0912
4	0.0000	100.0000	0.0000
5	0.0000	100.0000	0.0000

6	0.0000	100.0000	0.0000
7	0.0000	100.0000	0.0000
8	0.0000	100.0000	0.0000

FLEET_CHANGES - (used)

*% p.a.

*Start_yr	End_yr	Veh_type	%Change_Petrol	%Change_Diesel	%Change_Electric
2011	2011	1	-3.5334	5.2644	72.7273
2012	2012	1	-3.5938	4.8952	77.4436
2013	2013	1	-3.6635	4.5816	52.5424
2014	2014	1	-3.5106	3.9580	142.2222
2015	2015	1	-3.2761	3.3338	105.1606
2016	2016	1	-2.7303	2.5141	65.3438
2017	2017	1	-0.9381	0.6152	48.4449
2018	2018	1	1.1306	-1.3993	39.2394
2019	2019	1	2.3623	-2.7214	36.5882
2020	2020	1	1.9473	-3.2533	75.2245
2021	2021	1	1.5292	-4.3172	87.2343
2022	2022	1	0.2404	-4.6395	72.5965
2023	2023	1	-0.8037	-5.4000	58.4144
2024	2024	1	-1.4484	-6.2086	43.9989
2025	2025	1	-2.0998	-7.3022	35.9550
2026	2026	1	-2.4509	-7.9695	27.7036
2027	2027	1	-2.9226	-8.6666	22.7674
2028	2028	1	-3.3225	-9.3402	18.9875
2029	2029	1	-3.6571	-9.8518	15.8753
2030	2030	1	-3.9691	-10.1168	13.3105
2031	2031	1	-4.0715	-10.1036	10.9677
2032	2032	1	-4.0434	-9.9044	9.0164
2033	2033	1	-4.1522	-9.4536	7.5826
2034	2034	1	-4.2021	-8.8854	6.4073
2035	2035	1	-4.0578	-8.4250	5.3933
2036	2036	1	-3.8855	-7.8288	4.5411
2037	2037	1	-3.8221	-7.0415	3.8820
2038	2038	1	-3.5816	-6.0722	3.2150
2039	2039	1	-3.3132	-5.1005	2.6551
2040	2040	1	-2.9987	-4.3872	2.2093
2041	2041	1	-2.5436	-3.6258	1.7546
2042	2042	1	-2.2945	-3.1222	1.4878
2043	2043	1	-1.9852	-2.7371	1.2411
2044	2044	1	-1.6650	-2.2924	1.0049
2045	2045	1	-1.4495	-1.9597	0.8450
2046	2046	1	-1.2558	-1.6572	0.7092
2047	2047	1	-1.0944	-1.4064	0.6005

2048	2048	1	-0.9945	-1.2353	0.5303
2049	2049	1	-0.8969	-1.0790	0.4665
2050	2050	1	-0.7964	-0.9332	0.4054
2011	2011	2	-9.9745	0.3593	-2.2573
2012	2012	2	-8.1699	0.2539	9.5843
2013	2013	2	-8.1580	0.2422	-2.1075
2014	2014	2	-8.2993	0.2019	22.8202
2015	2015	2	-7.8448	0.1740	16.8273
2016	2016	2	-8.3367	0.1676	15.7539
2017	2017	2	-1.9981	0.0132	17.9520
2018	2018	2	3.9723	-0.1194	20.7143
2019	2019	2	2.8159	-0.1663	47.4283
2020	2020	2	0.6107	-0.2061	58.0426
2021	2021	2	-7.3773	-0.2553	79.4296
2022	2022	2	-1.0385	-0.1683	20.0218
2023	2023	2	-1.0646	-0.1605	16.0196
2024	2024	2	-0.8959	-0.1530	12.9320
2025	2025	2	-0.8468	-0.2198	15.8266
2026	2026	2	-0.8017	-0.2901	17.6330
2027	2027	2	-0.8082	-0.3992	20.2846
2028	2028	2	-0.9106	-0.5771	24.0664
2029	2029	2	-1.0264	-0.7144	23.8074
2030	2030	2	-1.3629	-1.0477	27.9255
2031	2031	2	-1.8716	-1.4764	30.4203
2032	2032	2	-2.3561	-1.9387	30.1393
2033	2033	2	-2.9243	-2.4870	29.1112
2034	2034	2	-3.4326	-2.9768	26.3028
2035	2035	2	-3.8181	-3.3308	22.6024
2036	2036	2	-4.0270	-3.5179	18.8201
2037	2037	2	-4.0964	-3.5581	15.4568
2038	2038	2	-4.1052	-3.5435	12.8578
2039	2039	2	-3.7973	-3.2205	9.9910
2040	2040	2	-3.7896	-3.2207	8.7892
2041	2041	2	-3.3695	-2.8372	6.8894
2042	2042	2	-3.3659	-2.8357	6.2576
2043	2043	2	-3.3161	-2.7852	5.6196
2044	2044	2	-3.2138	-2.6951	5.0050
2045	2045	2	-3.0706	-2.5788	4.4374
2046	2046	2	-2.8271	-2.3669	3.7986
2047	2047	2	-2.6535	-2.2117	3.3391
2048	2048	2	-2.4825	-2.0531	2.9326
2049	2049	2	-2.2761	-1.8776	2.5526
2050	2050	2	-2.0738	-1.6824	2.1886
2011	2011	3	-9.9745	0.3593	-2.2573

2012	2012	3	-8.1699	0.2539	9.5843
2013	2013	3	-8.1580	0.2422	-2.1075
2014	2014	3	-8.2993	0.2019	22.8202
2015	2015	3	-7.8448	0.1740	16.8273
2016	2016	3	-8.3367	0.1676	15.7539
2017	2017	3	-1.9981	0.0132	17.9520
2018	2018	3	3.9723	-0.1194	20.7143
2019	2019	3	2.8159	-0.1663	47.4283
2020	2020	3	0.6107	-0.2061	58.0426
2021	2021	3	-7.3773	-0.2553	79.4296
2022	2022	3	-1.0385	-0.1683	20.0218
2023	2023	3	-1.0646	-0.1605	16.0196
2024	2024	3	-0.8959	-0.1530	12.9320
2025	2025	3	-0.8468	-0.2198	15.8266
2026	2026	3	-0.8017	-0.2901	17.6330
2027	2027	3	-0.8082	-0.3992	20.2846
2028	2028	3	-0.9106	-0.5771	24.0664
2029	2029	3	-1.0264	-0.7144	23.8074
2030	2030	3	-1.3629	-1.0477	27.9255
2031	2031	3	-1.8716	-1.4764	30.4203
2032	2032	3	-2.3561	-1.9387	30.1393
2033	2033	3	-2.9243	-2.4870	29.1112
2034	2034	3	-3.4326	-2.9768	26.3028
2035	2035	3	-3.8181	-3.3308	22.6024
2036	2036	3	-4.0270	-3.5179	18.8201
2037	2037	3	-4.0964	-3.5581	15.4568
2038	2038	3	-4.1052	-3.5435	12.8578
2039	2039	3	-3.7973	-3.2205	9.9910
2040	2040	3	-3.7896	-3.2207	8.7892
2041	2041	3	-3.3695	-2.8372	6.8894
2042	2042	3	-3.3659	-2.8357	6.2576
2043	2043	3	-3.3161	-2.7852	5.6196
2044	2044	3	-3.2138	-2.6951	5.0050
2045	2045	3	-3.0706	-2.5788	4.4374
2046	2046	3	-2.8271	-2.3669	3.7986
2047	2047	3	-2.6535	-2.2117	3.3391
2048	2048	3	-2.4825	-2.0531	2.9326
2049	2049	3	-2.2761	-1.8776	2.5526
2050	2050	3	-2.0738	-1.6824	2.1886
2011	2011	6	0.0000	-0.0011	1.4121
2012	2012	6	0.0000	-0.0202	25.5696
2013	2013	6	0.0000	-0.0327	32.9637
2014	2014	6	0.0000	-0.0723	54.7384
2015	2015	6	0.0000	-0.0313	15.2866

2016	2016	6	0.0000	-0.0935	39.6515
2017	2017	6	0.0000	-0.0617	18.7158
2018	2018	6	0.0000	-0.1298	33.1453
2019	2019	6	0.0000	-0.3121	59.7805
2020	2020	6	0.0000	-0.2987	35.6910
2021	2021	6	0.0000	-0.7068	62.0549
2022	2022	6	0.0000	-4.7142	253.6139
2023	2023	6	0.0000	-4.4616	64.6774
2024	2024	6	0.0000	-2.5792	21.6914
2025	2025	6	0.0000	-3.3217	22.3641
2026	2026	6	0.0000	-2.9956	15.9353
2027	2027	6	0.0000	-3.3685	14.9927
2028	2028	6	0.0000	-3.8909	14.5529
2029	2029	6	0.0000	-3.5896	11.2641
2030	2030	6	0.0000	-1.2289	3.3416
2031	2031	6	0.0000	-1.0185	2.6469
2032	2032	6	0.0000	-0.7730	1.9371
2033	2033	6	0.0000	-0.6043	1.4741
2034	2034	6	0.0000	-0.4783	1.1429
2035	2035	6	0.0000	-0.3495	0.8217
2036	2036	6	0.0000	-0.2085	0.4846
2037	2037	6	0.0000	-0.0851	0.1965
2038	2038	6	0.0000	0.0268	-0.0617
2039	2039	6	0.0000	0.0965	-0.2223
2040	2040	6	0.0000	-0.6920	1.5991
2041	2041	6	0.0000	-0.5875	1.3269
2042	2042	6	0.0000	-0.5265	1.1667
2043	2043	6	0.0000	-0.4615	1.0055
2044	2044	6	0.0000	-0.3947	0.8475
2045	2045	6	0.0000	-0.3467	0.7352
2046	2046	6	0.0000	-0.3361	0.7051
2047	2047	6	0.0000	-0.3365	0.6986
2048	2048	6	0.0000	-0.3394	0.6974
2049	2049	6	0.0000	-0.3277	0.6665
2050	2050	6	0.0000	-0.3043	0.6127
2051	2151	1	0.0000	0.0000	0.0000
2051	2151	2	0.0000	0.0000	0.0000
2051	2151	3	0.0000	0.0000	0.0000
2011	2151	4	0.0000	0.0000	0.0000
2011	2151	5	0.0000	0.0000	0.0000
2051	2151	6	0.0000	0.0000	0.0000

FLEET_CHANGES - (std)

***% p.a.

*Start_yr	End_yr	Veh_type	%Change_Petrol	%Change_Diesel	%Change_Electric
2011	2011	1	-3.5474	5.2271	72.3684
2012	2012	1	-3.6255	4.8862	75.5725
2013	2013	1	-3.7045	4.5823	52.6087
2014	2014	1	-3.5372	3.9494	137.0370
2015	2015	1	-3.3037	3.3379	101.4423
2016	2016	1	-2.7361	2.5097	63.3652
2017	2017	1	-0.8923	0.5861	47.9912
2018	2018	1	1.1991	-1.4201	38.8203
2019	2019	1	1.7017	-1.9941	33.4222
2020	2020	1	1.8536	-2.2461	27.1952
2021	2021	1	1.6150	-2.5074	42.8975
2022	2022	1	1.4618	-2.7336	40.4296
2023	2023	1	1.3175	-3.0441	37.7636
2024	2024	1	0.9803	-3.5199	40.2425
2025	2025	1	0.2872	-4.2813	45.8903
2026	2026	1	-0.0235	-4.6731	36.0447
2027	2027	1	-0.1975	-4.8289	27.3620
2028	2028	1	-0.3930	-4.9178	21.9646
2029	2029	1	-0.6139	-4.9385	18.2947
2030	2030	1	-0.9186	-4.8594	15.7936
2031	2031	1	-1.1396	-4.5854	13.2690
2032	2032	1	-1.3598	-4.2639	11.3740
2033	2033	1	-1.5543	-3.9092	9.8508
2034	2034	1	-1.7099	-3.6116	8.6724
2035	2035	1	-1.8177	-3.2999	7.6247
2036	2036	1	-1.8688	-3.0327	6.7218
2037	2037	1	-1.8936	-2.8160	5.9844
2038	2038	1	-1.8686	-2.5621	5.2552
2039	2039	1	-1.8261	-2.3161	4.6228
2040	2040	1	-2.0337	-2.4757	4.7437
2041	2041	1	-1.9404	-2.3503	4.2169
2042	2042	1	-1.8614	-2.2344	3.7873
2043	2043	1	-1.7986	-2.0982	3.4172
2044	2044	1	-1.8062	-2.0617	3.2286
2045	2045	1	-1.7138	-1.9060	2.8834
2046	2046	1	-1.6902	-1.8698	2.7094
2047	2047	1	-1.6879	-1.8470	2.5779
2048	2048	1	-1.6589	-1.8011	2.4200
2049	2049	1	-1.6009	-1.7231	2.2342
2050	2050	1	-1.5935	-1.7035	2.1344
2011	2011	2	-9.9551	0.3589	-2.9605
2012	2012	2	-8.0850	0.2503	10.1695
2013	2013	2	-8.1413	0.2417	-2.2564

2014	2014	2	-8.3635	0.2034	22.5603
2015	2015	2	-7.9288	0.1755	16.6952
2016	2016	2	-8.3676	0.1677	15.7007
2017	2017	2	-1.9723	0.0123	17.7552
2018	2018	2	4.0994	-0.1225	20.6247
2019	2019	2	-1.5414	-0.0689	44.2857
2020	2020	2	-1.2465	0.0340	-2.4134
2021	2021	2	-0.1690	-0.0505	16.7089
2022	2022	2	0.1344	-0.0690	17.5767
2023	2023	2	0.9644	-0.1262	23.9603
2024	2024	2	2.0384	-0.2103	30.4753
2025	2025	2	4.5262	-0.4417	47.9714
2026	2026	2	3.4807	-0.4261	32.5352
2027	2027	2	3.9436	-0.5348	31.1116
2028	2028	2	4.5536	-0.6795	30.2961
2029	2029	2	4.8684	-0.7989	27.3836
2030	2030	2	4.9673	-0.9096	24.5096
2031	2031	2	5.0865	-0.9474	20.1742
2032	2032	2	4.8793	-1.0056	17.7808
2033	2033	2	4.6320	-1.0543	15.7803
2034	2034	2	4.3655	-1.0969	14.1249
2035	2035	2	4.0807	-1.1390	12.8123
2036	2036	2	3.8076	-1.1648	11.5496
2037	2037	2	3.5417	-1.1887	10.5057
2038	2038	2	3.2793	-1.2049	9.5762
2039	2039	2	3.0357	-1.2185	8.7799
2040	2040	2	2.8032	-1.2286	8.0825
2041	2041	2	2.5647	-1.2034	7.2582
2042	2042	2	2.4018	-1.2091	6.7416
2043	2043	2	2.2033	-1.2237	6.3558
2044	2044	2	2.0402	-1.2164	5.8890
2045	2045	2	1.8815	-1.2057	5.4663
2046	2046	2	1.6834	-1.1668	4.9758
2047	2047	2	1.5551	-1.1570	4.6635
2048	2048	2	1.4237	-1.1416	4.3618
2049	2049	2	1.2542	-1.1392	4.1548
2050	2050	2	1.1467	-1.1150	3.8719
2011	2011	3	-9.9551	0.3589	-2.9605
2012	2012	3	-8.0850	0.2503	10.1695
2013	2013	3	-8.1413	0.2417	-2.2564
2014	2014	3	-8.3635	0.2034	22.5603
2015	2015	3	-7.9288	0.1755	16.6952
2016	2016	3	-8.3676	0.1677	15.7007
2017	2017	3	-1.9723	0.0123	17.7552

2018	2018	3	4.0994	-0.1225	20.6247
2019	2019	3	-1.5414	-0.0689	44.2857
2020	2020	3	-1.2465	0.0340	-2.4134
2021	2021	3	-0.1690	-0.0505	16.7089
2022	2022	3	0.1344	-0.0690	17.5767
2023	2023	3	0.9644	-0.1262	23.9603
2024	2024	3	2.0384	-0.2103	30.4753
2025	2025	3	4.5262	-0.4417	47.9714
2026	2026	3	3.4807	-0.4261	32.5352
2027	2027	3	3.9436	-0.5348	31.1116
2028	2028	3	4.5536	-0.6795	30.2961
2029	2029	3	4.8684	-0.7989	27.3836
2030	2030	3	4.9673	-0.9096	24.5096
2031	2031	3	5.0865	-0.9474	20.1742
2032	2032	3	4.8793	-1.0056	17.7808
2033	2033	3	4.6320	-1.0543	15.7803
2034	2034	3	4.3655	-1.0969	14.1249
2035	2035	3	4.0807	-1.1390	12.8123
2036	2036	3	3.8076	-1.1648	11.5496
2037	2037	3	3.5417	-1.1887	10.5057
2038	2038	3	3.2793	-1.2049	9.5762
2039	2039	3	3.0357	-1.2185	8.7799
2040	2040	3	2.8032	-1.2286	8.0825
2041	2041	3	2.5647	-1.2034	7.2582
2042	2042	3	2.4018	-1.2091	6.7416
2043	2043	3	2.2033	-1.2237	6.3558
2044	2044	3	2.0402	-1.2164	5.8890
2045	2045	3	1.8815	-1.2057	5.4663
2046	2046	3	1.6834	-1.1668	4.9758
2047	2047	3	1.5551	-1.1570	4.6635
2048	2048	3	1.4237	-1.1416	4.3618
2049	2049	3	1.2542	-1.1392	4.1548
2050	2050	3	1.1467	-1.1150	3.8719
2051	2151	1	0.0000	0.0000	0.0000
2051	2151	2	0.0000	0.0000	0.0000
2051	2151	3	0.0000	0.0000	0.0000
2011	2151	4	0.0000	0.0000	0.0000
2011	2151	5	0.0000	0.0000	0.0000
2011	2151	6	0.0000	0.0000	0.0000

FUEL_CONSUMPTION - (used)

*veh_type fuel_type a_fuel b_fuel c_fuel d_fuel cut-off_speeds(km/h)

*

max min

1 1 0.4666 0.09917 -0.11296E-02 0.74815E-05 130 10

1	2	0.5050	0.07241	-0.69660E-03	0.54893E-05	130	10
1	3	0.0000	0.22466	0.00000E+00	0.00000E+00	120	10
2	1	0.3518	0.19727	-0.30966E-02	0.19998E-04	120	10
2	2	0.4682	0.11444	-0.16510E-02	0.13977E-04	110	10
2	3	0.0000	0.25706	0.00000E+00	0.00000E+00	120	10
3	1	0.3518	0.19727	-0.30966E-02	0.19998E-04	120	10
3	2	0.4682	0.11444	-0.16510E-02	0.13977E-04	110	10
3	3	0.0000	0.25706	0.00000E+00	0.00000E+00	120	10
4	2	2.6039	0.13816	-0.99860E-03	0.10906E-04	85	12
5	2	5.7277	0.29745	-0.19708E-02	0.11746E-04	85	12
6	2	3.3350	0.29304	-0.31851E-02	0.23364E-04	85	12
6	3	0.0000	1.17983	0.00000E+00	0.00000E+00	85	12

FUEL_CONSUMPTION - (std)

		*veh_type	fuel_type	a_fuel	b_fuel	c_fuel	d_fuel	cut-off_speeds(km/h)
				max	min			
1	1	0.4707	0.10003	-0.11394E-02	0.75462E-05	130	10	
1	2	0.5069	0.07268	-0.69920E-03	0.55097E-05	130	10	
1	3	0.0000	0.21366	0.00000E+00	0.00000E+00	120	10	
2	1	0.3487	0.19552	-0.30690E-02	0.19819E-04	120	10	
2	2	0.4688	0.11457	-0.16529E-02	0.13993E-04	110	10	
2	3	0.0000	0.23232	0.00000E+00	0.00000E+00	120	10	
3	1	0.3487	0.19552	-0.30690E-02	0.19819E-04	120	10	
3	2	0.4688	0.11457	-0.16529E-02	0.13993E-04	110	10	
3	3	0.0000	0.23232	0.00000E+00	0.00000E+00	120	10	
4	2	2.6115	0.13856	-0.10015E-02	0.10938E-04	85	12	
5	2	5.7221	0.29716	-0.19688E-02	0.11735E-04	85	12	
6	2	3.3602	0.29525	-0.32091E-02	0.23540E-04	85	12	

FUEL EFFICIENCY - (used)

*% p.a.

*Start_yr	End_yr	veh_type	fuel_type	change
2011	2011	1	1	0.662
2011	2011	1	2	0.817
2011	2011	1	3	-0.025
2011	2011	2	1	-0.095
2011	2011	2	2	0.139
2011	2011	2	3	0.000
2011	2011	3	1	-0.095
2011	2011	3	2	0.139
2011	2011	3	3	0.000
2011	2011	4	2	-0.217
2011	2011	4	3	0.000
2011	2011	5	2	-0.047

2011	2011	5	3	0.000
2011	2011	6	2	-0.140
2011	2011	6	3	0.000
2012	2012	1	1	0.824
2012	2012	1	2	0.877
2012	2012	1	3	0.491
2012	2012	2	1	-0.074
2012	2012	2	2	0.386
2012	2012	2	3	0.000
2012	2012	3	1	-0.074
2012	2012	3	2	0.386
2012	2012	3	3	0.000
2012	2012	4	2	-3.140
2012	2012	4	3	0.000
2012	2012	5	2	0.414
2012	2012	5	3	0.000
2012	2012	6	2	-0.258
2012	2012	6	3	0.000
2013	2013	1	1	1.035
2013	2013	1	2	0.939
2013	2013	1	3	0.025
2013	2013	2	1	0.178
2013	2013	2	2	0.142
2013	2013	2	3	0.000
2013	2013	3	1	0.178
2013	2013	3	2	0.142
2013	2013	3	3	0.000
2013	2013	4	2	0.524
2013	2013	4	3	0.000
2013	2013	5	2	0.199
2013	2013	5	3	0.000
2013	2013	6	2	-0.069
2013	2013	6	3	0.000
2014	2014	1	1	-0.594
2014	2014	1	2	0.712
2014	2014	1	3	0.709
2014	2014	2	1	-0.410
2014	2014	2	2	0.114
2014	2014	2	3	-0.064
2014	2014	3	1	-0.410
2014	2014	3	2	0.114
2014	2014	3	3	-0.064
2014	2014	4	2	-1.002
2014	2014	4	3	0.000

2014	2014	5	2	0.195
2014	2014	5	3	0.000
2014	2014	6	2	-0.064
2014	2014	6	3	0.000
2015	2015	1	1	1.252
2015	2015	1	2	1.319
2015	2015	1	3	0.591
2015	2015	2	1	2.511
2015	2015	2	2	0.235
2015	2015	2	3	-0.700
2015	2015	3	1	2.511
2015	2015	3	2	0.235
2015	2015	3	3	-0.700
2015	2015	4	2	0.295
2015	2015	4	3	0.000
2015	2015	5	2	0.327
2015	2015	5	3	0.000
2015	2015	6	2	-0.221
2015	2015	6	3	0.000
2016	2016	1	1	1.373
2016	2016	1	2	1.203
2016	2016	1	3	0.418
2016	2016	2	1	-0.117
2016	2016	2	2	0.703
2016	2016	2	3	-0.216
2016	2016	3	1	-0.117
2016	2016	3	2	0.703
2016	2016	3	3	-0.216
2016	2016	4	2	0.922
2016	2016	4	3	0.000
2016	2016	5	2	0.233
2016	2016	5	3	0.000
2016	2016	6	2	-0.060
2016	2016	6	3	-0.097
2017	2017	1	1	1.236
2017	2017	1	2	0.778
2017	2017	1	3	0.132
2017	2017	2	1	1.631
2017	2017	2	2	1.238
2017	2017	2	3	-0.009
2017	2017	3	1	1.631
2017	2017	3	2	1.238
2017	2017	3	3	-0.009
2017	2017	4	2	-0.773

2017	2017	4	3	0.000
2017	2017	5	2	0.317
2017	2017	5	3	0.000
2017	2017	6	2	-0.036
2017	2017	6	3	-0.080
2018	2018	1	1	0.987
2018	2018	1	2	0.058
2018	2018	1	3	0.092
2018	2018	2	1	3.066
2018	2018	2	2	0.884
2018	2018	2	3	-0.418
2018	2018	3	1	3.066
2018	2018	3	2	0.884
2018	2018	3	3	-0.418
2018	2018	4	2	0.421
2018	2018	4	3	0.000
2018	2018	5	2	0.544
2018	2018	5	3	0.000
2018	2018	6	2	-0.161
2018	2018	6	3	-0.191
2019	2019	1	1	0.626
2019	2019	1	2	-0.319
2019	2019	1	3	-0.347
2019	2019	2	1	1.138
2019	2019	2	2	0.740
2019	2019	2	3	0.088
2019	2019	3	1	1.138
2019	2019	3	2	0.740
2019	2019	3	3	0.088
2019	2019	4	2	-0.944
2019	2019	4	3	0.000
2019	2019	5	2	0.546
2019	2019	5	3	0.000
2019	2019	6	2	-0.168
2019	2019	6	3	-0.223
2020	2020	1	1	0.927
2020	2020	1	2	-0.092
2020	2020	1	3	-0.578
2020	2020	2	1	1.902
2020	2020	2	2	0.372
2020	2020	2	3	-0.341
2020	2020	3	1	1.902
2020	2020	3	2	0.372
2020	2020	3	3	-0.341

2020	2020	4	2	-0.700
2020	2020	4	3	0.000
2020	2020	5	2	0.352
2020	2020	5	3	0.000
2020	2020	6	2	-0.118
2020	2020	6	3	-0.337
2021	2021	1	1	1.169
2021	2021	1	2	-0.014
2021	2021	1	3	3.385
2021	2021	2	1	2.499
2021	2021	2	2	1.189
2021	2021	2	3	0.466
2021	2021	3	1	2.499
2021	2021	3	2	1.189
2021	2021	3	3	0.466
2021	2021	4	2	0.532
2021	2021	4	3	0.000
2021	2021	5	2	0.644
2021	2021	5	3	0.000
2021	2021	6	2	-0.093
2021	2021	6	3	0.885
2022	2022	1	1	-0.836
2022	2022	1	2	0.006
2022	2022	1	3	3.869
2022	2022	2	1	4.304
2022	2022	2	2	0.815
2022	2022	2	3	-0.062
2022	2022	3	1	4.304
2022	2022	3	2	0.815
2022	2022	3	3	-0.062
2022	2022	4	2	0.589
2022	2022	4	3	0.000
2022	2022	5	2	0.547
2022	2022	5	3	0.000
2022	2022	6	2	-0.120
2022	2022	6	3	3.311
2023	2023	1	1	0.823
2023	2023	1	2	-0.026
2023	2023	1	3	2.928
2023	2023	2	1	2.131
2023	2023	2	2	0.721
2023	2023	2	3	0.297
2023	2023	3	1	2.131
2023	2023	3	2	0.721

2023	2023	3	3	0.297
2023	2023	4	2	0.577
2023	2023	4	3	0.000
2023	2023	5	2	0.560
2023	2023	5	3	0.000
2023	2023	6	2	-0.095
2023	2023	6	3	1.901
2024	2024	1	1	0.593
2024	2024	1	2	-0.057
2024	2024	1	3	2.092
2024	2024	2	1	2.062
2024	2024	2	2	0.675
2024	2024	2	3	0.341
2024	2024	3	1	2.062
2024	2024	3	2	0.675
2024	2024	3	3	0.341
2024	2024	4	2	0.567
2024	2024	4	3	0.000
2024	2024	5	2	0.586
2024	2024	5	3	0.000
2024	2024	6	2	0.011
2024	2024	6	3	1.362
2025	2025	1	1	0.334
2025	2025	1	2	-0.072
2025	2025	1	3	1.828
2025	2025	2	1	2.658
2025	2025	2	2	1.643
2025	2025	2	3	0.472
2025	2025	3	1	2.658
2025	2025	3	2	1.643
2025	2025	3	3	0.472
2025	2025	4	2	1.078
2025	2025	4	3	0.000
2025	2025	5	2	1.849
2025	2025	5	3	0.000
2025	2025	6	2	0.031
2025	2025	6	3	1.886
2026	2026	1	1	0.238
2026	2026	1	2	-0.115
2026	2026	1	3	1.458
2026	2026	2	1	2.532
2026	2026	2	2	1.489
2026	2026	2	3	0.578
2026	2026	3	1	2.532

2026	2026	3	2	1.489
2026	2026	3	3	0.578
2026	2026	4	2	1.050
2026	2026	4	3	0.000
2026	2026	5	2	1.888
2026	2026	5	3	0.000
2026	2026	6	2	0.052
2026	2026	6	3	1.530
2027	2027	1	1	0.159
2027	2027	1	2	-0.159
2027	2027	1	3	1.326
2027	2027	2	1	4.516
2027	2027	2	2	1.360
2027	2027	2	3	0.506
2027	2027	3	1	4.516
2027	2027	3	2	1.360
2027	2027	3	3	0.506
2027	2027	4	2	1.010
2027	2027	4	3	0.000
2027	2027	5	2	1.827
2027	2027	5	3	0.000
2027	2027	6	2	0.127
2027	2027	6	3	1.497
2028	2028	1	1	0.087
2028	2028	1	2	-0.216
2028	2028	1	3	1.215
2028	2028	2	1	2.106
2028	2028	2	2	1.237
2028	2028	2	3	0.556
2028	2028	3	1	2.106
2028	2028	3	2	1.237
2028	2028	3	3	0.556
2028	2028	4	2	0.976
2028	2028	4	3	0.000
2028	2028	5	2	1.778
2028	2028	5	3	0.000
2028	2028	6	2	0.136
2028	2028	6	3	1.429
2029	2029	1	1	0.024
2029	2029	1	2	-0.284
2029	2029	1	3	1.180
2029	2029	2	1	1.991
2029	2029	2	2	1.142
2029	2029	2	3	0.357

2029	2029	3	1	1.991
2029	2029	3	2	1.142
2029	2029	3	3	0.357
2029	2029	4	2	0.948
2029	2029	4	3	0.000
2029	2029	5	2	1.702
2029	2029	5	3	0.000
2029	2029	6	2	0.148
2029	2029	6	3	1.250
2030	2030	1	1	0.021
2030	2030	1	2	-0.366
2030	2030	1	3	1.123
2030	2030	2	1	2.720
2030	2030	2	2	2.177
2030	2030	2	3	-0.469
2030	2030	3	1	2.720
2030	2030	3	2	2.177
2030	2030	3	3	-0.469
2030	2030	4	2	1.599
2030	2030	4	3	0.000
2030	2030	5	2	3.302
2030	2030	5	3	0.000
2030	2030	6	2	0.190
2030	2030	6	3	0.841
2031	2031	1	1	-0.068
2031	2031	1	2	-0.361
2031	2031	1	3	0.961
2031	2031	2	1	0.062
2031	2031	2	2	2.084
2031	2031	2	3	-1.235
2031	2031	3	1	0.062
2031	2031	3	2	2.084
2031	2031	3	3	-1.235
2031	2031	4	2	1.522
2031	2031	4	3	0.000
2031	2031	5	2	3.277
2031	2031	5	3	0.000
2031	2031	6	2	0.192
2031	2031	6	3	0.787
2032	2032	1	1	-0.106
2032	2032	1	2	-0.381
2032	2032	1	3	0.857
2032	2032	2	1	2.503
2032	2032	2	2	1.668

2032	2032	2	3	-1.684
2032	2032	3	1	2.503
2032	2032	3	2	1.668
2032	2032	3	3	-1.684
2032	2032	4	2	1.484
2032	2032	4	3	0.000
2032	2032	5	2	3.008
2032	2032	5	3	0.000
2032	2032	6	2	0.084
2032	2032	6	3	0.750
2033	2033	1	1	-0.116
2033	2033	1	2	-0.386
2033	2033	1	3	0.790
2033	2033	2	1	2.964
2033	2033	2	2	1.626
2033	2033	2	3	-1.777
2033	2033	3	1	2.964
2033	2033	3	2	1.626
2033	2033	3	3	-1.777
2033	2033	4	2	1.404
2033	2033	4	3	0.000
2033	2033	5	2	2.748
2033	2033	5	3	0.000
2033	2033	6	2	0.145
2033	2033	6	3	0.721
2034	2034	1	1	-0.126
2034	2034	1	2	-0.393
2034	2034	1	3	0.748
2034	2034	2	1	4.667
2034	2034	2	2	1.264
2034	2034	2	3	-1.521
2034	2034	3	1	4.667
2034	2034	3	2	1.264
2034	2034	3	3	-1.521
2034	2034	4	2	1.321
2034	2034	4	3	0.000
2034	2034	5	2	2.559
2034	2034	5	3	0.000
2034	2034	6	2	0.401
2034	2034	6	3	0.724
2035	2035	1	1	-0.173
2035	2035	1	2	-0.358
2035	2035	1	3	0.722
2035	2035	2	1	-2.719

2035	2035	2	2	1.183
2035	2035	2	3	-1.133
2035	2035	3	1	-2.719
2035	2035	3	2	1.183
2035	2035	3	3	-1.133
2035	2035	4	2	1.229
2035	2035	4	3	0.000
2035	2035	5	2	2.323
2035	2035	5	3	0.000
2035	2035	6	2	0.252
2035	2035	6	3	0.748
2036	2036	1	1	-0.188
2036	2036	1	2	-0.251
2036	2036	1	3	0.712
2036	2036	2	1	2.305
2036	2036	2	2	1.146
2036	2036	2	3	-0.751
2036	2036	3	1	2.305
2036	2036	3	2	1.146
2036	2036	3	3	-0.751
2036	2036	4	2	1.142
2036	2036	4	3	0.000
2036	2036	5	2	2.020
2036	2036	5	3	0.000
2036	2036	6	2	0.188
2036	2036	6	3	0.761
2037	2037	1	1	-0.232
2037	2037	1	2	-0.323
2037	2037	1	3	0.717
2037	2037	2	1	1.801
2037	2037	2	2	1.152
2037	2037	2	3	-0.441
2037	2037	3	1	1.801
2037	2037	3	2	1.152
2037	2037	3	3	-0.441
2037	2037	4	2	1.035
2037	2037	4	3	0.000
2037	2037	5	2	1.558
2037	2037	5	3	0.000
2037	2037	6	2	0.354
2037	2037	6	3	0.782
2038	2038	1	1	-0.236
2038	2038	1	2	-0.424
2038	2038	1	3	0.717

2038	2038	2	1	5.995
2038	2038	2	2	1.204
2038	2038	2	3	-0.217
2038	2038	3	1	5.995
2038	2038	3	2	1.204
2038	2038	3	3	-0.217
2038	2038	4	2	0.915
2038	2038	4	3	0.000
2038	2038	5	2	1.195
2038	2038	5	3	0.000
2038	2038	6	2	0.272
2038	2038	6	3	0.805
2039	2039	1	1	-0.233
2039	2039	1	2	-0.611
2039	2039	1	3	0.713
2039	2039	2	1	-0.357
2039	2039	2	2	0.702
2039	2039	2	3	0.021
2039	2039	3	1	-0.357
2039	2039	3	2	0.702
2039	2039	3	3	0.021
2039	2039	4	2	0.794
2039	2039	4	3	0.000
2039	2039	5	2	0.889
2039	2039	5	3	0.000
2039	2039	6	2	0.201
2039	2039	6	3	0.822
2040	2040	1	1	-0.203
2040	2040	1	2	-0.411
2040	2040	1	3	0.720
2040	2040	2	1	1.080
2040	2040	2	2	0.723
2040	2040	2	3	0.104
2040	2040	3	1	1.080
2040	2040	3	2	0.723
2040	2040	3	3	0.104
2040	2040	4	2	0.689
2040	2040	4	3	0.000
2040	2040	5	2	0.664
2040	2040	5	3	0.000
2040	2040	6	2	0.256
2040	2040	6	3	0.928
2041	2041	1	1	0.027
2041	2041	1	2	0.054

2041	2041	1	3	0.701
2041	2041	2	1	4.247
2041	2041	2	2	0.511
2041	2041	2	3	0.157
2041	2041	3	1	4.247
2041	2041	3	2	0.511
2041	2041	3	3	0.157
2041	2041	4	2	0.607
2041	2041	4	3	0.000
2041	2041	5	2	0.494
2041	2041	5	3	0.000
2041	2041	6	2	0.423
2041	2041	6	3	0.866
2042	2042	1	1	-0.082
2042	2042	1	2	-0.073
2042	2042	1	3	0.685
2042	2042	2	1	2.107
2042	2042	2	2	0.932
2042	2042	2	3	0.161
2042	2042	3	1	2.107
2042	2042	3	2	0.932
2042	2042	3	3	0.161
2042	2042	4	2	0.538
2042	2042	4	3	0.000
2042	2042	5	2	0.370
2042	2042	5	3	0.000
2042	2042	6	2	0.288
2042	2042	6	3	0.802
2043	2043	1	1	-0.107
2043	2043	1	2	-0.009
2043	2043	1	3	0.662
2043	2043	2	1	0.816
2043	2043	2	2	0.626
2043	2043	2	3	0.170
2043	2043	3	1	0.816
2043	2043	3	2	0.626
2043	2043	3	3	0.170
2043	2043	4	2	0.485
2043	2043	4	3	0.000
2043	2043	5	2	0.292
2043	2043	5	3	0.000
2043	2043	6	2	0.262
2043	2043	6	3	0.744
2044	2044	1	1	-0.075

2044	2044	1	2	-0.004
2044	2044	1	3	0.639
2044	2044	2	1	0.451
2044	2044	2	2	0.395
2044	2044	2	3	0.197
2044	2044	3	1	0.451
2044	2044	3	2	0.395
2044	2044	3	3	0.197
2044	2044	4	2	0.446
2044	2044	4	3	0.000
2044	2044	5	2	0.234
2044	2044	5	3	0.000
2044	2044	6	2	0.256
2044	2044	6	3	0.710
2045	2045	1	1	-0.046
2045	2045	1	2	-0.001
2045	2045	1	3	0.620
2045	2045	2	1	0.400
2045	2045	2	2	0.339
2045	2045	2	3	0.217
2045	2045	3	1	0.400
2045	2045	3	2	0.339
2045	2045	3	3	0.217
2045	2045	4	2	0.415
2045	2045	4	3	0.000
2045	2045	5	2	0.199
2045	2045	5	3	0.000
2045	2045	6	2	0.255
2045	2045	6	3	0.674
2046	2046	1	1	-0.022
2046	2046	1	2	0.000
2046	2046	1	3	0.603
2046	2046	2	1	1.958
2046	2046	2	2	1.266
2046	2046	2	3	0.233
2046	2046	3	1	1.958
2046	2046	3	2	1.266
2046	2046	3	3	0.233
2046	2046	4	2	0.425
2046	2046	4	3	0.000
2046	2046	5	2	0.214
2046	2046	5	3	0.000
2046	2046	6	2	0.248
2046	2046	6	3	0.634

2047	2047	1	1	-0.009
2047	2047	1	2	0.002
2047	2047	1	3	0.581
2047	2047	2	1	0.207
2047	2047	2	2	0.178
2047	2047	2	3	0.264
2047	2047	3	1	0.207
2047	2047	3	2	0.178
2047	2047	3	3	0.264
2047	2047	4	2	0.362
2047	2047	4	3	0.000
2047	2047	5	2	0.138
2047	2047	5	3	0.000
2047	2047	6	2	0.247
2047	2047	6	3	0.577
2048	2048	1	1	0.004
2048	2048	1	2	0.003
2048	2048	1	3	0.565
2048	2048	2	1	0.179
2048	2048	2	2	0.147
2048	2048	2	3	0.285
2048	2048	3	1	0.179
2048	2048	3	2	0.147
2048	2048	3	3	0.285
2048	2048	4	2	0.349
2048	2048	4	3	0.000
2048	2048	5	2	0.124
2048	2048	5	3	0.000
2048	2048	6	2	0.252
2048	2048	6	3	0.549
2049	2049	1	1	0.013
2049	2049	1	2	0.004
2049	2049	1	3	0.545
2049	2049	2	1	0.156
2049	2049	2	2	0.124
2049	2049	2	3	0.310
2049	2049	3	1	0.156
2049	2049	3	2	0.124
2049	2049	3	3	0.310
2049	2049	4	2	0.340
2049	2049	4	3	0.000
2049	2049	5	2	0.116
2049	2049	5	3	0.000
2049	2049	6	2	0.241

2049	2049	6	3	0.528
2050	2050	1	1	0.019
2050	2050	1	2	0.004
2050	2050	1	3	0.529
2050	2050	2	1	0.139
2050	2050	2	2	0.106
2050	2050	2	3	0.332
2050	2050	3	1	0.139
2050	2050	3	2	0.106
2050	2050	3	3	0.332
2050	2050	4	2	0.333
2050	2050	4	3	0.000
2050	2050	5	2	0.109
2050	2050	5	3	0.000
2050	2050	6	2	0.270
2050	2050	6	3	0.512
2051	2151	1	1	0.000
2051	2151	1	2	0.000
2051	2151	1	3	0.000
2051	2151	2	1	0.000
2051	2151	2	2	0.000
2051	2151	2	3	0.000
2051	2151	3	1	0.000
2051	2151	3	2	0.000
2051	2151	3	3	0.000
2051	2151	4	2	0.000
2051	2151	4	3	0.000
2051	2151	5	2	0.000
2051	2151	5	3	0.000
2051	2151	6	2	0.000
2051	2151	6	3	0.000

FUEL_EFFICIENCY - (std)

*% p.a.

*Start_yr	End_yr	veh_type	fuel_type	change
2011	2011	1	1	0.604
2011	2011	1	2	0.874
2011	2011	1	3	0.032
2011	2011	2	1	-0.168
2011	2011	2	2	0.177
2011	2011	2	3	0.000
2011	2011	3	1	-0.168
2011	2011	3	2	0.177
2011	2011	3	3	0.000

2011	2011	4	2	-0.113
2011	2011	5	2	0.011
2012	2012	1	1	0.285
2012	2012	1	2	0.975
2012	2012	1	3	-0.707
2012	2012	2	1	-0.630
2012	2012	2	2	0.468
2012	2012	2	3	0.000
2012	2012	3	1	-0.630
2012	2012	3	2	0.468
2012	2012	3	3	0.000
2012	2012	4	2	-2.932
2012	2012	5	2	0.288
2013	2013	1	1	0.891
2013	2013	1	2	0.920
2013	2013	1	3	0.085
2013	2013	2	1	0.031
2013	2013	2	2	0.107
2013	2013	2	3	0.000
2013	2013	3	1	0.031
2013	2013	3	2	0.107
2013	2013	3	3	0.000
2013	2013	4	2	0.475
2013	2013	5	2	0.068
2014	2014	1	1	0.979
2014	2014	1	2	0.945
2014	2014	1	3	-1.015
2014	2014	2	1	-0.518
2014	2014	2	2	0.057
2014	2014	2	3	-0.042
2014	2014	3	1	-0.518
2014	2014	3	2	0.057
2014	2014	3	3	-0.042
2014	2014	4	2	-1.038
2014	2014	5	2	0.144
2015	2015	1	1	1.281
2015	2015	1	2	1.319
2015	2015	1	3	-0.927
2015	2015	2	1	2.498
2015	2015	2	2	0.323
2015	2015	2	3	-0.454
2015	2015	3	1	2.498
2015	2015	3	2	0.323
2015	2015	3	3	-0.454

2015	2015	4	2	0.361
2015	2015	5	2	0.480
2016	2016	1	1	1.406
2016	2016	1	2	1.207
2016	2016	1	3	1.034
2016	2016	2	1	-0.062
2016	2016	2	2	0.705
2016	2016	2	3	0.340
2016	2016	3	1	-0.062
2016	2016	3	2	0.705
2016	2016	3	3	0.340
2016	2016	4	2	0.747
2016	2016	5	2	0.239
2017	2017	1	1	1.270
2017	2017	1	2	0.783
2017	2017	1	3	1.188
2017	2017	2	1	1.646
2017	2017	2	2	1.249
2017	2017	2	3	0.804
2017	2017	3	1	1.646
2017	2017	3	2	1.249
2017	2017	3	3	0.804
2017	2017	4	2	-0.771
2017	2017	5	2	0.316
2018	2018	1	1	1.029
2018	2018	1	2	0.063
2018	2018	1	3	1.035
2018	2018	2	1	3.029
2018	2018	2	2	0.770
2018	2018	2	3	0.708
2018	2018	3	1	3.029
2018	2018	3	2	0.770
2018	2018	3	3	0.708
2018	2018	4	2	-0.058
2018	2018	5	2	0.407
2019	2019	1	1	0.990
2019	2019	1	2	-0.041
2019	2019	1	3	2.359
2019	2019	2	1	1.141
2019	2019	2	2	0.522
2019	2019	2	3	2.118
2019	2019	3	1	1.141
2019	2019	3	2	0.522
2019	2019	3	3	2.118

2019	2019	4	2	0.247
2019	2019	5	2	0.388
2020	2020	1	1	2.680
2020	2020	1	2	1.323
2020	2020	1	3	2.699
2020	2020	2	1	1.842
2020	2020	2	2	1.432
2020	2020	2	3	-2.324
2020	2020	3	1	1.842
2020	2020	3	2	1.432
2020	2020	3	3	-2.324
2020	2020	4	2	0.341
2020	2020	5	2	0.470
2021	2021	1	1	2.289
2021	2021	1	2	1.469
2021	2021	1	3	5.660
2021	2021	2	1	1.283
2021	2021	2	2	1.165
2021	2021	2	3	-0.804
2021	2021	3	1	1.283
2021	2021	3	2	1.165
2021	2021	3	3	-0.804
2021	2021	4	2	0.484
2021	2021	5	2	0.523
2022	2022	1	1	2.080
2022	2022	1	2	1.497
2022	2022	1	3	3.960
2022	2022	2	1	2.960
2022	2022	2	2	1.102
2022	2022	2	3	-0.880
2022	2022	3	1	2.960
2022	2022	3	2	1.102
2022	2022	3	3	-0.880
2022	2022	4	2	0.491
2022	2022	5	2	0.531
2023	2023	1	1	1.895
2023	2023	1	2	1.393
2023	2023	1	3	2.637
2023	2023	2	1	1.045
2023	2023	2	2	0.925
2023	2023	2	3	-1.450
2023	2023	3	1	1.045
2023	2023	3	2	0.925
2023	2023	3	3	-1.450

2023	2023	4	2	0.500
2023	2023	5	2	0.548
2024	2024	1	1	1.891
2024	2024	1	2	1.258
2024	2024	1	3	2.035
2024	2024	2	1	1.277
2024	2024	2	2	0.822
2024	2024	2	3	-1.389
2024	2024	3	1	1.277
2024	2024	3	2	0.822
2024	2024	3	3	-1.389
2024	2024	4	2	0.490
2024	2024	5	2	0.544
2025	2025	1	1	1.650
2025	2025	1	2	1.164
2025	2025	1	3	1.843
2025	2025	2	1	2.913
2025	2025	2	2	1.999
2025	2025	2	3	-1.541
2025	2025	3	1	2.913
2025	2025	3	2	1.999
2025	2025	3	3	-1.541
2025	2025	4	2	0.918
2025	2025	5	2	1.864
2026	2026	1	1	1.468
2026	2026	1	2	1.107
2026	2026	1	3	1.211
2026	2026	2	1	2.351
2026	2026	2	2	1.780
2026	2026	2	3	-0.553
2026	2026	3	1	2.351
2026	2026	3	2	1.780
2026	2026	3	3	-0.553
2026	2026	4	2	0.900
2026	2026	5	2	1.854
2027	2027	1	1	1.372
2027	2027	1	2	1.130
2027	2027	1	3	0.922
2027	2027	2	1	3.660
2027	2027	2	2	1.600
2027	2027	2	3	-0.253
2027	2027	3	1	3.660
2027	2027	3	2	1.600
2027	2027	3	3	-0.253

2027	2027	4	2	0.874
2027	2027	5	2	1.767
2028	2028	1	1	1.234
2028	2028	1	2	1.148
2028	2028	1	3	0.747
2028	2028	2	1	1.853
2028	2028	2	2	1.433
2028	2028	2	3	0.019
2028	2028	3	1	1.853
2028	2028	3	2	1.433
2028	2028	3	3	0.019
2028	2028	4	2	0.846
2028	2028	5	2	1.644
2029	2029	1	1	1.110
2029	2029	1	2	1.140
2029	2029	1	3	0.694
2029	2029	2	1	1.699
2029	2029	2	2	1.299
2029	2029	2	3	0.258
2029	2029	3	1	1.699
2029	2029	3	2	1.299
2029	2029	3	3	0.258
2029	2029	4	2	0.808
2029	2029	5	2	1.531
2030	2030	1	1	2.306
2030	2030	1	2	2.305
2030	2030	1	3	0.690
2030	2030	2	1	3.530
2030	2030	2	2	2.726
2030	2030	2	3	0.398
2030	2030	3	1	3.530
2030	2030	3	2	2.726
2030	2030	3	3	0.398
2030	2030	4	2	1.394
2030	2030	5	2	3.225
2031	2031	1	1	2.230
2031	2031	1	2	2.375
2031	2031	1	3	0.571
2031	2031	2	1	1.740
2031	2031	2	2	2.564
2031	2031	2	3	0.251
2031	2031	3	1	1.740
2031	2031	3	2	2.564
2031	2031	3	3	0.251

2031	2031	4	2	1.307
2031	2031	5	2	3.126
2032	2032	1	1	2.088
2032	2032	1	2	2.387
2032	2032	1	3	0.492
2032	2032	2	1	2.870
2032	2032	2	2	2.133
2032	2032	2	3	0.170
2032	2032	3	1	2.870
2032	2032	3	2	2.133
2032	2032	3	3	0.170
2032	2032	4	2	1.294
2032	2032	5	2	2.946
2033	2033	1	1	2.021
2033	2033	1	2	2.185
2033	2033	1	3	0.435
2033	2033	2	1	2.820
2033	2033	2	2	2.016
2033	2033	2	3	0.145
2033	2033	3	1	2.820
2033	2033	3	2	2.016
2033	2033	3	3	0.145
2033	2033	4	2	1.240
2033	2033	5	2	2.667
2034	2034	1	1	1.933
2034	2034	1	2	1.998
2034	2034	1	3	0.405
2034	2034	2	1	3.326
2034	2034	2	2	1.646
2034	2034	2	3	0.151
2034	2034	3	1	3.326
2034	2034	3	2	1.646
2034	2034	3	3	0.151
2034	2034	4	2	1.176
2034	2034	5	2	2.450
2035	2035	1	1	1.795
2035	2035	1	2	1.826
2035	2035	1	3	0.374
2035	2035	2	1	-0.177
2035	2035	2	2	1.517
2035	2035	2	3	0.162
2035	2035	3	1	-0.177
2035	2035	3	2	1.517
2035	2035	3	3	0.162

2035	2035	4	2	1.110
2035	2035	5	2	2.072
2036	2036	1	1	1.602
2036	2036	1	2	1.723
2036	2036	1	3	0.362
2036	2036	2	1	1.873
2036	2036	2	2	1.401
2036	2036	2	3	0.192
2036	2036	3	1	1.873
2036	2036	3	2	1.401
2036	2036	3	3	0.192
2036	2036	4	2	1.026
2036	2036	5	2	1.652
2037	2037	1	1	1.499
2037	2037	1	2	1.565
2037	2037	1	3	0.374
2037	2037	2	1	1.484
2037	2037	2	2	1.325
2037	2037	2	3	0.232
2037	2037	3	1	1.484
2037	2037	3	2	1.325
2037	2037	3	3	0.232
2037	2037	4	2	0.935
2037	2037	5	2	1.356
2038	2038	1	1	1.372
2038	2038	1	2	1.357
2038	2038	1	3	0.386
2038	2038	2	1	2.766
2038	2038	2	2	1.280
2038	2038	2	3	0.263
2038	2038	3	1	2.766
2038	2038	3	2	1.280
2038	2038	3	3	0.263
2038	2038	4	2	0.848
2038	2038	5	2	1.046
2039	2039	1	1	1.233
2039	2039	1	2	1.098
2039	2039	1	3	0.402
2039	2039	2	1	0.398
2039	2039	2	2	0.831
2039	2039	2	3	0.296
2039	2039	3	1	0.398
2039	2039	3	2	0.831
2039	2039	3	3	0.296

2039	2039	4	2	0.758
2039	2039	5	2	0.806
2040	2040	1	1	1.198
2040	2040	1	2	1.161
2040	2040	1	3	0.342
2040	2040	2	1	0.753
2040	2040	2	2	0.771
2040	2040	2	3	0.329
2040	2040	3	1	0.753
2040	2040	3	2	0.771
2040	2040	3	3	0.329
2040	2040	4	2	0.660
2040	2040	5	2	0.599
2041	2041	1	1	1.300
2041	2041	1	2	1.581
2041	2041	1	3	0.360
2041	2041	2	1	1.010
2041	2041	2	2	1.026
2041	2041	2	3	0.390
2041	2041	3	1	1.010
2041	2041	3	2	1.026
2041	2041	3	3	0.390
2041	2041	4	2	0.582
2041	2041	5	2	0.436
2042	2042	1	1	0.879
2042	2042	1	2	0.843
2042	2042	1	3	0.374
2042	2042	2	1	0.496
2042	2042	2	2	0.525
2042	2042	2	3	0.477
2042	2042	3	1	0.496
2042	2042	3	2	0.525
2042	2042	3	3	0.477
2042	2042	4	2	0.512
2042	2042	5	2	0.335
2043	2043	1	1	0.765
2043	2043	1	2	0.693
2043	2043	1	3	0.385
2043	2043	2	1	0.415
2043	2043	2	2	0.437
2043	2043	2	3	0.533
2043	2043	3	1	0.415
2043	2043	3	2	0.437
2043	2043	3	3	0.533

2043	2043	4	2	0.451
2043	2043	5	2	0.259
2044	2044	1	1	0.624
2044	2044	1	2	0.557
2044	2044	1	3	0.405
2044	2044	2	1	0.345
2044	2044	2	2	0.357
2044	2044	2	3	0.581
2044	2044	3	1	0.345
2044	2044	3	2	0.357
2044	2044	3	3	0.581
2044	2044	4	2	0.404
2044	2044	5	2	0.202
2045	2045	1	1	0.483
2045	2045	1	2	0.421
2045	2045	1	3	0.407
2045	2045	2	1	0.285
2045	2045	2	2	0.288
2045	2045	2	3	0.623
2045	2045	3	1	0.285
2045	2045	3	2	0.288
2045	2045	3	3	0.623
2045	2045	4	2	0.365
2045	2045	5	2	0.160
2046	2046	1	1	0.320
2046	2046	1	2	0.344
2046	2046	1	3	0.428
2046	2046	2	1	0.652
2046	2046	2	2	0.858
2046	2046	2	3	0.645
2046	2046	3	1	0.652
2046	2046	3	2	0.858
2046	2046	3	3	0.645
2046	2046	4	2	0.374
2046	2046	5	2	0.157
2047	2047	1	1	0.238
2047	2047	1	2	0.257
2047	2047	1	3	0.441
2047	2047	2	1	0.150
2047	2047	2	2	0.136
2047	2047	2	3	0.686
2047	2047	3	1	0.150
2047	2047	3	2	0.136
2047	2047	3	3	0.686

2047	2047	4	2	0.304
2047	2047	5	2	0.087
2048	2048	1	1	0.179
2048	2048	1	2	0.195
2048	2048	1	3	0.452
2048	2048	2	1	0.126
2048	2048	2	2	0.108
2048	2048	2	3	0.717
2048	2048	3	1	0.126
2048	2048	3	2	0.108
2048	2048	3	3	0.717
2048	2048	4	2	0.288
2048	2048	5	2	0.074
2049	2049	1	1	0.135
2049	2049	1	2	0.148
2049	2049	1	3	0.461
2049	2049	2	1	0.106
2049	2049	2	2	0.087
2049	2049	2	3	0.745
2049	2049	3	1	0.106
2049	2049	3	2	0.087
2049	2049	3	3	0.745
2049	2049	4	2	0.275
2049	2049	5	2	0.062
2050	2050	1	1	0.103
2050	2050	1	2	0.114
2050	2050	1	3	0.472
2050	2050	2	1	0.091
2050	2050	2	2	0.072
2050	2050	2	3	0.770
2050	2050	3	1	0.091
2050	2050	3	2	0.072
2050	2050	3	3	0.770
2050	2050	4	2	0.266
2050	2050	5	2	0.055
2051	2151	1	1	0.000
2051	2151	1	2	0.000
2051	2151	1	3	0.000
2051	2151	2	1	0.000
2051	2151	2	2	0.000
2051	2151	2	3	0.000
2051	2151	3	1	0.000
2051	2151	3	2	0.000
2051	2151	3	3	0.000

Road	2037	0	0	0	0	0	0	0	0
Road	2038	0	0	0	0	0	0	0	0
Road	2039	0	0	0	0	0	0	0	0
Road	2040	0	0	0	0	0	0	0	0
Road	2041	0	0	0	0	0	0	0	0
Road	2042	0	0	0	0	0	0	0	0
Road	2043	0	0	0	0	0	0	0	0
Road	2044	0	0	0	0	0	0	0	0
Road	2045	0	0	0	0	0	0	0	0
Road	2046	0	0	0	0	0	0	0	0
Road	2047	0	0	0	0	0	0	0	0
Road	2048	0	0	0	0	0	0	0	0
Road	2049	0	0	0	0	0	0	0	0
Road	2050	0	0	0	0	0	0	0	0
Road	2051	0	0	0	0	0	0	0	0
Road	2052	0	0	0	0	0	0	0	0
Road	2053	0	0	0	0	0	0	0	0
Road	2054	0	0	0	0	0	0	0	0
Road	2055	0	0	0	0	0	0	0	0
Road	2056	0	0	0	0	0	0	0	0
Road	2057	0	0	0	0	0	0	0	0
Road	2058	0	0	0	0	0	0	0	0
Road	2059	0	0	0	0	0	0	0	0
Road	2060	0	0	0	0	0	0	0	0
Road	2061	0	0	0	0	0	0	0	0
Road	2062	0	0	0	0	0	0	0	0
Road	2063	0	0	0	0	0	0	0	0
Road	2064	0	0	0	0	0	0	0	0
Road	2065	0	0	0	0	0	0	0	0
Road	2066	0	0	0	0	0	0	0	0
Road	2067	0	0	0	0	0	0	0	0
Road	2068	0	0	0	0	0	0	0	0
Road	2069	0	0	0	0	0	0	0	0
Road	2070	0	0	0	0	0	0	0	0
Road	2071	0	0	0	0	0	0	0	0
Road	2072	0	0	0	0	0	0	0	0
Road	2073	0	0	0	0	0	0	0	0
Road	2074	0	0	0	0	0	0	0	0
Road	2075	0	0	0	0	0	0	0	0
Road	2076	0	0	0	0	0	0	0	0
Road	2077	0	0	0	0	0	0	0	0
Road	2078	0	0	0	0	0	0	0	0
Road	2079	0	0	0	0	0	0	0	0
Road	2080	0	0	0	0	0	0	0	0

Road	2081	0	0	0	0	0	0	0	0
Road	2082	0	0	0	0	0	0	0	0

DS_SCHEME_COSTS

Do something scheme costs. Undiscounted £000s

Mode	Year	Prep.	Superv.	Constr.	Land	Maint.	Oper.	Grant/Sub.	Dev_Cont
Road	2023	226	0	57	212	0	0	0	0
Road	2024	96	0	0	0	0	0	0	0
Road	2025	211	10	2232	0	0	0	0	0
Road	2026	211	40	3610	0	0	0	0	45
Road	2027	0	0	0	0	2	0	0	0
Road	2028	0	0	0	0	3	0	0	0
Road	2029	0	0	0	0	2	0	0	0
Road	2030	0	0	0	0	2	0	0	0
Road	2031	0	0	0	0	2	0	0	0
Road	2032	0	0	0	0	2	0	0	0
Road	2033	0	0	0	0	10	0	0	0
Road	2034	0	0	0	0	2	0	0	0
Road	2035	0	0	0	0	1	0	0	0
Road	2036	0	0	0	0	1	0	0	0
Road	2037	0	0	0	0	1	0	0	0
Road	2038	0	0	0	0	3	0	0	0
Road	2039	0	0	0	0	1	0	0	0
Road	2040	0	0	0	0	1	0	0	0
Road	2041	0	0	0	0	1	0	0	0
Road	2042	0	0	0	0	1	0	0	0
Road	2043	0	0	0	0	53	0	0	0
Road	2044	0	0	0	0	1	0	0	0
Road	2045	0	0	0	0	1	0	0	0
Road	2046	0	0	0	0	1	0	0	0
Road	2047	0	0	0	0	1	0	0	0
Road	2048	0	0	0	0	5	0	0	0
Road	2049	0	0	0	0	1	0	0	0
Road	2050	0	0	0	0	1	0	0	0
Road	2051	0	0	0	0	1	0	0	0
Road	2052	0	0	0	0	1	0	0	0
Road	2053	0	0	0	0	6	0	0	0
Road	2054	0	0	0	0	1	0	0	0
Road	2055	0	0	0	0	1	0	0	0
Road	2056	0	0	0	0	1	0	0	0
Road	2057	0	0	0	0	1	0	0	0
Road	2058	0	0	0	0	2	0	0	0
Road	2059	0	0	0	0	1	0	0	0
Road	2060	0	0	0	0	1	0	0	0

Road	2061	0	0	0	0	1	0	0	0
Road	2062	0	0	0	0	1	0	0	0
Road	2063	0	0	0	0	53	0	0	0
Road	2064	0	0	0	0	1	0	0	0
Road	2065	0	0	0	0	1	0	0	0
Road	2066	0	0	0	0	1	0	0	0
Road	2067	0	0	0	0	1	0	0	0
Road	2068	0	0	0	0	1	0	0	0
Road	2069	0	0	0	0	1	0	0	0
Road	2070	0	0	0	0	1	0	0	0
Road	2071	0	0	0	0	1	0	0	0
Road	2072	0	0	0	0	1	0	0	0
Road	2073	0	0	0	0	7	0	0	0
Road	2074	0	0	0	0	1	0	0	0
Road	2075	0	0	0	0	1	0	0	0
Road	2076	0	0	0	0	1	0	0	0
Road	2077	0	0	0	0	1	0	0	0
Road	2078	0	0	0	0	1	0	0	0
Road	2079	0	0	0	0	1	0	0	0
Road	2080	0	0	0	0	1	0	0	0
Road	2081	0	0	0	0	1	0	0	0
Road	2082	0	0	0	0	6	0	0	0

PRESENT_VALUE_COSTS

Scheme investment and operating costs (i.e. excluding grant/subsidy, developer contributions and delays) and differences. E000s.

Mode	Year	DM_scheme_costs	DS_scheme_costs	Difference
Road	2023	0	317	317
Road	2024	0	59	59
Road	2025	0	1464	1464
Road	2026	0	2227	2227
Road	2027	0	1	1
Road	2028	0	2	2
Road	2029	0	1	1
Road	2030	0	1	1
Road	2031	0	1	1
Road	2032	0	1	1
Road	2033	0	4	4
Road	2034	0	1	1
Road	2035	0	1	1
Road	2036	0	1	1
Road	2037	0	1	1
Road	2038	0	1	1
Road	2039	0	0	0
Road	2040	0	0	0

Road	2041	0	0	0
Road	2042	0	0	0
Road	2043	0	17	17
Road	2044	0	0	0
Road	2045	0	0	0
Road	2046	0	0	0
Road	2047	0	0	0
Road	2048	0	1	1
Road	2049	0	0	0
Road	2050	0	0	0
Road	2051	0	0	0
Road	2052	0	0	0
Road	2053	0	1	1
Road	2054	0	0	0
Road	2055	0	0	0
Road	2056	0	0	0
Road	2057	0	0	0
Road	2058	0	0	0
Road	2059	0	0	0
Road	2060	0	0	0
Road	2061	0	0	0
Road	2062	0	0	0
Road	2063	0	9	9
Road	2064	0	0	0
Road	2065	0	0	0
Road	2066	0	0	0
Road	2067	0	0	0
Road	2068	0	0	0
Road	2069	0	0	0
Road	2070	0	0	0
Road	2071	0	0	0
Road	2072	0	0	0
Road	2073	0	1	1
Road	2074	0	0	0
Road	2075	0	0	0
Road	2076	0	0	0
Road	2077	0	0	0
Road	2078	0	0	0
Road	2079	0	0	0
Road	2080	0	0	0
Road	2081	0	0	0
Road	2082	0	1	1
Road	Total	0	4119	4119

TRIP_MATRIX_TOTALS

Annualised total trip numbers(thousands)

Submode	Year	Time period	DO MIN	DO SOM
Car	2023	AM peak	1954	1954
Car	2023	PM peak	2091	2091
Car	2023	Inter-peak	5769	5769
Car	2023	Off-peak	837	837
Car	2023	All	10652	10652
Car	2037	AM peak	2038	2038
Car	2037	PM peak	2152	2152
Car	2037	Inter-peak	6018	6018
Car	2037	Off-peak	875	875
Car	2037	All	11083	11083
LGV Personal	2023	AM peak	35	35
LGV Personal	2023	PM peak	36	36
LGV Personal	2023	Inter-peak	122	122
LGV Personal	2023	Off-peak	18	18
LGV Personal	2023	All	211	211
LGV Personal	2037	AM peak	37	37
LGV Personal	2037	PM peak	37	37
LGV Personal	2037	Inter-peak	127	127
LGV Personal	2037	Off-peak	18	18
LGV Personal	2037	All	220	220
LGV Freight	2023	AM peak	260	260
LGV Freight	2023	PM peak	267	267
LGV Freight	2023	Inter-peak	891	891
LGV Freight	2023	Off-peak	129	129
LGV Freight	2023	All	1548	1548
LGV Freight	2037	AM peak	271	271
LGV Freight	2037	PM peak	275	275
LGV Freight	2037	Inter-peak	930	930
LGV Freight	2037	Off-peak	135	135
LGV Freight	2037	All	1611	1611
OGV1	2023	AM peak	71	71
OGV1	2023	PM peak	46	46
OGV1	2023	Inter-peak	426	426
OGV1	2023	Off-peak	62	62
OGV1	2023	All	605	605
OGV1	2037	AM peak	74	74
OGV1	2037	PM peak	47	47
OGV1	2037	Inter-peak	444	444
OGV1	2037	Off-peak	65	65
OGV1	2037	All	630	630
OGV2	2023	AM peak	44	44

OGV2	2023	PM peak	35	35
OGV2	2023	Inter-peak	224	224
OGV2	2023	Off-peak	33	33
OGV2	2023	All	337	337
OGV2	2037	AM peak	46	46
OGV2	2037	PM peak	36	36
OGV2	2037	Inter-peak	234	234
OGV2	2037	Off-peak	34	34
OGV2	2037	All	351	351
All	2023	AM peak	2366	2366
All	2023	PM peak	2476	2476
All	2023	Inter-peak	7433	7433
All	2023	Off-peak	1078	1078
All	2023	All	13353	13353
All	2037	AM peak	2467	2467
All	2037	PM peak	2548	2548
All	2037	Inter-peak	7753	7753
All	2037	Off-peak	1127	1127
All	2037	All	13895	13895

DM&DS_USER_COSTS

Total value of user costs, DM and DS. E000s.

Mode	Year	DMtot_time	DMtot_charge	DMtot_fuel	DMtot_nonfuel	DStot_time	DStot_charge	DStot_fuel	DStot_nonfuel
Road	2023	503	0	1943	977	134	0	1937	967
Road	2037	484	0	819	630	123	0	814	622

FUEL_CONSUMPTION

Total fuel consumption, DM and DS. kilounits.

Submode	Year	Do minimum			Do something		
		Petrol	Diesel	Electric	Petrol	Diesel	Electric
Car	2023	824	645	318	820	645	318
Car	2037	525	197	2149	520	196	2149
LGV Personal	2023	1	40	1	1	40	1
LGV Personal	2037	0	27	26	0	27	26
LGV Freight	2023	6	294	10	6	295	10
LGV Freight	2037	3	199	193	3	199	193
OGV1	2023	0	204	0	0	202	0
OGV1	2037	0	180	0	0	179	0
OGV2	2023	0	184	0	0	181	0
OGV2	2037	0	141	0	0	139	0
All	2023	831	1366	330	826	1364	330
All	2037	529	745	2368	524	741	2368
Car	Total	29163	12233	125045	28925	12216	125045
LGV Personal	Total	22	1373	2383	21	1374	2383

LGV Freight	Total	159	10070	17470	157	10077	17470
OGV1	Total	0	10537	0	0	10457	0
OGV2	Total	0	8531	0	0	8370	0
All	Total	29344	42745	144898	29104	42495	144898

CO2_EMISSIONS_UNTRADED

Submode	Year	Emissions (tonnes)			cost (E000s, low)			cost (E000s, central)			cost (E000s, high)		
		DM	DS	Increase	DM	DS	Increase	DM	DS	Increase	DM	DS	Increase
Car	2023	3366	3358	-8	220	219	-1	440	439	-1	660	658	-2
Car	2037	1601	1590	-11	80	79	-1	160	159	-1	239	238	-2
LGV Personal	2023	103	103	0	7	7	0	13	13	0	20	20	0
LGV Personal	2037	69	69	-0	3	3	-0	7	7	-0	10	10	-0
LGV Freight	2023	754	756	2	49	49	0	98	99	0	148	148	0
LGV Freight	2037	507	507	-0	25	25	-0	51	51	-0	76	76	-0
OGV1	2023	514	511	-3	34	33	-0	67	67	-0	101	100	-1
OGV1	2037	453	449	-4	23	22	-0	45	45	-0	68	67	-1
OGV2	2023	464	457	-7	30	30	-0	61	60	-1	91	90	-1
OGV2	2037	355	348	-7	18	17	-0	35	35	-1	53	52	-1
All	2023	5201	5185	-16	340	339	-1	679	677	-2	1019	1016	-3
All	2024	5062	5045	-17	324	323	-1	649	646	-2	973	970	-3
All	2025	4891	4873	-18	307	306	-1	615	612	-2	922	919	-3
All	2026	4719	4700	-19	291	290	-1	582	579	-2	873	869	-3
All	2027	4541	4522	-19	275	273	-1	549	547	-2	824	820	-4
All	2028	4362	4342	-20	259	258	-1	517	515	-2	776	773	-4
All	2029	4185	4165	-20	244	242	-1	487	485	-2	731	727	-4
All	2030	3993	3972	-21	228	227	-1	456	453	-2	684	680	-4
All	2031	3811	3790	-21	213	212	-1	427	424	-2	640	637	-3
All	2032	3644	3623	-21	200	199	-1	400	398	-2	600	597	-3
All	2033	3487	3466	-21	188	187	-1	376	373	-2	563	560	-3
All	2034	3342	3321	-21	177	175	-1	353	351	-2	530	526	-3
All	2035	3211	3190	-21	166	165	-1	333	331	-2	499	496	-3
All	2036	3091	3070	-21	157	156	-1	314	312	-2	471	468	-3
All	2037	2985	2963	-21	149	148	-1	298	296	-2	446	443	-3
All	2038	2884	2863	-21	141	140	-1	282	280	-2	423	420	-3
All	2039	2802	2781	-20	134	133	-1	269	267	-2	403	400	-3
All	2040	2729	2709	-20	128	127	-1	257	255	-2	385	382	-3
All	2041	2665	2646	-20	123	122	-1	246	244	-2	369	366	-3
All	2042	2609	2590	-19	118	117	-1	236	234	-2	354	352	-3
All	2043	2561	2542	-19	114	113	-1	227	226	-2	341	338	-3
All	2044	2520	2501	-19	110	109	-1	219	218	-2	329	327	-2
All	2045	2485	2466	-19	106	105	-1	212	210	-2	318	316	-2
All	2046	2449	2430	-19	103	102	-1	205	203	-2	308	305	-2
All	2047	2422	2404	-19	99	99	-1	199	197	-2	298	296	-2
All	2048	2398	2380	-18	97	96	-1	193	192	-1	290	287	-2

All	2049	2376	2358	-18	94	93	-1	188	186	-1	281	279	-2
All	2050	2357	2339	-18	91	91	-1	183	181	-1	274	272	-2
All	2051	2357	2339	-18	90	89	-1	179	178	-1	269	266	-2
All	2052	2357	2339	-18	88	87	-1	176	174	-1	263	261	-2
All	2053	2357	2339	-18	86	85	-1	172	171	-1	258	256	-2
All	2054	2357	2339	-18	85	84	-1	170	168	-1	254	253	-2
All	2055	2357	2339	-18	84	83	-1	167	166	-1	251	249	-2
All	2056	2357	2339	-18	82	82	-1	165	163	-1	247	245	-2
All	2057	2357	2339	-18	81	81	-1	162	161	-1	244	242	-2
All	2058	2357	2339	-18	80	79	-1	160	159	-1	240	238	-2
All	2059	2357	2339	-18	79	78	-1	158	156	-1	236	235	-2
All	2060	2357	2339	-18	78	77	-1	155	154	-1	233	231	-2
All	2061	2357	2339	-18	77	76	-1	153	152	-1	230	228	-2
All	2062	2357	2339	-18	75	75	-1	151	150	-1	226	225	-2
All	2063	2357	2339	-18	74	74	-1	149	148	-1	223	221	-2
All	2064	2357	2339	-18	73	73	-1	147	145	-1	220	218	-2
All	2065	2357	2339	-18	72	72	-1	144	143	-1	217	215	-2
All	2066	2357	2339	-18	71	71	-1	142	141	-1	213	212	-2
All	2067	2357	2339	-18	70	70	-1	140	139	-1	210	209	-2
All	2068	2357	2339	-18	69	69	-1	138	137	-1	207	206	-2
All	2069	2357	2339	-18	68	68	-1	136	135	-1	204	203	-2
All	2070	2357	2339	-18	67	67	-1	134	133	-1	201	200	-2
All	2071	2357	2339	-18	66	66	-1	132	131	-1	198	197	-2
All	2072	2357	2339	-18	65	65	-1	130	129	-1	195	194	-2
All	2073	2357	2339	-18	64	64	-0	128	127	-1	193	191	-1
All	2074	2357	2339	-18	63	63	-0	127	126	-1	190	188	-1
All	2075	2357	2339	-18	62	62	-0	125	124	-1	187	186	-1
All	2076	2357	2339	-18	61	61	-0	123	122	-1	184	183	-1
All	2077	2357	2339	-18	61	60	-0	121	120	-1	182	180	-1
All	2078	2357	2339	-18	60	59	-0	119	118	-1	179	178	-1
All	2079	2357	2339	-18	59	58	-0	118	117	-1	176	175	-1
All	2080	2357	2339	-18	58	57	-0	116	115	-1	174	172	-1
All	2081	2357	2339	-18	57	57	-0	114	113	-1	171	170	-1
All	2082	2357	2339	-18	56	56	-0	113	112	-1	169	167	-1
Car	Total	92254	91711	-543	4039	4017	-22	8078	8034	-44	12117	12050	-67
LGV Personal	Total	3493	3495	2	152	152	0	304	305	0	456	457	0
LGV Freight	Total	25614	25628	14	1116	1116	1	2231	2233	2	3347	3349	3
OGV1	Total	26446	26244	-202	1073	1065	-8	2147	2131	-16	3220	3196	-24
OGV2	Total	21411	21008	-404	877	860	-16	1753	1721	-33	2630	2581	-49
All	Total	169219	168086	-1133	7257	7211	-46	14514	14423	-91	21771	21634	-137

CO2_EMISSIONS_TRADED

Submode	Year	Emissions (tonnes)			cost (£000s, low)			cost (£000s, central)			cost (£000s, high)		
		DM	DS	Increase	DM	DS	Increase	DM	DS	Increase	DM	DS	Increase

Car	2023	81	81	0	5	5	0	11	11	0	16	16	0
Car	2037	63	63	0	3	3	0	6	6	0	9	9	0
LGV Personal	2023	0	0	0	0	0	0	0	0	0	0	0	0
LGV Personal	2037	1	1	0	0	0	0	0	0	0	0	0	0
LGV Freight	2023	3	3	0	0	0	0	0	0	0	1	1	0
LGV Freight	2037	6	6	0	0	0	0	1	1	0	1	1	0
OGV1	2023	0	0	0	0	0	0	0	0	0	0	0	0
OGV1	2037	0	0	0	0	0	0	0	0	0	0	0	0
OGV2	2023	0	0	0	0	0	0	0	0	0	0	0	0
OGV2	2037	0	0	0	0	0	0	0	0	0	0	0	0
All	2023	84	84	0	5	5	0	11	11	0	16	16	0
All	2024	111	111	0	7	7	0	14	14	0	21	21	0
All	2025	138	138	0	9	9	0	17	17	0	26	26	0
All	2026	161	161	0	10	10	0	20	20	0	30	30	0
All	2027	179	179	0	11	11	0	22	22	0	32	32	0
All	2028	190	190	0	11	11	0	23	23	0	34	34	0
All	2029	193	193	0	11	11	0	22	22	0	34	34	0
All	2030	187	187	0	11	11	0	21	21	0	32	32	0
All	2031	168	168	0	9	9	0	19	19	0	28	28	0
All	2032	149	149	0	8	8	0	16	16	0	24	24	0
All	2033	130	130	0	7	7	0	14	14	0	21	21	0
All	2034	113	113	0	6	6	0	12	12	0	18	18	0
All	2035	97	97	0	5	5	0	10	10	0	15	15	0
All	2036	82	82	0	4	4	0	8	8	0	13	13	0
All	2037	70	70	0	3	3	0	7	7	0	10	10	0
All	2038	58	58	0	3	3	0	6	6	0	9	9	0
All	2039	48	48	0	2	2	0	5	5	0	7	7	0
All	2040	40	40	0	2	2	0	4	4	0	6	6	0
All	2041	34	34	0	2	2	0	3	3	0	5	5	0
All	2042	33	33	0	1	1	0	3	3	0	4	4	0
All	2043	32	32	0	1	1	0	3	3	0	4	4	0
All	2044	31	31	0	1	1	0	3	3	0	4	4	0
All	2045	26	26	0	1	1	0	2	2	0	3	3	0
All	2046	24	24	0	1	1	0	2	2	0	3	3	0
All	2047	22	22	0	1	1	0	2	2	0	3	3	0
All	2048	21	21	0	1	1	0	2	2	0	3	3	0
All	2049	20	20	0	1	1	0	2	2	0	2	2	0
All	2050	19	19	0	1	1	0	2	2	0	2	2	0
All	2051	19	19	0	1	1	0	1	1	0	2	2	0
All	2052	19	19	0	1	1	0	1	1	0	2	2	0
All	2053	19	19	0	1	1	0	1	1	0	2	2	0
All	2054	19	19	0	1	1	0	1	1	0	2	2	0
All	2055	19	19	0	1	1	0	1	1	0	2	2	0
All	2056	19	19	0	1	1	0	1	1	0	2	2	0

All	2057	19	19	0	1	1	0	1	1	0	2	2	0
All	2058	19	19	0	1	1	0	1	1	0	2	2	0
All	2059	19	19	0	1	1	0	1	1	0	2	2	0
All	2060	19	19	0	1	1	0	1	1	0	2	2	0
All	2061	19	19	0	1	1	0	1	1	0	2	2	0
All	2062	19	19	0	1	1	0	1	1	0	2	2	0
All	2063	19	19	0	1	1	0	1	1	0	2	2	0
All	2064	19	19	0	1	1	0	1	1	0	2	2	0
All	2065	19	19	0	1	1	0	1	1	0	2	2	0
All	2066	19	19	0	1	1	0	1	1	0	2	2	0
All	2067	19	19	0	1	1	0	1	1	0	2	2	0
All	2068	19	19	0	1	1	0	1	1	0	2	2	0
All	2069	19	19	0	1	1	0	1	1	0	2	2	0
All	2070	19	19	0	1	1	0	1	1	0	2	2	0
All	2071	19	19	0	1	1	0	1	1	0	2	2	0
All	2072	19	19	0	1	1	0	1	1	0	2	2	0
All	2073	19	19	0	1	1	0	1	1	0	2	2	0
All	2074	19	19	0	1	1	0	1	1	0	2	2	0
All	2075	19	19	0	1	1	0	1	1	0	2	2	0
All	2076	19	19	0	1	1	0	1	1	0	2	2	0
All	2077	19	19	0	0	0	0	1	1	0	1	1	0
All	2078	19	19	0	0	0	0	1	1	0	1	1	0
All	2079	19	19	0	0	0	0	1	1	0	1	1	0
All	2080	19	19	0	0	0	0	1	1	0	1	1	0
All	2081	19	19	0	0	0	0	1	1	0	1	1	0
All	2082	19	19	0	0	0	0	1	1	0	1	1	0
Car	Total	2853	2853	0	146	146	0	292	292	0	438	438	0
LGV Personal	Total	27	27	0	1	1	0	2	2	0	3	3	0
LGV Freight	Total	201	201	0	9	9	0	17	17	0	26	26	0
OGV1	Total	0	0	0	0	0	0	0	0	0	0	0	0
OGV2	Total	0	0	0	0	0	0	0	0	0	0	0	0
All	Total	3082	3082	0	156	156	0	311	311	0	467	467	0

CO2_EMISSIONS_BY_TIME_PERIOD_UNTRADED

Submode	Year	Emissions (tonnes)			cost (£000s, low)			cost (£000s, central)			cost (£000s, high)		
		DM	DS	Increase	DM	DS	Increase	DM	DS	Increase	DM	DS	Increase
AM peak	2023	881	881	0	58	58	0	115	115	0	173	173	0
AM peak	2037	488	488	0	24	24	0	49	49	0	73	73	0
PM peak	2023	910	894	-16	59	58	-1	119	117	-2	178	175	-3
PM peak	2037	498	477	-21	25	24	-1	50	48	-2	74	71	-3
Inter-peak	2023	2978	2978	0	194	194	0	389	389	0	583	583	0
Inter-peak	2037	1745	1745	0	87	87	0	174	174	0	261	261	0
Off-peak	2023	432	432	0	28	28	0	56	56	0	85	85	0
Off-peak	2037	254	254	0	13	13	0	25	25	0	38	38	0

AM peak	Total	27626	27626	0	1191	1191	0	2382	2382	0	3573	3573	0
PM peak	Total	28112	26979	-1133	1215	1169	-46	2429	2338	-91	3644	3507	-137
Inter-peak	Total	99081	99081	0	4236	4236	0	8472	8472	0	12708	12708	0
Off-peak	Total	14400	14400	0	616	616	0	1231	1231	0	1847	1847	0

NOTE: The cost of any UK Allowances (UKAs) purchased to cover traded emissions (i.e. emissions from sectors covered by the UK Emissions Trading System) will be reflected in the purchase price of traded sector goods (such as electricity). Since the purchase price is used in the costs, considered in transport appraisal, the cost of the relevant UKAs will be included in the cost benefit analysis, "internalising" the costs of emissions from traded sectors.

The CO2 EMISSIONS BY TIME PERIOD TRADED reported in the table below are therefore provided for information purposes only - they are not included in the Economic Efficiency of the Transport System (TEE) table.

For further information, please refer to TAG Unit A-3 para. 4.1.5 and 4.2.9

CO2_EMISSIONS_BY_TIME_PERIOD_TRADED

Submode	Year	Emissions (tonnes)			cost (£000s, low)			cost (£000s, central)			cost (£000s, high)		
		DM	DS	Increase	DM	DS	Increase	DM	DS	Increase	DM	DS	Increase
AM peak	2023	15	15	0	1	1	0	2	2	0	3	3	0
AM peak	2037	13	13	0	1	1	0	1	1	0	2	2	0
PM peak	2023	16	16	0	1	1	0	2	2	0	3	3	0
PM peak	2037	13	13	0	1	1	0	1	1	0	2	2	0
Inter-peak	2023	46	46	0	3	3	0	6	6	0	9	9	0
Inter-peak	2037	38	38	0	2	2	0	4	4	0	6	6	0
Off-peak	2023	7	7	0	0	0	0	1	1	0	1	1	0
Off-peak	2037	6	6	0	0	0	0	1	1	0	1	1	0
AM peak	Total	563	563	0	28	28	0	57	57	0	85	85	0
PM peak	Total	595	595	0	30	30	0	60	60	0	90	90	0
Inter-peak	Total	1680	1680	0	85	85	0	169	169	0	254	254	0
Off-peak	Total	244	244	0	12	12	0	25	25	0	37	37	0

MODE

User benefits and changes in revenues by mode, all years. £000s.

Mode	Year	User	User_Charges	Vehicle_Operating_Cost		Operator_Rev	Indirect
		Time	PT_fares_(pri	Fuel	Non_fuel	PT_fares_(pri	Taxes
Road	2023	370	0	6	10	0	-3
Road	2024	370	0	6	10	0	-3
Road	2025	370	0	6	10	0	-3
Road	2026	370	0	6	9	0	-3
Road	2027	370	0	6	9	0	-3
Road	2028	369	0	6	9	0	-3
Road	2029	369	0	6	9	0	-3
Road	2030	368	0	6	9	0	-3
Road	2031	367	0	6	9	0	-3
Road	2032	366	0	5	9	0	-2
Road	2033	366	0	5	8	0	-2
Road	2034	364	0	5	8	0	-2

Road	2035	363	0	5	8	0	-2
Road	2036	362	0	5	8	0	-2
Road	2037	361	0	5	8	0	-2
Road	2038	354	0	5	8	0	-2
Road	2039	347	0	4	7	0	-2
Road	2040	340	0	4	7	0	-2
Road	2041	334	0	4	7	0	-2
Road	2042	327	0	4	7	0	-2
Road	2043	321	0	3	6	0	-2
Road	2044	315	0	3	6	0	-1
Road	2045	309	0	3	6	0	-1
Road	2046	303	0	3	6	0	-1
Road	2047	297	0	3	6	0	-1
Road	2048	291	0	3	5	0	-1
Road	2049	285	0	3	5	0	-1
Road	2050	280	0	3	5	0	-1
Road	2051	275	0	3	5	0	-1
Road	2052	269	0	2	5	0	-1
Road	2053	264	0	2	5	0	-1
Road	2054	260	0	2	4	0	-1
Road	2055	256	0	2	4	0	-1
Road	2056	253	0	2	4	0	-1
Road	2057	249	0	2	4	0	-1
Road	2058	245	0	2	4	0	-1
Road	2059	242	0	2	4	0	-1
Road	2060	238	0	2	4	0	-1
Road	2061	235	0	2	4	0	-1
Road	2062	231	0	2	3	0	-1
Road	2063	228	0	2	3	0	-1
Road	2064	225	0	2	3	0	-1
Road	2065	221	0	2	3	0	-1
Road	2066	218	0	2	3	0	-1
Road	2067	215	0	2	3	0	-1
Road	2068	212	0	1	3	0	-1
Road	2069	209	0	1	3	0	-1
Road	2070	206	0	1	3	0	-1
Road	2071	203	0	1	3	0	-1
Road	2072	200	0	1	3	0	-1
Road	2073	197	0	1	3	0	-1
Road	2074	194	0	1	2	0	-0
Road	2075	191	0	1	2	0	-0
Road	2076	188	0	1	2	0	-0
Road	2077	186	0	1	2	0	-0
Road	2078	183	0	1	2	0	-0

Road	2079	180	0	1	2	0	-0
Road	2080	178	0	1	2	0	-0
Road	2081	175	0	1	2	0	-0
Road	2082	173	0	1	2	0	-0
Road	Total	16605	0	179	316	0	-78

SUBMODE

User benefits and changes in revenues by submode/vehicle type, modelled years and total. £000s.

Submode	Year	User	User_Charges	Fuel	Vehicle_Operating_Cost	Operator_Rev	Indirect
		Time	PT_fares_(pri		Non_fuel	PT_fares_(pri	Taxes
Car	2023	286	0	3	2	0	-1
Car	2037	279	0	3	2	0	-1
LGV Personal	2023	4	0	-0	0	0	0
LGV Personal	2037	4	0	0	0	0	-0
LGV Freight	2023	60	0	-1	2	0	0
LGV Freight	2037	59	0	0	2	0	-0
OGV1	2023	12	0	1	2	0	-0
OGV1	2037	11	0	1	2	0	-0
OGV2	2023	8	0	2	3	0	-1
OGV2	2037	8	0	1	3	0	-1
All	2023	370	0	6	10	0	-3
All	2037	361	0	5	8	0	-2
Car	Total	12833	0	95	78	0	-42
LGV Personal	Total	163	0	-1	0	0	0
LGV Freight	Total	2711	0	-4	65	0	2
OGV1	Total	523	0	29	73	0	-12
OGV2	Total	375	0	59	100	0	-26
All	Total	16605	0	179	316	0	-78

PERSON_TYPES

User benefits and changes in revenues by person type, modelled years and total. £000s.

Person_type	Year	User	User_Charges	Fuel	Vehicle_Operating_Cost	Operator_Rev	Indirect
		Time	PT_fares_(pri		Non_fuel	PT_fares_(pri	Taxes
All	2023	370	0	6	10	0	-3
All	2037	361	0	5	8	0	-2
All	Total	16605	0	179	316	0	-78

PURPOSE

User benefits and changes in revenues by trip purpose, modelled years and total. £000s.

Purpose	Year	User	User_Charges	Fuel	Vehicle_Operating_Cost	Operator_Rev	Indirect
		Time	PT_fares_(pri		Non_fuel	PT_fares_(pri	Taxes
Business	2023	96	0	3	10	0	-1
Business	2037	94	0	2	8	0	-1
Commuting	2023	112	0	1	0	0	-0

Commuting	2037	110	0	1	0	0	-0
Other	2023	162	0	2	0	0	-1
Other	2037	157	0	2	0	0	-1
Business	Total	4315	0	89	316	0	-38
Commuting	Total	5078	0	31	0	0	-14
Other	Total	7213	0	59	0	0	-26

PERIOD

User benefits and changes in revenues by time period, modelled years and total. £000s.

Period	Year	User	User_Charges	Vehicle_Operating_Cost		Operator_Rev	Indirect
		Time	PT_fares_(pri	Fuel	Non_fuel	PT_fares_(pri	Taxes
AM peak	2023	31	0	0	1	0	0
AM peak	2037	41	0	0	1	0	0
PM peak	2023	318	0	6	8	0	-3
PM peak	2037	301	0	5	6	0	-2
Inter-peak	2023	21	0	0	1	0	0
Inter-peak	2037	18	0	0	1	0	0
Off-peak	2023	1	0	0	0	0	0
Off-peak	2037	0	0	0	0	0	0
AM peak	Total	1819	0	0	41	0	0
PM peak	Total	13904	0	179	245	0	-78
Inter-peak	Total	861	0	0	29	0	0
Off-peak	Total	21	0	0	1	0	0

NON MONETISED TIME BENEFITS BY TIME SAVING

Time benefits (thousands of person hrs) by size of time saving

Vehicle type	Purpose	Year	< -5 mins	-5 to -2 mins	-2 to 0 mins	0 to 2 mins	2 to 5 mins	> 5 mins
Car	Business	2023	0	0	-0	1	2	0
Car	Business	2037	0	0	-0	1	0	3
Car	Business	Total	0	0	-0	53	16	135
Car	Commuting	2023	0	0	-0	3	13	0
Car	Commuting	2037	0	0	-0	4	0	16
Car	Commuting	Total	0	0	-1	252	100	850
Car	Other	2023	0	0	-0	9	40	0
Car	Other	2037	0	0	-0	14	0	49
Car	Other	Total	0	0	-4	800	300	2552
LGV Personal	Business	2023	0	0	0	0	0	0
LGV Personal	Business	2037	0	0	0	0	0	0
LGV Personal	Business	Total	0	0	0	0	0	0
LGV Personal	Commuting	2023	0	0	0	0	0	0
LGV Personal	Commuting	2037	0	0	0	0	0	0
LGV Personal	Commuting	Total	0	0	0	0	0	0
LGV Personal	Other	2023	0	0	-0	0	1	0
LGV Personal	Other	2037	0	0	-0	0	0	1

LGV Personal Other	Total		0	0	-0	20	7	58
LGV Freight Business	2023		0	0	-0	1	5	0
LGV Freight Business	2037		0	0	-0	2	0	7
LGV Freight Business	Total		0	0	-1	118	41	350
LGV Freight Commuting	2023		0	0	0	0	0	0
LGV Freight Commuting	2037		0	0	0	0	0	0
LGV Freight Commuting	Total		0	0	0	0	0	0
LGV Freight Other	2023		0	0	0	0	0	0
LGV Freight Other	2037		0	0	0	0	0	0
LGV Freight Other	Total		0	0	0	0	0	0
OGV1 Business	2023		0	0	-0	0	1	0
OGV1 Business	2037		0	0	-0	1	0	1
OGV1 Business	Total		0	0	-0	29	6	50
OGV1 Commuting	2023		0	0	0	0	0	0
OGV1 Commuting	2037		0	0	0	0	0	0
OGV1 Commuting	Total		0	0	0	0	0	0
OGV1 Other	2023		0	0	0	0	0	0
OGV1 Other	2037		0	0	0	0	0	0
OGV1 Other	Total		0	0	0	0	0	0
OGV2 Business	2023		0	0	-0	0	1	0
OGV2 Business	2037		0	0	-0	0	0	1
OGV2 Business	Total		0	0	-0	18	5	39
OGV2 Commuting	2023		0	0	0	0	0	0
OGV2 Commuting	2037		0	0	0	0	0	0
OGV2 Commuting	Total		0	0	0	0	0	0
OGV2 Other	2023		0	0	0	0	0	0
OGV2 Other	2037		0	0	0	0	0	0
OGV2 Other	Total		0	0	0	0	0	0

MONETISED TIME BENEFITS BY TIME SAVING

Time benefits (£000s) by size of time saving

Vehicle type	Purpose	Year	< -5 mins	-5 to -2 mins	-2 to 0 mins	0 to 2 mins	2 to 5 mins	> 5 mins
Car	Business	2023	0	0	-0	3	12	0
Car	Business	2037	0	0	-0	4	0	11
Car	Business	Total	0	0	-1	183	84	439
Car	Commuting	2023	0	0	-0	18	94	0
Car	Commuting	2037	0	0	-0	24	0	87
Car	Commuting	Total	0	0	-6	1052	649	3382
Car	Other	2023	0	0	-0	29	129	0
Car	Other	2037	0	0	-0	34	0	119
Car	Other	Total	0	0	-8	1531	890	4636
LGV Personal Business	2023		0	0	0	0	0	0
LGV Personal Business	2037		0	0	0	0	0	0
LGV Personal Business	Total		0	0	0	0	0	0

LGV Personal	Commuting	2023	0	0	0	0	0	0
LGV Personal	Commuting	2037	0	0	0	0	0	0
LGV Personal	Commuting	Total	0	0	0	0	0	0
LGV Personal	Other	2023	0	0	-0	1	3	0
LGV Personal	Other	2037	0	0	-0	1	0	3
LGV Personal	Other	Total	0	0	-0	37	20	106
LGV Freight	Business	2023	0	0	-0	12	49	0
LGV Freight	Business	2037	0	0	-0	14	0	45
LGV Freight	Business	Total	0	0	-3	623	337	1755
LGV Freight	Commuting	2023	0	0	0	0	0	0
LGV Freight	Commuting	2037	0	0	0	0	0	0
LGV Freight	Commuting	Total	0	0	0	0	0	0
LGV Freight	Other	2023	0	0	0	0	0	0
LGV Freight	Other	2037	0	0	0	0	0	0
LGV Freight	Other	Total	0	0	0	0	0	0
OGV1	Business	2023	0	0	-0	4	8	0
OGV1	Business	2037	0	0	-0	4	0	7
OGV1	Business	Total	0	0	-1	179	56	289
OGV1	Commuting	2023	0	0	0	0	0	0
OGV1	Commuting	2037	0	0	0	0	0	0
OGV1	Commuting	Total	0	0	0	0	0	0
OGV1	Other	2023	0	0	0	0	0	0
OGV1	Other	2037	0	0	0	0	0	0
OGV1	Other	Total	0	0	0	0	0	0
OGV2	Business	2023	0	0	-0	2	6	0
OGV2	Business	2037	0	0	-0	2	0	6
OGV2	Business	Total	0	0	-0	109	43	224
OGV2	Commuting	2023	0	0	0	0	0	0
OGV2	Commuting	2037	0	0	0	0	0	0
OGV2	Commuting	Total	0	0	0	0	0	0
OGV2	Other	2023	0	0	0	0	0	0
OGV2	Other	2037	0	0	0	0	0	0
OGV2	Other	Total	0	0	0	0	0	0

TOTAL BENEFITS BY TIME SAVING

Total benefits (£000s) by size of time saving

Vehicle type	Purpose	Year	< -5 mins	-5 to -2 mins	-2 to 0 mins	0 to 2 mins	2 to 5 mins	> 5 mins
Car	Business	2023	0	0	-0	4	14	0
Car	Business	2037	0	0	-0	5	0	13
Car	Business	Total	0	0	-1	203	98	488
Car	Commuting	2023	0	0	-0	18	95	0
Car	Commuting	2037	0	0	-0	24	0	88
Car	Commuting	Total	0	0	-6	1052	655	3407
Car	Other	2023	0	0	-0	29	131	0

Car	Other	2037	0	0	-0	34	0	121
Car	Other	Total	0	0	-8	1531	902	4684
LGV Personal Business		2023	0	0	0	0	0	0
LGV Personal Business		2037	0	0	0	0	0	0
LGV Personal Business		Total	0	0	0	0	0	0
LGV Personal Commuting		2023	0	0	0	0	0	0
LGV Personal Commuting		2037	0	0	0	0	0	0
LGV Personal Commuting		Total	0	0	0	0	0	0
LGV Personal Other		2023	0	0	-0	1	3	0
LGV Personal Other		2037	0	0	-0	1	0	3
LGV Personal Other		Total	0	0	-0	37	20	106
LGV Freight Business		2023	0	0	-0	12	50	0
LGV Freight Business		2037	0	0	-0	14	0	46
LGV Freight Business		Total	0	0	-3	637	344	1794
LGV Freight Commuting		2023	0	0	0	0	0	0
LGV Freight Commuting		2037	0	0	0	0	0	0
LGV Freight Commuting		Total	0	0	0	0	0	0
LGV Freight Other		2023	0	0	0	0	0	0
LGV Freight Other		2037	0	0	0	0	0	0
LGV Freight Other		Total	0	0	0	0	0	0
OGV1 Business		2023	0	0	-0	4	11	0
OGV1 Business		2037	0	0	-0	5	0	9
OGV1 Business		Total	0	0	-1	204	72	350
OGV1 Commuting		2023	0	0	0	0	0	0
OGV1 Commuting		2037	0	0	0	0	0	0
OGV1 Commuting		Total	0	0	0	0	0	0
OGV1 Other		2023	0	0	0	0	0	0
OGV1 Other		2037	0	0	0	0	0	0
OGV1 Other		Total	0	0	0	0	0	0
OGV2 Business		2023	0	0	-0	3	11	0
OGV2 Business		2037	0	0	-0	3	0	9
OGV2 Business		Total	0	0	-1	138	73	325
OGV2 Commuting		2023	0	0	0	0	0	0
OGV2 Commuting		2037	0	0	0	0	0	0
OGV2 Commuting		Total	0	0	0	0	0	0
OGV2 Other		2023	0	0	0	0	0	0
OGV2 Other		2037	0	0	0	0	0	0
OGV2 Other		Total	0	0	0	0	0	0

NON MONETISED TIME BENEFITS BY DISTANCE

Time benefits (thousands of person hrs) by distance

Vehicle type	Purpose	Year	< 1 kms	1 to 5 kms	5 to 10 kms	10 to 25 kms	25 to 50 kms	50 to 100 kms	100 to 200 kms	>200 kms
Car	Business	2023	0	3	0	0	0	0	0	0
Car	Business	2037	0	3	0	0	0	0	0	0

OGV2	Business	2023	0	14	0	0	0	0	0	0
OGV2	Business	2037	0	12	0	0	0	0	0	0
OGV2	Business	Total	0	534	0	0	0	0	0	0
OGV2	Commuting	2023	0	0	0	0	0	0	0	0
OGV2	Commuting	2037	0	0	0	0	0	0	0	0
OGV2	Commuting	Total	0	0	0	0	0	0	0	0
OGV2	Other	2023	0	0	0	0	0	0	0	0
OGV2	Other	2037	0	0	0	0	0	0	0	0
OGV2	Other	Total	0	0	0	0	0	0	0	0

SENSITIVITY

Total user benefits as a percentage of total DM user costs

Modelled Years		
Mode	2023	2037
Road	11.27%	19.32%

Economy: Economic Efficiency of the Transport System (TEE)

Consumer - Commuting user benefits	All Modes	Road
Travel Time	5078	5078
Vehicle operating costs	31	31
User charges	0	0
During Construction & Maintenance	0	0
NET CONSUMER - COMMUTING BENEFITS	5109	5109

Consumer - Other user benefits	All Modes	Road
Travel Time	7213	7213
Vehicle operating costs	59	59
User charges	0	0
During Construction & Maintenance	0	0
NET CONSUMER - OTHER BENEFITS	7271	7271

Business	All Modes	Road Personal	Road Freight
Travel Time	4315	706	3609
Vehicle operating costs	405	83	322
User charges	0	0	0
During Construction & Maintenance	0	0	0
Subtotal	4720	788	3931

Private Sector Provider Impacts

Revenue	0	0
Operating costs	0	0
Investment costs	0	0
Grant/subsidy	0	0

Subtotal	0	0
----------	---	---

Other business Impacts

Developer contributions	-26	-26
NET BUSINESS IMPACT	4694	

TOTAL

Present Value of Transport Economic

Efficiency Benefits (TEE)	17074	
---------------------------	-------	--

Note: Benefits appear as positive numbers, while costs appear as negative numbers.

Note: All entries are present values discounted to 2010, in 2010 prices

Public Accounts

Local Government Funding	ALL MODES	Road
Revenue	0	0
Operating Costs	52	52
Investment Costs	1376	1376
Developer Contributions	-26	-26
Grant/Subsidy Payments	0	0
NET IMPACT	1402	1402

Central Government Funding: Transport	ALL MODES	Road
Revenue	0	0
Operating costs	0	0
Investment costs	2692	2692
Developer Contributions	0	0
Grant/Subsidy Payments	0	0
NET IMPACT	2692	2692

Central Government Funding: Non-Transport

Indirect Tax Revenues	78	78
-----------------------	----	----

TOTALS

Broad Transport Budget	4093	4093
Wider Public Finances	78	78

Note: Costs appear as positive numbers, while revenues and developer contributions appear as negative numbers.

Note: All entries are present values discounted to 2010, in 2010 prices

Analysis of Monetised Costs and Benefits

Greenhouse Gases 91

Economic Efficiency: Consumer Users (Commuting)	5109
Economic Efficiency: Consumer Users (Other)	7271
Economic Efficiency: Business Users and Providers	4694
Wider Public Finances (Indirect Taxation Revenues)	-78
Present Value of Benefits (PVB)	17087

Broad Transport Budget	4093
Present Value of Costs (PVC)	4093

OVERALL IMPACTS

Net Present Value (NPV)	12994
Benefit to Cost Ratio (BCR)	4.175

Note: This table includes costs and benefits which are regularly or occasionally presented in monetised form in transport appraisals, together with some where monetisation is in prospect. There may also be other significant costs and benefits, some of which cannot be presented in monetised form. Where this is the case, the analysis presented above does NOT provide a good measure of value for money and should not be used as the sole basis for decisions.

TUBA Run Information

- calculations completed

File Summary

* Run Name : TUBA-6_Lowdham_FBC_OB_20_Perc_V3

* Scheme File : L:\60625845_A614 MRN DfT responses\2023_Draft_FBC\TUBA\MasterFile - 6_Lowdham_Draft_FBC_OB_20_Percent_V3.txt

* Economic File : L:\60625845_A614 MRN DfT responses\2023_Draft_FBC\TUBA\Economics_TAG_db1_20_2.txt

* Output File : L:\60625845_A614 MRN DfT responses\2023_Draft_FBC\TUBA\Lowdham\FBC_OB_V3.OUT

* Log File : L:\60625845_A614 MRN DfT responses\2023_Draft_FBC\TUBA\Lowdham\FBC_OB_V3.log

* User ID : philip.g.jones

* Computer ID : UKDBYLFHQB1T3

Elapsed time : 0hrs 0mins 1secs

Appendix J Kirk Hill TUBA – OB

SCHEME SPECIFIC PARAMETERS

PARAMETERS

TUBA_version 1.9.17
run_name TUBA-7_Kirk Hill_15OB_V3
do_min_name DM
do_som_name DS

first_yr 2023
horizon_yr 2082
modelled_yrs 2023 2037
detail Yes
current_yr 2023
print_warn 20
P&R_car_speed 65.0
zones_as_sectors No

TIME_SLICES

*no.	duration(min)	annualisation	period	description
1	60	648	1	peak hour am 08:00-09:00
2	60	667	2	peak hour pm 17:00-18:00
3	60	2997	3	peak hour ip 10:00-16:00
4	60	4438	4	off peak hour

SCHEMES_DM

*Mode 1st Construction year Opening_yr Stage

DO_MIN_COSTS

*Type Mode Funding Cost Price RPI

DO_MIN_PROFILE

*Year Mode %Const %Land %Prep %Super %Maint %Op %Grant %Dev

DO_MIN_DELAY_COSTS

*Year Mode Business Commuting Other Freight

SCHEMES_DS

*Mode 1st Construction year Opening_yr Stage

1 2023 2026 SI

DO_SOM_COSTS

*Type	Mode	Funding	Cost	Price	RPI				
M	1		LOC	803.31	F	123.41	1.00		
P	1		CEN	406.99	F	133.39	1.00		
C	1		CEN	5864.42	F	133.39	1.00		
L	1		CEN	54.59	F	133.39	1.00		
S	1		CEN	53.47	F	133.39	1.00		
P	1		LOC	75.18	F	133.39	1.00		
C	1		LOC	1171.51	F	133.39	1.00		
L	1		LOC	5.73	F	133.39	1.00		
S	1		LOC	10.69	F	133.39	1.00		
D	1		LOC	299.29	F	133.39	1.00		

DO_SOM_PROFILE

*Year	Mode	%Const	%Land	%Prep	%Super	%Maint	%Op	%Grant	%Dev
2023	1	0.7	100.0	34.7	0.0	0.0	0.0	0.0	100.0
2024	1	59.6	0.0	45.0	60.0	0.0	0.0	0.0	0.0
2025	1	39.7	0.0	20.3	40.0	0.0	0.0	0.0	0.0
2026	1	0	0	0	0	0.315	0	0	0
2027	1	0	0	0	0	0.209	0	0	0
2028	1	0	0	0	0	1.428	0	0	0
2029	1	0	0	0	0	0.209	0	0	0
2030	1	0	0	0	0	0.209	0	0	0
2031	1	0	0	0	0	0.209	0	0	0
2032	1	0	0	0	0	0.209	0	0	0
2033	1	0	0	0	0	5.292	0	0	0
2034	1	0	0	0	0	0.209	0	0	0
2035	1	0	0	0	0	0.209	0	0	0
2036	1	0	0	0	0	0.209	0	0	0
2037	1	0	0	0	0	0.209	0	0	0
2038	1	0	0	0	0	1.428	0	0	0
2039	1	0	0	0	0	0.209	0	0	0
2040	1	0	0	0	0	0.209	0	0	0
2041	1	0	0	0	0	0.209	0	0	0
2042	1	0	0	0	0	0.209	0	0	0
2043	1	0	0	0	0	18.532	0	0	0
2044	1	0	0	0	0	0.209	0	0	0
2045	1	0	0	0	0	0.209	0	0	0
2046	1	0	0	0	0	0.209	0	0	0
2047	1	0	0	0	0	0.209	0	0	0
2048	1	0	0	0	0	3.668	0	0	0
2049	1	0	0	0	0	0.209	0	0	0
2050	1	0	0	0	0	0.209	0	0	0
2051	1	0	0	0	0	0.209	0	0	0
2052	1	0	0	0	0	0.209	0	0	0

2053	1	0	0	0	0	5.292	0	0	0
2054	1	0	0	0	0	0.209	0	0	0
2055	1	0	0	0	0	0.209	0	0	0
2056	1	0	0	0	0	0.209	0	0	0
2057	1	0	0	0	0	0.209	0	0	0
2058	1	0	0	0	0	1.428	0	0	0
2059	1	0	0	0	0	0.209	0	0	0
2060	1	0	0	0	0	0.209	0	0	0
2061	1	0	0	0	0	0.209	0	0	0
2062	1	0	0	0	0	0.209	0	0	0
2063	1	0	0	0	0	40.266	0	0	0
2064	1	0	0	0	0	0.209	0	0	0
2065	1	0	0	0	0	0.209	0	0	0
2066	1	0	0	0	0	0.209	0	0	0
2067	1	0	0	0	0	0.209	0	0	0
2068	1	0	0	0	0	1.428	0	0	0
2069	1	0	0	0	0	0.209	0	0	0
2070	1	0	0	0	0	0.209	0	0	0
2071	1	0	0	0	0	0.209	0	0	0
2072	1	0	0	0	0	0.209	0	0	0
2073	1	0	0	0	0	9.773	0	0	0
2074	1	0	0	0	0	0.209	0	0	0
2075	1	0	0	0	0	0.209	0	0	0
2076	1	0	0	0	0	0.209	0	0	0
2077	1	0	0	0	0	0.21	0	0	0
2078	1	0	0	0	0	1.428	0	0	0
2079	1	0	0	0	0	0.21	0	0	0
2080	1	0	0	0	0	0.21	0	0	0
2081	1	0	0	0	0	0.21	0	0	0
2082	1	0	0	0	0	0.522	0	0	0

DO_SOM_DELAY_COSTS

*Year Mode Business Commuting Other Freight

BENEFIT_CHANGE

*% change p.a.

*Start_yr End_yr Submode ChangePer1 ChangePer2 ChangePer3 ChangePer4 ChangePer5

USER_CLASSES

*no. Veh/submode purpose person_type

1 1 1 0

2	1	2	0
3	1	3	0
4	2	3	0
5	3	1	0
6	4	1	0
7	5	1	0

INPUT_MATRICES

*no.	userclasses	timeslice	type	format	scenario	year	factor	filename
1	1	1	V	1	0	2023	0.05903	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\V_A614_Kirk_Hill_H_AM_2023_DM.txt
2	2	1	V	1	0	2023	0.32523	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\V_A614_Kirk_Hill_H_AM_2023_DM.txt
3	3	1	V	1	0	2023	0.46486	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\V_A614_Kirk_Hill_H_AM_2023_DM.txt
4	4	1	V	1	0	2023	0.01535	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\V_A614_Kirk_Hill_H_AM_2023_DM.txt
5	5	1	V	1	0	2023	0.11257	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\V_A614_Kirk_Hill_H_AM_2023_DM.txt
6	6	1	V	1	0	2023	0.00845	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\V_A614_Kirk_Hill_H_AM_2023_DM.txt
7	7	1	V	1	0	2023	0.01451	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\V_A614_Kirk_Hill_H_AM_2023_DM.txt
8	1	3	V	1	0	2023	0.05864	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\V_A614_Kirk_Hill_H_IP_2023_DM.txt
9	2	3	V	1	0	2023	0.09201	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\V_A614_Kirk_Hill_H_IP_2023_DM.txt
10	3	3	V	1	0	2023	0.66493	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\V_A614_Kirk_Hill_H_IP_2023_DM.txt
11	4	3	V	1	0	2023	0.01626	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\V_A614_Kirk_Hill_H_IP_2023_DM.txt
12	5	3	V	1	0	2023	0.11925	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\V_A614_Kirk_Hill_H_IP_2023_DM.txt
13	6	3	V	1	0	2023	0.01568	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\V_A614_Kirk_Hill_H_IP_2023_DM.txt
14	7	3	V	1	0	2023	0.03323	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\V_A614_Kirk_Hill_H_IP_2023_DM.txt
15	1	2	V	1	0	2023	0.04428	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\V_A614_Kirk_Hill_H_PM_2023_DM.txt
16	2	2	V	1	0	2023	0.28208	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\V_A614_Kirk_Hill_H_PM_2023_DM.txt
17	3	2	V	1	0	2023	0.53951	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\V_A614_Kirk_Hill_H_PM_2023_DM.txt
18	4	2	V	1	0	2023	0.01265	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\V_A614_Kirk_Hill_H_PM_2023_DM.txt
19	5	2	V	1	0	2023	0.09275	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\V_A614_Kirk_Hill_H_PM_2023_DM.txt
20	6	2	V	1	0	2023	0.00652	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\V_A614_Kirk_Hill_H_PM_2023_DM.txt
21	7	2	V	1	0	2023	0.02221	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\V_A614_Kirk_Hill_H_PM_2023_DM.txt
22	1	4	V	1	0	2023	0.03710	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\V_A614_Kirk_Hill_H_OP_2023_DM.txt
23	2	4	V	1	0	2023	0.24762	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\V_A614_Kirk_Hill_H_OP_2023_DM.txt
24	3	4	V	1	0	2023	0.57640	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\V_A614_Kirk_Hill_H_OP_2023_DM.txt
25	4	4	V	1	0	2023	0.00656	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\V_A614_Kirk_Hill_H_OP_2023_DM.txt
26	5	4	V	1	0	2023	0.04811	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\V_A614_Kirk_Hill_H_OP_2023_DM.txt
27	6	4	V	1	0	2023	0.02515	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\V_A614_Kirk_Hill_H_OP_2023_DM.txt
28	7	4	V	1	0	2023	0.05905	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\V_A614_Kirk_Hill_H_OP_2023_DM.txt
29	1	1	V	1	1	2023	0.05903	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\V_A614_Kirk_Hill_H_AM_2023_DS.txt
30	2	1	V	1	1	2023	0.32523	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\V_A614_Kirk_Hill_H_AM_2023_DS.txt
31	3	1	V	1	1	2023	0.46486	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\V_A614_Kirk_Hill_H_AM_2023_DS.txt

109	4	4	T	1	1	2023	0.00656	L:\60625845_A614 MRN DfT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\T_A614_Kirk_Hill_H_OP_2023_DS.txt
110	5	4	T	1	1	2023	0.04811	L:\60625845_A614 MRN DfT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\T_A614_Kirk_Hill_H_OP_2023_DS.txt
111	6	4	T	1	1	2023	0.02515	L:\60625845_A614 MRN DfT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\T_A614_Kirk_Hill_H_OP_2023_DS.txt
112	7	4	T	1	1	2023	0.05905	L:\60625845_A614 MRN DfT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\T_A614_Kirk_Hill_H_OP_2023_DS.txt
113	1	1	D	1	0	2023	0.05903	L:\60625845_A614 MRN DfT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\D_A614_Kirk_Hill_H_AM_2023_DM.txt
114	2	1	D	1	0	2023	0.32523	L:\60625845_A614 MRN DfT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\D_A614_Kirk_Hill_H_AM_2023_DM.txt
115	3	1	D	1	0	2023	0.46486	L:\60625845_A614 MRN DfT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\D_A614_Kirk_Hill_H_AM_2023_DM.txt
116	4	1	D	1	0	2023	0.01535	L:\60625845_A614 MRN DfT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\D_A614_Kirk_Hill_H_AM_2023_DM.txt
117	5	1	D	1	0	2023	0.11257	L:\60625845_A614 MRN DfT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\D_A614_Kirk_Hill_H_AM_2023_DM.txt
118	6	1	D	1	0	2023	0.00845	L:\60625845_A614 MRN DfT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\D_A614_Kirk_Hill_H_AM_2023_DM.txt
119	7	1	D	1	0	2023	0.01451	L:\60625845_A614 MRN DfT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\D_A614_Kirk_Hill_H_AM_2023_DM.txt
120	1	3	D	1	0	2023	0.05864	L:\60625845_A614 MRN DfT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\D_A614_Kirk_Hill_H_IP_2023_DM.txt
121	2	3	D	1	0	2023	0.09201	L:\60625845_A614 MRN DfT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\D_A614_Kirk_Hill_H_IP_2023_DM.txt
122	3	3	D	1	0	2023	0.66493	L:\60625845_A614 MRN DfT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\D_A614_Kirk_Hill_H_IP_2023_DM.txt
123	4	3	D	1	0	2023	0.01626	L:\60625845_A614 MRN DfT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\D_A614_Kirk_Hill_H_IP_2023_DM.txt
124	5	3	D	1	0	2023	0.11925	L:\60625845_A614 MRN DfT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\D_A614_Kirk_Hill_H_IP_2023_DM.txt
125	6	3	D	1	0	2023	0.01568	L:\60625845_A614 MRN DfT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\D_A614_Kirk_Hill_H_IP_2023_DM.txt
126	7	3	D	1	0	2023	0.03323	L:\60625845_A614 MRN DfT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\D_A614_Kirk_Hill_H_IP_2023_DM.txt
127	1	2	D	1	0	2023	0.04428	L:\60625845_A614 MRN DfT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\D_A614_Kirk_Hill_H_PM_2023_DM.txt
128	2	2	D	1	0	2023	0.28208	L:\60625845_A614 MRN DfT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\D_A614_Kirk_Hill_H_PM_2023_DM.txt
129	3	2	D	1	0	2023	0.53951	L:\60625845_A614 MRN DfT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\D_A614_Kirk_Hill_H_PM_2023_DM.txt
130	4	2	D	1	0	2023	0.01265	L:\60625845_A614 MRN DfT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\D_A614_Kirk_Hill_H_PM_2023_DM.txt
131	5	2	D	1	0	2023	0.09275	L:\60625845_A614 MRN DfT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\D_A614_Kirk_Hill_H_PM_2023_DM.txt
132	6	2	D	1	0	2023	0.00652	L:\60625845_A614 MRN DfT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\D_A614_Kirk_Hill_H_PM_2023_DM.txt
133	7	2	D	1	0	2023	0.02221	L:\60625845_A614 MRN DfT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\D_A614_Kirk_Hill_H_PM_2023_DM.txt
134	1	4	D	1	0	2023	0.03710	L:\60625845_A614 MRN DfT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\D_A614_Kirk_Hill_H_OP_2023_DM.txt
135	2	4	D	1	0	2023	0.24762	L:\60625845_A614 MRN DfT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\D_A614_Kirk_Hill_H_OP_2023_DM.txt
136	3	4	D	1	0	2023	0.57640	L:\60625845_A614 MRN DfT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\D_A614_Kirk_Hill_H_OP_2023_DM.txt
137	4	4	D	1	0	2023	0.00656	L:\60625845_A614 MRN DfT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\D_A614_Kirk_Hill_H_OP_2023_DM.txt
138	5	4	D	1	0	2023	0.04811	L:\60625845_A614 MRN DfT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\D_A614_Kirk_Hill_H_OP_2023_DM.txt
139	6	4	D	1	0	2023	0.02515	L:\60625845_A614 MRN DfT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\D_A614_Kirk_Hill_H_OP_2023_DM.txt
140	7	4	D	1	0	2023	0.05905	L:\60625845_A614 MRN DfT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\D_A614_Kirk_Hill_H_OP_2023_DM.txt
141	1	1	D	1	1	2023	0.05903	L:\60625845_A614 MRN DfT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\D_A614_Kirk_Hill_H AM_2023_DS.txt

142	2	1	D	1	1	2023	0.32523	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\D_A614_Kirk_Hill_H AM_2023_DS.txt
143	3	1	D	1	1	2023	0.46486	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\D_A614_Kirk_Hill_H AM_2023_DS.txt
144	4	1	D	1	1	2023	0.01535	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\D_A614_Kirk_Hill_H AM_2023_DS.txt
145	5	1	D	1	1	2023	0.11257	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\D_A614_Kirk_Hill_H AM_2023_DS.txt
146	6	1	D	1	1	2023	0.00845	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\D_A614_Kirk_Hill_H AM_2023_DS.txt
147	7	1	D	1	1	2023	0.01451	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\D_A614_Kirk_Hill_H AM_2023_DS.txt
148	1	3	D	1	1	2023	0.05864	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\D_A614_Kirk_Hill_H_IP_2023_DS.txt
149	2	3	D	1	1	2023	0.09201	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\D_A614_Kirk_Hill_H_IP_2023_DS.txt
150	3	3	D	1	1	2023	0.66493	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\D_A614_Kirk_Hill_H_IP_2023_DS.txt
151	4	3	D	1	1	2023	0.01626	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\D_A614_Kirk_Hill_H_IP_2023_DS.txt
152	5	3	D	1	1	2023	0.11925	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\D_A614_Kirk_Hill_H_IP_2023_DS.txt
153	6	3	D	1	1	2023	0.01568	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\D_A614_Kirk_Hill_H_IP_2023_DS.txt
154	7	3	D	1	1	2023	0.03323	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\D_A614_Kirk_Hill_H_IP_2023_DS.txt
155	1	2	D	1	1	2023	0.04428	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\D_A614_Kirk_Hill_H_PM_2023_DS.txt
156	2	2	D	1	1	2023	0.28208	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\D_A614_Kirk_Hill_H_PM_2023_DS.txt
157	3	2	D	1	1	2023	0.53951	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\D_A614_Kirk_Hill_H_PM_2023_DS.txt
158	4	2	D	1	1	2023	0.01265	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\D_A614_Kirk_Hill_H_PM_2023_DS.txt
159	5	2	D	1	1	2023	0.09275	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\D_A614_Kirk_Hill_H_PM_2023_DS.txt
160	6	2	D	1	1	2023	0.00652	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\D_A614_Kirk_Hill_H_PM_2023_DS.txt
161	7	2	D	1	1	2023	0.02221	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\D_A614_Kirk_Hill_H_PM_2023_DS.txt
162	1	4	D	1	1	2023	0.03710	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\D_A614_Kirk_Hill_H_OP_2023_DS.txt
163	2	4	D	1	1	2023	0.24762	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\D_A614_Kirk_Hill_H_OP_2023_DS.txt
164	3	4	D	1	1	2023	0.57640	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\D_A614_Kirk_Hill_H_OP_2023_DS.txt
165	4	4	D	1	1	2023	0.00656	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\D_A614_Kirk_Hill_H_OP_2023_DS.txt
166	5	4	D	1	1	2023	0.04811	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\D_A614_Kirk_Hill_H_OP_2023_DS.txt
167	6	4	D	1	1	2023	0.02515	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\D_A614_Kirk_Hill_H_OP_2023_DS.txt
168	7	4	D	1	1	2023	0.05905	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\D_A614_Kirk_Hill_H_OP_2023_DS.txt
169	1	1	V	1	0	2037	0.05903	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4W_A614_Kirk_Hill_H_AM_2037_DM.txt
170	2	1	V	1	0	2037	0.32523	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4W_A614_Kirk_Hill_H_AM_2037_DM.txt
171	3	1	V	1	0	2037	0.46486	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4W_A614_Kirk_Hill_H_AM_2037_DM.txt
172	4	1	V	1	0	2037	0.01535	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4W_A614_Kirk_Hill_H_AM_2037_DM.txt
173	5	1	V	1	0	2037	0.11257	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4W_A614_Kirk_Hill_H_AM_2037_DM.txt
174	6	1	V	1	0	2037	0.00845	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4W_A614_Kirk_Hill_H_AM_2037_DM.txt
175	7	1	V	1	0	2037	0.01451	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4W_A614_Kirk_Hill_H_AM_2037_DM.txt
176	1	3	V	1	0	2037	0.05864	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4V_A614_Kirk_Hill_H_IP_2037_DM.txt
177	2	3	V	1	0	2037	0.09201	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4V_A614_Kirk_Hill_H_IP_2037_DM.txt
178	3	3	V	1	0	2037	0.66493	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4V_A614_Kirk_Hill_H_IP_2037_DM.txt

179	4	3	V	1	0	2037	0.01626	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\V_A614_Kirk_Hill_H_IP_2037_DM.txt
180	5	3	V	1	0	2037	0.11925	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\V_A614_Kirk_Hill_H_IP_2037_DM.txt
181	6	3	V	1	0	2037	0.01568	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\V_A614_Kirk_Hill_H_IP_2037_DM.txt
182	7	3	V	1	0	2037	0.03323	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\V_A614_Kirk_Hill_H_IP_2037_DM.txt
183	1	2	V	1	0	2037	0.04428	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\V_A614_Kirk_Hill_H_PM_2037_DM.txt
184	2	2	V	1	0	2037	0.28208	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\V_A614_Kirk_Hill_H_PM_2037_DM.txt
185	3	2	V	1	0	2037	0.53951	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\V_A614_Kirk_Hill_H_PM_2037_DM.txt
186	4	2	V	1	0	2037	0.01265	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\V_A614_Kirk_Hill_H_PM_2037_DM.txt
187	5	2	V	1	0	2037	0.09275	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\V_A614_Kirk_Hill_H_PM_2037_DM.txt
188	6	2	V	1	0	2037	0.00652	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\V_A614_Kirk_Hill_H_PM_2037_DM.txt
189	7	2	V	1	0	2037	0.02221	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\V_A614_Kirk_Hill_H_PM_2037_DM.txt
190	1	4	V	1	0	2037	0.03710	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\V_A614_Kirk_Hill_H_OP_2037_DM.txt
191	2	4	V	1	0	2037	0.24762	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\V_A614_Kirk_Hill_H_OP_2037_DM.txt
192	3	4	V	1	0	2037	0.57640	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\V_A614_Kirk_Hill_H_OP_2037_DM.txt
193	4	4	V	1	0	2037	0.00656	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\V_A614_Kirk_Hill_H_OP_2037_DM.txt
194	5	4	V	1	0	2037	0.04811	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\V_A614_Kirk_Hill_H_OP_2037_DM.txt
195	6	4	V	1	0	2037	0.02515	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\V_A614_Kirk_Hill_H_OP_2037_DM.txt
196	7	4	V	1	0	2037	0.05905	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\V_A614_Kirk_Hill_H_OP_2037_DM.txt
197	1	1	V	1	1	2037	0.05903	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\V_A614_Kirk_Hill_H_AM_2037_DS.txt
198	2	1	V	1	1	2037	0.32523	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\V_A614_Kirk_Hill_H_AM_2037_DS.txt
199	3	1	V	1	1	2037	0.46486	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\V_A614_Kirk_Hill_H_AM_2037_DS.txt
200	4	1	V	1	1	2037	0.01535	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\V_A614_Kirk_Hill_H_AM_2037_DS.txt
201	5	1	V	1	1	2037	0.11257	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\V_A614_Kirk_Hill_H_AM_2037_DS.txt
202	6	1	V	1	1	2037	0.00845	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\V_A614_Kirk_Hill_H_AM_2037_DS.txt
203	7	1	V	1	1	2037	0.01451	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\V_A614_Kirk_Hill_H_AM_2037_DS.txt
204	1	3	V	1	1	2037	0.05864	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\V_A614_Kirk_Hill_H_IP_2037_DS.txt
205	2	3	V	1	1	2037	0.09201	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\V_A614_Kirk_Hill_H_IP_2037_DS.txt
206	3	3	V	1	1	2037	0.66493	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\V_A614_Kirk_Hill_H_IP_2037_DS.txt
207	4	3	V	1	1	2037	0.01626	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\V_A614_Kirk_Hill_H_IP_2037_DS.txt
208	5	3	V	1	1	2037	0.11925	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\V_A614_Kirk_Hill_H_IP_2037_DS.txt
209	6	3	V	1	1	2037	0.01568	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\V_A614_Kirk_Hill_H_IP_2037_DS.txt
210	7	3	V	1	1	2037	0.03323	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\V_A614_Kirk_Hill_H_IP_2037_DS.txt
211	1	2	V	1	1	2037	0.04428	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\V_A614_Kirk_Hill_H_PM_2037_DS.txt

212	2	2	V	1	1	2037	0.28208	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\W_A614_Kirk_Hill_H_PM_2037_DS.txt
213	3	2	V	1	1	2037	0.53951	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\W_A614_Kirk_Hill_H_PM_2037_DS.txt
214	4	2	V	1	1	2037	0.01265	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\W_A614_Kirk_Hill_H_PM_2037_DS.txt
215	5	2	V	1	1	2037	0.09275	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\W_A614_Kirk_Hill_H_PM_2037_DS.txt
216	6	2	V	1	1	2037	0.00652	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\W_A614_Kirk_Hill_H_PM_2037_DS.txt
217	7	2	V	1	1	2037	0.02221	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\W_A614_Kirk_Hill_H_PM_2037_DS.txt
218	1	4	V	1	1	2037	0.03710	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\W_A614_Kirk_Hill_H_OP_2037_DS.txt
219	2	4	V	1	1	2037	0.24762	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\W_A614_Kirk_Hill_H_OP_2037_DS.txt
220	3	4	V	1	1	2037	0.57640	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\W_A614_Kirk_Hill_H_OP_2037_DS.txt
221	4	4	V	1	1	2037	0.00656	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\W_A614_Kirk_Hill_H_OP_2037_DS.txt
222	5	4	V	1	1	2037	0.04811	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\W_A614_Kirk_Hill_H_OP_2037_DS.txt
223	6	4	V	1	1	2037	0.02515	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\W_A614_Kirk_Hill_H_OP_2037_DS.txt
224	7	4	V	1	1	2037	0.05905	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\W_A614_Kirk_Hill_H_OP_2037_DS.txt
225	1	1	T	1	0	2037	0.05903	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\T_A614_Kirk_Hill_H_AM_2037_DM.txt
226	2	1	T	1	0	2037	0.32523	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\T_A614_Kirk_Hill_H_AM_2037_DM.txt
227	3	1	T	1	0	2037	0.46486	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\T_A614_Kirk_Hill_H_AM_2037_DM.txt
228	4	1	T	1	0	2037	0.01535	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\T_A614_Kirk_Hill_H_AM_2037_DM.txt
229	5	1	T	1	0	2037	0.11257	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\T_A614_Kirk_Hill_H_AM_2037_DM.txt
230	6	1	T	1	0	2037	0.00845	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\T_A614_Kirk_Hill_H_AM_2037_DM.txt
231	7	1	T	1	0	2037	0.01451	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\T_A614_Kirk_Hill_H_AM_2037_DM.txt
232	1	3	T	1	0	2037	0.05864	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\T_A614_Kirk_Hill_H_IP_2037_DM.txt
233	2	3	T	1	0	2037	0.09201	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\T_A614_Kirk_Hill_H_IP_2037_DM.txt
234	3	3	T	1	0	2037	0.66493	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\T_A614_Kirk_Hill_H_IP_2037_DM.txt
235	4	3	T	1	0	2037	0.01626	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\T_A614_Kirk_Hill_H_IP_2037_DM.txt
236	5	3	T	1	0	2037	0.11925	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\T_A614_Kirk_Hill_H_IP_2037_DM.txt
237	6	3	T	1	0	2037	0.01568	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\T_A614_Kirk_Hill_H_IP_2037_DM.txt
238	7	3	T	1	0	2037	0.03323	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\T_A614_Kirk_Hill_H_IP_2037_DM.txt
239	1	2	T	1	0	2037	0.04428	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\T_A614_Kirk_Hill_H_PM_2037_DM.txt
240	2	2	T	1	0	2037	0.28208	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\T_A614_Kirk_Hill_H_PM_2037_DM.txt
241	3	2	T	1	0	2037	0.53951	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\T_A614_Kirk_Hill_H_PM_2037_DM.txt
242	4	2	T	1	0	2037	0.01265	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\T_A614_Kirk_Hill_H_PM_2037_DM.txt
243	5	2	T	1	0	2037	0.09275	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\T_A614_Kirk_Hill_H_PM_2037_DM.txt
244	6	2	T	1	0	2037	0.00652	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\T_A614_Kirk_Hill_H_PM_2037_DM.txt
245	7	2	T	1	0	2037	0.02221	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\T_A614_Kirk_Hill_H_PM_2037_DM.txt

279	6	4	T	1	1	2037	0.02515	L:\60625845_A614 MRN DfT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\T_A614_Kirk_Hill_H_OP_2037_DS.txt
280	7	4	T	1	1	2037	0.05905	L:\60625845_A614 MRN DfT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\T_A614_Kirk_Hill_H_OP_2037_DS.txt
281	1	1	D	1	0	2037	0.05903	L:\60625845_A614 MRN DfT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\D_A614_Kirk_Hill_H_AM_2037_DM.txt
282	2	1	D	1	0	2037	0.32523	L:\60625845_A614 MRN DfT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\D_A614_Kirk_Hill_H_AM_2037_DM.txt
283	3	1	D	1	0	2037	0.46486	L:\60625845_A614 MRN DfT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\D_A614_Kirk_Hill_H_AM_2037_DM.txt
284	4	1	D	1	0	2037	0.01535	L:\60625845_A614 MRN DfT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\D_A614_Kirk_Hill_H_AM_2037_DM.txt
285	5	1	D	1	0	2037	0.11257	L:\60625845_A614 MRN DfT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\D_A614_Kirk_Hill_H_AM_2037_DM.txt
286	6	1	D	1	0	2037	0.00845	L:\60625845_A614 MRN DfT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\D_A614_Kirk_Hill_H_AM_2037_DM.txt
287	7	1	D	1	0	2037	0.01451	L:\60625845_A614 MRN DfT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\D_A614_Kirk_Hill_H_AM_2037_DM.txt
288	1	3	D	1	0	2037	0.05864	L:\60625845_A614 MRN DfT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\D_A614_Kirk_Hill_H_IP_2037_DM.txt
289	2	3	D	1	0	2037	0.09201	L:\60625845_A614 MRN DfT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\D_A614_Kirk_Hill_H_IP_2037_DM.txt
290	3	3	D	1	0	2037	0.66493	L:\60625845_A614 MRN DfT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\D_A614_Kirk_Hill_H_IP_2037_DM.txt
291	4	3	D	1	0	2037	0.01626	L:\60625845_A614 MRN DfT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\D_A614_Kirk_Hill_H_IP_2037_DM.txt
292	5	3	D	1	0	2037	0.11925	L:\60625845_A614 MRN DfT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\D_A614_Kirk_Hill_H_IP_2037_DM.txt
293	6	3	D	1	0	2037	0.01568	L:\60625845_A614 MRN DfT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\D_A614_Kirk_Hill_H_IP_2037_DM.txt
294	7	3	D	1	0	2037	0.03323	L:\60625845_A614 MRN DfT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\D_A614_Kirk_Hill_H_IP_2037_DM.txt
295	1	2	D	1	0	2037	0.04428	L:\60625845_A614 MRN DfT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\D_A614_Kirk_Hill_H_PM_2037_DM.txt
296	2	2	D	1	0	2037	0.28208	L:\60625845_A614 MRN DfT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\D_A614_Kirk_Hill_H_PM_2037_DM.txt
297	3	2	D	1	0	2037	0.53951	L:\60625845_A614 MRN DfT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\D_A614_Kirk_Hill_H_PM_2037_DM.txt
298	4	2	D	1	0	2037	0.01265	L:\60625845_A614 MRN DfT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\D_A614_Kirk_Hill_H_PM_2037_DM.txt
299	5	2	D	1	0	2037	0.09275	L:\60625845_A614 MRN DfT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\D_A614_Kirk_Hill_H_PM_2037_DM.txt
300	6	2	D	1	0	2037	0.00652	L:\60625845_A614 MRN DfT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\D_A614_Kirk_Hill_H_PM_2037_DM.txt
301	7	2	D	1	0	2037	0.02221	L:\60625845_A614 MRN DfT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\D_A614_Kirk_Hill_H_PM_2037_DM.txt
302	1	4	D	1	0	2037	0.03710	L:\60625845_A614 MRN DfT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\D_A614_Kirk_Hill_H_OP_2037_DM.txt
303	2	4	D	1	0	2037	0.24762	L:\60625845_A614 MRN DfT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\D_A614_Kirk_Hill_H_OP_2037_DM.txt
304	3	4	D	1	0	2037	0.57640	L:\60625845_A614 MRN DfT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\D_A614_Kirk_Hill_H_OP_2037_DM.txt
305	4	4	D	1	0	2037	0.00656	L:\60625845_A614 MRN DfT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\D_A614_Kirk_Hill_H_OP_2037_DM.txt
306	5	4	D	1	0	2037	0.04811	L:\60625845_A614 MRN DfT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\D_A614_Kirk_Hill_H_OP_2037_DM.txt
307	6	4	D	1	0	2037	0.02515	L:\60625845_A614 MRN DfT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\D_A614_Kirk_Hill_H_OP_2037_DM.txt
308	7	4	D	1	0	2037	0.05905	L:\60625845_A614 MRN DfT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\D_A614_Kirk_Hill_H_OP_2037_DM.txt
309	1	1	D	1	1	2037	0.05903	L:\60625845_A614 MRN DfT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\D_A614_Kirk_Hill_H_AM_2037_DS.txt
310	2	1	D	1	1	2037	0.32523	L:\60625845_A614 MRN DfT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\D_A614_Kirk_Hill_H_AM_2037_DS.txt

311	3	1	D	1	1	2037	0.46486	L:\60625845_A614 MRN DfT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\A614_Kirk_Hill_H_AM_2037_DS.txt
312	4	1	D	1	1	2037	0.01535	L:\60625845_A614 MRN DfT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\A614_Kirk_Hill_H_AM_2037_DS.txt
313	5	1	D	1	1	2037	0.11257	L:\60625845_A614 MRN DfT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\A614_Kirk_Hill_H_AM_2037_DS.txt
314	6	1	D	1	1	2037	0.00845	L:\60625845_A614 MRN DfT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\A614_Kirk_Hill_H_AM_2037_DS.txt
315	7	1	D	1	1	2037	0.01451	L:\60625845_A614 MRN DfT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\A614_Kirk_Hill_H_AM_2037_DS.txt
316	1	3	D	1	1	2037	0.05864	L:\60625845_A614 MRN DfT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\A614_Kirk_Hill_H_IP_2037_DS.txt
317	2	3	D	1	1	2037	0.09201	L:\60625845_A614 MRN DfT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\A614_Kirk_Hill_H_IP_2037_DS.txt
318	3	3	D	1	1	2037	0.66493	L:\60625845_A614 MRN DfT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\A614_Kirk_Hill_H_IP_2037_DS.txt
319	4	3	D	1	1	2037	0.01626	L:\60625845_A614 MRN DfT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\A614_Kirk_Hill_H_IP_2037_DS.txt
320	5	3	D	1	1	2037	0.11925	L:\60625845_A614 MRN DfT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\A614_Kirk_Hill_H_IP_2037_DS.txt
321	6	3	D	1	1	2037	0.01568	L:\60625845_A614 MRN DfT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\A614_Kirk_Hill_H_IP_2037_DS.txt
322	7	3	D	1	1	2037	0.03323	L:\60625845_A614 MRN DfT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\A614_Kirk_Hill_H_IP_2037_DS.txt
323	1	2	D	1	1	2037	0.04428	L:\60625845_A614 MRN DfT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\A614_Kirk_Hill_H_PM_2037_DS.txt
324	2	2	D	1	1	2037	0.28208	L:\60625845_A614 MRN DfT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\A614_Kirk_Hill_H_PM_2037_DS.txt
325	3	2	D	1	1	2037	0.53951	L:\60625845_A614 MRN DfT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\A614_Kirk_Hill_H_PM_2037_DS.txt
326	4	2	D	1	1	2037	0.01265	L:\60625845_A614 MRN DfT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\A614_Kirk_Hill_H_PM_2037_DS.txt
327	5	2	D	1	1	2037	0.09275	L:\60625845_A614 MRN DfT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\A614_Kirk_Hill_H_PM_2037_DS.txt
328	6	2	D	1	1	2037	0.00652	L:\60625845_A614 MRN DfT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\A614_Kirk_Hill_H_PM_2037_DS.txt
329	7	2	D	1	1	2037	0.02221	L:\60625845_A614 MRN DfT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\A614_Kirk_Hill_H_PM_2037_DS.txt
330	1	4	D	1	1	2037	0.03710	L:\60625845_A614 MRN DfT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\A614_Kirk_Hill_H_OP_2037_DS.txt
331	2	4	D	1	1	2037	0.24762	L:\60625845_A614 MRN DfT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\A614_Kirk_Hill_H_OP_2037_DS.txt
332	3	4	D	1	1	2037	0.57640	L:\60625845_A614 MRN DfT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\A614_Kirk_Hill_H_OP_2037_DS.txt
333	4	4	D	1	1	2037	0.00656	L:\60625845_A614 MRN DfT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\A614_Kirk_Hill_H_OP_2037_DS.txt
334	5	4	D	1	1	2037	0.04811	L:\60625845_A614 MRN DfT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\A614_Kirk_Hill_H_OP_2037_DS.txt
335	6	4	D	1	1	2037	0.02515	L:\60625845_A614 MRN DfT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\A614_Kirk_Hill_H_OP_2037_DS.txt
336	7	4	D	1	1	2037	0.05905	L:\60625845_A614 MRN DfT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\A614_Kirk_Hill_H_OP_2037_DS.txt
337	1	X	R	1	X	XXXX	1.00000	L:\60625845_A614 MRN DfT responses\08_Models\TUBA\7-Kirk Hill\Outputs\A614_Kirk_Hill_OP_2037_DS.txt
338	2	X	R	1	X	XXXX	1.00000	L:\60625845_A614 MRN DfT responses\08_Models\TUBA\7-Kirk Hill\Outputs\A614_Kirk_Hill_OP_2037_DS.txt
339	3	X	R	1	X	XXXX	1.00000	L:\60625845_A614 MRN DfT responses\08_Models\TUBA\7-Kirk Hill\Outputs\A614_Kirk_Hill_OP_2037_DS.txt
340	4	X	R	1	X	XXXX	1.00000	L:\60625845_A614 MRN DfT responses\08_Models\TUBA\7-Kirk Hill\Outputs\A614_Kirk_Hill_OP_2037_DS.txt
341	5	X	R	1	X	XXXX	1.00000	L:\60625845_A614 MRN DfT responses\08_Models\TUBA\7-Kirk Hill\Outputs\A614_Kirk_Hill_OP_2037_DS.txt
342	6	X	R	1	X	XXXX	1.00000	L:\60625845_A614 MRN DfT responses\08_Models\TUBA\7-Kirk Hill\Outputs\A614_Kirk_Hill_OP_2037_DS.txt
343	7	X	R	1	X	XXXX	1.00000	L:\60625845_A614 MRN DfT responses\08_Models\TUBA\7-Kirk Hill\Outputs\A614_Kirk_Hill_OP_2037_DS.txt

SECTORS

*mode Sector_file_name

Transport User Benefit Appraisal TUBA (1.9.17.2 64-bit)

Program run on Thu Mar 30, 2023 at 10:44:58

ERRORS AND WARNINGS

Warning: Scheme parameter zones_as_sectors set to no: Possibility that small aggregation errors may occur in the TEE table for some appraisals. Recommend undertaking a sensitivity test using a sector system (and some sectors) to check.

1100 Warnings found in total (including any above)

Warning (14 serious): Ratio of DM to DS travel time lower than limit for the following:

Origin	Destination	Time_slice	Veh_type	Purpose	Person_type	Year	DM_time	DS_time	Ratio	DM_trips	DS_trips
1	3	4	OGV2	Business	All	2023	0.000	0.001	0.307	3.248	3.248
1	3	4	Car	Other	All	2023	0.002	0.005	0.307	31.702	31.702
1	3	4	OGV1	Business	All	2023	0.000	0.000	0.307	1.383	1.383
1	3	4	Car	Business	All	2023	0.000	0.000	0.307	2.040	2.040
1	3	4	LGV Freight	Business	All	2023	0.000	0.000	0.307	2.646	2.646
1	3	4	Car	Commuting	All	2023	0.001	0.002	0.307	13.619	13.619
1	3	4	LGV Personal	Other	All	2023	0.000	0.000	0.307	0.361	0.361
1	3	4	Car	Commuting	All	2037	0.001	0.002	0.316	15.352	15.352
1	3	4	LGV Freight	Business	All	2037	0.000	0.000	0.316	2.983	2.983
1	3	4	Car	Business	All	2037	0.000	0.000	0.316	2.300	2.300
1	3	4	OGV2	Business	All	2037	0.000	0.001	0.316	3.661	3.661
1	3	4	OGV1	Business	All	2037	0.000	0.000	0.316	1.559	1.559
1	3	4	Car	Other	All	2037	0.002	0.005	0.316	35.737	35.737
1	3	4	LGV Personal	Other	All	2037	0.000	0.000	0.316	0.407	0.407
3	1	4	OGV1	Business	All	2037	0.000	0.000	0.365	1.660	1.660
3	1	4	Car	Business	All	2037	0.000	0.000	0.365	2.449	2.449
3	1	4	LGV Personal	Other	All	2037	0.000	0.000	0.365	0.433	0.433
3	1	4	Car	Commuting	All	2037	0.001	0.002	0.365	16.343	16.343
3	1	4	Car	Other	All	2037	0.002	0.004	0.365	38.042	38.042
3	1	4	LGV Freight	Business	All	2037	0.000	0.000	0.365	3.175	3.175

Displayed 20 warnings of a total of 56 of this type.

Warning (196 serious): Ratio of DM to DS travel time higher than limit for the following:

Origin	Destination	Time_slice	Veh_type	Purpose	Person_type	Year	DM_time	DS_time	Ratio	DM_trips	DS_trips
3	4	2	OGV2	Business	All	2023	0.004	0.000	17.191	0.155	0.155
3	4	2	OGV1	Business	All	2023	0.001	0.000	17.191	0.046	0.046
3	4	2	LGV Freight	Business	All	2023	0.016	0.001	17.191	0.649	0.649
3	4	2	Car	Other	All	2023	0.092	0.005	17.191	3.777	3.777
3	4	2	Car	Commuting	All	2023	0.048	0.003	17.191	1.975	1.975
3	4	2	Car	Business	All	2023	0.008	0.000	17.191	0.310	0.310
3	4	2	LGV Personal	Other	All	2023	0.002	0.000	17.191	0.089	0.089
3	4	2	Car	Other	All	2037	0.103	0.006	16.925	2.158	2.158

3	4	2	Car	Business	All	2037	0.008	0.001	16.925	0.177	0.177
3	4	2	Car	Commuting	All	2037	0.054	0.003	16.925	1.128	1.128
3	4	2	OGV1	Business	All	2037	0.001	0.000	16.925	0.026	0.026
3	4	2	LGV Personal	Other	All	2037	0.002	0.000	16.925	0.051	0.051
3	4	2	OGV2	Business	All	2037	0.004	0.000	16.925	0.089	0.089
3	4	2	LGV Freight	Business	All	2037	0.018	0.001	16.925	0.371	0.371
1	2	1	Car	Commuting	All	2037	0.037	0.002	15.409	26.018	26.018
1	2	1	LGV Personal	Other	All	2037	0.002	0.000	15.409	1.228	1.228
1	2	1	OGV1	Business	All	2037	0.001	0.000	15.409	0.676	0.676
1	2	1	OGV2	Business	All	2037	0.002	0.000	15.409	1.161	1.161
1	2	1	LGV Freight	Business	All	2037	0.013	0.001	15.409	9.006	9.006
1	2	1	Car	Other	All	2037	0.053	0.003	15.409	37.189	37.189

Displayed 20 warnings of a total of 238 of this type.

Warning: DM speeds less than limit for the following:

Origin	Destination	Time_slice	Veh_type	Purpose	Person_type	Year	DM_dist	DM_time	Cal_Speed	DM_trips	VOC_Speed
2	3	2	Car	Other	All	2037	1.079	0.112	9.672	14.567	10.000
2	4	2	Car	Other	All	2037	1.079	0.112	9.672	22.659	10.000
2	1	2	Car	Commuting	All	2037	0.564	0.058	9.672	42.594	10.000
2	1	2	LGV Personal	Other	All	2037	0.025	0.003	9.672	1.910	10.000
2	1	2	OGV2	Business	All	2037	0.044	0.005	9.672	3.354	12.000
2	3	2	Car	Commuting	All	2037	0.564	0.058	9.672	7.616	10.000
2	4	2	Car	Commuting	All	2037	0.564	0.058	9.672	11.847	10.000
2	1	2	Car	Other	All	2037	1.079	0.112	9.672	81.466	10.000
2	3	2	OGV2	Business	All	2037	0.044	0.005	9.672	0.600	12.000
2	4	2	OGV2	Business	All	2037	0.044	0.005	9.672	0.933	12.000
2	1	2	Car	Business	All	2037	0.089	0.009	9.672	6.686	10.000
2	3	2	Car	Business	All	2037	0.089	0.009	9.672	1.196	10.000
2	4	2	Car	Business	All	2037	0.089	0.009	9.672	1.860	10.000
2	1	2	LGV Freight	Business	All	2037	0.185	0.019	9.672	14.005	10.000
2	3	2	LGV Freight	Business	All	2037	0.185	0.019	9.672	2.504	10.000
2	4	2	LGV Freight	Business	All	2037	0.185	0.019	9.672	3.895	10.000
2	1	2	OGV1	Business	All	2037	0.013	0.001	9.672	0.985	12.000
2	3	2	OGV1	Business	All	2037	0.013	0.001	9.672	0.176	12.000
2	4	2	OGV1	Business	All	2037	0.013	0.001	9.672	0.274	12.000
2	3	2	LGV Personal	Other	All	2037	0.025	0.003	9.672	0.342	10.000

Displayed 20 warnings of a total of 35 of this type.

Warning: DM speeds greater than limit for the following:

Origin	Destination	Time_slice	Veh_type	Purpose	Person_type	Year	DM_dist	DM_time	Cal_Speed	DM_trips	VOC_Speed
1	2	4	Car	Other	All	2023	1.153	0.002	757.576	2.306	130.000
3	1	4	Car	Other	All	2023	1.153	0.002	757.576	34.008	130.000
3	4	4	Car	Other	All	2023	1.153	0.002	757.576	0.000	130.000
1	3	4	OGV2	Business	All	2023	0.118	0.000	757.576	3.248	85.000

1	3	4	Car	Other	All	2023	1.153	0.002	757.576	31.702	130.000
1	2	4	OGV2	Business	All	2023	0.118	0.000	757.576	0.236	85.000
3	4	4	OGV2	Business	All	2023	0.118	0.000	757.576	0.000	85.000
3	1	4	OGV2	Business	All	2023	0.118	0.000	757.576	3.484	85.000
1	2	4	Car	Commuting	All	2023	0.495	0.001	757.576	0.990	130.000
3	1	4	LGV Freight	Business	All	2023	0.096	0.000	757.576	2.838	110.000
3	4	4	LGV Freight	Business	All	2023	0.096	0.000	757.576	0.000	110.000
3	1	4	Car	Commuting	All	2023	0.495	0.001	757.576	14.610	130.000
1	2	4	LGV Freight	Business	All	2023	0.096	0.000	757.576	0.192	110.000
1	3	4	LGV Freight	Business	All	2023	0.096	0.000	757.576	2.646	110.000
1	3	4	Car	Commuting	All	2023	0.495	0.001	757.576	13.619	130.000
3	4	4	Car	Commuting	All	2023	0.495	0.001	757.576	0.000	130.000
1	2	4	Car	Business	All	2037	0.074	0.000	719.424	0.148	130.000
1	3	4	Car	Business	All	2037	0.074	0.000	719.424	2.300	130.000
3	1	4	Car	Business	All	2037	0.074	0.000	719.424	2.449	130.000
3	4	4	Car	Business	All	2037	0.074	0.000	719.424	0.000	130.000

Displayed 20 warnings of a total of 272 of this type.

Warning: DS speeds greater than limit for the following:

Origin	Destination	Time_slice	Veh_type	Purpose	Person_type	Year	DS_dist	DS_time	Cal_Speed	DS_trips	VOC_Speed
3	4	4	LGV Freight	Business	All	2023	0.096	0.000	566.572	0.000	110.000
1	2	4	LGV Freight	Business	All	2023	0.096	0.000	566.572	0.192	110.000
3	4	4	Car	Commuting	All	2023	0.495	0.001	566.572	0.000	130.000
3	4	4	OGV2	Business	All	2023	0.118	0.000	566.572	0.000	85.000
1	2	4	Car	Business	All	2023	0.074	0.000	566.572	0.148	130.000
1	2	4	Car	Commuting	All	2023	0.495	0.001	566.572	0.990	130.000
3	4	4	Car	Business	All	2023	0.074	0.000	566.572	0.000	130.000
1	2	4	Car	Other	All	2023	1.153	0.002	566.572	2.306	130.000
3	4	4	Car	Other	All	2023	1.153	0.002	566.572	0.000	130.000
1	2	4	OGV2	Business	All	2023	0.118	0.000	566.572	0.236	85.000
3	4	4	Car	Other	All	2037	1.153	0.002	524.934	0.000	130.000
1	2	4	Car	Other	All	2037	1.153	0.002	524.934	2.306	130.000
1	2	4	OGV2	Business	All	2037	0.118	0.000	524.934	0.236	85.000
1	2	4	Car	Business	All	2037	0.074	0.000	524.934	0.148	130.000
3	4	4	LGV Freight	Business	All	2037	0.096	0.000	524.934	0.000	110.000
3	4	4	OGV2	Business	All	2037	0.118	0.000	524.934	0.000	85.000
1	2	4	LGV Freight	Business	All	2037	0.096	0.000	524.934	0.192	110.000
3	4	4	Car	Business	All	2037	0.074	0.000	524.934	0.000	130.000
1	2	4	Car	Commuting	All	2037	0.495	0.001	524.934	0.990	130.000
3	4	4	Car	Commuting	All	2037	0.495	0.001	524.934	0.000	130.000

Displayed 20 warnings of a total of 497 of this type.

PARAMETERS - (used)

TUBA_version 1.9.17

base_year 2010

pres_val_year 2010

GDP_base 100.00 0.00 0.00

av_ind_tax 19.00 0.00 0.00

nt_carbdxvalues 83.64 250.92 167.28

t_carbdxvalues 83.64250.92167.28

PARAMETERS - (std)

TUBA_version 1.9.17

base_year 2010

pres_val_year 2010

GDP_base 100.00 0.00 0.00

av_ind_tax 19.00 0.00 0.00

nt_carbdxvalues 82.97 248.92 165.94

t_carbdxvalues 82.97248.92165.94

GDP_PER_CAPITA_GROWTH - (used)

*% change p.a.

*Start_yr End_yr VOT_Gr_purpose1 VOT_Gr_purpose2 VOT_Gr_purpose3 ..

2011	2011	0.615	0.615	0.615
2012	2012	0.801	0.801	0.801
2013	2013	1.253	1.253	1.253
2014	2014	2.208	2.208	2.208
2015	2015	1.814	1.814	1.814
2016	2016	1.425	1.425	1.425
2017	2017	1.528	1.528	1.528
2018	2018	1.046	1.046	1.046
2019	2019	1.122	1.122	1.122
2020	2020	0.099	0.099	0.099
2021	2021	0.100	0.100	0.100
2022	2022	0.099	0.099	0.099
2023	2023	-1.769	-1.769	-1.769
2024	2024	0.956	0.956	0.956
2025	2025	2.307	2.307	2.307
2026	2026	2.347	2.347	2.347
2027	2027	1.954	1.954	1.954
2028	2028	1.687	1.687	1.687
2029	2029	1.657	1.657	1.657
2030	2030	1.621	1.621	1.621
2031	2031	1.570	1.570	1.570
2032	2032	1.552	1.552	1.552
2033	2033	1.539	1.539	1.539

2034	2034	1.518	1.518	1.518
2035	2035	1.505	1.505	1.505
2036	2036	1.638	1.638	1.638
2037	2037	1.611	1.611	1.611
2038	2038	1.578	1.578	1.578
2039	2039	1.546	1.546	1.546
2040	2040	1.506	1.506	1.506
2041	2041	1.476	1.476	1.476
2042	2042	1.439	1.439	1.439
2043	2043	1.401	1.401	1.401
2044	2044	1.369	1.369	1.369
2045	2045	1.350	1.350	1.350
2046	2046	1.342	1.342	1.342
2047	2047	1.321	1.321	1.321
2048	2048	1.302	1.302	1.302
2049	2049	1.282	1.282	1.282
2050	2050	1.277	1.277	1.277
2051	2051	1.278	1.278	1.278
2052	2052	1.281	1.281	1.281
2053	2053	1.286	1.286	1.286
2054	2054	1.294	1.294	1.294
2055	2055	1.312	1.312	1.312
2056	2056	1.325	1.325	1.325
2057	2057	1.339	1.339	1.339
2058	2058	1.349	1.349	1.349
2059	2059	1.359	1.359	1.359
2060	2060	1.370	1.370	1.370
2061	2061	1.379	1.379	1.379
2062	2062	1.387	1.387	1.387
2063	2063	1.399	1.399	1.399
2064	2064	1.406	1.406	1.406
2065	2065	1.413	1.413	1.413
2066	2066	1.418	1.418	1.418
2067	2067	1.420	1.420	1.420
2068	2068	1.421	1.421	1.421
2069	2069	1.428	1.428	1.428
2070	2070	1.468	1.468	1.468
2071	2071	1.534	1.534	1.534
2072	2072	1.592	1.592	1.592
2073	2073	1.548	1.548	1.548
2074	2074	1.472	1.472	1.472
2075	2075	1.426	1.426	1.426
2076	2076	1.358	1.358	1.358
2077	2077	1.363	1.363	1.363

2078	2078	1.337	1.337	1.337
2079	2079	1.299	1.299	1.299
2080	2080	1.269	1.269	1.269
2081	2081	1.321	1.321	1.321
2082	2082	1.359	1.359	1.359
2083	2083	1.372	1.372	1.372
2084	2084	1.369	1.369	1.369
2085	2085	1.420	1.420	1.420
2086	2086	1.469	1.469	1.469
2087	2087	1.528	1.528	1.528
2088	2088	1.589	1.589	1.589
2089	2089	1.666	1.666	1.666
2090	2090	1.690	1.690	1.690
2091	2091	1.703	1.703	1.703
2092	2092	1.699	1.699	1.699
2093	2093	1.700	1.700	1.700
2094	2094	1.705	1.705	1.705
2095	2095	1.709	1.709	1.709
2096	2096	1.712	1.712	1.712
2097	2097	1.712	1.712	1.712
2098	2098	1.711	1.711	1.711
2099	2099	1.708	1.708	1.708
2100	2100	1.702	1.702	1.702
2101	2101	1.702	1.702	1.702
2102	2102	1.702	1.702	1.702
2103	2103	1.702	1.702	1.702
2104	2104	1.702	1.702	1.702
2105	2105	1.702	1.702	1.702
2106	2106	1.702	1.702	1.702
2107	2107	1.702	1.702	1.702
2108	2108	1.702	1.702	1.702
2109	2109	1.702	1.702	1.702
2110	2110	1.702	1.702	1.702
2111	2111	1.702	1.702	1.702
2112	2112	1.702	1.702	1.702
2113	2113	1.702	1.702	1.702
2114	2114	1.702	1.702	1.702
2115	2115	1.702	1.702	1.702
2116	2116	1.702	1.702	1.702
2117	2117	1.702	1.702	1.702
2118	2118	1.702	1.702	1.702
2119	2119	1.702	1.702	1.702
2120	2120	1.702	1.702	1.702
2121	2121	1.702	1.702	1.702

2122	2122	1.702	1.702	1.702
2123	2123	1.702	1.702	1.702
2124	2124	1.702	1.702	1.702
2125	2125	1.702	1.702	1.702
2126	2126	1.702	1.702	1.702
2127	2127	1.702	1.702	1.702
2128	2128	1.702	1.702	1.702
2129	2129	1.702	1.702	1.702
2130	2130	1.702	1.702	1.702
2131	2131	1.702	1.702	1.702
2132	2132	1.702	1.702	1.702
2133	2133	1.702	1.702	1.702
2134	2134	1.702	1.702	1.702
2135	2135	1.702	1.702	1.702
2136	2136	1.702	1.702	1.702
2137	2137	1.702	1.702	1.702
2138	2138	1.702	1.702	1.702
2139	2139	1.702	1.702	1.702
2140	2140	1.702	1.702	1.702
2141	2141	1.702	1.702	1.702
2142	2142	1.702	1.702	1.702
2143	2143	1.702	1.702	1.702
2144	2144	1.702	1.702	1.702
2145	2145	1.702	1.702	1.702
2146	2146	1.702	1.702	1.702
2147	2147	1.702	1.702	1.702
2148	2148	1.702	1.702	1.702
2149	2149	1.702	1.702	1.702
2150	2150	1.702	1.702	1.702
2151	2151	1.702	1.702	1.702

GDP_PER_CAPITA_GROWTH - (std)

*% change p.a.

*Start_yr	End_yr	VOT_Gr_purpose1	VOT_Gr_purpose2	VOT_Gr_purpose3 ..
2011	2011	0.435	0.435	0.435
2012	2012	0.762	0.762	0.762
2013	2013	1.548	1.548	1.548
2014	2014	2.080	2.080	2.080
2015	2015	1.556	1.556	1.556
2016	2016	0.888	0.888	0.888
2017	2017	1.137	1.137	1.137
2018	2018	0.650	0.650	0.650
2019	2019	0.885	0.885	0.885
2020	2020	0.269	0.269	0.269

2021	2021	0.267	0.267	0.267
2022	2022	0.267	0.267	0.267
2023	2023	1.654	1.654	1.654
2024	2024	0.975	0.975	0.975
2025	2025	1.311	1.311	1.311
2026	2026	1.412	1.412	1.412
2027	2027	1.480	1.480	1.480
2028	2028	1.480	1.480	1.480
2029	2029	1.463	1.463	1.463
2030	2030	1.440	1.440	1.440
2031	2031	1.413	1.413	1.413
2032	2032	1.389	1.389	1.389
2033	2033	1.387	1.387	1.387
2034	2034	1.372	1.372	1.372
2035	2035	1.345	1.345	1.345
2036	2036	1.477	1.477	1.477
2037	2037	1.475	1.475	1.475
2038	2038	1.467	1.467	1.467
2039	2039	1.443	1.443	1.443
2040	2040	1.416	1.416	1.416
2041	2041	1.397	1.397	1.397
2042	2042	1.375	1.375	1.375
2043	2043	1.351	1.351	1.351
2044	2044	1.332	1.332	1.332
2045	2045	1.320	1.320	1.320
2046	2046	1.309	1.309	1.309
2047	2047	1.292	1.292	1.292
2048	2048	1.282	1.282	1.282
2049	2049	1.281	1.281	1.281
2050	2050	1.291	1.291	1.291
2051	2051	1.307	1.307	1.307
2052	2052	1.320	1.320	1.320
2053	2053	1.332	1.332	1.332
2054	2054	1.338	1.338	1.338
2055	2055	1.358	1.358	1.358
2056	2056	1.370	1.370	1.370
2057	2057	1.385	1.385	1.385
2058	2058	1.398	1.398	1.398
2059	2059	1.406	1.406	1.406
2060	2060	1.417	1.417	1.417
2061	2061	1.437	1.437	1.437
2062	2062	1.444	1.444	1.444
2063	2063	1.456	1.456	1.456
2064	2064	1.466	1.466	1.466

2065	2065	1.482	1.482	1.482
2066	2066	1.540	1.540	1.540
2067	2067	1.607	1.607	1.607
2068	2068	1.531	1.531	1.531
2069	2069	1.521	1.521	1.521
2070	2070	1.493	1.493	1.493
2071	2071	1.518	1.518	1.518
2072	2072	1.463	1.463	1.463
2073	2073	1.426	1.426	1.426
2074	2074	1.355	1.355	1.355
2075	2075	1.317	1.317	1.317
2076	2076	1.256	1.256	1.256
2077	2077	1.271	1.271	1.271
2078	2078	1.253	1.253	1.253
2079	2079	1.219	1.219	1.219
2080	2080	1.193	1.193	1.193
2081	2081	1.251	1.251	1.251
2082	2082	1.293	1.293	1.293
2083	2083	1.309	1.309	1.309
2084	2084	1.310	1.310	1.310
2085	2085	1.364	1.364	1.364
2086	2086	1.422	1.422	1.422
2087	2087	1.488	1.488	1.488
2088	2088	1.487	1.487	1.487
2089	2089	1.498	1.498	1.498
2090	2090	1.508	1.508	1.508
2091	2091	1.513	1.513	1.513
2092	2092	1.511	1.511	1.511
2093	2093	1.508	1.508	1.508
2094	2094	1.505	1.505	1.505
2095	2095	1.501	1.501	1.501
2096	2096	1.497	1.497	1.497
2097	2097	1.491	1.491	1.491
2098	2098	1.484	1.484	1.484
2099	2099	1.476	1.476	1.476
2100	2100	1.467	1.467	1.467
2101	2101	1.467	1.467	1.467
2102	2102	1.467	1.467	1.467
2103	2103	1.467	1.467	1.467
2104	2104	1.467	1.467	1.467
2105	2105	1.467	1.467	1.467
2106	2106	1.467	1.467	1.467
2107	2107	1.467	1.467	1.467
2108	2108	1.467	1.467	1.467

2109	2109	1.467	1.467	1.467
2110	2110	1.467	1.467	1.467
2111	2111	1.467	1.467	1.467
2112	2112	1.467	1.467	1.467
2113	2113	1.467	1.467	1.467
2114	2114	1.467	1.467	1.467
2115	2115	1.467	1.467	1.467
2116	2116	1.467	1.467	1.467
2117	2117	1.467	1.467	1.467
2118	2118	1.467	1.467	1.467
2119	2119	1.467	1.467	1.467
2120	2120	1.467	1.467	1.467
2121	2121	1.467	1.467	1.467
2122	2122	1.467	1.467	1.467
2123	2123	1.467	1.467	1.467
2124	2124	1.467	1.467	1.467
2125	2125	1.467	1.467	1.467
2126	2126	1.467	1.467	1.467
2127	2127	1.467	1.467	1.467
2128	2128	1.467	1.467	1.467
2129	2129	1.467	1.467	1.467
2130	2130	1.467	1.467	1.467
2131	2131	1.467	1.467	1.467
2132	2132	1.467	1.467	1.467
2133	2133	1.467	1.467	1.467
2134	2134	1.467	1.467	1.467
2135	2135	1.467	1.467	1.467
2136	2136	1.467	1.467	1.467
2137	2137	1.467	1.467	1.467
2138	2138	1.467	1.467	1.467
2139	2139	1.467	1.467	1.467
2140	2140	1.467	1.467	1.467
2141	2141	1.467	1.467	1.467
2142	2142	1.467	1.467	1.467
2143	2143	1.467	1.467	1.467
2144	2144	1.467	1.467	1.467
2145	2145	1.467	1.467	1.467
2146	2146	1.467	1.467	1.467
2147	2147	1.467	1.467	1.467
2148	2148	1.467	1.467	1.467
2149	2149	1.467	1.467	1.467
2150	2150	1.467	1.467	1.467
2151	2151	1.467	1.467	1.467

FUEL_COST - (used)

*type resource(p/unit) duty(p/unit) VAT(%) CO2_grammes/unit (unit=litre for fuel types 1 & 2; unit=KWH for electric)

1	42.6	57.2	17.5	2230.00
2	44.3	57.2	17.5	2562.00
3	11.8	0.0	5.0	389.00

FUEL_COST - (std)

*type resource(p/unit) duty(p/unit) VAT(%) CO2_grammes/unit (unit=litre for fuel types 1 & 2; unit=KWH for electric)

1	42.6	57.2	17.5	2230.00
2	44.3	57.2	17.5	2562.00
3	11.9	0.0	5.0	389.00

FUEL_COST_CHANGES - (used)

*% change p.a.

*Start_yr End_yr fuel_type resource duty VAT CO2_Den_change

2011	2011	1	22.306	-0.354	14.286	1.171
2012	2012	1	1.986	-2.001	0.000	-1.031
2013	2013	1	-3.443	-1.746	0.000	-0.302
2014	2014	1	-11.771	-1.707	0.000	0.153
2015	2015	1	-28.520	-0.562	0.000	-0.016
2016	2016	1	-7.312	-1.719	0.000	-0.027
2017	2017	1	19.734	-1.752	0.000	-0.106
2018	2018	1	13.204	-2.472	0.000	0.128
2019	2019	1	-2.520	-2.412	0.000	0.010
2020	2020	1	-23.823	-6.920	0.000	0.015
2021	2021	1	37.033	0.586	0.000	-0.106
2022	2022	1	63.199	-5.002	0.000	-5.260
2023	2023	1	-5.410	5.535	0.000	0.000
2024	2024	1	-12.463	2.683	0.000	0.000
2025	2025	1	-3.454	0.465	0.000	0.000
2026	2026	1	-4.677	0.417	0.000	0.000
2027	2027	1	2.609	0.740	0.000	0.000
2028	2028	1	2.785	0.731	0.000	0.000
2029	2029	1	1.806	0.723	0.000	0.000
2030	2030	1	2.661	-0.293	0.000	0.000
2031	2031	1	1.728	-0.293	0.000	0.000
2032	2032	1	1.699	-0.293	0.000	0.000
2033	2033	1	2.506	-0.293	0.000	0.000
2034	2034	1	2.444	-0.293	0.000	0.000
2035	2035	1	1.591	-0.293	0.000	0.000
2036	2036	1	0.000	-0.293	0.000	0.000
2037	2037	1	0.000	-0.293	0.000	0.000
2038	2038	1	0.000	-0.293	0.000	0.000
2039	2039	1	0.000	-0.293	0.000	0.000

2040	2040	1	0.000	-0.293	0.000	0.000
2041	2041	1	0.000	-0.293	0.000	0.000
2042	2042	1	0.000	-0.293	0.000	0.000
2043	2043	1	0.000	-0.293	0.000	0.000
2044	2044	1	0.000	-0.293	0.000	0.000
2045	2045	1	0.000	-0.293	0.000	0.000
2046	2046	1	0.000	-0.293	0.000	0.000
2047	2047	1	0.000	-0.293	0.000	0.000
2048	2048	1	0.000	-0.293	0.000	0.000
2049	2049	1	0.000	-0.293	0.000	0.000
2050	2050	1	0.000	-0.293	0.000	0.000
2051	2051	1	0.000	-0.293	0.000	0.000
2052	2052	1	0.000	-0.293	0.000	0.000
2053	2053	1	0.000	-0.293	0.000	0.000
2054	2054	1	0.000	-0.293	0.000	0.000
2055	2055	1	0.000	-0.293	0.000	0.000
2056	2056	1	0.000	-0.293	0.000	0.000
2057	2057	1	0.000	-0.293	0.000	0.000
2058	2058	1	0.000	-0.293	0.000	0.000
2059	2059	1	0.000	-0.293	0.000	0.000
2060	2060	1	0.000	-0.293	0.000	0.000
2061	2061	1	0.000	-0.293	0.000	0.000
2062	2062	1	0.000	-0.293	0.000	0.000
2063	2063	1	0.000	-0.293	0.000	0.000
2064	2064	1	0.000	-0.293	0.000	0.000
2065	2065	1	0.000	-0.293	0.000	0.000
2066	2066	1	0.000	-0.293	0.000	0.000
2067	2067	1	0.000	-0.293	0.000	0.000
2068	2068	1	0.000	-0.293	0.000	0.000
2069	2069	1	0.000	-0.293	0.000	0.000
2070	2070	1	0.000	-0.293	0.000	0.000
2071	2071	1	0.000	-0.293	0.000	0.000
2072	2072	1	0.000	-0.293	0.000	0.000
2073	2073	1	0.000	-0.293	0.000	0.000
2074	2074	1	0.000	-0.293	0.000	0.000
2075	2075	1	0.000	-0.293	0.000	0.000
2076	2076	1	0.000	-0.293	0.000	0.000
2077	2077	1	0.000	-0.293	0.000	0.000
2078	2078	1	0.000	-0.293	0.000	0.000
2079	2079	1	0.000	-0.293	0.000	0.000
2080	2080	1	0.000	-0.293	0.000	0.000
2081	2081	1	0.000	-0.293	0.000	0.000
2082	2082	1	0.000	-0.293	0.000	0.000
2083	2083	1	0.000	-0.293	0.000	0.000

2084	2084	1	0.000	-0.293	0.000	0.000
2085	2085	1	0.000	-0.293	0.000	0.000
2086	2086	1	0.000	-0.293	0.000	0.000
2087	2087	1	0.000	-0.293	0.000	0.000
2088	2088	1	0.000	-0.293	0.000	0.000
2089	2089	1	0.000	-0.293	0.000	0.000
2090	2090	1	0.000	-0.293	0.000	0.000
2091	2091	1	0.000	-0.293	0.000	0.000
2092	2092	1	0.000	-0.293	0.000	0.000
2093	2093	1	0.000	-0.293	0.000	0.000
2094	2094	1	0.000	-0.293	0.000	0.000
2095	2095	1	0.000	-0.293	0.000	0.000
2096	2096	1	0.000	-0.293	0.000	0.000
2097	2097	1	0.000	-0.293	0.000	0.000
2098	2098	1	0.000	-0.293	0.000	0.000
2099	2099	1	0.000	-0.293	0.000	0.000
2100	2100	1	0.000	-0.293	0.000	0.000
2101	2101	1	0.000	-0.293	0.000	0.000
2102	2102	1	0.000	-0.293	0.000	0.000
2103	2103	1	0.000	-0.293	0.000	0.000
2104	2104	1	0.000	-0.293	0.000	0.000
2105	2105	1	0.000	-0.293	0.000	0.000
2106	2106	1	0.000	-0.293	0.000	0.000
2107	2107	1	0.000	-0.293	0.000	0.000
2108	2108	1	0.000	-0.293	0.000	0.000
2109	2109	1	0.000	-0.293	0.000	0.000
2110	2110	1	0.000	-0.293	0.000	0.000
2111	2111	1	0.000	-0.293	0.000	0.000
2112	2112	1	0.000	-0.293	0.000	0.000
2113	2113	1	0.000	-0.293	0.000	0.000
2114	2114	1	0.000	-0.293	0.000	0.000
2115	2115	1	0.000	-0.293	0.000	0.000
2116	2116	1	0.000	-0.293	0.000	0.000
2117	2117	1	0.000	-0.293	0.000	0.000
2118	2118	1	0.000	-0.293	0.000	0.000
2119	2119	1	0.000	-0.293	0.000	0.000
2120	2120	1	0.000	-0.293	0.000	0.000
2121	2121	1	0.000	-0.293	0.000	0.000
2122	2122	1	0.000	-0.293	0.000	0.000
2123	2123	1	0.000	-0.293	0.000	0.000
2124	2124	1	0.000	-0.293	0.000	0.000
2125	2125	1	0.000	-0.293	0.000	0.000
2126	2126	1	0.000	-0.293	0.000	0.000
2127	2127	1	0.000	-0.293	0.000	0.000

2128	2128	1	0.000	-0.293	0.000	0.000
2129	2129	1	0.000	-0.293	0.000	0.000
2130	2130	1	0.000	-0.293	0.000	0.000
2131	2131	1	0.000	-0.293	0.000	0.000
2132	2132	1	0.000	-0.293	0.000	0.000
2133	2133	1	0.000	-0.293	0.000	0.000
2134	2134	1	0.000	-0.293	0.000	0.000
2135	2135	1	0.000	-0.293	0.000	0.000
2136	2136	1	0.000	-0.293	0.000	0.000
2137	2137	1	0.000	-0.293	0.000	0.000
2138	2138	1	0.000	-0.293	0.000	0.000
2139	2139	1	0.000	-0.293	0.000	0.000
2140	2140	1	0.000	-0.293	0.000	0.000
2141	2141	1	0.000	-0.293	0.000	0.000
2142	2142	1	0.000	-0.293	0.000	0.000
2143	2143	1	0.000	-0.293	0.000	0.000
2144	2144	1	0.000	-0.293	0.000	0.000
2145	2145	1	0.000	-0.293	0.000	0.000
2146	2146	1	0.000	-0.293	0.000	0.000
2147	2147	1	0.000	-0.293	0.000	0.000
2148	2148	1	0.000	-0.293	0.000	0.000
2149	2149	1	0.000	-0.293	0.000	0.000
2150	2150	1	0.000	-0.293	0.000	0.000
2151	2151	1	0.000	-0.293	0.000	0.000
2011	2011	2	26.996	-0.354	14.286	1.917
2012	2012	2	3.197	-2.001	0.000	-1.071
2013	2013	2	-3.680	-1.746	0.000	4.731
2014	2014	2	-11.343	-1.707	0.000	-0.016
2015	2015	2	-29.504	-0.562	0.000	-0.020
2016	2016	2	-12.397	-1.719	0.000	0.004
2017	2017	2	22.316	-1.752	0.000	0.021
2018	2018	2	16.802	-2.472	0.000	-0.267
2019	2019	2	0.348	-2.412	0.000	-1.513
2020	2020	2	-24.318	-6.920	0.000	-4.516
2021	2021	2	30.464	0.586	0.000	-0.553
2022	2022	2	60.563	-5.002	0.000	0.295
2023	2023	2	-5.550	5.535	0.000	-0.288
2024	2024	2	-13.119	2.683	0.000	-0.174
2025	2025	2	-3.997	0.465	0.000	-0.148
2026	2026	2	-5.278	0.417	0.000	-0.034
2027	2027	2	2.671	0.740	0.000	-0.046
2028	2028	2	2.847	0.731	0.000	-0.036
2029	2029	2	1.845	0.723	0.000	-0.036
2030	2030	2	2.718	-0.293	0.000	-0.040

2031	2031	2	1.764	-0.293	0.000	-0.027
2032	2032	2	1.733	-0.293	0.000	-0.027
2033	2033	2	2.556	-0.293	0.000	0.000
2034	2034	2	2.492	-0.293	0.000	0.000
2035	2035	2	1.621	-0.293	0.000	0.000
2036	2036	2	0.000	-0.293	0.000	0.000
2037	2037	2	0.000	-0.293	0.000	0.000
2038	2038	2	0.000	-0.293	0.000	0.000
2039	2039	2	0.000	-0.293	0.000	0.000
2040	2040	2	0.000	-0.293	0.000	0.000
2041	2041	2	0.000	-0.293	0.000	0.000
2042	2042	2	0.000	-0.293	0.000	0.000
2043	2043	2	0.000	-0.293	0.000	0.000
2044	2044	2	0.000	-0.293	0.000	0.000
2045	2045	2	0.000	-0.293	0.000	0.000
2046	2046	2	0.000	-0.293	0.000	0.000
2047	2047	2	0.000	-0.293	0.000	0.000
2048	2048	2	0.000	-0.293	0.000	0.000
2049	2049	2	0.000	-0.293	0.000	0.000
2050	2050	2	0.000	-0.293	0.000	0.000
2051	2051	2	0.000	-0.293	0.000	0.000
2052	2052	2	0.000	-0.293	0.000	0.000
2053	2053	2	0.000	-0.293	0.000	0.000
2054	2054	2	0.000	-0.293	0.000	0.000
2055	2055	2	0.000	-0.293	0.000	0.000
2056	2056	2	0.000	-0.293	0.000	0.000
2057	2057	2	0.000	-0.293	0.000	0.000
2058	2058	2	0.000	-0.293	0.000	0.000
2059	2059	2	0.000	-0.293	0.000	0.000
2060	2060	2	0.000	-0.293	0.000	0.000
2061	2061	2	0.000	-0.293	0.000	0.000
2062	2062	2	0.000	-0.293	0.000	0.000
2063	2063	2	0.000	-0.293	0.000	0.000
2064	2064	2	0.000	-0.293	0.000	0.000
2065	2065	2	0.000	-0.293	0.000	0.000
2066	2066	2	0.000	-0.293	0.000	0.000
2067	2067	2	0.000	-0.293	0.000	0.000
2068	2068	2	0.000	-0.293	0.000	0.000
2069	2069	2	0.000	-0.293	0.000	0.000
2070	2070	2	0.000	-0.293	0.000	0.000
2071	2071	2	0.000	-0.293	0.000	0.000
2072	2072	2	0.000	-0.293	0.000	0.000
2073	2073	2	0.000	-0.293	0.000	0.000
2074	2074	2	0.000	-0.293	0.000	0.000

2075	2075	2	0.000	-0.293	0.000	0.000
2076	2076	2	0.000	-0.293	0.000	0.000
2077	2077	2	0.000	-0.293	0.000	0.000
2078	2078	2	0.000	-0.293	0.000	0.000
2079	2079	2	0.000	-0.293	0.000	0.000
2080	2080	2	0.000	-0.293	0.000	0.000
2081	2081	2	0.000	-0.293	0.000	0.000
2082	2082	2	0.000	-0.293	0.000	0.000
2083	2083	2	0.000	-0.293	0.000	0.000
2084	2084	2	0.000	-0.293	0.000	0.000
2085	2085	2	0.000	-0.293	0.000	0.000
2086	2086	2	0.000	-0.293	0.000	0.000
2087	2087	2	0.000	-0.293	0.000	0.000
2088	2088	2	0.000	-0.293	0.000	0.000
2089	2089	2	0.000	-0.293	0.000	0.000
2090	2090	2	0.000	-0.293	0.000	0.000
2091	2091	2	0.000	-0.293	0.000	0.000
2092	2092	2	0.000	-0.293	0.000	0.000
2093	2093	2	0.000	-0.293	0.000	0.000
2094	2094	2	0.000	-0.293	0.000	0.000
2095	2095	2	0.000	-0.293	0.000	0.000
2096	2096	2	0.000	-0.293	0.000	0.000
2097	2097	2	0.000	-0.293	0.000	0.000
2098	2098	2	0.000	-0.293	0.000	0.000
2099	2099	2	0.000	-0.293	0.000	0.000
2100	2100	2	0.000	-0.293	0.000	0.000
2101	2101	2	0.000	-0.293	0.000	0.000
2102	2102	2	0.000	-0.293	0.000	0.000
2103	2103	2	0.000	-0.293	0.000	0.000
2104	2104	2	0.000	-0.293	0.000	0.000
2105	2105	2	0.000	-0.293	0.000	0.000
2106	2106	2	0.000	-0.293	0.000	0.000
2107	2107	2	0.000	-0.293	0.000	0.000
2108	2108	2	0.000	-0.293	0.000	0.000
2109	2109	2	0.000	-0.293	0.000	0.000
2110	2110	2	0.000	-0.293	0.000	0.000
2111	2111	2	0.000	-0.293	0.000	0.000
2112	2112	2	0.000	-0.293	0.000	0.000
2113	2113	2	0.000	-0.293	0.000	0.000
2114	2114	2	0.000	-0.293	0.000	0.000
2115	2115	2	0.000	-0.293	0.000	0.000
2116	2116	2	0.000	-0.293	0.000	0.000
2117	2117	2	0.000	-0.293	0.000	0.000
2118	2118	2	0.000	-0.293	0.000	0.000

2119	2119	2	0.000	-0.293	0.000	0.000
2120	2120	2	0.000	-0.293	0.000	0.000
2121	2121	2	0.000	-0.293	0.000	0.000
2122	2122	2	0.000	-0.293	0.000	0.000
2123	2123	2	0.000	-0.293	0.000	0.000
2124	2124	2	0.000	-0.293	0.000	0.000
2125	2125	2	0.000	-0.293	0.000	0.000
2126	2126	2	0.000	-0.293	0.000	0.000
2127	2127	2	0.000	-0.293	0.000	0.000
2128	2128	2	0.000	-0.293	0.000	0.000
2129	2129	2	0.000	-0.293	0.000	0.000
2130	2130	2	0.000	-0.293	0.000	0.000
2131	2131	2	0.000	-0.293	0.000	0.000
2132	2132	2	0.000	-0.293	0.000	0.000
2133	2133	2	0.000	-0.293	0.000	0.000
2134	2134	2	0.000	-0.293	0.000	0.000
2135	2135	2	0.000	-0.293	0.000	0.000
2136	2136	2	0.000	-0.293	0.000	0.000
2137	2137	2	0.000	-0.293	0.000	0.000
2138	2138	2	0.000	-0.293	0.000	0.000
2139	2139	2	0.000	-0.293	0.000	0.000
2140	2140	2	0.000	-0.293	0.000	0.000
2141	2141	2	0.000	-0.293	0.000	0.000
2142	2142	2	0.000	-0.293	0.000	0.000
2143	2143	2	0.000	-0.293	0.000	0.000
2144	2144	2	0.000	-0.293	0.000	0.000
2145	2145	2	0.000	-0.293	0.000	0.000
2146	2146	2	0.000	-0.293	0.000	0.000
2147	2147	2	0.000	-0.293	0.000	0.000
2148	2148	2	0.000	-0.293	0.000	0.000
2149	2149	2	0.000	-0.293	0.000	0.000
2150	2150	2	0.000	-0.293	0.000	0.000
2151	2151	2	0.000	-0.293	0.000	0.000
2011	2011	3	6.623	0.000	0.000	-1.438
2012	2012	3	3.751	0.000	0.000	-1.878
2013	2013	3	4.428	0.000	0.000	-2.438
2014	2014	3	3.495	0.000	0.000	-1.891
2015	2015	3	-1.703	0.000	0.000	-2.837
2016	2016	3	-3.286	0.000	0.000	-3.035
2017	2017	3	4.940	0.000	0.000	-2.830
2018	2018	3	6.255	0.000	0.000	-3.251
2019	2019	3	7.007	0.000	0.000	-3.618
2020	2020	3	-4.724	0.000	0.000	-3.931
2021	2021	3	8.209	0.000	0.000	-4.324

2022	2022	3	44.098	0.000	0.000	-4.776
2023	2023	3	35.732	0.000	0.000	-5.300
2024	2024	3	-3.272	0.000	0.000	-5.915
2025	2025	3	-13.652	0.000	0.000	-6.643
2026	2026	3	-35.980	0.000	0.000	-7.520
2027	2027	3	-4.450	0.000	0.000	-8.594
2028	2028	3	-2.634	0.000	0.000	-9.934
2029	2029	3	-0.114	0.000	0.000	-11.657
2030	2030	3	-0.506	0.000	0.000	-13.944
2031	2031	3	-4.229	0.000	0.000	-19.089
2032	2032	3	0.441	0.000	0.000	-19.090
2033	2033	3	1.228	0.000	0.000	-19.088
2034	2034	3	1.712	0.000	0.000	-19.090
2035	2035	3	-0.946	0.000	0.000	-19.089
2036	2036	3	-0.271	0.000	0.000	-19.089
2037	2037	3	-2.629	0.000	0.000	-19.088
2038	2038	3	1.153	0.000	0.000	-19.090
2039	2039	3	-0.823	0.000	0.000	-19.092
2040	2040	3	2.635	0.000	0.000	-19.088
2041	2041	3	-1.504	0.000	0.000	-16.984
2042	2042	3	-0.001	0.000	0.000	-5.099
2043	2043	3	-0.216	0.000	0.000	-2.043
2044	2044	3	1.039	0.000	0.000	-6.009
2045	2045	3	-2.180	0.000	0.000	-15.076
2046	2046	3	1.866	0.000	0.000	-9.204
2047	2047	3	-1.602	0.000	0.000	-7.798
2048	2048	3	-2.514	0.000	0.000	-5.087
2049	2049	3	1.769	0.000	0.000	-6.945
2050	2050	3	-1.947	0.000	0.000	-1.718
2051	2051	3	0.000	0.000	0.000	0.000
2052	2052	3	0.000	0.000	0.000	0.000
2053	2053	3	0.000	0.000	0.000	0.000
2054	2054	3	0.000	0.000	0.000	0.000
2055	2055	3	0.000	0.000	0.000	0.000
2056	2056	3	0.000	0.000	0.000	0.000
2057	2057	3	0.000	0.000	0.000	0.000
2058	2058	3	0.000	0.000	0.000	0.000
2059	2059	3	0.000	0.000	0.000	0.000
2060	2060	3	0.000	0.000	0.000	0.000
2061	2061	3	0.000	0.000	0.000	0.000
2062	2062	3	0.000	0.000	0.000	0.000
2063	2063	3	0.000	0.000	0.000	0.000
2064	2064	3	0.000	0.000	0.000	0.000
2065	2065	3	0.000	0.000	0.000	0.000

2066	2066	3	0.000	0.000	0.000	0.000
2067	2067	3	0.000	0.000	0.000	0.000
2068	2068	3	0.000	0.000	0.000	0.000
2069	2069	3	0.000	0.000	0.000	0.000
2070	2070	3	0.000	0.000	0.000	0.000
2071	2071	3	0.000	0.000	0.000	0.000
2072	2072	3	0.000	0.000	0.000	0.000
2073	2073	3	0.000	0.000	0.000	0.000
2074	2074	3	0.000	0.000	0.000	0.000
2075	2075	3	0.000	0.000	0.000	0.000
2076	2076	3	0.000	0.000	0.000	0.000
2077	2077	3	0.000	0.000	0.000	0.000
2078	2078	3	0.000	0.000	0.000	0.000
2079	2079	3	0.000	0.000	0.000	0.000
2080	2080	3	0.000	0.000	0.000	0.000
2081	2081	3	0.000	0.000	0.000	0.000
2082	2082	3	0.000	0.000	0.000	0.000
2083	2083	3	0.000	0.000	0.000	0.000
2084	2084	3	0.000	0.000	0.000	0.000
2085	2085	3	0.000	0.000	0.000	0.000
2086	2086	3	0.000	0.000	0.000	0.000
2087	2087	3	0.000	0.000	0.000	0.000
2088	2088	3	0.000	0.000	0.000	0.000
2089	2089	3	0.000	0.000	0.000	0.000
2090	2090	3	0.000	0.000	0.000	0.000
2091	2091	3	0.000	0.000	0.000	0.000
2092	2092	3	0.000	0.000	0.000	0.000
2093	2093	3	0.000	0.000	0.000	0.000
2094	2094	3	0.000	0.000	0.000	0.000
2095	2095	3	0.000	0.000	0.000	0.000
2096	2096	3	0.000	0.000	0.000	0.000
2097	2097	3	0.000	0.000	0.000	0.000
2098	2098	3	0.000	0.000	0.000	0.000
2099	2099	3	0.000	0.000	0.000	0.000
2100	2100	3	0.000	0.000	0.000	0.000
2101	2101	3	0.000	0.000	0.000	0.000
2102	2102	3	0.000	0.000	0.000	0.000
2103	2103	3	0.000	0.000	0.000	0.000
2104	2104	3	0.000	0.000	0.000	0.000
2105	2105	3	0.000	0.000	0.000	0.000
2106	2106	3	0.000	0.000	0.000	0.000
2107	2107	3	0.000	0.000	0.000	0.000
2108	2108	3	0.000	0.000	0.000	0.000
2109	2109	3	0.000	0.000	0.000	0.000

2110	2110	3	0.000	0.000	0.000	0.000
2111	2111	3	0.000	0.000	0.000	0.000
2112	2112	3	0.000	0.000	0.000	0.000
2113	2113	3	0.000	0.000	0.000	0.000
2114	2114	3	0.000	0.000	0.000	0.000
2115	2115	3	0.000	0.000	0.000	0.000
2116	2116	3	0.000	0.000	0.000	0.000
2117	2117	3	0.000	0.000	0.000	0.000
2118	2118	3	0.000	0.000	0.000	0.000
2119	2119	3	0.000	0.000	0.000	0.000
2120	2120	3	0.000	0.000	0.000	0.000
2121	2121	3	0.000	0.000	0.000	0.000
2122	2122	3	0.000	0.000	0.000	0.000
2123	2123	3	0.000	0.000	0.000	0.000
2124	2124	3	0.000	0.000	0.000	0.000
2125	2125	3	0.000	0.000	0.000	0.000
2126	2126	3	0.000	0.000	0.000	0.000
2127	2127	3	0.000	0.000	0.000	0.000
2128	2128	3	0.000	0.000	0.000	0.000
2129	2129	3	0.000	0.000	0.000	0.000
2130	2130	3	0.000	0.000	0.000	0.000
2131	2131	3	0.000	0.000	0.000	0.000
2132	2132	3	0.000	0.000	0.000	0.000
2133	2133	3	0.000	0.000	0.000	0.000
2134	2134	3	0.000	0.000	0.000	0.000
2135	2135	3	0.000	0.000	0.000	0.000
2136	2136	3	0.000	0.000	0.000	0.000
2137	2137	3	0.000	0.000	0.000	0.000
2138	2138	3	0.000	0.000	0.000	0.000
2139	2139	3	0.000	0.000	0.000	0.000
2140	2140	3	0.000	0.000	0.000	0.000
2141	2141	3	0.000	0.000	0.000	0.000
2142	2142	3	0.000	0.000	0.000	0.000
2143	2143	3	0.000	0.000	0.000	0.000
2144	2144	3	0.000	0.000	0.000	0.000
2145	2145	3	0.000	0.000	0.000	0.000
2146	2146	3	0.000	0.000	0.000	0.000
2147	2147	3	0.000	0.000	0.000	0.000
2148	2148	3	0.000	0.000	0.000	0.000
2149	2149	3	0.000	0.000	0.000	0.000
2150	2150	3	0.000	0.000	0.000	0.000
2151	2151	3	0.000	0.000	0.000	0.000

FUEL_COST_CHANGES - (std)

*% change p.a.

*Start_yr	End_yr	fuel_type	resource	duty	VAT	CO2_Den_change
2011	2011	1	22.226	-0.297	14.286	-0.844
2012	2012	1	2.040	-2.049	0.000	-0.023
2013	2013	1	-3.443	-1.746	0.000	-0.438
2014	2014	1	-11.771	-1.707	0.000	-0.537
2015	2015	1	-28.520	-0.661	0.000	0.000
2016	2016	1	-7.312	-2.068	0.000	0.000
2017	2017	1	19.734	-1.912	0.000	-1.352
2018	2018	1	13.204	-2.203	0.000	-1.370
2019	2019	1	-10.631	-2.442	0.000	-1.389
2020	2020	1	-11.341	-4.832	0.000	-1.409
2021	2021	1	3.590	1.236	0.000	0.000
2022	2022	1	5.005	3.364	0.000	0.000
2023	2023	1	1.744	0.601	0.000	0.000
2024	2024	1	1.726	0.550	0.000	0.000
2025	2025	1	1.765	0.745	0.000	0.000
2026	2026	1	2.597	0.658	0.000	0.000
2027	2027	1	1.476	0.681	0.000	0.000
2028	2028	1	1.433	0.674	0.000	0.000
2029	2029	1	1.391	0.663	0.000	0.000
2030	2030	1	1.352	0.653	0.000	0.000
2031	2031	1	2.246	0.653	0.000	0.000
2032	2032	1	1.259	0.650	0.000	0.000
2033	2033	1	1.225	0.644	0.000	0.000
2034	2034	1	1.193	0.637	0.000	0.000
2035	2035	1	1.162	0.645	0.000	0.000
2036	2036	1	0.000	0.640	0.000	0.000
2037	2037	1	0.000	0.635	0.000	0.000
2038	2038	1	0.000	0.630	0.000	0.000
2039	2039	1	0.000	0.649	0.000	0.000
2040	2040	1	0.000	0.681	0.000	0.000
2041	2041	1	0.000	0.629	0.000	0.000
2042	2042	1	0.000	0.592	0.000	0.000
2043	2043	1	0.000	0.587	0.000	0.000
2044	2044	1	0.000	0.587	0.000	0.000
2045	2045	1	0.000	0.586	0.000	0.000
2046	2046	1	0.000	0.587	0.000	0.000
2047	2047	1	0.000	0.587	0.000	0.000
2048	2048	1	0.000	0.587	0.000	0.000
2049	2049	1	0.000	0.586	0.000	0.000
2050	2050	1	0.000	0.587	0.000	0.000
2051	2051	1	0.000	0.587	0.000	0.000
2052	2052	1	0.000	0.587	0.000	0.000

2053	2053	1	0.000	0.587	0.000	0.000
2054	2054	1	0.000	0.587	0.000	0.000
2055	2055	1	0.000	0.587	0.000	0.000
2056	2056	1	0.000	0.587	0.000	0.000
2057	2057	1	0.000	0.587	0.000	0.000
2058	2058	1	0.000	0.586	0.000	0.000
2059	2059	1	0.000	0.587	0.000	0.000
2060	2060	1	0.000	0.587	0.000	0.000
2061	2061	1	0.000	0.587	0.000	0.000
2062	2062	1	0.000	0.587	0.000	0.000
2063	2063	1	0.000	0.587	0.000	0.000
2064	2064	1	0.000	0.587	0.000	0.000
2065	2065	1	0.000	0.587	0.000	0.000
2066	2066	1	0.000	0.587	0.000	0.000
2067	2067	1	0.000	0.587	0.000	0.000
2068	2068	1	0.000	0.587	0.000	0.000
2069	2069	1	-1.686	0.587	0.000	0.000
2070	2070	1	0.000	0.587	0.000	0.000
2071	2071	1	0.000	0.587	0.000	0.000
2072	2072	1	0.000	0.587	0.000	0.000
2073	2073	1	0.000	0.587	0.000	0.000
2074	2074	1	0.000	0.586	0.000	0.000
2075	2075	1	0.000	0.587	0.000	0.000
2076	2076	1	0.000	0.587	0.000	0.000
2077	2077	1	0.000	0.586	0.000	0.000
2078	2078	1	0.000	0.587	0.000	0.000
2079	2079	1	0.000	0.587	0.000	0.000
2080	2080	1	0.000	0.587	0.000	0.000
2081	2081	1	0.000	0.587	0.000	0.000
2082	2082	1	0.000	0.587	0.000	0.000
2083	2083	1	0.000	0.587	0.000	0.000
2084	2084	1	0.000	0.587	0.000	0.000
2085	2085	1	0.000	0.587	0.000	0.000
2086	2086	1	0.000	0.587	0.000	0.000
2087	2087	1	0.000	0.587	0.000	0.000
2088	2088	1	0.000	0.587	0.000	0.000
2089	2089	1	0.000	0.587	0.000	0.000
2090	2090	1	0.000	0.587	0.000	0.000
2091	2091	1	0.000	0.587	0.000	0.000
2092	2092	1	0.000	0.587	0.000	0.000
2093	2093	1	0.000	0.587	0.000	0.000
2094	2094	1	0.000	0.587	0.000	0.000
2095	2095	1	0.000	0.587	0.000	0.000
2096	2096	1	0.000	0.587	0.000	0.000

2097	2097	1	0.000	0.587	0.000	0.000
2098	2098	1	0.000	0.587	0.000	0.000
2099	2099	1	0.000	0.587	0.000	0.000
2100	2100	1	0.000	0.587	0.000	0.000
2101	2101	1	0.000	0.587	0.000	0.000
2102	2102	1	0.000	0.587	0.000	0.000
2103	2103	1	0.000	0.587	0.000	0.000
2104	2104	1	0.000	0.587	0.000	0.000
2105	2105	1	0.000	0.587	0.000	0.000
2106	2106	1	0.000	0.587	0.000	0.000
2107	2107	1	0.000	0.587	0.000	0.000
2108	2108	1	0.000	0.587	0.000	0.000
2109	2109	1	0.000	0.587	0.000	0.000
2110	2110	1	0.000	0.587	0.000	0.000
2111	2111	1	0.000	0.587	0.000	0.000
2112	2112	1	0.000	0.587	0.000	0.000
2113	2113	1	0.000	0.587	0.000	0.000
2114	2114	1	0.000	0.587	0.000	0.000
2115	2115	1	0.000	0.587	0.000	0.000
2116	2116	1	0.000	0.587	0.000	0.000
2117	2117	1	0.000	0.587	0.000	0.000
2118	2118	1	0.000	0.587	0.000	0.000
2119	2119	1	0.000	0.587	0.000	0.000
2120	2120	1	0.000	0.587	0.000	0.000
2121	2121	1	0.000	0.587	0.000	0.000
2122	2122	1	0.000	0.587	0.000	0.000
2123	2123	1	0.000	0.587	0.000	0.000
2124	2124	1	0.000	0.587	0.000	0.000
2125	2125	1	0.000	0.587	0.000	0.000
2126	2126	1	0.000	0.587	0.000	0.000
2127	2127	1	0.000	0.587	0.000	0.000
2128	2128	1	0.000	0.587	0.000	0.000
2129	2129	1	0.000	0.587	0.000	0.000
2130	2130	1	0.000	0.587	0.000	0.000
2131	2131	1	0.000	0.587	0.000	0.000
2132	2132	1	0.000	0.587	0.000	0.000
2133	2133	1	0.000	0.587	0.000	0.000
2134	2134	1	0.000	0.587	0.000	0.000
2135	2135	1	0.000	0.587	0.000	0.000
2136	2136	1	0.000	0.587	0.000	0.000
2137	2137	1	0.000	0.587	0.000	0.000
2138	2138	1	0.000	0.587	0.000	0.000
2139	2139	1	0.000	0.587	0.000	0.000
2140	2140	1	0.000	0.587	0.000	0.000

2141	2141	1	0.000	0.587	0.000	0.000
2142	2142	1	0.000	0.587	0.000	0.000
2143	2143	1	0.000	0.587	0.000	0.000
2144	2144	1	0.000	0.587	0.000	0.000
2145	2145	1	0.000	0.587	0.000	0.000
2146	2146	1	0.000	0.587	0.000	0.000
2147	2147	1	0.000	0.587	0.000	0.000
2148	2148	1	0.000	0.587	0.000	0.000
2149	2149	1	0.000	0.587	0.000	0.000
2150	2150	1	0.000	0.587	0.000	0.000
2151	2151	1	0.000	0.587	0.000	0.000
2011	2011	2	26.919	-0.297	14.286	0.188
2012	2012	2	3.247	-2.049	0.000	1.643
2013	2013	2	-3.680	-1.746	0.000	-0.436
2014	2014	2	-11.343	-1.707	0.000	0.153
2015	2015	2	-29.504	-0.661	0.000	0.004
2016	2016	2	-12.397	-2.068	0.000	0.003
2017	2017	2	22.316	-1.912	0.000	-1.744
2018	2018	2	16.802	-2.203	0.000	-1.775
2019	2019	2	-11.392	-2.442	0.000	-1.807
2020	2020	2	-11.913	-4.832	0.000	-1.841
2021	2021	2	3.816	1.236	0.000	0.000
2022	2022	2	5.133	3.364	0.000	0.000
2023	2023	2	1.862	0.601	0.000	0.000
2024	2024	2	1.853	0.550	0.000	0.000
2025	2025	2	1.886	0.745	0.000	0.000
2026	2026	2	2.790	0.658	0.000	0.000
2027	2027	2	1.583	0.681	0.000	0.000
2028	2028	2	1.535	0.674	0.000	0.000
2029	2029	2	1.489	0.663	0.000	0.000
2030	2030	2	1.445	0.653	0.000	0.000
2031	2031	2	2.399	0.653	0.000	0.000
2032	2032	2	1.343	0.650	0.000	0.000
2033	2033	2	1.306	0.644	0.000	0.000
2034	2034	2	1.270	0.637	0.000	0.000
2035	2035	2	1.236	0.645	0.000	0.000
2036	2036	2	0.000	0.640	0.000	0.000
2037	2037	2	0.000	0.635	0.000	0.000
2038	2038	2	0.000	0.630	0.000	0.000
2039	2039	2	0.000	0.649	0.000	0.000
2040	2040	2	0.000	0.681	0.000	0.000
2041	2041	2	0.000	0.629	0.000	0.000
2042	2042	2	0.000	0.592	0.000	0.000
2043	2043	2	0.000	0.587	0.000	0.000

2044	2044	2	0.000	0.587	0.000	0.000
2045	2045	2	0.000	0.586	0.000	0.000
2046	2046	2	0.000	0.587	0.000	0.000
2047	2047	2	0.000	0.587	0.000	0.000
2048	2048	2	0.000	0.587	0.000	0.000
2049	2049	2	0.000	0.586	0.000	0.000
2050	2050	2	0.000	0.587	0.000	0.000
2051	2051	2	0.000	0.587	0.000	0.000
2052	2052	2	0.000	0.587	0.000	0.000
2053	2053	2	0.000	0.587	0.000	0.000
2054	2054	2	0.000	0.587	0.000	0.000
2055	2055	2	0.000	0.587	0.000	0.000
2056	2056	2	0.000	0.587	0.000	0.000
2057	2057	2	0.000	0.587	0.000	0.000
2058	2058	2	0.000	0.586	0.000	0.000
2059	2059	2	0.000	0.587	0.000	0.000
2060	2060	2	0.000	0.587	0.000	0.000
2061	2061	2	0.000	0.587	0.000	0.000
2062	2062	2	0.000	0.587	0.000	0.000
2063	2063	2	0.000	0.587	0.000	0.000
2064	2064	2	0.000	0.587	0.000	0.000
2065	2065	2	0.000	0.587	0.000	0.000
2066	2066	2	0.000	0.587	0.000	0.000
2067	2067	2	0.000	0.587	0.000	0.000
2068	2068	2	0.000	0.587	0.000	0.000
2069	2069	2	-1.686	0.587	0.000	0.000
2070	2070	2	0.000	0.587	0.000	0.000
2071	2071	2	0.000	0.587	0.000	0.000
2072	2072	2	0.000	0.587	0.000	0.000
2073	2073	2	0.000	0.587	0.000	0.000
2074	2074	2	0.000	0.586	0.000	0.000
2075	2075	2	0.000	0.587	0.000	0.000
2076	2076	2	0.000	0.587	0.000	0.000
2077	2077	2	0.000	0.586	0.000	0.000
2078	2078	2	0.000	0.587	0.000	0.000
2079	2079	2	0.000	0.587	0.000	0.000
2080	2080	2	0.000	0.587	0.000	0.000
2081	2081	2	0.000	0.587	0.000	0.000
2082	2082	2	0.000	0.587	0.000	0.000
2083	2083	2	0.000	0.587	0.000	0.000
2084	2084	2	0.000	0.587	0.000	0.000
2085	2085	2	0.000	0.587	0.000	0.000
2086	2086	2	0.000	0.587	0.000	0.000
2087	2087	2	0.000	0.587	0.000	0.000

2088	2088	2	0.000	0.587	0.000	0.000
2089	2089	2	0.000	0.587	0.000	0.000
2090	2090	2	0.000	0.587	0.000	0.000
2091	2091	2	0.000	0.587	0.000	0.000
2092	2092	2	0.000	0.587	0.000	0.000
2093	2093	2	0.000	0.587	0.000	0.000
2094	2094	2	0.000	0.587	0.000	0.000
2095	2095	2	0.000	0.587	0.000	0.000
2096	2096	2	0.000	0.587	0.000	0.000
2097	2097	2	0.000	0.587	0.000	0.000
2098	2098	2	0.000	0.587	0.000	0.000
2099	2099	2	0.000	0.587	0.000	0.000
2100	2100	2	0.000	0.587	0.000	0.000
2101	2101	2	0.000	0.587	0.000	0.000
2102	2102	2	0.000	0.587	0.000	0.000
2103	2103	2	0.000	0.587	0.000	0.000
2104	2104	2	0.000	0.587	0.000	0.000
2105	2105	2	0.000	0.587	0.000	0.000
2106	2106	2	0.000	0.587	0.000	0.000
2107	2107	2	0.000	0.587	0.000	0.000
2108	2108	2	0.000	0.587	0.000	0.000
2109	2109	2	0.000	0.587	0.000	0.000
2110	2110	2	0.000	0.587	0.000	0.000
2111	2111	2	0.000	0.587	0.000	0.000
2112	2112	2	0.000	0.587	0.000	0.000
2113	2113	2	0.000	0.587	0.000	0.000
2114	2114	2	0.000	0.587	0.000	0.000
2115	2115	2	0.000	0.587	0.000	0.000
2116	2116	2	0.000	0.587	0.000	0.000
2117	2117	2	0.000	0.587	0.000	0.000
2118	2118	2	0.000	0.587	0.000	0.000
2119	2119	2	0.000	0.587	0.000	0.000
2120	2120	2	0.000	0.587	0.000	0.000
2121	2121	2	0.000	0.587	0.000	0.000
2122	2122	2	0.000	0.587	0.000	0.000
2123	2123	2	0.000	0.587	0.000	0.000
2124	2124	2	0.000	0.587	0.000	0.000
2125	2125	2	0.000	0.587	0.000	0.000
2126	2126	2	0.000	0.587	0.000	0.000
2127	2127	2	0.000	0.587	0.000	0.000
2128	2128	2	0.000	0.587	0.000	0.000
2129	2129	2	0.000	0.587	0.000	0.000
2130	2130	2	0.000	0.587	0.000	0.000
2131	2131	2	0.000	0.587	0.000	0.000

2132	2132	2	0.000	0.587	0.000	0.000
2133	2133	2	0.000	0.587	0.000	0.000
2134	2134	2	0.000	0.587	0.000	0.000
2135	2135	2	0.000	0.587	0.000	0.000
2136	2136	2	0.000	0.587	0.000	0.000
2137	2137	2	0.000	0.587	0.000	0.000
2138	2138	2	0.000	0.587	0.000	0.000
2139	2139	2	0.000	0.587	0.000	0.000
2140	2140	2	0.000	0.587	0.000	0.000
2141	2141	2	0.000	0.587	0.000	0.000
2142	2142	2	0.000	0.587	0.000	0.000
2143	2143	2	0.000	0.587	0.000	0.000
2144	2144	2	0.000	0.587	0.000	0.000
2145	2145	2	0.000	0.587	0.000	0.000
2146	2146	2	0.000	0.587	0.000	0.000
2147	2147	2	0.000	0.587	0.000	0.000
2148	2148	2	0.000	0.587	0.000	0.000
2149	2149	2	0.000	0.587	0.000	0.000
2150	2150	2	0.000	0.587	0.000	0.000
2151	2151	2	0.000	0.587	0.000	0.000
2011	2011	3	6.000	0.000	0.000	-1.438
2012	2012	3	3.963	0.000	0.000	-1.878
2013	2013	3	4.453	0.000	0.000	-2.438
2014	2014	3	0.807	0.000	0.000	-1.891
2015	2015	3	-2.124	0.000	0.000	-2.837
2016	2016	3	-1.596	0.000	0.000	-3.035
2017	2017	3	3.662	0.000	0.000	-2.830
2018	2018	3	6.268	0.000	0.000	-3.251
2019	2019	3	4.006	0.000	0.000	-3.618
2020	2020	3	-3.240	0.000	0.000	-3.931
2021	2021	3	9.768	0.000	0.000	-4.324
2022	2022	3	1.799	0.000	0.000	-4.776
2023	2023	3	-0.216	0.000	0.000	-5.300
2024	2024	3	-1.595	0.000	0.000	-5.915
2025	2025	3	1.049	0.000	0.000	-6.643
2026	2026	3	0.894	0.000	0.000	-7.520
2027	2027	3	-1.865	0.000	0.000	-8.594
2028	2028	3	-0.274	0.000	0.000	-9.934
2029	2029	3	-0.789	0.000	0.000	-11.657
2030	2030	3	1.876	0.000	0.000	-13.944
2031	2031	3	-0.287	0.000	0.000	-19.089
2032	2032	3	-2.211	0.000	0.000	-19.090
2033	2033	3	-2.565	0.000	0.000	-19.088
2034	2034	3	-1.399	0.000	0.000	-19.090

2035	2035	3	-1.444	0.000	0.000	-19.089
2036	2036	3	-0.695	0.000	0.000	-19.089
2037	2037	3	-0.258	0.000	0.000	-19.088
2038	2038	3	-0.856	0.000	0.000	-19.090
2039	2039	3	1.452	0.000	0.000	-19.092
2040	2040	3	-1.512	0.000	0.000	-19.088
2041	2041	3	0.000	0.000	0.000	-16.984
2042	2042	3	0.000	0.000	0.000	-5.099
2043	2043	3	0.000	0.000	0.000	-2.043
2044	2044	3	0.000	0.000	0.000	-6.009
2045	2045	3	0.000	0.000	0.000	-15.076
2046	2046	3	0.000	0.000	0.000	-9.204
2047	2047	3	0.000	0.000	0.000	-7.798
2048	2048	3	0.000	0.000	0.000	-5.087
2049	2049	3	0.000	0.000	0.000	-6.945
2050	2050	3	0.000	0.000	0.000	-1.718
2051	2051	3	0.000	0.000	0.000	0.000
2052	2052	3	0.000	0.000	0.000	0.000
2053	2053	3	0.000	0.000	0.000	0.000
2054	2054	3	0.000	0.000	0.000	0.000
2055	2055	3	0.000	0.000	0.000	0.000
2056	2056	3	0.000	0.000	0.000	0.000
2057	2057	3	0.000	0.000	0.000	0.000
2058	2058	3	0.000	0.000	0.000	0.000
2059	2059	3	0.000	0.000	0.000	0.000
2060	2060	3	0.000	0.000	0.000	0.000
2061	2061	3	0.000	0.000	0.000	0.000
2062	2062	3	0.000	0.000	0.000	0.000
2063	2063	3	0.000	0.000	0.000	0.000
2064	2064	3	0.000	0.000	0.000	0.000
2065	2065	3	0.000	0.000	0.000	0.000
2066	2066	3	0.000	0.000	0.000	0.000
2067	2067	3	0.000	0.000	0.000	0.000
2068	2068	3	0.000	0.000	0.000	0.000
2069	2069	3	0.000	0.000	0.000	0.000
2070	2070	3	0.000	0.000	0.000	0.000
2071	2071	3	0.000	0.000	0.000	0.000
2072	2072	3	0.000	0.000	0.000	0.000
2073	2073	3	0.000	0.000	0.000	0.000
2074	2074	3	0.000	0.000	0.000	0.000
2075	2075	3	0.000	0.000	0.000	0.000
2076	2076	3	0.000	0.000	0.000	0.000
2077	2077	3	0.000	0.000	0.000	0.000
2078	2078	3	0.000	0.000	0.000	0.000

2079	2079	3	0.000	0.000	0.000	0.000
2080	2080	3	0.000	0.000	0.000	0.000
2081	2081	3	0.000	0.000	0.000	0.000
2082	2082	3	0.000	0.000	0.000	0.000
2083	2083	3	0.000	0.000	0.000	0.000
2084	2084	3	0.000	0.000	0.000	0.000
2085	2085	3	0.000	0.000	0.000	0.000
2086	2086	3	0.000	0.000	0.000	0.000
2087	2087	3	0.000	0.000	0.000	0.000
2088	2088	3	0.000	0.000	0.000	0.000
2089	2089	3	0.000	0.000	0.000	0.000
2090	2090	3	0.000	0.000	0.000	0.000
2091	2091	3	0.000	0.000	0.000	0.000
2092	2092	3	0.000	0.000	0.000	0.000
2093	2093	3	0.000	0.000	0.000	0.000
2094	2094	3	0.000	0.000	0.000	0.000
2095	2095	3	0.000	0.000	0.000	0.000
2096	2096	3	0.000	0.000	0.000	0.000
2097	2097	3	0.000	0.000	0.000	0.000
2098	2098	3	0.000	0.000	0.000	0.000
2099	2099	3	0.000	0.000	0.000	0.000
2100	2100	3	0.000	0.000	0.000	0.000
2101	2101	3	0.000	0.000	0.000	0.000
2102	2102	3	0.000	0.000	0.000	0.000
2103	2103	3	0.000	0.000	0.000	0.000
2104	2104	3	0.000	0.000	0.000	0.000
2105	2105	3	0.000	0.000	0.000	0.000
2106	2106	3	0.000	0.000	0.000	0.000
2107	2107	3	0.000	0.000	0.000	0.000
2108	2108	3	0.000	0.000	0.000	0.000
2109	2109	3	0.000	0.000	0.000	0.000
2110	2110	3	0.000	0.000	0.000	0.000
2111	2111	3	0.000	0.000	0.000	0.000
2112	2112	3	0.000	0.000	0.000	0.000
2113	2113	3	0.000	0.000	0.000	0.000
2114	2114	3	0.000	0.000	0.000	0.000
2115	2115	3	0.000	0.000	0.000	0.000
2116	2116	3	0.000	0.000	0.000	0.000
2117	2117	3	0.000	0.000	0.000	0.000
2118	2118	3	0.000	0.000	0.000	0.000
2119	2119	3	0.000	0.000	0.000	0.000
2120	2120	3	0.000	0.000	0.000	0.000
2121	2121	3	0.000	0.000	0.000	0.000
2122	2122	3	0.000	0.000	0.000	0.000

2123	2123	3	0.000	0.000	0.000	0.000
2124	2124	3	0.000	0.000	0.000	0.000
2125	2125	3	0.000	0.000	0.000	0.000
2126	2126	3	0.000	0.000	0.000	0.000
2127	2127	3	0.000	0.000	0.000	0.000
2128	2128	3	0.000	0.000	0.000	0.000
2129	2129	3	0.000	0.000	0.000	0.000
2130	2130	3	0.000	0.000	0.000	0.000
2131	2131	3	0.000	0.000	0.000	0.000
2132	2132	3	0.000	0.000	0.000	0.000
2133	2133	3	0.000	0.000	0.000	0.000
2134	2134	3	0.000	0.000	0.000	0.000
2135	2135	3	0.000	0.000	0.000	0.000
2136	2136	3	0.000	0.000	0.000	0.000
2137	2137	3	0.000	0.000	0.000	0.000
2138	2138	3	0.000	0.000	0.000	0.000
2139	2139	3	0.000	0.000	0.000	0.000
2140	2140	3	0.000	0.000	0.000	0.000
2141	2141	3	0.000	0.000	0.000	0.000
2142	2142	3	0.000	0.000	0.000	0.000
2143	2143	3	0.000	0.000	0.000	0.000
2144	2144	3	0.000	0.000	0.000	0.000
2145	2145	3	0.000	0.000	0.000	0.000
2146	2146	3	0.000	0.000	0.000	0.000
2147	2147	3	0.000	0.000	0.000	0.000
2148	2148	3	0.000	0.000	0.000	0.000
2149	2149	3	0.000	0.000	0.000	0.000
2150	2150	3	0.000	0.000	0.000	0.000
2151	2151	3	0.000	0.000	0.000	0.000

FLEET - (used)

*veh_type	%Petrol	%Diesel	%Electric
1	59.8962	40.0961	0.0077
2	3.4548	96.4566	0.0886
3	3.4548	96.4566	0.0886
4	0.0000	100.0000	0.0000
5	0.0000	100.0000	0.0000
6	0.0000	99.9221	0.0779
7	0.0000	100.0000	0.0000
8	0.0000	100.0000	0.0000

FLEET - (std)

*veh_type	%Petrol	%Diesel	%Electric
1	59.6299	40.3625	0.0076

2	3.4505	96.4583	0.0912
3	3.4505	96.4583	0.0912
4	0.0000	100.0000	0.0000
5	0.0000	100.0000	0.0000
6	0.0000	100.0000	0.0000
7	0.0000	100.0000	0.0000
8	0.0000	100.0000	0.0000

FLEET_CHANGES - (used)

**% p.a.

*Start_yr	End_yr	Veh_type	%Change_Petrol	%Change_Diesel	%Change_Electric
2011	2011	1	-3.5334	5.2644	72.7273
2012	2012	1	-3.5938	4.8952	77.4436
2013	2013	1	-3.6635	4.5816	52.5424
2014	2014	1	-3.5106	3.9580	142.2222
2015	2015	1	-3.2761	3.3338	105.1606
2016	2016	1	-2.7303	2.5141	65.3438
2017	2017	1	-0.9381	0.6152	48.4449
2018	2018	1	1.1306	-1.3993	39.2394
2019	2019	1	2.3623	-2.7214	36.5882
2020	2020	1	1.9473	-3.2533	75.2245
2021	2021	1	1.5292	-4.3172	87.2343
2022	2022	1	0.2404	-4.6395	72.5965
2023	2023	1	-0.8037	-5.4000	58.4144
2024	2024	1	-1.4484	-6.2086	43.9989
2025	2025	1	-2.0998	-7.3022	35.9550
2026	2026	1	-2.4509	-7.9695	27.7036
2027	2027	1	-2.9226	-8.6666	22.7674
2028	2028	1	-3.3225	-9.3402	18.9875
2029	2029	1	-3.6571	-9.8518	15.8753
2030	2030	1	-3.9691	-10.1168	13.3105
2031	2031	1	-4.0715	-10.1036	10.9677
2032	2032	1	-4.0434	-9.9044	9.0164
2033	2033	1	-4.1522	-9.4536	7.5826
2034	2034	1	-4.2021	-8.8854	6.4073
2035	2035	1	-4.0578	-8.4250	5.3933
2036	2036	1	-3.8855	-7.8288	4.5411
2037	2037	1	-3.8221	-7.0415	3.8820
2038	2038	1	-3.5816	-6.0722	3.2150
2039	2039	1	-3.3132	-5.1005	2.6551
2040	2040	1	-2.9987	-4.3872	2.2093
2041	2041	1	-2.5436	-3.6258	1.7546
2042	2042	1	-2.2945	-3.1222	1.4878
2043	2043	1	-1.9852	-2.7371	1.2411

2044	2044	1	-1.6650	-2.2924	1.0049
2045	2045	1	-1.4495	-1.9597	0.8450
2046	2046	1	-1.2558	-1.6572	0.7092
2047	2047	1	-1.0944	-1.4064	0.6005
2048	2048	1	-0.9945	-1.2353	0.5303
2049	2049	1	-0.8969	-1.0790	0.4665
2050	2050	1	-0.7964	-0.9332	0.4054
2011	2011	2	-9.9745	0.3593	-2.2573
2012	2012	2	-8.1699	0.2539	9.5843
2013	2013	2	-8.1580	0.2422	-2.1075
2014	2014	2	-8.2993	0.2019	22.8202
2015	2015	2	-7.8448	0.1740	16.8273
2016	2016	2	-8.3367	0.1676	15.7539
2017	2017	2	-1.9981	0.0132	17.9520
2018	2018	2	3.9723	-0.1194	20.7143
2019	2019	2	2.8159	-0.1663	47.4283
2020	2020	2	0.6107	-0.2061	58.0426
2021	2021	2	-7.3773	-0.2553	79.4296
2022	2022	2	-1.0385	-0.1683	20.0218
2023	2023	2	-1.0646	-0.1605	16.0196
2024	2024	2	-0.8959	-0.1530	12.9320
2025	2025	2	-0.8468	-0.2198	15.8266
2026	2026	2	-0.8017	-0.2901	17.6330
2027	2027	2	-0.8082	-0.3992	20.2846
2028	2028	2	-0.9106	-0.5771	24.0664
2029	2029	2	-1.0264	-0.7144	23.8074
2030	2030	2	-1.3629	-1.0477	27.9255
2031	2031	2	-1.8716	-1.4764	30.4203
2032	2032	2	-2.3561	-1.9387	30.1393
2033	2033	2	-2.9243	-2.4870	29.1112
2034	2034	2	-3.4326	-2.9768	26.3028
2035	2035	2	-3.8181	-3.3308	22.6024
2036	2036	2	-4.0270	-3.5179	18.8201
2037	2037	2	-4.0964	-3.5581	15.4568
2038	2038	2	-4.1052	-3.5435	12.8578
2039	2039	2	-3.7973	-3.2205	9.9910
2040	2040	2	-3.7896	-3.2207	8.7892
2041	2041	2	-3.3695	-2.8372	6.8894
2042	2042	2	-3.3659	-2.8357	6.2576
2043	2043	2	-3.3161	-2.7852	5.6196
2044	2044	2	-3.2138	-2.6951	5.0050
2045	2045	2	-3.0706	-2.5788	4.4374
2046	2046	2	-2.8271	-2.3669	3.7986
2047	2047	2	-2.6535	-2.2117	3.3391

2048	2048	2	-2.4825	-2.0531	2.9326
2049	2049	2	-2.2761	-1.8776	2.5526
2050	2050	2	-2.0738	-1.6824	2.1886
2011	2011	3	-9.9745	0.3593	-2.2573
2012	2012	3	-8.1699	0.2539	9.5843
2013	2013	3	-8.1580	0.2422	-2.1075
2014	2014	3	-8.2993	0.2019	22.8202
2015	2015	3	-7.8448	0.1740	16.8273
2016	2016	3	-8.3367	0.1676	15.7539
2017	2017	3	-1.9981	0.0132	17.9520
2018	2018	3	3.9723	-0.1194	20.7143
2019	2019	3	2.8159	-0.1663	47.4283
2020	2020	3	0.6107	-0.2061	58.0426
2021	2021	3	-7.3773	-0.2553	79.4296
2022	2022	3	-1.0385	-0.1683	20.0218
2023	2023	3	-1.0646	-0.1605	16.0196
2024	2024	3	-0.8959	-0.1530	12.9320
2025	2025	3	-0.8468	-0.2198	15.8266
2026	2026	3	-0.8017	-0.2901	17.6330
2027	2027	3	-0.8082	-0.3992	20.2846
2028	2028	3	-0.9106	-0.5771	24.0664
2029	2029	3	-1.0264	-0.7144	23.8074
2030	2030	3	-1.3629	-1.0477	27.9255
2031	2031	3	-1.8716	-1.4764	30.4203
2032	2032	3	-2.3561	-1.9387	30.1393
2033	2033	3	-2.9243	-2.4870	29.1112
2034	2034	3	-3.4326	-2.9768	26.3028
2035	2035	3	-3.8181	-3.3308	22.6024
2036	2036	3	-4.0270	-3.5179	18.8201
2037	2037	3	-4.0964	-3.5581	15.4568
2038	2038	3	-4.1052	-3.5435	12.8578
2039	2039	3	-3.7973	-3.2205	9.9910
2040	2040	3	-3.7896	-3.2207	8.7892
2041	2041	3	-3.3695	-2.8372	6.8894
2042	2042	3	-3.3659	-2.8357	6.2576
2043	2043	3	-3.3161	-2.7852	5.6196
2044	2044	3	-3.2138	-2.6951	5.0050
2045	2045	3	-3.0706	-2.5788	4.4374
2046	2046	3	-2.8271	-2.3669	3.7986
2047	2047	3	-2.6535	-2.2117	3.3391
2048	2048	3	-2.4825	-2.0531	2.9326
2049	2049	3	-2.2761	-1.8776	2.5526
2050	2050	3	-2.0738	-1.6824	2.1886
2011	2011	6	0.0000	-0.0011	1.4121

2012	2012	6	0.0000	-0.0202	25.5696
2013	2013	6	0.0000	-0.0327	32.9637
2014	2014	6	0.0000	-0.0723	54.7384
2015	2015	6	0.0000	-0.0313	15.2866
2016	2016	6	0.0000	-0.0935	39.6515
2017	2017	6	0.0000	-0.0617	18.7158
2018	2018	6	0.0000	-0.1298	33.1453
2019	2019	6	0.0000	-0.3121	59.7805
2020	2020	6	0.0000	-0.2987	35.6910
2021	2021	6	0.0000	-0.7068	62.0549
2022	2022	6	0.0000	-4.7142	253.6139
2023	2023	6	0.0000	-4.4616	64.6774
2024	2024	6	0.0000	-2.5792	21.6914
2025	2025	6	0.0000	-3.3217	22.3641
2026	2026	6	0.0000	-2.9956	15.9353
2027	2027	6	0.0000	-3.3685	14.9927
2028	2028	6	0.0000	-3.8909	14.5529
2029	2029	6	0.0000	-3.5896	11.2641
2030	2030	6	0.0000	-1.2289	3.3416
2031	2031	6	0.0000	-1.0185	2.6469
2032	2032	6	0.0000	-0.7730	1.9371
2033	2033	6	0.0000	-0.6043	1.4741
2034	2034	6	0.0000	-0.4783	1.1429
2035	2035	6	0.0000	-0.3495	0.8217
2036	2036	6	0.0000	-0.2085	0.4846
2037	2037	6	0.0000	-0.0851	0.1965
2038	2038	6	0.0000	0.0268	-0.0617
2039	2039	6	0.0000	0.0965	-0.2223
2040	2040	6	0.0000	-0.6920	1.5991
2041	2041	6	0.0000	-0.5875	1.3269
2042	2042	6	0.0000	-0.5265	1.1667
2043	2043	6	0.0000	-0.4615	1.0055
2044	2044	6	0.0000	-0.3947	0.8475
2045	2045	6	0.0000	-0.3467	0.7352
2046	2046	6	0.0000	-0.3361	0.7051
2047	2047	6	0.0000	-0.3365	0.6986
2048	2048	6	0.0000	-0.3394	0.6974
2049	2049	6	0.0000	-0.3277	0.6665
2050	2050	6	0.0000	-0.3043	0.6127
2051	2151	1	0.0000	0.0000	0.0000
2051	2151	2	0.0000	0.0000	0.0000
2051	2151	3	0.0000	0.0000	0.0000
2011	2151	4	0.0000	0.0000	0.0000
2011	2151	5	0.0000	0.0000	0.0000

2051 2151 6 0.0000 0.0000 0.0000

FLEET_CHANGES - (std)

*** p.a.

*Start_yr	End_yr	Veh_type	%Change_Petrol	%Change_Diesel	%Change_Electric
2011	2011	1	-3.5474	5.2271	72.3684
2012	2012	1	-3.6255	4.8862	75.5725
2013	2013	1	-3.7045	4.5823	52.6087
2014	2014	1	-3.5372	3.9494	137.0370
2015	2015	1	-3.3037	3.3379	101.4423
2016	2016	1	-2.7361	2.5097	63.3652
2017	2017	1	-0.8923	0.5861	47.9912
2018	2018	1	1.1991	-1.4201	38.8203
2019	2019	1	1.7017	-1.9941	33.4222
2020	2020	1	1.8536	-2.2461	27.1952
2021	2021	1	1.6150	-2.5074	42.8975
2022	2022	1	1.4618	-2.7336	40.4296
2023	2023	1	1.3175	-3.0441	37.7636
2024	2024	1	0.9803	-3.5199	40.2425
2025	2025	1	0.2872	-4.2813	45.8903
2026	2026	1	-0.0235	-4.6731	36.0447
2027	2027	1	-0.1975	-4.8289	27.3620
2028	2028	1	-0.3930	-4.9178	21.9646
2029	2029	1	-0.6139	-4.9385	18.2947
2030	2030	1	-0.9186	-4.8594	15.7936
2031	2031	1	-1.1396	-4.5854	13.2690
2032	2032	1	-1.3598	-4.2639	11.3740
2033	2033	1	-1.5543	-3.9092	9.8508
2034	2034	1	-1.7099	-3.6116	8.6724
2035	2035	1	-1.8177	-3.2999	7.6247
2036	2036	1	-1.8688	-3.0327	6.7218
2037	2037	1	-1.8936	-2.8160	5.9844
2038	2038	1	-1.8686	-2.5621	5.2552
2039	2039	1	-1.8261	-2.3161	4.6228
2040	2040	1	-2.0337	-2.4757	4.7437
2041	2041	1	-1.9404	-2.3503	4.2169
2042	2042	1	-1.8614	-2.2344	3.7873
2043	2043	1	-1.7986	-2.0982	3.4172
2044	2044	1	-1.8062	-2.0617	3.2286
2045	2045	1	-1.7138	-1.9060	2.8834
2046	2046	1	-1.6902	-1.8698	2.7094
2047	2047	1	-1.6879	-1.8470	2.5779
2048	2048	1	-1.6589	-1.8011	2.4200
2049	2049	1	-1.6009	-1.7231	2.2342

2050	2050	1	-1.5935	-1.7035	2.1344
2011	2011	2	-9.9551	0.3589	-2.9605
2012	2012	2	-8.0850	0.2503	10.1695
2013	2013	2	-8.1413	0.2417	-2.2564
2014	2014	2	-8.3635	0.2034	22.5603
2015	2015	2	-7.9288	0.1755	16.6952
2016	2016	2	-8.3676	0.1677	15.7007
2017	2017	2	-1.9723	0.0123	17.7552
2018	2018	2	4.0994	-0.1225	20.6247
2019	2019	2	-1.5414	-0.0689	44.2857
2020	2020	2	-1.2465	0.0340	-2.4134
2021	2021	2	-0.1690	-0.0505	16.7089
2022	2022	2	0.1344	-0.0690	17.5767
2023	2023	2	0.9644	-0.1262	23.9603
2024	2024	2	2.0384	-0.2103	30.4753
2025	2025	2	4.5262	-0.4417	47.9714
2026	2026	2	3.4807	-0.4261	32.5352
2027	2027	2	3.9436	-0.5348	31.1116
2028	2028	2	4.5536	-0.6795	30.2961
2029	2029	2	4.8684	-0.7989	27.3836
2030	2030	2	4.9673	-0.9096	24.5096
2031	2031	2	5.0865	-0.9474	20.1742
2032	2032	2	4.8793	-1.0056	17.7808
2033	2033	2	4.6320	-1.0543	15.7803
2034	2034	2	4.3655	-1.0969	14.1249
2035	2035	2	4.0807	-1.1390	12.8123
2036	2036	2	3.8076	-1.1648	11.5496
2037	2037	2	3.5417	-1.1887	10.5057
2038	2038	2	3.2793	-1.2049	9.5762
2039	2039	2	3.0357	-1.2185	8.7799
2040	2040	2	2.8032	-1.2286	8.0825
2041	2041	2	2.5647	-1.2034	7.2582
2042	2042	2	2.4018	-1.2091	6.7416
2043	2043	2	2.2033	-1.2237	6.3558
2044	2044	2	2.0402	-1.2164	5.8890
2045	2045	2	1.8815	-1.2057	5.4663
2046	2046	2	1.6834	-1.1668	4.9758
2047	2047	2	1.5551	-1.1570	4.6635
2048	2048	2	1.4237	-1.1416	4.3618
2049	2049	2	1.2542	-1.1392	4.1548
2050	2050	2	1.1467	-1.1150	3.8719
2011	2011	3	-9.9551	0.3589	-2.9605
2012	2012	3	-8.0850	0.2503	10.1695
2013	2013	3	-8.1413	0.2417	-2.2564

2014	2014	3	-8.3635	0.2034	22.5603
2015	2015	3	-7.9288	0.1755	16.6952
2016	2016	3	-8.3676	0.1677	15.7007
2017	2017	3	-1.9723	0.0123	17.7552
2018	2018	3	4.0994	-0.1225	20.6247
2019	2019	3	-1.5414	-0.0689	44.2857
2020	2020	3	-1.2465	0.0340	-2.4134
2021	2021	3	-0.1690	-0.0505	16.7089
2022	2022	3	0.1344	-0.0690	17.5767
2023	2023	3	0.9644	-0.1262	23.9603
2024	2024	3	2.0384	-0.2103	30.4753
2025	2025	3	4.5262	-0.4417	47.9714
2026	2026	3	3.4807	-0.4261	32.5352
2027	2027	3	3.9436	-0.5348	31.1116
2028	2028	3	4.5536	-0.6795	30.2961
2029	2029	3	4.8684	-0.7989	27.3836
2030	2030	3	4.9673	-0.9096	24.5096
2031	2031	3	5.0865	-0.9474	20.1742
2032	2032	3	4.8793	-1.0056	17.7808
2033	2033	3	4.6320	-1.0543	15.7803
2034	2034	3	4.3655	-1.0969	14.1249
2035	2035	3	4.0807	-1.1390	12.8123
2036	2036	3	3.8076	-1.1648	11.5496
2037	2037	3	3.5417	-1.1887	10.5057
2038	2038	3	3.2793	-1.2049	9.5762
2039	2039	3	3.0357	-1.2185	8.7799
2040	2040	3	2.8032	-1.2286	8.0825
2041	2041	3	2.5647	-1.2034	7.2582
2042	2042	3	2.4018	-1.2091	6.7416
2043	2043	3	2.2033	-1.2237	6.3558
2044	2044	3	2.0402	-1.2164	5.8890
2045	2045	3	1.8815	-1.2057	5.4663
2046	2046	3	1.6834	-1.1668	4.9758
2047	2047	3	1.5551	-1.1570	4.6635
2048	2048	3	1.4237	-1.1416	4.3618
2049	2049	3	1.2542	-1.1392	4.1548
2050	2050	3	1.1467	-1.1150	3.8719
2051	2151	1	0.0000	0.0000	0.0000
2051	2151	2	0.0000	0.0000	0.0000
2051	2151	3	0.0000	0.0000	0.0000
2011	2151	4	0.0000	0.0000	0.0000
2011	2151	5	0.0000	0.0000	0.0000
2011	2151	6	0.0000	0.0000	0.0000

FUEL_CONSUMPTION - (used)

*veh_type	fuel_type	a_fuel	b_fuel	c_fuel	d_fuel	cut-off_speeds(km/h)
		max	min			
1	1	0.4666	0.09917	-0.11296E-02	0.74815E-05	130 10
1	2	0.5050	0.07241	-0.69660E-03	0.54893E-05	130 10
1	3	0.0000	0.22466	0.00000E+00	0.00000E+00	120 10
2	1	0.3518	0.19727	-0.30966E-02	0.19998E-04	120 10
2	2	0.4682	0.11444	-0.16510E-02	0.13977E-04	110 10
2	3	0.0000	0.25706	0.00000E+00	0.00000E+00	120 10
3	1	0.3518	0.19727	-0.30966E-02	0.19998E-04	120 10
3	2	0.4682	0.11444	-0.16510E-02	0.13977E-04	110 10
3	3	0.0000	0.25706	0.00000E+00	0.00000E+00	120 10
4	2	2.6039	0.13816	-0.99860E-03	0.10906E-04	85 12
5	2	5.7277	0.29745	-0.19708E-02	0.11746E-04	85 12
6	2	3.3350	0.29304	-0.31851E-02	0.23364E-04	85 12
6	3	0.0000	1.17983	0.00000E+00	0.00000E+00	85 12

FUEL_CONSUMPTION - (std)

*veh_type	fuel_type	a_fuel	b_fuel	c_fuel	d_fuel	cut-off_speeds(km/h)
		max	min			
1	1	0.4707	0.10003	-0.11394E-02	0.75462E-05	130 10
1	2	0.5069	0.07268	-0.69920E-03	0.55097E-05	130 10
1	3	0.0000	0.21366	0.00000E+00	0.00000E+00	120 10
2	1	0.3487	0.19552	-0.30690E-02	0.19819E-04	120 10
2	2	0.4688	0.11457	-0.16529E-02	0.13993E-04	110 10
2	3	0.0000	0.23232	0.00000E+00	0.00000E+00	120 10
3	1	0.3487	0.19552	-0.30690E-02	0.19819E-04	120 10
3	2	0.4688	0.11457	-0.16529E-02	0.13993E-04	110 10
3	3	0.0000	0.23232	0.00000E+00	0.00000E+00	120 10
4	2	2.6115	0.13856	-0.10015E-02	0.10938E-04	85 12
5	2	5.7221	0.29716	-0.19688E-02	0.11735E-04	85 12
6	2	3.3602	0.29525	-0.32091E-02	0.23540E-04	85 12

FUEL_EFFICIENCY - (used)

%% p.a.

*Start_yr	End_yr	veh_type	fuel_type	change
2011	2011	1	1	0.662
2011	2011	1	2	0.817
2011	2011	1	3	-0.025
2011	2011	2	1	-0.095
2011	2011	2	2	0.139
2011	2011	2	3	0.000
2011	2011	3	1	-0.095
2011	2011	3	2	0.139

2011	2011	3	3	0.000
2011	2011	4	2	-0.217
2011	2011	4	3	0.000
2011	2011	5	2	-0.047
2011	2011	5	3	0.000
2011	2011	6	2	-0.140
2011	2011	6	3	0.000
2012	2012	1	1	0.824
2012	2012	1	2	0.877
2012	2012	1	3	0.491
2012	2012	2	1	-0.074
2012	2012	2	2	0.386
2012	2012	2	3	0.000
2012	2012	3	1	-0.074
2012	2012	3	2	0.386
2012	2012	3	3	0.000
2012	2012	4	2	-3.140
2012	2012	4	3	0.000
2012	2012	5	2	0.414
2012	2012	5	3	0.000
2012	2012	6	2	-0.258
2012	2012	6	3	0.000
2013	2013	1	1	1.035
2013	2013	1	2	0.939
2013	2013	1	3	0.025
2013	2013	2	1	0.178
2013	2013	2	2	0.142
2013	2013	2	3	0.000
2013	2013	3	1	0.178
2013	2013	3	2	0.142
2013	2013	3	3	0.000
2013	2013	4	2	0.524
2013	2013	4	3	0.000
2013	2013	5	2	0.199
2013	2013	5	3	0.000
2013	2013	6	2	-0.069
2013	2013	6	3	0.000
2014	2014	1	1	-0.594
2014	2014	1	2	0.712
2014	2014	1	3	0.709
2014	2014	2	1	-0.410
2014	2014	2	2	0.114
2014	2014	2	3	-0.064
2014	2014	3	1	-0.410

2014	2014	3	2	0.114
2014	2014	3	3	-0.064
2014	2014	4	2	-1.002
2014	2014	4	3	0.000
2014	2014	5	2	0.195
2014	2014	5	3	0.000
2014	2014	6	2	-0.064
2014	2014	6	3	0.000
2015	2015	1	1	1.252
2015	2015	1	2	1.319
2015	2015	1	3	0.591
2015	2015	2	1	2.511
2015	2015	2	2	0.235
2015	2015	2	3	-0.700
2015	2015	3	1	2.511
2015	2015	3	2	0.235
2015	2015	3	3	-0.700
2015	2015	4	2	0.295
2015	2015	4	3	0.000
2015	2015	5	2	0.327
2015	2015	5	3	0.000
2015	2015	6	2	-0.221
2015	2015	6	3	0.000
2016	2016	1	1	1.373
2016	2016	1	2	1.203
2016	2016	1	3	0.418
2016	2016	2	1	-0.117
2016	2016	2	2	0.703
2016	2016	2	3	-0.216
2016	2016	3	1	-0.117
2016	2016	3	2	0.703
2016	2016	3	3	-0.216
2016	2016	4	2	0.922
2016	2016	4	3	0.000
2016	2016	5	2	0.233
2016	2016	5	3	0.000
2016	2016	6	2	-0.060
2016	2016	6	3	-0.097
2017	2017	1	1	1.236
2017	2017	1	2	0.778
2017	2017	1	3	0.132
2017	2017	2	1	1.631
2017	2017	2	2	1.238
2017	2017	2	3	-0.009

2017	2017	3	1	1.631
2017	2017	3	2	1.238
2017	2017	3	3	-0.009
2017	2017	4	2	-0.773
2017	2017	4	3	0.000
2017	2017	5	2	0.317
2017	2017	5	3	0.000
2017	2017	6	2	-0.036
2017	2017	6	3	-0.080
2018	2018	1	1	0.987
2018	2018	1	2	0.058
2018	2018	1	3	0.092
2018	2018	2	1	3.066
2018	2018	2	2	0.884
2018	2018	2	3	-0.418
2018	2018	3	1	3.066
2018	2018	3	2	0.884
2018	2018	3	3	-0.418
2018	2018	4	2	0.421
2018	2018	4	3	0.000
2018	2018	5	2	0.544
2018	2018	5	3	0.000
2018	2018	6	2	-0.161
2018	2018	6	3	-0.191
2019	2019	1	1	0.626
2019	2019	1	2	-0.319
2019	2019	1	3	-0.347
2019	2019	2	1	1.138
2019	2019	2	2	0.740
2019	2019	2	3	0.088
2019	2019	3	1	1.138
2019	2019	3	2	0.740
2019	2019	3	3	0.088
2019	2019	4	2	-0.944
2019	2019	4	3	0.000
2019	2019	5	2	0.546
2019	2019	5	3	0.000
2019	2019	6	2	-0.168
2019	2019	6	3	-0.223
2020	2020	1	1	0.927
2020	2020	1	2	-0.092
2020	2020	1	3	-0.578
2020	2020	2	1	1.902
2020	2020	2	2	0.372

2020	2020	2	3	-0.341
2020	2020	3	1	1.902
2020	2020	3	2	0.372
2020	2020	3	3	-0.341
2020	2020	4	2	-0.700
2020	2020	4	3	0.000
2020	2020	5	2	0.352
2020	2020	5	3	0.000
2020	2020	6	2	-0.118
2020	2020	6	3	-0.337
2021	2021	1	1	1.169
2021	2021	1	2	-0.014
2021	2021	1	3	3.385
2021	2021	2	1	2.499
2021	2021	2	2	1.189
2021	2021	2	3	0.466
2021	2021	3	1	2.499
2021	2021	3	2	1.189
2021	2021	3	3	0.466
2021	2021	4	2	0.532
2021	2021	4	3	0.000
2021	2021	5	2	0.644
2021	2021	5	3	0.000
2021	2021	6	2	-0.093
2021	2021	6	3	0.885
2022	2022	1	1	-0.836
2022	2022	1	2	0.006
2022	2022	1	3	3.869
2022	2022	2	1	4.304
2022	2022	2	2	0.815
2022	2022	2	3	-0.062
2022	2022	3	1	4.304
2022	2022	3	2	0.815
2022	2022	3	3	-0.062
2022	2022	4	2	0.589
2022	2022	4	3	0.000
2022	2022	5	2	0.547
2022	2022	5	3	0.000
2022	2022	6	2	-0.120
2022	2022	6	3	3.311
2023	2023	1	1	0.823
2023	2023	1	2	-0.026
2023	2023	1	3	2.928
2023	2023	2	1	2.131

2023	2023	2	2	0.721
2023	2023	2	3	0.297
2023	2023	3	1	2.131
2023	2023	3	2	0.721
2023	2023	3	3	0.297
2023	2023	4	2	0.577
2023	2023	4	3	0.000
2023	2023	5	2	0.560
2023	2023	5	3	0.000
2023	2023	6	2	-0.095
2023	2023	6	3	1.901
2024	2024	1	1	0.593
2024	2024	1	2	-0.057
2024	2024	1	3	2.092
2024	2024	2	1	2.062
2024	2024	2	2	0.675
2024	2024	2	3	0.341
2024	2024	3	1	2.062
2024	2024	3	2	0.675
2024	2024	3	3	0.341
2024	2024	4	2	0.567
2024	2024	4	3	0.000
2024	2024	5	2	0.586
2024	2024	5	3	0.000
2024	2024	6	2	0.011
2024	2024	6	3	1.362
2025	2025	1	1	0.334
2025	2025	1	2	-0.072
2025	2025	1	3	1.828
2025	2025	2	1	2.658
2025	2025	2	2	1.643
2025	2025	2	3	0.472
2025	2025	3	1	2.658
2025	2025	3	2	1.643
2025	2025	3	3	0.472
2025	2025	4	2	1.078
2025	2025	4	3	0.000
2025	2025	5	2	1.849
2025	2025	5	3	0.000
2025	2025	6	2	0.031
2025	2025	6	3	1.886
2026	2026	1	1	0.238
2026	2026	1	2	-0.115
2026	2026	1	3	1.458

2026	2026	2	1	2.532
2026	2026	2	2	1.489
2026	2026	2	3	0.578
2026	2026	3	1	2.532
2026	2026	3	2	1.489
2026	2026	3	3	0.578
2026	2026	4	2	1.050
2026	2026	4	3	0.000
2026	2026	5	2	1.888
2026	2026	5	3	0.000
2026	2026	6	2	0.052
2026	2026	6	3	1.530
2027	2027	1	1	0.159
2027	2027	1	2	-0.159
2027	2027	1	3	1.326
2027	2027	2	1	4.516
2027	2027	2	2	1.360
2027	2027	2	3	0.506
2027	2027	3	1	4.516
2027	2027	3	2	1.360
2027	2027	3	3	0.506
2027	2027	4	2	1.010
2027	2027	4	3	0.000
2027	2027	5	2	1.827
2027	2027	5	3	0.000
2027	2027	6	2	0.127
2027	2027	6	3	1.497
2028	2028	1	1	0.087
2028	2028	1	2	-0.216
2028	2028	1	3	1.215
2028	2028	2	1	2.106
2028	2028	2	2	1.237
2028	2028	2	3	0.556
2028	2028	3	1	2.106
2028	2028	3	2	1.237
2028	2028	3	3	0.556
2028	2028	4	2	0.976
2028	2028	4	3	0.000
2028	2028	5	2	1.778
2028	2028	5	3	0.000
2028	2028	6	2	0.136
2028	2028	6	3	1.429
2029	2029	1	1	0.024
2029	2029	1	2	-0.284

2029	2029	1	3	1.180
2029	2029	2	1	1.991
2029	2029	2	2	1.142
2029	2029	2	3	0.357
2029	2029	3	1	1.991
2029	2029	3	2	1.142
2029	2029	3	3	0.357
2029	2029	4	2	0.948
2029	2029	4	3	0.000
2029	2029	5	2	1.702
2029	2029	5	3	0.000
2029	2029	6	2	0.148
2029	2029	6	3	1.250
2030	2030	1	1	0.021
2030	2030	1	2	-0.366
2030	2030	1	3	1.123
2030	2030	2	1	2.720
2030	2030	2	2	2.177
2030	2030	2	3	-0.469
2030	2030	3	1	2.720
2030	2030	3	2	2.177
2030	2030	3	3	-0.469
2030	2030	4	2	1.599
2030	2030	4	3	0.000
2030	2030	5	2	3.302
2030	2030	5	3	0.000
2030	2030	6	2	0.190
2030	2030	6	3	0.841
2031	2031	1	1	-0.068
2031	2031	1	2	-0.361
2031	2031	1	3	0.961
2031	2031	2	1	0.062
2031	2031	2	2	2.084
2031	2031	2	3	-1.235
2031	2031	3	1	0.062
2031	2031	3	2	2.084
2031	2031	3	3	-1.235
2031	2031	4	2	1.522
2031	2031	4	3	0.000
2031	2031	5	2	3.277
2031	2031	5	3	0.000
2031	2031	6	2	0.192
2031	2031	6	3	0.787
2032	2032	1	1	-0.106

2032	2032	1	2	-0.381
2032	2032	1	3	0.857
2032	2032	2	1	2.503
2032	2032	2	2	1.668
2032	2032	2	3	-1.684
2032	2032	3	1	2.503
2032	2032	3	2	1.668
2032	2032	3	3	-1.684
2032	2032	4	2	1.484
2032	2032	4	3	0.000
2032	2032	5	2	3.008
2032	2032	5	3	0.000
2032	2032	6	2	0.084
2032	2032	6	3	0.750
2033	2033	1	1	-0.116
2033	2033	1	2	-0.386
2033	2033	1	3	0.790
2033	2033	2	1	2.964
2033	2033	2	2	1.626
2033	2033	2	3	-1.777
2033	2033	3	1	2.964
2033	2033	3	2	1.626
2033	2033	3	3	-1.777
2033	2033	4	2	1.404
2033	2033	4	3	0.000
2033	2033	5	2	2.748
2033	2033	5	3	0.000
2033	2033	6	2	0.145
2033	2033	6	3	0.721
2034	2034	1	1	-0.126
2034	2034	1	2	-0.393
2034	2034	1	3	0.748
2034	2034	2	1	4.667
2034	2034	2	2	1.264
2034	2034	2	3	-1.521
2034	2034	3	1	4.667
2034	2034	3	2	1.264
2034	2034	3	3	-1.521
2034	2034	4	2	1.321
2034	2034	4	3	0.000
2034	2034	5	2	2.559
2034	2034	5	3	0.000
2034	2034	6	2	0.401
2034	2034	6	3	0.724

2035	2035	1	1	-0.173
2035	2035	1	2	-0.358
2035	2035	1	3	0.722
2035	2035	2	1	-2.719
2035	2035	2	2	1.183
2035	2035	2	3	-1.133
2035	2035	3	1	-2.719
2035	2035	3	2	1.183
2035	2035	3	3	-1.133
2035	2035	4	2	1.229
2035	2035	4	3	0.000
2035	2035	5	2	2.323
2035	2035	5	3	0.000
2035	2035	6	2	0.252
2035	2035	6	3	0.748
2036	2036	1	1	-0.188
2036	2036	1	2	-0.251
2036	2036	1	3	0.712
2036	2036	2	1	2.305
2036	2036	2	2	1.146
2036	2036	2	3	-0.751
2036	2036	3	1	2.305
2036	2036	3	2	1.146
2036	2036	3	3	-0.751
2036	2036	4	2	1.142
2036	2036	4	3	0.000
2036	2036	5	2	2.020
2036	2036	5	3	0.000
2036	2036	6	2	0.188
2036	2036	6	3	0.761
2037	2037	1	1	-0.232
2037	2037	1	2	-0.323
2037	2037	1	3	0.717
2037	2037	2	1	1.801
2037	2037	2	2	1.152
2037	2037	2	3	-0.441
2037	2037	3	1	1.801
2037	2037	3	2	1.152
2037	2037	3	3	-0.441
2037	2037	4	2	1.035
2037	2037	4	3	0.000
2037	2037	5	2	1.558
2037	2037	5	3	0.000
2037	2037	6	2	0.354

2037	2037	6	3	0.782
2038	2038	1	1	-0.236
2038	2038	1	2	-0.424
2038	2038	1	3	0.717
2038	2038	2	1	5.995
2038	2038	2	2	1.204
2038	2038	2	3	-0.217
2038	2038	3	1	5.995
2038	2038	3	2	1.204
2038	2038	3	3	-0.217
2038	2038	4	2	0.915
2038	2038	4	3	0.000
2038	2038	5	2	1.195
2038	2038	5	3	0.000
2038	2038	6	2	0.272
2038	2038	6	3	0.805
2039	2039	1	1	-0.233
2039	2039	1	2	-0.611
2039	2039	1	3	0.713
2039	2039	2	1	-0.357
2039	2039	2	2	0.702
2039	2039	2	3	0.021
2039	2039	3	1	-0.357
2039	2039	3	2	0.702
2039	2039	3	3	0.021
2039	2039	4	2	0.794
2039	2039	4	3	0.000
2039	2039	5	2	0.889
2039	2039	5	3	0.000
2039	2039	6	2	0.201
2039	2039	6	3	0.822
2040	2040	1	1	-0.203
2040	2040	1	2	-0.411
2040	2040	1	3	0.720
2040	2040	2	1	1.080
2040	2040	2	2	0.723
2040	2040	2	3	0.104
2040	2040	3	1	1.080
2040	2040	3	2	0.723
2040	2040	3	3	0.104
2040	2040	4	2	0.689
2040	2040	4	3	0.000
2040	2040	5	2	0.664
2040	2040	5	3	0.000

2040	2040	6	2	0.256
2040	2040	6	3	0.928
2041	2041	1	1	0.027
2041	2041	1	2	0.054
2041	2041	1	3	0.701
2041	2041	2	1	4.247
2041	2041	2	2	0.511
2041	2041	2	3	0.157
2041	2041	3	1	4.247
2041	2041	3	2	0.511
2041	2041	3	3	0.157
2041	2041	4	2	0.607
2041	2041	4	3	0.000
2041	2041	5	2	0.494
2041	2041	5	3	0.000
2041	2041	6	2	0.423
2041	2041	6	3	0.866
2042	2042	1	1	-0.082
2042	2042	1	2	-0.073
2042	2042	1	3	0.685
2042	2042	2	1	2.107
2042	2042	2	2	0.932
2042	2042	2	3	0.161
2042	2042	3	1	2.107
2042	2042	3	2	0.932
2042	2042	3	3	0.161
2042	2042	4	2	0.538
2042	2042	4	3	0.000
2042	2042	5	2	0.370
2042	2042	5	3	0.000
2042	2042	6	2	0.288
2042	2042	6	3	0.802
2043	2043	1	1	-0.107
2043	2043	1	2	-0.009
2043	2043	1	3	0.662
2043	2043	2	1	0.816
2043	2043	2	2	0.626
2043	2043	2	3	0.170
2043	2043	3	1	0.816
2043	2043	3	2	0.626
2043	2043	3	3	0.170
2043	2043	4	2	0.485
2043	2043	4	3	0.000
2043	2043	5	2	0.292

2043	2043	5	3	0.000
2043	2043	6	2	0.262
2043	2043	6	3	0.744
2044	2044	1	1	-0.075
2044	2044	1	2	-0.004
2044	2044	1	3	0.639
2044	2044	2	1	0.451
2044	2044	2	2	0.395
2044	2044	2	3	0.197
2044	2044	3	1	0.451
2044	2044	3	2	0.395
2044	2044	3	3	0.197
2044	2044	4	2	0.446
2044	2044	4	3	0.000
2044	2044	5	2	0.234
2044	2044	5	3	0.000
2044	2044	6	2	0.256
2044	2044	6	3	0.710
2045	2045	1	1	-0.046
2045	2045	1	2	-0.001
2045	2045	1	3	0.620
2045	2045	2	1	0.400
2045	2045	2	2	0.339
2045	2045	2	3	0.217
2045	2045	3	1	0.400
2045	2045	3	2	0.339
2045	2045	3	3	0.217
2045	2045	4	2	0.415
2045	2045	4	3	0.000
2045	2045	5	2	0.199
2045	2045	5	3	0.000
2045	2045	6	2	0.255
2045	2045	6	3	0.674
2046	2046	1	1	-0.022
2046	2046	1	2	0.000
2046	2046	1	3	0.603
2046	2046	2	1	1.958
2046	2046	2	2	1.266
2046	2046	2	3	0.233
2046	2046	3	1	1.958
2046	2046	3	2	1.266
2046	2046	3	3	0.233
2046	2046	4	2	0.425
2046	2046	4	3	0.000

2046	2046	5	2	0.214
2046	2046	5	3	0.000
2046	2046	6	2	0.248
2046	2046	6	3	0.634
2047	2047	1	1	-0.009
2047	2047	1	2	0.002
2047	2047	1	3	0.581
2047	2047	2	1	0.207
2047	2047	2	2	0.178
2047	2047	2	3	0.264
2047	2047	3	1	0.207
2047	2047	3	2	0.178
2047	2047	3	3	0.264
2047	2047	4	2	0.362
2047	2047	4	3	0.000
2047	2047	5	2	0.138
2047	2047	5	3	0.000
2047	2047	6	2	0.247
2047	2047	6	3	0.577
2048	2048	1	1	0.004
2048	2048	1	2	0.003
2048	2048	1	3	0.565
2048	2048	2	1	0.179
2048	2048	2	2	0.147
2048	2048	2	3	0.285
2048	2048	3	1	0.179
2048	2048	3	2	0.147
2048	2048	3	3	0.285
2048	2048	4	2	0.349
2048	2048	4	3	0.000
2048	2048	5	2	0.124
2048	2048	5	3	0.000
2048	2048	6	2	0.252
2048	2048	6	3	0.549
2049	2049	1	1	0.013
2049	2049	1	2	0.004
2049	2049	1	3	0.545
2049	2049	2	1	0.156
2049	2049	2	2	0.124
2049	2049	2	3	0.310
2049	2049	3	1	0.156
2049	2049	3	2	0.124
2049	2049	3	3	0.310
2049	2049	4	2	0.340

2049	2049	4	3	0.000
2049	2049	5	2	0.116
2049	2049	5	3	0.000
2049	2049	6	2	0.241
2049	2049	6	3	0.528
2050	2050	1	1	0.019
2050	2050	1	2	0.004
2050	2050	1	3	0.529
2050	2050	2	1	0.139
2050	2050	2	2	0.106
2050	2050	2	3	0.332
2050	2050	3	1	0.139
2050	2050	3	2	0.106
2050	2050	3	3	0.332
2050	2050	4	2	0.333
2050	2050	4	3	0.000
2050	2050	5	2	0.109
2050	2050	5	3	0.000
2050	2050	6	2	0.270
2050	2050	6	3	0.512
2051	2151	1	1	0.000
2051	2151	1	2	0.000
2051	2151	1	3	0.000
2051	2151	2	1	0.000
2051	2151	2	2	0.000
2051	2151	2	3	0.000
2051	2151	3	1	0.000
2051	2151	3	2	0.000
2051	2151	3	3	0.000
2051	2151	4	2	0.000
2051	2151	4	3	0.000
2051	2151	5	2	0.000
2051	2151	5	3	0.000
2051	2151	6	2	0.000
2051	2151	6	3	0.000

FUEL_EFFICIENCY - (std)

*** p.a.

*Start_yr	End_yr	veh_type	fuel_type	change
2011	2011	1	1	0.604
2011	2011	1	2	0.874
2011	2011	1	3	0.032
2011	2011	2	1	-0.168
2011	2011	2	2	0.177

2011	2011	2	3	0.000
2011	2011	3	1	-0.168
2011	2011	3	2	0.177
2011	2011	3	3	0.000
2011	2011	4	2	-0.113
2011	2011	5	2	0.011
2012	2012	1	1	0.285
2012	2012	1	2	0.975
2012	2012	1	3	-0.707
2012	2012	2	1	-0.630
2012	2012	2	2	0.468
2012	2012	2	3	0.000
2012	2012	3	1	-0.630
2012	2012	3	2	0.468
2012	2012	3	3	0.000
2012	2012	4	2	-2.932
2012	2012	5	2	0.288
2013	2013	1	1	0.891
2013	2013	1	2	0.920
2013	2013	1	3	0.085
2013	2013	2	1	0.031
2013	2013	2	2	0.107
2013	2013	2	3	0.000
2013	2013	3	1	0.031
2013	2013	3	2	0.107
2013	2013	3	3	0.000
2013	2013	4	2	0.475
2013	2013	5	2	0.068
2014	2014	1	1	0.979
2014	2014	1	2	0.945
2014	2014	1	3	-1.015
2014	2014	2	1	-0.518
2014	2014	2	2	0.057
2014	2014	2	3	-0.042
2014	2014	3	1	-0.518
2014	2014	3	2	0.057
2014	2014	3	3	-0.042
2014	2014	4	2	-1.038
2014	2014	5	2	0.144
2015	2015	1	1	1.281
2015	2015	1	2	1.319
2015	2015	1	3	-0.927
2015	2015	2	1	2.498
2015	2015	2	2	0.323

2015	2015	2	3	-0.454
2015	2015	3	1	2.498
2015	2015	3	2	0.323
2015	2015	3	3	-0.454
2015	2015	4	2	0.361
2015	2015	5	2	0.480
2016	2016	1	1	1.406
2016	2016	1	2	1.207
2016	2016	1	3	1.034
2016	2016	2	1	-0.062
2016	2016	2	2	0.705
2016	2016	2	3	0.340
2016	2016	3	1	-0.062
2016	2016	3	2	0.705
2016	2016	3	3	0.340
2016	2016	4	2	0.747
2016	2016	5	2	0.239
2017	2017	1	1	1.270
2017	2017	1	2	0.783
2017	2017	1	3	1.188
2017	2017	2	1	1.646
2017	2017	2	2	1.249
2017	2017	2	3	0.804
2017	2017	3	1	1.646
2017	2017	3	2	1.249
2017	2017	3	3	0.804
2017	2017	4	2	-0.771
2017	2017	5	2	0.316
2018	2018	1	1	1.029
2018	2018	1	2	0.063
2018	2018	1	3	1.035
2018	2018	2	1	3.029
2018	2018	2	2	0.770
2018	2018	2	3	0.708
2018	2018	3	1	3.029
2018	2018	3	2	0.770
2018	2018	3	3	0.708
2018	2018	4	2	-0.058
2018	2018	5	2	0.407
2019	2019	1	1	0.990
2019	2019	1	2	-0.041
2019	2019	1	3	2.359
2019	2019	2	1	1.141
2019	2019	2	2	0.522

2019	2019	2	3	2.118
2019	2019	3	1	1.141
2019	2019	3	2	0.522
2019	2019	3	3	2.118
2019	2019	4	2	0.247
2019	2019	5	2	0.388
2020	2020	1	1	2.680
2020	2020	1	2	1.323
2020	2020	1	3	2.699
2020	2020	2	1	1.842
2020	2020	2	2	1.432
2020	2020	2	3	-2.324
2020	2020	3	1	1.842
2020	2020	3	2	1.432
2020	2020	3	3	-2.324
2020	2020	4	2	0.341
2020	2020	5	2	0.470
2021	2021	1	1	2.289
2021	2021	1	2	1.469
2021	2021	1	3	5.660
2021	2021	2	1	1.283
2021	2021	2	2	1.165
2021	2021	2	3	-0.804
2021	2021	3	1	1.283
2021	2021	3	2	1.165
2021	2021	3	3	-0.804
2021	2021	4	2	0.484
2021	2021	5	2	0.523
2022	2022	1	1	2.080
2022	2022	1	2	1.497
2022	2022	1	3	3.960
2022	2022	2	1	2.960
2022	2022	2	2	1.102
2022	2022	2	3	-0.880
2022	2022	3	1	2.960
2022	2022	3	2	1.102
2022	2022	3	3	-0.880
2022	2022	4	2	0.491
2022	2022	5	2	0.531
2023	2023	1	1	1.895
2023	2023	1	2	1.393
2023	2023	1	3	2.637
2023	2023	2	1	1.045
2023	2023	2	2	0.925

2023	2023	2	3	-1.450
2023	2023	3	1	1.045
2023	2023	3	2	0.925
2023	2023	3	3	-1.450
2023	2023	4	2	0.500
2023	2023	5	2	0.548
2024	2024	1	1	1.891
2024	2024	1	2	1.258
2024	2024	1	3	2.035
2024	2024	2	1	1.277
2024	2024	2	2	0.822
2024	2024	2	3	-1.389
2024	2024	3	1	1.277
2024	2024	3	2	0.822
2024	2024	3	3	-1.389
2024	2024	4	2	0.490
2024	2024	5	2	0.544
2025	2025	1	1	1.650
2025	2025	1	2	1.164
2025	2025	1	3	1.843
2025	2025	2	1	2.913
2025	2025	2	2	1.999
2025	2025	2	3	-1.541
2025	2025	3	1	2.913
2025	2025	3	2	1.999
2025	2025	3	3	-1.541
2025	2025	4	2	0.918
2025	2025	5	2	1.864
2026	2026	1	1	1.468
2026	2026	1	2	1.107
2026	2026	1	3	1.211
2026	2026	2	1	2.351
2026	2026	2	2	1.780
2026	2026	2	3	-0.553
2026	2026	3	1	2.351
2026	2026	3	2	1.780
2026	2026	3	3	-0.553
2026	2026	4	2	0.900
2026	2026	5	2	1.854
2027	2027	1	1	1.372
2027	2027	1	2	1.130
2027	2027	1	3	0.922
2027	2027	2	1	3.660
2027	2027	2	2	1.600

2027	2027	2	3	-0.253
2027	2027	3	1	3.660
2027	2027	3	2	1.600
2027	2027	3	3	-0.253
2027	2027	4	2	0.874
2027	2027	5	2	1.767
2028	2028	1	1	1.234
2028	2028	1	2	1.148
2028	2028	1	3	0.747
2028	2028	2	1	1.853
2028	2028	2	2	1.433
2028	2028	2	3	0.019
2028	2028	3	1	1.853
2028	2028	3	2	1.433
2028	2028	3	3	0.019
2028	2028	4	2	0.846
2028	2028	5	2	1.644
2029	2029	1	1	1.110
2029	2029	1	2	1.140
2029	2029	1	3	0.694
2029	2029	2	1	1.699
2029	2029	2	2	1.299
2029	2029	2	3	0.258
2029	2029	3	1	1.699
2029	2029	3	2	1.299
2029	2029	3	3	0.258
2029	2029	4	2	0.808
2029	2029	5	2	1.531
2030	2030	1	1	2.306
2030	2030	1	2	2.305
2030	2030	1	3	0.690
2030	2030	2	1	3.530
2030	2030	2	2	2.726
2030	2030	2	3	0.398
2030	2030	3	1	3.530
2030	2030	3	2	2.726
2030	2030	3	3	0.398
2030	2030	4	2	1.394
2030	2030	5	2	3.225
2031	2031	1	1	2.230
2031	2031	1	2	2.375
2031	2031	1	3	0.571
2031	2031	2	1	1.740
2031	2031	2	2	2.564

2031	2031	2	3	0.251
2031	2031	3	1	1.740
2031	2031	3	2	2.564
2031	2031	3	3	0.251
2031	2031	4	2	1.307
2031	2031	5	2	3.126
2032	2032	1	1	2.088
2032	2032	1	2	2.387
2032	2032	1	3	0.492
2032	2032	2	1	2.870
2032	2032	2	2	2.133
2032	2032	2	3	0.170
2032	2032	3	1	2.870
2032	2032	3	2	2.133
2032	2032	3	3	0.170
2032	2032	4	2	1.294
2032	2032	5	2	2.946
2033	2033	1	1	2.021
2033	2033	1	2	2.185
2033	2033	1	3	0.435
2033	2033	2	1	2.820
2033	2033	2	2	2.016
2033	2033	2	3	0.145
2033	2033	3	1	2.820
2033	2033	3	2	2.016
2033	2033	3	3	0.145
2033	2033	4	2	1.240
2033	2033	5	2	2.667
2034	2034	1	1	1.933
2034	2034	1	2	1.998
2034	2034	1	3	0.405
2034	2034	2	1	3.326
2034	2034	2	2	1.646
2034	2034	2	3	0.151
2034	2034	3	1	3.326
2034	2034	3	2	1.646
2034	2034	3	3	0.151
2034	2034	4	2	1.176
2034	2034	5	2	2.450
2035	2035	1	1	1.795
2035	2035	1	2	1.826
2035	2035	1	3	0.374
2035	2035	2	1	-0.177
2035	2035	2	2	1.517

2035	2035	2	3	0.162
2035	2035	3	1	-0.177
2035	2035	3	2	1.517
2035	2035	3	3	0.162
2035	2035	4	2	1.110
2035	2035	5	2	2.072
2036	2036	1	1	1.602
2036	2036	1	2	1.723
2036	2036	1	3	0.362
2036	2036	2	1	1.873
2036	2036	2	2	1.401
2036	2036	2	3	0.192
2036	2036	3	1	1.873
2036	2036	3	2	1.401
2036	2036	3	3	0.192
2036	2036	4	2	1.026
2036	2036	5	2	1.652
2037	2037	1	1	1.499
2037	2037	1	2	1.565
2037	2037	1	3	0.374
2037	2037	2	1	1.484
2037	2037	2	2	1.325
2037	2037	2	3	0.232
2037	2037	3	1	1.484
2037	2037	3	2	1.325
2037	2037	3	3	0.232
2037	2037	4	2	0.935
2037	2037	5	2	1.356
2038	2038	1	1	1.372
2038	2038	1	2	1.357
2038	2038	1	3	0.386
2038	2038	2	1	2.766
2038	2038	2	2	1.280
2038	2038	2	3	0.263
2038	2038	3	1	2.766
2038	2038	3	2	1.280
2038	2038	3	3	0.263
2038	2038	4	2	0.848
2038	2038	5	2	1.046
2039	2039	1	1	1.233
2039	2039	1	2	1.098
2039	2039	1	3	0.402
2039	2039	2	1	0.398
2039	2039	2	2	0.831

2039	2039	2	3	0.296
2039	2039	3	1	0.398
2039	2039	3	2	0.831
2039	2039	3	3	0.296
2039	2039	4	2	0.758
2039	2039	5	2	0.806
2040	2040	1	1	1.198
2040	2040	1	2	1.161
2040	2040	1	3	0.342
2040	2040	2	1	0.753
2040	2040	2	2	0.771
2040	2040	2	3	0.329
2040	2040	3	1	0.753
2040	2040	3	2	0.771
2040	2040	3	3	0.329
2040	2040	4	2	0.660
2040	2040	5	2	0.599
2041	2041	1	1	1.300
2041	2041	1	2	1.581
2041	2041	1	3	0.360
2041	2041	2	1	1.010
2041	2041	2	2	1.026
2041	2041	2	3	0.390
2041	2041	3	1	1.010
2041	2041	3	2	1.026
2041	2041	3	3	0.390
2041	2041	4	2	0.582
2041	2041	5	2	0.436
2042	2042	1	1	0.879
2042	2042	1	2	0.843
2042	2042	1	3	0.374
2042	2042	2	1	0.496
2042	2042	2	2	0.525
2042	2042	2	3	0.477
2042	2042	3	1	0.496
2042	2042	3	2	0.525
2042	2042	3	3	0.477
2042	2042	4	2	0.512
2042	2042	5	2	0.335
2043	2043	1	1	0.765
2043	2043	1	2	0.693
2043	2043	1	3	0.385
2043	2043	2	1	0.415
2043	2043	2	2	0.437

2043	2043	2	3	0.533
2043	2043	3	1	0.415
2043	2043	3	2	0.437
2043	2043	3	3	0.533
2043	2043	4	2	0.451
2043	2043	5	2	0.259
2044	2044	1	1	0.624
2044	2044	1	2	0.557
2044	2044	1	3	0.405
2044	2044	2	1	0.345
2044	2044	2	2	0.357
2044	2044	2	3	0.581
2044	2044	3	1	0.345
2044	2044	3	2	0.357
2044	2044	3	3	0.581
2044	2044	4	2	0.404
2044	2044	5	2	0.202
2045	2045	1	1	0.483
2045	2045	1	2	0.421
2045	2045	1	3	0.407
2045	2045	2	1	0.285
2045	2045	2	2	0.288
2045	2045	2	3	0.623
2045	2045	3	1	0.285
2045	2045	3	2	0.288
2045	2045	3	3	0.623
2045	2045	4	2	0.365
2045	2045	5	2	0.160
2046	2046	1	1	0.320
2046	2046	1	2	0.344
2046	2046	1	3	0.428
2046	2046	2	1	0.652
2046	2046	2	2	0.858
2046	2046	2	3	0.645
2046	2046	3	1	0.652
2046	2046	3	2	0.858
2046	2046	3	3	0.645
2046	2046	4	2	0.374
2046	2046	5	2	0.157
2047	2047	1	1	0.238
2047	2047	1	2	0.257
2047	2047	1	3	0.441
2047	2047	2	1	0.150
2047	2047	2	2	0.136

2047	2047	2	3	0.686
2047	2047	3	1	0.150
2047	2047	3	2	0.136
2047	2047	3	3	0.686
2047	2047	4	2	0.304
2047	2047	5	2	0.087
2048	2048	1	1	0.179
2048	2048	1	2	0.195
2048	2048	1	3	0.452
2048	2048	2	1	0.126
2048	2048	2	2	0.108
2048	2048	2	3	0.717
2048	2048	3	1	0.126
2048	2048	3	2	0.108
2048	2048	3	3	0.717
2048	2048	4	2	0.288
2048	2048	5	2	0.074
2049	2049	1	1	0.135
2049	2049	1	2	0.148
2049	2049	1	3	0.461
2049	2049	2	1	0.106
2049	2049	2	2	0.087
2049	2049	2	3	0.745
2049	2049	3	1	0.106
2049	2049	3	2	0.087
2049	2049	3	3	0.745
2049	2049	4	2	0.275
2049	2049	5	2	0.062
2050	2050	1	1	0.103
2050	2050	1	2	0.114
2050	2050	1	3	0.472
2050	2050	2	1	0.091
2050	2050	2	2	0.072
2050	2050	2	3	0.770
2050	2050	3	1	0.091
2050	2050	3	2	0.072
2050	2050	3	3	0.770
2050	2050	4	2	0.266
2050	2050	5	2	0.055
2051	2151	1	1	0.000
2051	2151	1	2	0.000
2051	2151	1	3	0.000
2051	2151	2	1	0.000
2051	2151	2	2	0.000

Road	2033	0	0	0	0	0	0	0	0
Road	2034	0	0	0	0	0	0	0	0
Road	2035	0	0	0	0	0	0	0	0
Road	2036	0	0	0	0	0	0	0	0
Road	2037	0	0	0	0	0	0	0	0
Road	2038	0	0	0	0	0	0	0	0
Road	2039	0	0	0	0	0	0	0	0
Road	2040	0	0	0	0	0	0	0	0
Road	2041	0	0	0	0	0	0	0	0
Road	2042	0	0	0	0	0	0	0	0
Road	2043	0	0	0	0	0	0	0	0
Road	2044	0	0	0	0	0	0	0	0
Road	2045	0	0	0	0	0	0	0	0
Road	2046	0	0	0	0	0	0	0	0
Road	2047	0	0	0	0	0	0	0	0
Road	2048	0	0	0	0	0	0	0	0
Road	2049	0	0	0	0	0	0	0	0
Road	2050	0	0	0	0	0	0	0	0
Road	2051	0	0	0	0	0	0	0	0
Road	2052	0	0	0	0	0	0	0	0
Road	2053	0	0	0	0	0	0	0	0
Road	2054	0	0	0	0	0	0	0	0
Road	2055	0	0	0	0	0	0	0	0
Road	2056	0	0	0	0	0	0	0	0
Road	2057	0	0	0	0	0	0	0	0
Road	2058	0	0	0	0	0	0	0	0
Road	2059	0	0	0	0	0	0	0	0
Road	2060	0	0	0	0	0	0	0	0
Road	2061	0	0	0	0	0	0	0	0
Road	2062	0	0	0	0	0	0	0	0
Road	2063	0	0	0	0	0	0	0	0
Road	2064	0	0	0	0	0	0	0	0
Road	2065	0	0	0	0	0	0	0	0
Road	2066	0	0	0	0	0	0	0	0
Road	2067	0	0	0	0	0	0	0	0
Road	2068	0	0	0	0	0	0	0	0
Road	2069	0	0	0	0	0	0	0	0
Road	2070	0	0	0	0	0	0	0	0
Road	2071	0	0	0	0	0	0	0	0
Road	2072	0	0	0	0	0	0	0	0
Road	2073	0	0	0	0	0	0	0	0
Road	2074	0	0	0	0	0	0	0	0
Road	2075	0	0	0	0	0	0	0	0
Road	2076	0	0	0	0	0	0	0	0

Road	2077	0	0	0	0	0	0	0	0
Road	2078	0	0	0	0	0	0	0	0
Road	2079	0	0	0	0	0	0	0	0
Road	2080	0	0	0	0	0	0	0	0
Road	2081	0	0	0	0	0	0	0	0
Road	2082	0	0	0	0	0	0	0	0

DS_SCHEME_COSTS

Do something scheme costs. Undiscounted £000s

Mode	Year	Prep.	Superv.	Constr.	Land	Maint.	Oper.	Grant/Sub.	Dev_Cont
Road	2023	149	0	44	54	0	0	0	267
Road	2024	194	34	3741	0	0	0	0	0
Road	2025	87	23	2492	0	0	0	0	0
Road	2026	0	0	0	0	2	0	0	0
Road	2027	0	0	0	0	2	0	0	0
Road	2028	0	0	0	0	11	0	0	0
Road	2029	0	0	0	0	2	0	0	0
Road	2030	0	0	0	0	2	0	0	0
Road	2031	0	0	0	0	2	0	0	0
Road	2032	0	0	0	0	2	0	0	0
Road	2033	0	0	0	0	41	0	0	0
Road	2034	0	0	0	0	2	0	0	0
Road	2035	0	0	0	0	2	0	0	0
Road	2036	0	0	0	0	2	0	0	0
Road	2037	0	0	0	0	2	0	0	0
Road	2038	0	0	0	0	11	0	0	0
Road	2039	0	0	0	0	2	0	0	0
Road	2040	0	0	0	0	2	0	0	0
Road	2041	0	0	0	0	2	0	0	0
Road	2042	0	0	0	0	2	0	0	0
Road	2043	0	0	0	0	144	0	0	0
Road	2044	0	0	0	0	2	0	0	0
Road	2045	0	0	0	0	2	0	0	0
Road	2046	0	0	0	0	2	0	0	0
Road	2047	0	0	0	0	2	0	0	0
Road	2048	0	0	0	0	28	0	0	0
Road	2049	0	0	0	0	2	0	0	0
Road	2050	0	0	0	0	2	0	0	0
Road	2051	0	0	0	0	2	0	0	0
Road	2052	0	0	0	0	2	0	0	0
Road	2053	0	0	0	0	41	0	0	0
Road	2054	0	0	0	0	2	0	0	0
Road	2055	0	0	0	0	2	0	0	0
Road	2056	0	0	0	0	2	0	0	0

Road	2057	0	0	0	0	2	0	0	0
Road	2058	0	0	0	0	11	0	0	0
Road	2059	0	0	0	0	2	0	0	0
Road	2060	0	0	0	0	2	0	0	0
Road	2061	0	0	0	0	2	0	0	0
Road	2062	0	0	0	0	2	0	0	0
Road	2063	0	0	0	0	312	0	0	0
Road	2064	0	0	0	0	2	0	0	0
Road	2065	0	0	0	0	2	0	0	0
Road	2066	0	0	0	0	2	0	0	0
Road	2067	0	0	0	0	2	0	0	0
Road	2068	0	0	0	0	11	0	0	0
Road	2069	0	0	0	0	2	0	0	0
Road	2070	0	0	0	0	2	0	0	0
Road	2071	0	0	0	0	2	0	0	0
Road	2072	0	0	0	0	2	0	0	0
Road	2073	0	0	0	0	76	0	0	0
Road	2074	0	0	0	0	2	0	0	0
Road	2075	0	0	0	0	2	0	0	0
Road	2076	0	0	0	0	2	0	0	0
Road	2077	0	0	0	0	2	0	0	0
Road	2078	0	0	0	0	11	0	0	0
Road	2079	0	0	0	0	2	0	0	0
Road	2080	0	0	0	0	2	0	0	0
Road	2081	0	0	0	0	2	0	0	0
Road	2082	0	0	0	0	4	0	0	0

PRESENT_VALUE_COSTS

Scheme investment and operating costs (i.e. excluding grant/subsidy, developer contributions and delays) and differences. £000s.

Mode	Year	DM_scheme_costs	DS_scheme_costs	Difference
Road	2023	0	158	158
Road	2024	0	2452	2452
Road	2025	0	1553	1553
Road	2026	0	1	1
Road	2027	0	1	1
Road	2028	0	6	6
Road	2029	0	1	1
Road	2030	0	1	1
Road	2031	0	1	1
Road	2032	0	1	1
Road	2033	0	19	19
Road	2034	0	1	1
Road	2035	0	1	1
Road	2036	0	1	1

Road	2037	0	1	1
Road	2038	0	4	4
Road	2039	0	1	1
Road	2040	0	1	1
Road	2041	0	1	1
Road	2042	0	1	1
Road	2043	0	46	46
Road	2044	0	1	1
Road	2045	0	0	0
Road	2046	0	0	0
Road	2047	0	0	0
Road	2048	0	8	8
Road	2049	0	0	0
Road	2050	0	0	0
Road	2051	0	0	0
Road	2052	0	0	0
Road	2053	0	9	9
Road	2054	0	0	0
Road	2055	0	0	0
Road	2056	0	0	0
Road	2057	0	0	0
Road	2058	0	2	2
Road	2059	0	0	0
Road	2060	0	0	0
Road	2061	0	0	0
Road	2062	0	0	0
Road	2063	0	53	53
Road	2064	0	0	0
Road	2065	0	0	0
Road	2066	0	0	0
Road	2067	0	0	0
Road	2068	0	2	2
Road	2069	0	0	0
Road	2070	0	0	0
Road	2071	0	0	0
Road	2072	0	0	0
Road	2073	0	10	10
Road	2074	0	0	0
Road	2075	0	0	0
Road	2076	0	0	0
Road	2077	0	0	0
Road	2078	0	1	1
Road	2079	0	0	0
Road	2080	0	0	0

Road	2081	0	0	0
Road	2082	0	0	0
Road	Total	0	4343	4343

TRIP_MATRIX_TOTALS

Annualised total trip numbers(thousands)

Submode	Year	Time period	DO MIN	DO SOM
Car	2023	AM peak	1483	1483
Car	2023	PM peak	1848	1848
Car	2023	Inter-peak	4033	4033
Car	2023	Off-peak	539	539
Car	2023	All	7903	7903
Car	2037	AM peak	1612	1612
Car	2037	PM peak	1908	1908
Car	2037	Inter-peak	4468	4468
Car	2037	Off-peak	600	600
Car	2037	All	8587	8587
LGV Personal	2023	AM peak	27	27
LGV Personal	2023	PM peak	27	27
LGV Personal	2023	Inter-peak	80	80
LGV Personal	2023	Off-peak	4	4
LGV Personal	2023	All	138	138
LGV Personal	2037	AM peak	29	29
LGV Personal	2037	PM peak	28	28
LGV Personal	2037	Inter-peak	89	89
LGV Personal	2037	Off-peak	5	5
LGV Personal	2037	All	151	151
LGV Freight	2023	AM peak	197	197
LGV Freight	2023	PM peak	198	198
LGV Freight	2023	Inter-peak	590	590
LGV Freight	2023	Off-peak	30	30
LGV Freight	2023	All	1014	1014
LGV Freight	2037	AM peak	214	214
LGV Freight	2037	PM peak	204	204
LGV Freight	2037	Inter-peak	653	653
LGV Freight	2037	Off-peak	34	34
LGV Freight	2037	All	1105	1105
OGV1	2023	AM peak	15	15
OGV1	2023	PM peak	14	14
OGV1	2023	Inter-peak	78	78
OGV1	2023	Off-peak	16	16
OGV1	2023	All	122	122
OGV1	2037	AM peak	16	16
OGV1	2037	PM peak	14	14

OGV1	2037	Inter-peak	86	86
OGV1	2037	Off-peak	18	18
OGV1	2037	All	134	134
OGV2	2023	AM peak	25	25
OGV2	2023	PM peak	47	47
OGV2	2023	Inter-peak	164	164
OGV2	2023	Off-peak	37	37
OGV2	2023	All	274	274
OGV2	2037	AM peak	28	28
OGV2	2037	PM peak	49	49
OGV2	2037	Inter-peak	182	182
OGV2	2037	Off-peak	41	41
OGV2	2037	All	300	300
All	2023	AM peak	1746	1746
All	2023	PM peak	2134	2134
All	2023	Inter-peak	4945	4945
All	2023	Off-peak	626	626
All	2023	All	9452	9452
All	2037	AM peak	1898	1898
All	2037	PM peak	2203	2203
All	2037	Inter-peak	5479	5479
All	2037	Off-peak	697	697
All	2037	All	10276	10276

DM&DS_USER_COSTS

Total value of user costs, DM and DS. £000s.

Mode	Year	DMtot_time	DMtot_charge	DMtot_fuel	DMtot_nonfuel	DStot_time	DStot_charge	DStot_fuel	DStot_nonfuel
Road	2023	917	0	519	246	305	0	485	244
Road	2037	896	0	217	166	259	0	199	164

FUEL_CONSUMPTION

Total fuel consumption, DM and DS. kilounits.

Submode	Year	Do minimum			Do something		
		Petrol	Diesel	Electric	Petrol	Diesel	Electric
Car	2023	314	238	115	287	226	115
Car	2037	215	78	815	189	71	815
LGV Personal	2023	0	0	0	0	0	0
LGV Personal	2037	0	0	0	0	0	0
LGV Freight	2023	0	21	1	0	21	1
LGV Freight	2037	0	16	15	0	15	15
OGV1	2023	0	0	0	0	1	0
OGV1	2037	0	0	0	0	1	0
OGV2	2023	0	6	0	0	5	0
OGV2	2037	0	5	0	0	4	0

All	2023	315	266	116	287	253	116
All	2037	215	98	829	189	91	830
Car	Total	11781	4757	47276	10442	4392	47277
LGV Personal	Total	0	7	11	0	13	24
LGV Freight	Total	13	778	1328	11	744	1328
OGV1	Total	0	10	0	0	31	0
OGV2	Total	0	274	0	0	236	0
All	Total	11794	5826	48615	10453	5417	48628

CO2_EMISSIONS_UNTRADED

Submode	Year	Emissions (tonnes)			cost (E000s, low)			cost (E000s, central)			cost (E000s, high)		
		DM	DS	Increase	DM	DS	Increase	DM	DS	Increase	DM	DS	Increase
Car	2023	1265	1175	-90	83	77	-6	165	154	-12	248	230	-18
Car	2037	649	578	-71	32	29	-4	65	58	-7	97	86	-11
LGV Personal	2023	0	1	0	0	0	0	0	0	0	0	0	0
LGV Personal	2037	0	1	0	0	0	0	0	0	0	0	0	0
LGV Freight	2023	55	54	-1	4	4	-0	7	7	-0	11	11	-0
LGV Freight	2037	40	38	-2	2	2	-0	4	4	-0	6	6	-0
OGV1	2023	0	1	1	0	0	0	0	0	0	0	0	0
OGV1	2037	0	1	1	0	0	0	0	0	0	0	0	0
OGV2	2023	14	12	-2	1	1	-0	2	2	-0	3	2	-0
OGV2	2037	11	10	-2	1	0	-0	1	1	-0	2	1	-0
All	2023	1335	1244	-91	87	81	-6	174	163	-12	262	244	-18
All	2024	1294	1202	-92	83	77	-6	166	154	-12	249	231	-18
All	2025	1245	1153	-92	78	72	-6	157	145	-12	235	217	-17
All	2026	1195	1103	-92	74	68	-6	147	136	-11	221	204	-17
All	2027	1141	1050	-91	69	64	-5	138	127	-11	207	191	-16
All	2028	1086	997	-89	64	59	-5	129	118	-11	193	177	-16
All	2029	1031	943	-88	60	55	-5	120	110	-10	180	165	-15
All	2030	976	890	-85	56	51	-5	111	102	-10	167	152	-15
All	2031	925	841	-83	52	47	-5	104	94	-9	155	141	-14
All	2032	878	796	-81	48	44	-4	96	87	-9	145	131	-13
All	2033	834	755	-79	45	41	-4	90	81	-9	135	122	-13
All	2034	795	717	-78	42	38	-4	84	76	-8	126	114	-12
All	2035	760	684	-76	39	35	-4	79	71	-8	118	106	-12
All	2036	728	654	-75	37	33	-4	74	66	-8	111	100	-11
All	2037	701	627	-73	35	31	-4	70	63	-7	105	94	-11
All	2038	672	602	-70	33	29	-3	66	59	-7	99	88	-10
All	2039	649	581	-68	31	28	-3	62	56	-7	93	84	-10
All	2040	629	563	-66	30	26	-3	59	53	-6	89	79	-9
All	2041	610	546	-64	28	25	-3	56	50	-6	85	76	-9
All	2042	595	533	-63	27	24	-3	54	48	-6	81	72	-8
All	2043	582	521	-61	26	23	-3	52	46	-5	78	69	-8
All	2044	572	512	-60	25	22	-3	50	45	-5	75	67	-8

All	2045	563	503	-59	24	21	-3	48	43	-5	72	64	-8
All	2046	554	496	-58	23	21	-2	46	42	-5	70	62	-7
All	2047	548	490	-58	22	20	-2	45	40	-5	67	60	-7
All	2048	542	484	-57	22	20	-2	44	39	-5	65	59	-7
All	2049	536	480	-57	21	19	-2	42	38	-4	64	57	-7
All	2050	531	475	-56	21	18	-2	41	37	-4	62	55	-7
All	2051	531	475	-56	20	18	-2	40	36	-4	61	54	-6
All	2052	531	475	-56	20	18	-2	40	35	-4	59	53	-6
All	2053	531	475	-56	19	17	-2	39	35	-4	58	52	-6
All	2054	531	475	-56	19	17	-2	38	34	-4	57	51	-6
All	2055	531	475	-56	19	17	-2	38	34	-4	57	51	-6
All	2056	531	475	-56	19	17	-2	37	33	-4	56	50	-6
All	2057	531	475	-56	18	16	-2	37	33	-4	55	49	-6
All	2058	531	475	-56	18	16	-2	36	32	-4	54	48	-6
All	2059	531	475	-56	18	16	-2	36	32	-4	53	48	-6
All	2060	531	475	-56	18	16	-2	35	31	-4	53	47	-6
All	2061	531	475	-56	17	15	-2	35	31	-4	52	46	-5
All	2062	531	475	-56	17	15	-2	34	30	-4	51	46	-5
All	2063	531	475	-56	17	15	-2	34	30	-4	50	45	-5
All	2064	531	475	-56	17	15	-2	33	30	-3	50	44	-5
All	2065	531	475	-56	16	15	-2	33	29	-3	49	44	-5
All	2066	531	475	-56	16	14	-2	32	29	-3	48	43	-5
All	2067	531	475	-56	16	14	-2	32	28	-3	47	42	-5
All	2068	531	475	-56	16	14	-2	31	28	-3	47	42	-5
All	2069	531	475	-56	15	14	-2	31	27	-3	46	41	-5
All	2070	531	475	-56	15	14	-2	30	27	-3	45	41	-5
All	2071	531	475	-56	15	13	-2	30	27	-3	45	40	-5
All	2072	531	475	-56	15	13	-2	29	26	-3	44	39	-5
All	2073	531	475	-56	14	13	-2	29	26	-3	43	39	-5
All	2074	531	475	-56	14	13	-2	29	26	-3	43	38	-5
All	2075	531	475	-56	14	13	-1	28	25	-3	42	38	-4
All	2076	531	475	-56	14	12	-1	28	25	-3	42	37	-4
All	2077	531	475	-56	14	12	-1	27	24	-3	41	37	-4
All	2078	531	475	-56	13	12	-1	27	24	-3	40	36	-4
All	2079	531	475	-56	13	12	-1	27	24	-3	40	36	-4
All	2080	531	475	-56	13	12	-1	26	23	-3	39	35	-4
All	2081	531	475	-56	13	12	-1	26	23	-3	39	35	-4
All	2082	531	475	-56	13	11	-1	25	23	-3	38	34	-4
Car	Total	36804	33062	-3742	1601	1443	-158	3202	2887	-315	4803	4330	-473
LGV Personal	Total	17	33	16	1	1	1	3	1	2	4	2	
LGV Freight	Total	1981	1891	-90	86	82	-4	172	164	-7	257	246	-11
OGV1	Total	26	79	53	1	3	2	2	6	4	3	10	6
OGV2	Total	687	592	-95	28	24	-4	56	48	-8	84	72	-12
All	Total	39514	35657	-3857	1716	1554	-162	3433	3109	-324	5149	4663	-487

CO2_EMISSIONS_TRADED

Submode	Year	Emissions (tonnes)			cost (E000s, low)			cost (E000s, central)			cost (E000s, high)		
		DM	DS	Increase	DM	DS	Increase	DM	DS	Increase	DM	DS	Increase
Car	2023	29	29	0	2	2	0	4	4	0	6	6	0
Car	2037	24	24	0	1	1	0	2	2	0	4	4	0
LGV Personal	2023	0	0	0	0	0	0	0	0	0	0	0	0
LGV Personal	2037	0	0	0	0	0	0	0	0	0	0	0	0
LGV Freight	2023	0	0	0	0	0	0	0	0	0	0	0	0
LGV Freight	2037	0	0	0	0	0	0	0	0	0	0	0	0
OGV1	2023	0	0	0	0	0	0	0	0	0	0	0	0
OGV1	2037	0	0	0	0	0	0	0	0	0	0	0	0
OGV2	2023	0	0	0	0	0	0	0	0	0	0	0	0
OGV2	2037	0	0	0	0	0	0	0	0	0	0	0	0
All	2023	30	30	0	2	2	0	4	4	0	6	6	0
All	2024	39	39	0	3	3	0	5	5	0	8	8	0
All	2025	49	49	0	3	3	0	6	6	0	9	9	0
All	2026	58	58	0	4	4	0	7	7	0	11	11	0
All	2027	64	64	0	4	4	0	8	8	0	12	12	0
All	2028	69	69	0	4	4	0	8	8	0	12	12	0
All	2029	70	70	0	4	4	0	8	8	0	12	12	0
All	2030	68	68	0	4	4	0	8	8	0	12	12	0
All	2031	61	61	0	3	3	0	7	7	0	10	10	0
All	2032	54	54	0	3	3	0	6	6	0	9	9	0
All	2033	47	47	0	3	3	0	5	5	0	8	8	0
All	2034	40	40	0	2	2	0	4	4	0	6	6	0
All	2035	34	34	0	2	2	0	4	4	0	5	5	0
All	2036	29	29	0	1	1	0	3	3	0	4	4	0
All	2037	24	24	0	1	1	0	2	2	0	4	4	0
All	2038	20	20	0	1	1	0	2	2	0	3	3	0
All	2039	17	17	0	1	1	0	2	2	0	2	2	0
All	2040	14	14	0	1	1	0	1	1	0	2	2	0
All	2041	12	12	0	1	1	0	1	1	0	2	2	0
All	2042	11	11	0	1	1	0	1	1	0	2	2	0
All	2043	11	11	0	0	0	0	1	1	0	1	1	0
All	2044	10	10	0	0	0	0	1	1	0	1	1	0
All	2045	9	9	0	0	0	0	1	1	0	1	1	0
All	2046	8	8	0	0	0	0	1	1	0	1	1	0
All	2047	7	7	0	0	0	0	1	1	0	1	1	0
All	2048	7	7	0	0	0	0	1	1	0	1	1	0
All	2049	7	7	0	0	0	0	1	1	0	1	1	0
All	2050	6	6	0	0	0	0	0	0	0	1	1	0
All	2051	6	6	0	0	0	0	0	0	0	1	1	0
All	2052	6	6	0	0	0	0	0	0	0	1	1	0

All	2053	6	6	0	0	0	0	0	0	0	1	1	0
All	2054	6	6	0	0	0	0	0	0	0	1	1	0
All	2055	6	6	0	0	0	0	0	0	0	1	1	0
All	2056	6	6	0	0	0	0	0	0	0	1	1	0
All	2057	6	6	0	0	0	0	0	0	0	1	1	0
All	2058	6	6	0	0	0	0	0	0	0	1	1	0
All	2059	6	6	0	0	0	0	0	0	0	1	1	0
All	2060	6	6	0	0	0	0	0	0	0	1	1	0
All	2061	6	6	0	0	0	0	0	0	0	1	1	0
All	2062	6	6	0	0	0	0	0	0	0	1	1	0
All	2063	6	6	0	0	0	0	0	0	0	1	1	0
All	2064	6	6	0	0	0	0	0	0	0	1	1	0
All	2065	6	6	0	0	0	0	0	0	0	1	1	0
All	2066	6	6	0	0	0	0	0	0	0	1	1	0
All	2067	6	6	0	0	0	0	0	0	0	1	1	0
All	2068	6	6	0	0	0	0	0	0	0	1	1	0
All	2069	6	6	0	0	0	0	0	0	0	1	1	0
All	2070	6	6	0	0	0	0	0	0	0	1	1	0
All	2071	6	6	0	0	0	0	0	0	0	1	1	0
All	2072	6	6	0	0	0	0	0	0	0	1	1	0
All	2073	6	6	0	0	0	0	0	0	0	1	1	0
All	2074	6	6	0	0	0	0	0	0	0	1	1	0
All	2075	6	6	0	0	0	0	0	0	0	1	1	0
All	2076	6	6	0	0	0	0	0	0	0	1	1	0
All	2077	6	6	0	0	0	0	0	0	0	0	0	0
All	2078	6	6	0	0	0	0	0	0	0	0	0	0
All	2079	6	6	0	0	0	0	0	0	0	0	0	0
All	2080	6	6	0	0	0	0	0	0	0	0	0	0
All	2081	6	6	0	0	0	0	0	0	0	0	0	0
All	2082	6	6	0	0	0	0	0	0	0	0	0	0
Car	Total	1064	1064	0	54	54	0	108	108	0	163	163	0
LGV Personal	Total	0	0	0	0	0	0	0	0	0	0	0	0
LGV Freight	Total	15	15	0	1	1	0	1	1	0	2	2	0
OGV1	Total	0	0	0	0	0	0	0	0	0	0	0	0
OGV2	Total	0	0	0	0	0	0	0	0	0	0	0	0
All	Total	1079	1079	0	55	55	0	110	110	0	165	165	0

CO2_EMISSIONS_BY_TIME_PERIOD_UNTRADED

Submode	Year	Emissions (tonnes)			cost (E000s, low)			cost (E000s, central)			cost (E000s, high)		
		DM	DS	Increase	DM	DS	Increase	DM	DS	Increase	DM	DS	Increase
AM peak	2023	192	189	-2	13	12	-0	25	25	-0	38	37	-0
AM peak	2037	109	95	-14	5	5	-1	11	9	-1	16	14	-2
PM peak	2023	332	224	-109	22	15	-7	43	29	-14	65	44	-21
PM peak	2037	172	102	-70	9	5	-3	17	10	-7	26	15	-10

Inter-peak	2023	731	750	19	48	49	1	95	98	2	143	147	4
Inter-peak	2037	377	388	11	19	19	1	38	39	1	56	58	2
Off-peak	2023	81	82	1	5	5	0	11	11	0	16	16	0
Off-peak	2037	42	43	0	2	2	0	4	4	0	6	6	0
AM peak	Total	6037	5375	-662	261	235	-26	521	469	-52	782	704	-78
PM peak	Total	9756	5937	-3820	424	261	-163	848	522	-326	1272	783	-489
Inter-peak	Total	21323	21920	597	928	953	26	1856	1907	51	2783	2860	77
Off-peak	Total	2398	2426	28	104	105	1	208	210	2	312	316	4

NOTE: The cost of any UK Allowances (UKAs) purchased to cover traded emissions (i.e. emissions from sectors covered by the UK Emissions Trading System) will be reflected in the purchase price of traded sector goods (such as electricity). Since the purchase price is used in the costs, considered in transport appraisal, the cost of the relevant UKAs will be included in the cost benefit analysis, "internalising" the costs of emissions from traded sectors.

The CO2 EMISSIONS BY TIME PERIOD TRADED reported in the table below are therefore provided for information purposes only - they are not included in the Economic Efficiency of the Transport System (TEE) table.

For further information, please refer to TAG Unit A-3 para. 4.1.5 and 4.2.9

CO2_EMISSIONS_BY_TIME_PERIOD_TRADED

Submode	Year	Emissions (tonnes)			cost (£000s, low)			cost (£000s, central)			cost (£000s, high)		
		DM	DS	Increase	DM	DS	Increase	DM	DS	Increase	DM	DS	Increase
AM peak	2023	4	4	-0	0	0	-0	1	1	-0	1	1	-0
AM peak	2037	4	4	-0	0	0	-0	0	0	-0	1	1	-0
PM peak	2023	6	6	0	0	0	0	1	1	0	1	1	0
PM peak	2037	5	5	0	0	0	0	0	0	0	1	1	0
Inter-peak	2023	17	17	0	1	1	0	2	2	0	3	3	0
Inter-peak	2037	14	14	0	1	1	0	1	1	0	2	2	0
Off-peak	2023	2	2	0	0	0	0	0	0	0	0	0	0
Off-peak	2037	2	2	-0	0	0	-0	0	0	-0	0	0	-0
AM peak	Total	160	160	-0	8	8	-0	16	16	-0	24	24	-0
PM peak	Total	214	214	-0	11	11	-0	22	22	-0	33	33	-0
Inter-peak	Total	636	636	0	32	32	0	65	65	0	97	97	0
Off-peak	Total	69	69	0	4	4	0	7	7	0	11	11	0

MODE

User benefits and changes in revenues by mode, all years. £000s.

Mode	Year	User	User_Charges	Vehicle_Operating_Cost	Operator_Rev	Indirect	
		Time	PT_fares_(pri)	Fuel	Non_fuel	PT_fares_(pri)	Taxes
Road	2023	612	0	34	2	0	-15
Road	2024	616	0	32	2	0	-15
Road	2025	619	0	30	2	0	-14
Road	2026	623	0	28	2	0	-14
Road	2027	625	0	28	2	0	-13
Road	2028	628	0	27	2	0	-13
Road	2029	630	0	26	2	0	-12
Road	2030	632	0	25	2	0	-11

Road	2031	633	0	23	2	0	-11
Road	2032	635	0	22	2	0	-10
Road	2033	636	0	21	2	0	-10
Road	2034	636	0	20	2	0	-9
Road	2035	637	0	19	2	0	-9
Road	2036	637	0	18	2	0	-8
Road	2037	637	0	17	2	0	-8
Road	2038	625	0	16	2	0	-7
Road	2039	613	0	15	2	0	-7
Road	2040	601	0	14	1	0	-6
Road	2041	589	0	13	1	0	-6
Road	2042	578	0	12	1	0	-5
Road	2043	567	0	12	1	0	-5
Road	2044	556	0	11	1	0	-5
Road	2045	545	0	11	1	0	-5
Road	2046	534	0	10	1	0	-4
Road	2047	524	0	10	1	0	-4
Road	2048	514	0	9	1	0	-4
Road	2049	504	0	9	1	0	-4
Road	2050	494	0	8	1	0	-4
Road	2051	485	0	8	1	0	-3
Road	2052	475	0	8	1	0	-3
Road	2053	466	0	8	1	0	-3
Road	2054	459	0	7	1	0	-3
Road	2055	453	0	7	1	0	-3
Road	2056	446	0	7	1	0	-3
Road	2057	440	0	7	1	0	-3
Road	2058	433	0	6	1	0	-3
Road	2059	427	0	6	1	0	-3
Road	2060	421	0	6	1	0	-3
Road	2061	414	0	6	1	0	-2
Road	2062	408	0	6	1	0	-2
Road	2063	403	0	6	1	0	-2
Road	2064	397	0	5	1	0	-2
Road	2065	391	0	5	1	0	-2
Road	2066	385	0	5	1	0	-2
Road	2067	380	0	5	1	0	-2
Road	2068	374	0	5	1	0	-2
Road	2069	369	0	5	1	0	-2
Road	2070	363	0	4	1	0	-2
Road	2071	358	0	4	1	0	-2
Road	2072	353	0	4	1	0	-2
Road	2073	348	0	4	1	0	-2
Road	2074	343	0	4	1	0	-2

Road	2075	338	0	4	0	0	-2
Road	2076	333	0	4	0	0	-2
Road	2077	328	0	4	0	0	-1
Road	2078	323	0	4	0	0	-1
Road	2079	318	0	3	0	0	-1
Road	2080	314	0	3	0	0	-1
Road	2081	309	0	3	0	0	-1
Road	2082	305	0	3	0	0	-1
Road	Total	29033	0	688	64	0	-305

SUBMODE

User benefits and changes in revenues by submode/vehicle type, modelled years and total. £000s.

Submode	Year	User	User_Charges	Vehicle_Operating_Cost		Operator_Rev	Indirect
		Time	PT_fares_(pri)	Fuel	Non_fuel	PT_fares_(pri)	Taxes
Car	2023	585	0	34	1	0	-14
Car	2037	608	0	17	1	0	-7
LGV Personal	2023	0	0	-0	0	0	0
LGV Personal	2037	0	0	-0	0	0	0
LGV Freight	2023	25	0	0	1	0	-0
LGV Freight	2037	28	0	0	1	0	-0
OGV1	2023	0	0	-0	0	0	0
OGV1	2037	0	0	-0	0	0	0
OGV2	2023	1	0	1	0	0	-0
OGV2	2037	1	0	0	0	0	-0
All	2023	612	0	34	2	0	-15
All	2037	637	0	17	2	0	-8
Car	Total	27719	0	672	21	0	-298
LGV Personal	Total	10	0	-3	0	0	1
LGV Freight	Total	1253	0	13	30	0	-6
OGV1	Total	5	0	-8	1	0	3
OGV2	Total	46	0	14	12	0	-6
All	Total	29033	0	688	64	0	-305

PERSON_TYPES

User benefits and changes in revenues by person type, modelled years and total. £000s.

Person_type	Year	User	User_Charges	Vehicle_Operating_Cost		Operator_Rev	Indirect
		Time	PT_fares_(pri)	Fuel	Non_fuel	PT_fares_(pri)	Taxes
All	2023	612	0	34	2	0	-15
All	2037	637	0	17	2	0	-8
All	Total	29033	0	688	64	0	-305

PURPOSE

User benefits and changes in revenues by trip purpose, modelled years and total. £000s.

Purpose	Year	User	User_Charges	Vehicle_Operating_Cost	Operator_Rev	Indirect
---------	------	------	--------------	------------------------	--------------	----------

		Time	PT_fares_(pri)	Fuel	Non_fuel	PT_fares_(pri)	Taxes
Business	2023	30	0	1	2	0	-0
Business	2037	33	0	1	2	0	-0
Commuting	2023	188	0	9	0	0	-4
Commuting	2037	198	0	4	0	0	-2
Other	2023	394	0	25	0	0	-11
Other	2037	406	0	12	0	0	-5
Business	Total	1493	0	23	64	0	-10
Commuting	Total	8993	0	174	0	0	-77
Other	Total	18547	0	491	0	0	-218

PERIOD

User benefits and changes in revenues by time period, modelled years and total. £000s.

Period	Year	User	User_Charges	Vehicle_Operating_Cost	Operator_Rev	Indirect	
		Time	PT_fares_(pri)	Fuel	Non_fuel	PT_fares_(pri)	Taxes
AM peak	2023	118	0	1	0	0	-0
AM peak	2037	172	0	3	1	0	-2
PM peak	2023	549	0	41	2	0	-17
PM peak	2037	506	0	17	1	0	-7
Inter-peak	2023	-50	0	-7	-0	0	3
Inter-peak	2037	-36	0	-2	-0	0	1
Off-peak	2023	-5	0	-0	-0	0	0
Off-peak	2037	-5	0	-0	-0	0	0
AM peak	Total	7527	0	106	22	0	-47
PM peak	Total	23486	0	696	49	0	-309
Inter-peak	Total	-1751	0	-109	-6	0	48
Off-peak	Total	-228	0	-5	-1	0	2

NON MONETISED TIME BENEFITS BY TIME SAVING

Time benefits (thousands of person hrs) by size of time saving

Vehicle type	Purpose	Year	< -5 mins	-5 to -2 mins	-2 to 0 mins	0 to 2 mins	2 to 5 mins	> 5 mins
Car	Business	2023	0	0	-0	1	0	0
Car	Business	2037	0	0	-0	1	0	0
Car	Business	Total	0	0	-6	61	0	0
Car	Commuting	2023	0	0	-1	12	15	0
Car	Commuting	2037	0	0	-0	19	18	0
Car	Commuting	Total	0	0	-28	1102	1059	0
Car	Other	2023	0	0	-20	26	104	13
Car	Other	2037	0	0	-20	7	80	100
Car	Other	Total	0	0	-1194	535	4962	5321
LGV Personal	Business	2023	0	0	0	0	0	0
LGV Personal	Business	2037	0	0	0	0	0	0
LGV Personal	Business	Total	0	0	0	0	0	0
LGV Personal	Commuting	2023	0	0	0	0	0	0

LGV Personal	Commuting	2037	0	0	0	0	0	0
LGV Personal	Commuting	Total	0	0	0	0	0	0
LGV Personal	Other	2023	0	0	-0	0	0	0
LGV Personal	Other	2037	0	0	-0	0	0	0
LGV Personal	Other	Total	0	0	-1	6	0	0
LGV Freight	Business	2023	0	0	-0	3	0	0
LGV Freight	Business	2037	0	0	-0	4	0	0
LGV Freight	Business	Total	0	0	-24	260	0	0
LGV Freight	Commuting	2023	0	0	0	0	0	0
LGV Freight	Commuting	2037	0	0	0	0	0	0
LGV Freight	Commuting	Total	0	0	0	0	0	0
LGV Freight	Other	2023	0	0	0	0	0	0
LGV Freight	Other	2037	0	0	0	0	0	0
LGV Freight	Other	Total	0	0	0	0	0	0
OGV1	Business	2023	0	0	-0	0	0	0
OGV1	Business	2037	0	0	-0	0	0	0
OGV1	Business	Total	0	0	-0	1	0	0
OGV1	Commuting	2023	0	0	0	0	0	0
OGV1	Commuting	2037	0	0	0	0	0	0
OGV1	Commuting	Total	0	0	0	0	0	0
OGV1	Other	2023	0	0	0	0	0	0
OGV1	Other	2037	0	0	0	0	0	0
OGV1	Other	Total	0	0	0	0	0	0
OGV2	Business	2023	0	0	-0	0	0	0
OGV2	Business	2037	0	0	-0	0	0	0
OGV2	Business	Total	0	0	-2	10	0	0
OGV2	Commuting	2023	0	0	0	0	0	0
OGV2	Commuting	2037	0	0	0	0	0	0
OGV2	Commuting	Total	0	0	0	0	0	0
OGV2	Other	2023	0	0	0	0	0	0
OGV2	Other	2037	0	0	0	0	0	0
OGV2	Other	Total	0	0	0	0	0	0

MONETISED TIME BENEFITS BY TIME SAVING

Time benefits (£000s) by size of time saving

Vehicle type	Purpose	Year	< -5 mins	-5 to -2 mins	-2 to 0 mins	0 to 2 mins	2 to 5 mins	> 5 mins
Car	Business	2023	0	0	-1	4	0	0
Car	Business	2037	0	0	-0	5	0	0
Car	Business	Total	0	0	-20	209	0	0
Car	Commuting	2023	0	0	-4	85	108	0
Car	Commuting	2037	0	0	-2	103	97	0
Car	Commuting	Total	0	0	-121	4612	4502	0
Car	Other	2023	0	0	-66	83	335	42
Car	Other	2037	0	0	-49	16	195	244

Car	Other	Total	0	0	-2344	1193	9910	9778
LGV Personal Business	2023		0	0	0	0	0	0
LGV Personal Business	2037		0	0	0	0	0	0
LGV Personal Business	Total		0	0	0	0	0	0
LGV Personal Commuting	2023		0	0	0	0	0	0
LGV Personal Commuting	2037		0	0	0	0	0	0
LGV Personal Commuting	Total		0	0	0	0	0	0
LGV Personal Other	2023		0	0	-0	0	0	0
LGV Personal Other	2037		0	0	-0	0	0	0
LGV Personal Other	Total		0	0	-1	11	0	0
LGV Freight Business	2023		0	0	-4	29	0	0
LGV Freight Business	2037		0	0	-3	30	0	0
LGV Freight Business	Total		0	0	-128	1382	0	0
LGV Freight Commuting	2023		0	0	0	0	0	0
LGV Freight Commuting	2037		0	0	0	0	0	0
LGV Freight Commuting	Total		0	0	0	0	0	0
LGV Freight Other	2023		0	0	0	0	0	0
LGV Freight Other	2037		0	0	0	0	0	0
LGV Freight Other	Total		0	0	0	0	0	0
OGV1 Business	2023		0	0	-0	0	0	0
OGV1 Business	2037		0	0	-0	0	0	0
OGV1 Business	Total		0	0	-3	7	0	0
OGV1 Commuting	2023		0	0	0	0	0	0
OGV1 Commuting	2037		0	0	0	0	0	0
OGV1 Commuting	Total		0	0	0	0	0	0
OGV1 Other	2023		0	0	0	0	0	0
OGV1 Other	2037		0	0	0	0	0	0
OGV1 Other	Total		0	0	0	0	0	0
OGV2 Business	2023		0	0	-0	1	0	0
OGV2 Business	2037		0	0	-0	1	0	0
OGV2 Business	Total		0	0	-13	59	0	0
OGV2 Commuting	2023		0	0	0	0	0	0
OGV2 Commuting	2037		0	0	0	0	0	0
OGV2 Commuting	Total		0	0	0	0	0	0
OGV2 Other	2023		0	0	0	0	0	0
OGV2 Other	2037		0	0	0	0	0	0
OGV2 Other	Total		0	0	0	0	0	0

TOTAL BENEFITS BY TIME SAVING

Total benefits (£000s) by size of time saving

Vehicle type	Purpose	Year	< -5 mins	-5 to -2 mins	-2 to 0 mins	0 to 2 mins	2 to 5 mins	> 5 mins
Car	Business	2023	0	0	-1	5	0	0
Car	Business	2037	0	0	-0	5	0	0
Car	Business	Total	0	0	-23	236	0	0

Car	Commuting	2023	0	0	-4	86	115	0
Car	Commuting	2037	0	0	-2	105	99	0
Car	Commuting	Total	0	0	-121	4677	4611	0
Car	Other	2023	0	0	-66	76	363	45
Car	Other	2037	0	0	-49	13	201	253
Car	Other	Total	0	0	-2344	1083	10234	10058
LGV Personal Business		2023	0	0	0	0	0	0
LGV Personal Business		2037	0	0	0	0	0	0
LGV Personal Business		Total	0	0	0	0	0	0
LGV Personal Commuting		2023	0	0	0	0	0	0
LGV Personal Commuting		2037	0	0	0	0	0	0
LGV Personal Commuting		Total	0	0	0	0	0	0
LGV Personal Other		2023	0	0	-0	0	0	0
LGV Personal Other		2037	0	0	-0	0	0	0
LGV Personal Other		Total	0	0	-5	12	0	0
LGV Freight Business		2023	0	0	-4	30	0	0
LGV Freight Business		2037	0	0	-3	32	0	0
LGV Freight Business		Total	0	0	-131	1428	0	0
LGV Freight Commuting		2023	0	0	0	0	0	0
LGV Freight Commuting		2037	0	0	0	0	0	0
LGV Freight Commuting		Total	0	0	0	0	0	0
LGV Freight Other		2023	0	0	0	0	0	0
LGV Freight Other		2037	0	0	0	0	0	0
LGV Freight Other		Total	0	0	0	0	0	0
OGV1 Business		2023	0	0	-0	0	0	0
OGV1 Business		2037	0	0	-0	0	0	0
OGV1 Business		Total	0	0	-12	9	0	0
OGV1 Commuting		2023	0	0	0	0	0	0
OGV1 Commuting		2037	0	0	0	0	0	0
OGV1 Commuting		Total	0	0	0	0	0	0
OGV1 Other		2023	0	0	0	0	0	0
OGV1 Other		2037	0	0	0	0	0	0
OGV1 Other		Total	0	0	0	0	0	0
OGV2 Business		2023	0	0	-0	2	0	0
OGV2 Business		2037	0	0	-0	2	0	0
OGV2 Business		Total	0	0	-17	89	0	0
OGV2 Commuting		2023	0	0	0	0	0	0
OGV2 Commuting		2037	0	0	0	0	0	0
OGV2 Commuting		Total	0	0	0	0	0	0
OGV2 Other		2023	0	0	0	0	0	0
OGV2 Other		2037	0	0	0	0	0	0
OGV2 Other		Total	0	0	0	0	0	0

NON MONETISED TIME BENEFITS BY DISTANCE

OGV2	Other	2023	0	0	0	0	0	0	0	0
OGV2	Other	2037	0	0	0	0	0	0	0	0
OGV2	Other	Total	0	0	0	0	0	0	0	0

MONETISED TIME BENEFITS BY DISTANCE

Time benefits (£000s) by distance

Vehicle type	Purpose	Year	< 1 kms	1 to 5 kms	5 to 10 kms	10 to 25 kms	25 to 50 kms	50 to 100 kms	100 to 200 kms	>200 kms
Car	Business	2023	0	4	0	0	0	0	0	0
Car	Business	2037	0	4	0	0	0	0	0	0
Car	Business	Total	0	189	0	0	0	0	0	0
Car	Commuting	2023	0	188	0	0	0	0	0	0
Car	Commuting	2037	0	198	0	0	0	0	0	0
Car	Commuting	Total	0	8993	0	0	0	0	0	0
Car	Other	2023	0	394	0	0	0	0	0	0
Car	Other	2037	0	406	0	0	0	0	0	0
Car	Other	Total	0	18537	0	0	0	0	0	0
LGV Personal	Business	2023	0	0	0	0	0	0	0	0
LGV Personal	Business	2037	0	0	0	0	0	0	0	0
LGV Personal	Business	Total	0	0	0	0	0	0	0	0
LGV Personal	Commuting	2023	0	0	0	0	0	0	0	0
LGV Personal	Commuting	2037	0	0	0	0	0	0	0	0
LGV Personal	Commuting	Total	0	0	0	0	0	0	0	0
LGV Personal	Other	2023	0	0	0	0	0	0	0	0
LGV Personal	Other	2037	0	0	0	0	0	0	0	0
LGV Personal	Other	Total	0	10	0	0	0	0	0	0
LGV Freight	Business	2023	0	25	0	0	0	0	0	0
LGV Freight	Business	2037	0	28	0	0	0	0	0	0
LGV Freight	Business	Total	0	1253	0	0	0	0	0	0
LGV Freight	Commuting	2023	0	0	0	0	0	0	0	0
LGV Freight	Commuting	2037	0	0	0	0	0	0	0	0
LGV Freight	Commuting	Total	0	0	0	0	0	0	0	0
LGV Freight	Other	2023	0	0	0	0	0	0	0	0
LGV Freight	Other	2037	0	0	0	0	0	0	0	0
LGV Freight	Other	Total	0	0	0	0	0	0	0	0
OGV1	Business	2023	0	0	0	0	0	0	0	0
OGV1	Business	2037	0	0	0	0	0	0	0	0
OGV1	Business	Total	0	5	0	0	0	0	0	0
OGV1	Commuting	2023	0	0	0	0	0	0	0	0
OGV1	Commuting	2037	0	0	0	0	0	0	0	0
OGV1	Commuting	Total	0	0	0	0	0	0	0	0
OGV1	Other	2023	0	0	0	0	0	0	0	0
OGV1	Other	2037	0	0	0	0	0	0	0	0
OGV1	Other	Total	0	0	0	0	0	0	0	0
OGV2	Business	2023	0	1	0	0	0	0	0	0

OGV1	Commuting	Total	0	0	0	0	0	0	0	0
OGV1	Other	2023	0	0	0	0	0	0	0	0
OGV1	Other	2037	0	0	0	0	0	0	0	0
OGV1	Other	Total	0	0	0	0	0	0	0	0
OGV2	Business	2023	0	2	0	0	0	0	0	0
OGV2	Business	2037	0	2	0	0	0	0	0	0
OGV2	Business	Total	0	72	0	0	0	0	0	0
OGV2	Commuting	2023	0	0	0	0	0	0	0	0
OGV2	Commuting	2037	0	0	0	0	0	0	0	0
OGV2	Commuting	Total	0	0	0	0	0	0	0	0
OGV2	Other	2023	0	0	0	0	0	0	0	0
OGV2	Other	2037	0	0	0	0	0	0	0	0
OGV2	Other	Total	0	0	0	0	0	0	0	0

SENSITIVITY

Total user benefits as a percentage of total DM user costs

Modelled Years		
Mode	2023	2037
Road	38.55%	51.32%

Economy:Economic Efficiency of the Transport System (TEE)

Consumer - Commuting user benefits	All Modes	Road
Travel Time	8993	8993
Vehicle operating costs	174	174
User charges	0	0
During Construction & Maintenance	0	0
NET CONSUMER - COMMUTING BENEFITS	9167	9167

Consumer - Other user benefits	All Modes	Road
Travel Time	18547	18547
Vehicle operating costs	491	491
User charges	0	0
During Construction & Maintenance	0	0
NET CONSUMER - OTHER BENEFITS	19039	19039

Business	All Modes	Road Personal	Road Freight
Travel Time	1493	189	1304
Vehicle operating costs	86	24	62
User charges	0	0	0
During Construction & Maintenance	0	0	0
Subtotal	1579	213	1366

Private Sector Provider Impacts

Revenue	0	0
Operating costs	0	0
Investment costs	0	0
Grant/subsidy	0	0
Subtotal	0	0

Other business Impacts

Developer contributions	-171	-171
NET BUSINESS IMPACT	1408	

TOTAL

Present Value of Transport Economic

Efficiency Benefits (TEE)	29614	
---------------------------	-------	--

Note: Benefits appear as positive numbers, while costs appear as negative numbers.

Note: All entries are present values discounted to 2010, in 2010 prices

Public Accounts

Local Government Funding	ALL MODES	Road
Revenue	0	0
Operating Costs	179	179
Investment Costs	688	688
Developer Contributions	-171	-171
Grant/Subsidy Payments	0	0
NET IMPACT	697	697

Central Government Funding: Transport

	ALL MODES	Road
Revenue	0	0
Operating costs	0	0
Investment costs	3475	3475
Developer Contributions	0	0
Grant/Subsidy Payments	0	0
NET IMPACT	3475	3475

Central Government Funding: Non-Transport

Indirect Tax Revenues	305	305
-----------------------	-----	-----

TOTALS

Broad Transport Budget	4172	4172
Wider Public Finances	305	305

Note: Costs appear as positive numbers, while revenues and developer contributions appear as negative numbers.

Note: All entries are present values discounted to 2010, in 2010 prices

Analysis of Monetised Costs and Benefits

Greenhouse Gases	324
Economic Efficiency: Consumer Users (Commuting)	9167
Economic Efficiency: Consumer Users (Other)	19039
Economic Efficiency: Business Users and Providers	1408
Wider Public Finances (Indirect Taxation Revenues)	-305
Present Value of Benefits (PVB)	29633
Broad Transport Budget	4172
Present Value of Costs (PVC)	4172
OVERALL IMPACTS	
Net Present Value (NPV)	25461
Benefit to Cost Ratio (BCR)	7.103

Note: This table includes costs and benefits which are regularly or occasionally presented in monetised form in transport appraisals, together with some where monetisation is in prospect. There may also be other significant costs and benefits, some of which cannot be presented in monetised form. Where this is the case, the analysis presented above does NOT provide a good measure of value for money and should not be used as the sole basis for decisions.

TUBA Run Information

- calculations completed

File Summary

* Run Name : TUBA-7_Kirk Hill_15OB_V3

* Scheme File : L:\60625845_A614 MRN DfT responses\2023_Draft_FBC\TUBA\MasterFile - 7_Kirk Hill_Draft_FBC_OB_20_Percent_V3.txt

* Economic File : L:\60625845_A614 MRN DfT responses\2023_Draft_FBC\TUBA\Economics_TAG_db1_20_2.txt

* Output File : L:\60625845_A614 MRN DfT responses\2023_Draft_FBC\TUBA\Kirk_Hill_FBC_OB_V3.OUT

* Log File : L:\60625845_A614 MRN DfT responses\2023_Draft_FBC\TUBA\Kirk_Hill_FBC_OB_V3.log

* User ID : philip.g.jones

* Computer ID : UKDBYLFHQBT3

Elapsed time : 0hrs 0mins 1secs

Appendix K COBALT

COBALT Input File

General Scheme Section

Scheme Name

A614_A6075_COBALT

Years Subsection

Current Year 2019

Base Year 2017

Without-Scheme

Year 1 2023

Year 2 2037

Year 3

Year 4

Year 5

With-Scheme

Year 1 2023

Year 2 2037

Year 3

Year 4

Year 5

Scheme Opening Year 2023

Link Input Section

Link Classification Subsection

Link	Road	Length	Speed Limit
Name	Type	(km)	(mph)

Link Flow Subsection

Link	Base Year	Without-Scheme Flows					With-			
Scheme Flows	Flows	Year 1	Year 2	Year 3	Year 4	Year 5	Year 1	Year 2	Year 3	Year 4

Link Local Accident Rate Subsection

Link	Observed	Accidents	First	Observed	Local Severity Split
Name	Accident Year	Ratio	Year		

Junction Input Section

Junction Classification Subsection

Junction	Junction	Highest	Highest	Speed Limit
Name	Type	Carriageway	Standard	(mph)
1	4	S	Major	60
2	4	S	Major	30
11	4	D	Major	40
12	4	D	Major	40
13	3	S	Major	60
14	3	S	Major	60

Junction Flow Subsection

Base Year Flows

Junction	Arm 1	Arm 2	Arm 3	Arm 4	Arm 5	Arm 6
Name	(Major)	(Minor)	(Major)	(Minor)	(Minor)	(Not used)
1	5508	10085	8728	4110	3499	0
2	0	0	0	0	0	0
11	10920	4671	12984	8119	0	0
12	0	0	0	0	0	0

13	9829	1551	9196	1845	0	0
14	0	0	0	0	0	0

Without-Scheme Flows

Junction	Year		Arm 1	Arm 2	Arm 3	Arm 4	Arm 5	Arm 6
Name				(Major)	(Minor)	(Major)	(Minor)	
1	2023	5842	10693	9607	4899	3664	0	
2	2023	0	0	0	0	0	0	
11	2023	11759	4817	13979	8538	0	0	
12	2023	0	0	0	0	0	0	
1	2037	5951	10912	9891	4929	3718	0	
2	2037	0	0	0	0	0	0	
11	2037	12164	4882	14668	8845	0	0	
12	2037	0	0	0	0	0	0	
13	2023	10665	1535	9764	1782	0	0	
14	2023	0	0	0	0	0	0	
13	2037	12054	1648	10901	1874	0	0	
14	2037	0	0	0	0	0	0	

With-Scheme Flows

Junction	Year	Arm 1	Arm 2	Arm 3	Arm 4	Arm 5	Arm 6
Name			(Major)	(Minor)	(Major)	(Minor)	
1	2023	0	0	0	0	0	0
2	2023	5842	10693	9607	4899	3664	0
11	2023	0	0	0	0	0	0
12	2023	11759	4817	13979	8538	0	0
1	2037	0	0	0	0	0	0
2	2037	5951	10912	9891	4929	3718	0
11	2037	0	0	0	0	0	0
12	2037	12164	4882	14668	8845	0	0
13	2023	0	0	0	0	0	0
14	2023	10665	1535	9764	1782	0	0
13	2037	0	0	0	0	0	0
14	2037	12054	1648	10901	1874	0	0

Junction Local Accident Rate Subsection

Junction	Observed Accidents	First	Observed Local Severity Split
Name		Accident Year	Ratio
1	3,2,0	2015	
11	2,0,3	2015	

13

2,2,0

2015

Link and Junction Combined Input Section

Combined Classification Subsection

Link	Road	Length	Speed Limit
Name	Type	(km)	(mph)

Combined Flow Subsection

Link	Base Year	Without-Scheme Flows					With-Scheme Flows			
Name	Flows	Year 1	Year 2	Year 3	Year 4	Year 5	Year 1	Year 2	Year 3	Year 4
	Year 5									

Combined Local Accident Rate Subsection

Link	Observed Accidents	First	Observed Local Severity Split
Name	Accident Year	Ratio	Year

* *
* CCC OOO BBBB AAA L TTTT *
* C C O O B B A A L T *
* C O O B B A A L T *
* C O O BBBB AAAAA ---- L T *
* C O O B B A A L T *
* C C O O B B A A L T *
* CCC OOO BBBB A A LLLLL T *
* *

* *
* Version 2013.02 *
* *
* Transport Appraisal and Strategic Modelling (TASM) Division, *
* Department for Transport, *
* Great Minster House, *
* 33 Horseferry Road, *
* London, *
* SW1P 4DR *
* Email tasm@dft.gsi.gov.uk *
* *

©Department for Transport, 2013

Written by Roger Himlin

Contents

[Section 1] Summary Statistics

[Section 1.1] Economic Summary

[Section 1.2] Accident Summary

[Section 1.3] Casualty Summary

[Section 2] Accident Statistics

[Section 2.1] Link Accident Statistics

[Section 2.2] Junction Accident Statistics

[Section 2.3] Combined Link and Junction Accident Statistics

[Section 3] Accident Rates

[Section 3.1] Link Accident Rates

[Section 3.2] Junction Accident Rates

[Section 3.3] Combined Link and Junction Accident Rates

[Section 4] Input Data - Scheme File

[Section 5] Input Data - Parameter File

[Section 1] Summary Statistics

[Section 1.1] Economic Summary

Total Without-Scheme Accident Costs = 10,123.5

Total With-Scheme Accident Costs = 13,822.1

Total Accident Benefits Saved by Scheme = -3,698.5

Year W/o-scheme With-Scheme

2023 245.0 333.7

2024 239.9 326.9

2025 235.2 320.7

2026 230.9 315.0

2027 226.9 309.7

2028 223.2 304.9

2029 219.7 300.2

2030 216.4 295.9

2031 213.9 292.3

2032 211.4 288.9

2033	208.8	285.4
2034	206.4	281.9
2035	204.0	278.6
2036	201.7	275.5
2037	199.5	272.4
2038	196.6	268.5
2039	193.7	264.5
2040	190.8	260.5
2041	188.0	256.6
2042	185.1	252.8
2043	182.4	249.0
2044	179.6	245.2
2045	176.8	241.4
2046	174.1	237.7
2047	171.4	234.0
2048	168.7	230.3
2049	166.8	227.8
2050	165.0	225.3
2051	163.4	223.1
2052	161.8	220.9
2053	160.2	218.7
2054	158.6	216.5
2055	157.0	214.3
2056	155.4	212.2
2057	153.8	210.0
2058	152.3	207.9
2059	150.8	205.8
2060	149.2	203.8
2061	147.8	201.7
2062	146.3	199.8
2063	144.9	197.8
2064	143.5	195.9
2065	142.1	194.0
2066	140.7	192.1
2067	139.4	190.3
2068	138.0	188.5
2069	136.7	186.6
2070	135.4	184.8

2071	134.0	183.0
2072	132.7	181.2
2073	131.4	179.5
2074	130.1	177.7
2075	128.9	175.9
2076	127.6	174.2
2077	126.3	172.5
2078	125.1	170.8
2079	123.9	169.1
2080	122.7	167.5
2081	121.5	165.8
2082	120.3	164.2

Costs and benefits discounted to 2010 in multiples of a thousand pounds.

[Section 1.2] Accident Summary

Total Without-Scheme Accidents = 313.3

Total With-Scheme Accidents = 426.0

Total Accidents Saved by Scheme = -112.8

Year	W/o-scheme	With-Scheme
2023	5.1	6.9
2024	5.1	6.9
2025	5.1	6.9
2026	5.1	6.9
2027	5.1	6.9
2028	5.1	6.9
2029	5.1	7.0
2030	5.1	7.0
2031	5.1	7.0
2032	5.1	7.0
2033	5.2	7.0
2034	5.2	7.1
2035	5.2	7.1
2036	5.2	7.1

2037	5.2	7.1
2038	5.2	7.1
2039	5.2	7.1
2040	5.2	7.1
2041	5.2	7.1
2042	5.2	7.1
2043	5.2	7.1
2044	5.2	7.1
2045	5.2	7.1
2046	5.2	7.1
2047	5.2	7.1
2048	5.2	7.1
2049	5.2	7.1
2050	5.2	7.1
2051	5.2	7.1
2052	5.2	7.1
2053	5.2	7.1
2054	5.2	7.1
2055	5.2	7.1
2056	5.2	7.1
2057	5.2	7.1
2058	5.2	7.1
2059	5.2	7.1
2060	5.2	7.1
2061	5.2	7.1
2062	5.2	7.1
2063	5.2	7.1
2064	5.2	7.1
2065	5.2	7.1
2066	5.2	7.1
2067	5.2	7.1
2068	5.2	7.1
2069	5.2	7.1
2070	5.2	7.1
2071	5.2	7.1
2072	5.2	7.1
2073	5.2	7.1
2074	5.2	7.1

2075	5.2	7.1
2076	5.2	7.1
2077	5.2	7.1
2078	5.2	7.1
2079	5.2	7.1
2080	5.2	7.1
2081	5.2	7.1
2082	5.2	7.1

[Section 1.3] Casualty Summary

Total Without-Scheme Casualties (Fatal) = 1.2

(Serious) = 21.8

(Slight) = 439.5

Total With-Scheme Casualties (Fatal) = 1.1

(Serious) = 26.5

(Slight) = 576.5

Total Casualties Saved by Scheme (Fatal) = 0.1

(Serious) = -4.8

(Slight) = -137.0

Year	----Without-Scheme----			-----With-Scheme-----		
Year	Fatal	Serious	Slight	Fatal	Serious	Slight
2023	0.0	0.4	7.1	0.0	0.4	9.3
2024	0.0	0.4	7.1	0.0	0.4	9.3
2025	0.0	0.4	7.1	0.0	0.4	9.4
2026	0.0	0.4	7.2	0.0	0.4	9.4
2027	0.0	0.4	7.2	0.0	0.4	9.4
2028	0.0	0.4	7.2	0.0	0.4	9.4
2029	0.0	0.4	7.2	0.0	0.4	9.4
2030	0.0	0.4	7.2	0.0	0.4	9.4
2031	0.0	0.4	7.2	0.0	0.4	9.4
2032	0.0	0.4	7.2	0.0	0.4	9.5
2033	0.0	0.4	7.3	0.0	0.4	9.5
2034	0.0	0.4	7.3	0.0	0.4	9.6
2035	0.0	0.4	7.3	0.0	0.4	9.6

2036	0.0	0.4	7.3	0.0	0.4	9.6
2037	0.0	0.4	7.4	0.0	0.4	9.7
2038	0.0	0.4	7.4	0.0	0.4	9.7
2039	0.0	0.4	7.4	0.0	0.4	9.7
2040	0.0	0.4	7.4	0.0	0.4	9.7
2041	0.0	0.4	7.4	0.0	0.4	9.7
2042	0.0	0.4	7.4	0.0	0.4	9.7
2043	0.0	0.4	7.4	0.0	0.4	9.7
2044	0.0	0.4	7.4	0.0	0.4	9.7
2045	0.0	0.4	7.4	0.0	0.4	9.7
2046	0.0	0.4	7.4	0.0	0.4	9.7
2047	0.0	0.4	7.4	0.0	0.4	9.7
2048	0.0	0.4	7.4	0.0	0.4	9.7
2049	0.0	0.4	7.4	0.0	0.4	9.7
2050	0.0	0.4	7.4	0.0	0.4	9.7
2051	0.0	0.4	7.4	0.0	0.4	9.7
2052	0.0	0.4	7.4	0.0	0.4	9.7
2053	0.0	0.4	7.4	0.0	0.4	9.7
2054	0.0	0.4	7.4	0.0	0.4	9.7
2055	0.0	0.4	7.4	0.0	0.4	9.7
2056	0.0	0.4	7.4	0.0	0.4	9.7
2057	0.0	0.4	7.4	0.0	0.4	9.7
2058	0.0	0.4	7.4	0.0	0.4	9.7
2059	0.0	0.4	7.4	0.0	0.4	9.7
2060	0.0	0.4	7.4	0.0	0.4	9.7
2061	0.0	0.4	7.4	0.0	0.4	9.7
2062	0.0	0.4	7.4	0.0	0.4	9.7
2063	0.0	0.4	7.4	0.0	0.4	9.7
2064	0.0	0.4	7.4	0.0	0.4	9.7
2065	0.0	0.4	7.4	0.0	0.4	9.7
2066	0.0	0.4	7.4	0.0	0.4	9.7
2067	0.0	0.4	7.4	0.0	0.4	9.7
2068	0.0	0.4	7.4	0.0	0.4	9.7
2069	0.0	0.4	7.4	0.0	0.4	9.7
2070	0.0	0.4	7.4	0.0	0.4	9.7
2071	0.0	0.4	7.4	0.0	0.4	9.7
2072	0.0	0.4	7.4	0.0	0.4	9.7
2073	0.0	0.4	7.4	0.0	0.4	9.7

2074	0.0	0.4	7.4	0.0	0.4	9.7
2075	0.0	0.4	7.4	0.0	0.4	9.7
2076	0.0	0.4	7.4	0.0	0.4	9.7
2077	0.0	0.4	7.4	0.0	0.4	9.7
2078	0.0	0.4	7.4	0.0	0.4	9.7
2079	0.0	0.4	7.4	0.0	0.4	9.7
2080	0.0	0.4	7.4	0.0	0.4	9.7
2081	0.0	0.4	7.4	0.0	0.4	9.7
2082	0.0	0.4	7.4	0.0	0.4	9.7

[Section 2] Accident Statistics

[Section 2.1] Link Accident Statistics

	----- Without-Scheme -----			*----- With-Scheme -----*			*----- Benefits -----*			
	-- Number of Accidents -			*-- Number of Accidents -*			*-- Number of Accidents -*			Total*
Link Name	* 2023	2038	Total*	Cost* * 2023	2038	Total*	Cost* * 2023	2038	Total*	Benefit*
Total	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Costs and benefits discounted to 2010 in multiples of a thousand pounds.

[Section 2.2] Junction Accident Statistics

	----- Without-Scheme -----			*----- With-Scheme -----*			*----- Benefits -----*					
	-- Number of Accidents -			*-- Number of Accidents -*			*-- Number of Accidents -*			Total*		
Junction Name	* 2023	2038	Total*	Cost* * 2023	2038	Total*	Cost* * 2023	2038	Total*	Benefit*		
1	1.9	1.9	115.6	3,502.3	0.0	0.0	0.0	0.0	1.9	1.9	115.6	3,502.3
2	0.0	0.0	0.0	0.0	2.7	2.7	163.2	5,146.2	-2.7	-2.7	-163.2	-5,146.2
11	1.8	1.9	115.3	3,629.8	0.0	0.0	0.0	0.0	1.8	1.9	115.3	3,629.8
12	0.0	0.0	0.0	0.0	2.9	3.0	179.9	5,663.5	-2.9	-3.0	-179.9	-5,663.5
13	1.3	1.4	82.4	2,991.4	0.0	0.0	0.0	0.0	1.3	1.4	82.4	2,991.4
14	0.0	0.0	0.0	0.0	1.3	1.4	83.0	3,012.4	-1.3	-1.4	-83.0	-3,012.4

1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2	47.6	47.6	47.6	47.6	47.6	47.6	47.6	47.6	47.5	47.6	47.8	47.9	48.0	48.1	48.2	48.3	48.3	48.3	48.3	48.3	48.3	48.3
48.3	48.3	48.3	48.3	48.3	48.3	48.3	48.3	48.3	48.3	48.3	48.3	48.3	48.3	48.3	48.3	48.3	48.3	48.3	48.3	48.3	48.3	48.3
48.3	48.3	48.3	48.3	48.3	48.3	48.3	48.3	48.3	48.3	48.3	48.3	48.3	48.3	48.3	48.3	48.3	48.3	48.3	48.3	48.3	48.3	48.3
11	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12	50.9	51.0	51.2	51.3	51.4	51.5	51.6	51.8	52.0	52.2	52.5	52.7	52.9	53.2	53.4	53.4	53.4	53.4	53.4	53.4	53.4	53.4
53.4	53.4	53.4	53.4	53.4	53.4	53.4	53.4	53.4	53.4	53.4	53.4	53.4	53.4	53.4	53.4	53.4	53.4	53.4	53.4	53.4	53.4	53.4
53.4	53.4	53.4	53.4	53.4	53.4	53.4	53.4	53.4	53.4	53.4	53.4	53.4	53.4	53.4	53.4	53.4	53.4	53.4	53.4	53.4	53.4	53.4
13	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
14	10.4	10.4	10.5	10.5	10.5	10.5	10.5	10.5	10.6	10.6	10.7	10.7	10.8	10.8	10.9	10.9	10.9	10.9	10.9	10.9	10.9	10.9
10.9	10.9	10.9	10.9	10.9	10.9	10.9	10.9	10.9	10.9	10.9	10.9	10.9	10.9	10.9	10.9	10.9	10.9	10.9	10.9	10.9	10.9	10.9
10.9	10.9	10.9	10.9	10.9	10.9	10.9	10.9	10.9	10.9	10.9	10.9	10.9	10.9	10.9	10.9	10.9	10.9	10.9	10.9	10.9	10.9	10.9

[Section 2.3] Combined Link and Junction Accident Statistics

----- Without-Scheme ----- *----- With-Scheme -----* *----- Benefits -----*													
-- Number of Accidents -				Total* *-- Number of Accidents -*				Total* *-- Number of Accidents -*				Total*	
Link Name	* 2023	2038	Total*	Cost**	* 2023	2038	Total*	Cost**	* 2023	2038	Total*	Benefit*	
Total	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Costs and benefits discounted to 2010 in multiples of a thousand pounds.

[Section 3] Accident Rates

[Section 3.1] Link Accident Rates

---- Accident Rate ----			
Link Name	* 2023	2038	*

Accident rates are in accidents per million vehicle kilometres.

[Section 3.2] Junction Accident Rates

---- Coefficient 'a' ----

Junction Name	2023	2038
1	0.003599	0.003500
2	0.011819	0.011634
11	0.003246	0.003196
12	0.005065	0.004986
13	0.186477	0.181318
14	0.187787	0.182591

[Section 3.3] Combined Link and Junction Accident Rates

----- Accident Rate -----

Link Name	2023	2038
-----------	------	------

Accident rates are in accidents per million vehicle kilometres.

[Section 4] Input Data - Scheme File

Scheme Name

A614_A6075_COBALT

Years Subsection

Current Year 2019

Base Year 2017

Without-Scheme

Year 1 2023

Year 2 2037

Year 3 0

Year 4 0

Year 5 0

With-Scheme

Year 1 2023

Year 2 2037

Year 3 0
 Year 4 0
 Year 5 0

Scheme Opening Year 2023

Link Input Section

Link Classification Subsection

Link	Road	Length	Speed Limit	Error/Warning Summary
Name	Type	(km)	(mph)	(!=Error, #=Warning)

Link Flow Subsection

Link	Base Year	Without-Scheme Flows					With-Scheme Flows				
Name	Flows	Year 1	Year 2	Year 3	Year 4	Year 5	Year 1	Year 2	Year 3	Year 4	Year 5

Link Local Accident Rate Subsection

Link	Observed	First Observed	Local Severity Split	
Name	Accidents	Accident Year	Ratio	Year

Junction Input Section

Junction Classification Subsection

Junction	Junction	Highest	Highest	Speed Limit	Error/Warning Summary
Name	Geometry	Carriageway	Standard	(mph)	(!=Error, #=Warning)
1	4	Single	Major	60	
2	4	Single	Major	30	
11	4	Dual	Major	40	
12	4	Dual	Major	40	
13	3	Single	Major	60	
14	3	Single	Major	60	

Junction Flow Subsection

Base Year Flows

Junction	Arm 1	Arm 2	Arm 3	Arm 4	Arm 5	Arm 6
Name	(Major)	(Minor)	(Major)	(Minor)	(Major)	(Minor)
1	5,508	10,085	8,728	4,110	3,499	0
2	0	0	0	0	0	0

11	10,920	4,671	12,984	8,119	0	0
12	0	0	0	0	0	0
13	9,829	1,551	9,196	1,845	0	0
14	0	0	0	0	0	0

Without-Scheme Year Flows

Junction	Year	Arm 1	Arm 2	Arm 3	Arm 4	Arm 5	Arm 6
Name		(Major)	(Minor)	(Major)	(Minor)	(Major)	(Minor)
1	1	5,842	10,693	9,607	4,899	3,664	0
1	2	5,951	10,912	9,891	4,929	3,718	0
2	1	0	0	0	0	0	0
2	2	0	0	0	0	0	0
11	1	11,759	4,817	13,979	8,538	0	0
11	2	12,164	4,882	14,668	8,845	0	0
12	1	0	0	0	0	0	0
12	2	0	0	0	0	0	0
13	1	10,665	1,535	9,764	1,782	0	0
13	2	12,054	1,648	10,901	1,874	0	0
14	1	0	0	0	0	0	0
14	2	0	0	0	0	0	0

With-Scheme Year Flows

Junction	Year	Arm 1	Arm 2	Arm 3	Arm 4	Arm 5
Name		(Major)	(Minor)	(Major)	(Minor)	(Major)
1	1	0	0	0	0	0
1	2	0	0	0	0	0
2	1	5,842	10,693	9,607	4,899	3,664
2	2	5,951	10,912	9,891	4,929	3,718
11	1	0	0	0	0	0
11	2	0	0	0	0	0
12	1	11,759	4,817	13,979	8,538	0
12	2	12,164	4,882	14,668	8,845	0
13	1	0	0	0	0	0
13	2	0	0	0	0	0
14	1	10,665	1,535	9,764	1,782	0
14	2	12,054	1,648	10,901	1,874	0

Junction Local Accident Rate Subsection

Junction	Observed	First Observed	Local Severity	Split
Name	Accidents	Accident Year	Ratio	Year
1	3,2,0	2015		
11	2,0,3	2015		
13	2,2,0	2015		

Link and Junction Combined Input Section

Combined Classification Subsection

Link	Road	Length	Speed Limit	Error/Warning Summary
Name	Type	(km)	(mph)	(!=Error, #=Warning)

Combined Flow Subsection

Link	Base Year	Without-Scheme Flows					With-Scheme Flows				
Name	Flows	Year 1	Year 2	Year 3	Year 4	Year 5	Year 1	Year 2	Year 3	Year 4	Year 5

Combined Local Accident Rate Subsection

Link	Observed	First Observed	Local Severity	Split
Name	Accidents	Accident Year	Ratio	Year

[Section 5] Input Data - Parameter File

COBALT Parameter File

Version 2,018.10

Cost Base Year

2010

Appraisal Period

60

Discount Rate

Years from Discount

Current Year Rate (%)

30 3.50

75 3.00

125 2.50

Cost per Casualty

Severity	Cost
Fatal	1,556,244
Serious	174,878
Slight	13,481

Cost per Accident

Severity	Insurance	Damage to Property		
		Administration	Urban	Rural
Fatal	285	7,441	12,621	16,054
Serious	178	3,998	5,753	13,698
Slight	108	2,353	3,814	6,930
Damage	51	2,353	2,515	2,417
Police Cost				
		Urban	Rural	Motorway
Fatal		16,755	17,205	17,405
Serious		1,850	2,310	2,439
Slight		478	656	547
Damage		478	20	17

Compound Annual Rates of Growth of Accident Values

Range of Years Rate of Growth (%p.a.)

2010-2011	0.61
2011-2012	0.81
2012-2013	1.41
2013-2014	2.27
2014-2015	1.54
2015-2016	1.10
2016-2017	1.17
2017-2018	0.90
2018-2019	0.65
2019-2020	0.71
2020-2021	0.82
2021-2022	0.94
2022-2023	1.15
2023-2024	1.27
2024-2025	1.42

2025-2026	1.54
2026-2027	1.66
2027-2028	1.76
2028-2029	1.80
2029-2030	1.90
2030-2032	1.89
2032-2033	1.87
2033-2034	1.88
2034-2035	1.91
2035-2036	1.97
2036-2037	1.98
2037-2038	1.99
2038-2039	1.97
2039-2042	1.95
2042-2043	1.94
2043-2044	1.92
2044-2045	1.91
2045-2046	1.90
2046-2047	1.88
2047-2049	1.87
2049-2050	1.89
2050-2051	1.98
2051-2053	1.99
2053-2054	1.98
2054-2055	1.95
2055-2057	1.96
2057-2058	1.97
2058-2060	1.96
2060-2061	1.98
2061-2063	1.99
2063-2064	2.00
2064-2068	2.01
2068-2071	2.00
2071-2094	1.99
2094-2110	1.98

Number of Damage Only Accidents per PIA

Urban Rural Motorway

Damage 17.7 7.8 7.6

Link Only Accident Proportions

Base Year

2009

Road Type Speed Limit Accident Proportions

	(mph)	Fatal	Serious	Slight
1	50	0.019	0.104	0.877
1	60	0.019	0.104	0.877
1	70	0.019	0.104	0.877
1	80	0.019	0.104	0.877
2	50	0.019	0.104	0.877
2	60	0.019	0.104	0.877
2	70	0.019	0.104	0.877
2	80	0.019	0.104	0.877
3	50	0.019	0.104	0.877
3	60	0.019	0.104	0.877
3	70	0.019	0.104	0.877
3	80	0.019	0.104	0.877
4	30	0.014	0.145	0.841
4	40	0.014	0.145	0.841
4	50	0.046	0.206	0.748
4	60	0.046	0.206	0.748
4	70	0.046	0.206	0.748
4	80	0.046	0.206	0.748
5	30	0.014	0.145	0.841
5	40	0.014	0.145	0.841
5	50	0.046	0.206	0.748
5	60	0.046	0.206	0.748
5	70	0.046	0.206	0.748
5	80	0.046	0.206	0.748
6	30	0.014	0.145	0.841
6	40	0.014	0.145	0.841
6	50	0.046	0.206	0.748
6	60	0.046	0.206	0.748
6	70	0.046	0.206	0.748
6	80	0.046	0.206	0.748
7	30	0.014	0.145	0.841

7	40	0.014	0.145	0.841
7	50	0.046	0.206	0.748
7	60	0.046	0.206	0.748
7	70	0.046	0.206	0.748
7	80	0.046	0.206	0.748
8	30	0.014	0.145	0.841
8	40	0.014	0.145	0.841
8	50	0.046	0.206	0.748
8	60	0.046	0.206	0.748
8	70	0.046	0.206	0.748
8	80	0.046	0.206	0.748
9	30	0.010	0.145	0.846
9	40	0.010	0.145	0.846
9	50	0.026	0.193	0.780
9	60	0.026	0.193	0.780
9	70	0.026	0.193	0.780
9	80	0.026	0.193	0.780
10	30	0.017	0.135	0.849
10	40	0.017	0.135	0.849
10	50	0.028	0.135	0.837
10	60	0.028	0.135	0.837
10	70	0.028	0.135	0.837
10	80	0.028	0.135	0.837
11	30	0.017	0.135	0.849
11	40	0.017	0.135	0.849
11	50	0.028	0.135	0.837
11	60	0.028	0.135	0.837
11	70	0.028	0.135	0.837
11	80	0.028	0.135	0.837
12	30	0.017	0.135	0.849
12	40	0.017	0.135	0.849
12	50	0.028	0.135	0.837
12	60	0.028	0.135	0.837
12	70	0.028	0.135	0.837
12	80	0.028	0.135	0.837
13	30	0.017	0.135	0.849
13	40	0.017	0.135	0.849
13	50	0.028	0.135	0.837

13	60	0.028	0.135	0.837
13	70	0.028	0.135	0.837
13	80	0.028	0.135	0.837
14	30	0.017	0.135	0.849
14	40	0.017	0.135	0.849
14	50	0.028	0.135	0.837
14	60	0.028	0.135	0.837
14	70	0.028	0.135	0.837
14	80	0.028	0.135	0.837
15	30	0.017	0.135	0.849
15	40	0.017	0.135	0.849
15	50	0.028	0.135	0.837
15	60	0.028	0.135	0.837
15	70	0.028	0.135	0.837
15	80	0.028	0.135	0.837

Link and Junction Combined Accident Proportions

Base Year

2009

Road Type	Speed Limit (mph)	Accident Proportions		
		Fatal	Serious	Slight
1	50	0.018	0.101	0.882
1	60	0.018	0.101	0.882
1	70	0.018	0.101	0.882
1	80	0.018	0.101	0.882
2	50	0.018	0.101	0.882
2	60	0.018	0.101	0.882
2	70	0.018	0.101	0.882
2	80	0.018	0.101	0.882
3	50	0.018	0.101	0.882
3	60	0.018	0.101	0.882
3	70	0.018	0.101	0.882
3	80	0.018	0.101	0.882
4	30	0.008	0.122	0.869
4	40	0.008	0.122	0.869
4	50	0.034	0.187	0.779
4	60	0.034	0.187	0.779
4	70	0.034	0.187	0.779

4	80	0.034	0.187	0.779
5	30	0.008	0.122	0.869
5	40	0.008	0.122	0.869
5	50	0.034	0.187	0.779
5	60	0.034	0.187	0.779
5	70	0.034	0.187	0.779
5	80	0.034	0.187	0.779
6	30	0.008	0.122	0.869
6	40	0.008	0.122	0.869
6	50	0.034	0.187	0.779
6	60	0.034	0.187	0.779
6	70	0.034	0.187	0.779
6	80	0.034	0.187	0.779
7	30	0.008	0.122	0.869
7	40	0.008	0.122	0.869
7	50	0.034	0.187	0.779
7	60	0.034	0.187	0.779
7	70	0.034	0.187	0.779
7	80	0.034	0.187	0.779
8	30	0.008	0.122	0.869
8	40	0.008	0.122	0.869
8	50	0.034	0.187	0.779
8	60	0.034	0.187	0.779
8	70	0.034	0.187	0.779
8	80	0.034	0.187	0.779
9	30	0.007	0.126	0.867
9	40	0.007	0.126	0.867
9	50	0.024	0.187	0.789
9	60	0.024	0.187	0.789
9	70	0.024	0.187	0.789
9	80	0.024	0.187	0.789
10	30	0.009	0.104	0.887
10	40	0.009	0.104	0.887
10	50	0.023	0.127	0.850
10	60	0.023	0.127	0.850
10	70	0.023	0.127	0.850
10	80	0.023	0.127	0.850
11	30	0.009	0.104	0.887

11	40	0.009	0.104	0.887
11	50	0.023	0.127	0.850
11	60	0.023	0.127	0.850
11	70	0.023	0.127	0.850
11	80	0.023	0.127	0.850
12	30	0.009	0.104	0.887
12	40	0.009	0.104	0.887
12	50	0.023	0.127	0.850
12	60	0.023	0.127	0.850
12	70	0.023	0.127	0.850
12	80	0.023	0.127	0.850
13	30	0.009	0.104	0.887
13	40	0.009	0.104	0.887
13	50	0.023	0.127	0.850
13	60	0.023	0.127	0.850
13	70	0.023	0.127	0.850
13	80	0.023	0.127	0.850
14	30	0.009	0.104	0.887
14	40	0.009	0.104	0.887
14	50	0.023	0.127	0.850
14	60	0.023	0.127	0.850
14	70	0.023	0.127	0.850
14	80	0.023	0.127	0.850
15	30	0.009	0.104	0.887
15	40	0.009	0.104	0.887
15	50	0.023	0.127	0.850
15	60	0.023	0.127	0.850
15	70	0.023	0.127	0.850
15	80	0.023	0.127	0.850

Junction Only Accident Proportions

Base Year

2000

Road Type	Speed Limit (mph)	Accident Proportions		
		Fatal	Serious	Slight
1	50	0.024	0.188	0.787
1	60	0.024	0.188	0.787
1	70	0.024	0.188	0.787

1	80	0.024	0.188	0.787
2	30	0.007	0.124	0.869
2	40	0.007	0.124	0.869
3	50	0.024	0.188	0.787
3	60	0.024	0.188	0.787
3	70	0.024	0.188	0.787
3	80	0.024	0.188	0.787
4	30	0.007	0.124	0.869
4	40	0.007	0.124	0.869
5	50	0.027	0.206	0.766
5	60	0.027	0.206	0.766
5	70	0.027	0.206	0.766
5	80	0.027	0.206	0.766
6	30	0.006	0.116	0.878
6	40	0.006	0.116	0.878
7	50	0.027	0.206	0.766
7	60	0.027	0.206	0.766
7	70	0.027	0.206	0.766
7	80	0.027	0.206	0.766
8	30	0.006	0.116	0.878
8	40	0.006	0.116	0.878
9	50	0.027	0.206	0.766
9	60	0.027	0.206	0.766
9	70	0.027	0.206	0.766
9	80	0.027	0.206	0.766
10	30	0.006	0.116	0.878
10	40	0.006	0.116	0.878
11	50	0.027	0.206	0.766
11	60	0.027	0.206	0.766
11	70	0.027	0.206	0.766
11	80	0.027	0.206	0.766
12	30	0.006	0.116	0.878
12	40	0.006	0.116	0.878
13	50	0.024	0.188	0.787
13	60	0.024	0.188	0.787
13	70	0.024	0.188	0.787
13	80	0.024	0.188	0.787
14	30	0.007	0.124	0.869

14	40	0.007	0.124	0.869
15	50	0.024	0.188	0.787
15	60	0.024	0.188	0.787
15	70	0.024	0.188	0.787
15	80	0.024	0.188	0.787
16	30	0.007	0.124	0.869
16	40	0.007	0.124	0.869
17	50	0.027	0.206	0.766
17	60	0.027	0.206	0.766
17	70	0.027	0.206	0.766
17	80	0.027	0.206	0.766
18	30	0.006	0.116	0.878
18	40	0.006	0.116	0.878
19	50	0.027	0.206	0.766
19	60	0.027	0.206	0.766
19	70	0.027	0.206	0.766
19	80	0.027	0.206	0.766
20	30	0.006	0.116	0.878
20	40	0.006	0.116	0.878
21	50	0.027	0.206	0.766
21	60	0.027	0.206	0.766
21	70	0.027	0.206	0.766
21	80	0.027	0.206	0.766
22	30	0.006	0.116	0.878
22	40	0.006	0.116	0.878
23	50	0.027	0.206	0.766
23	60	0.027	0.206	0.766
23	70	0.027	0.206	0.766
23	80	0.027	0.206	0.766
24	30	0.006	0.116	0.878
24	40	0.006	0.116	0.878
25	50	0.024	0.188	0.787
25	60	0.024	0.188	0.787
25	70	0.024	0.188	0.787
25	80	0.024	0.188	0.787
26	30	0.007	0.124	0.869
26	40	0.007	0.124	0.869
27	50	0.024	0.188	0.787

27	60	0.024	0.188	0.787
27	70	0.024	0.188	0.787
27	80	0.024	0.188	0.787
28	30	0.007	0.124	0.869
28	40	0.007	0.124	0.869
29	50	0.027	0.206	0.766
29	60	0.027	0.206	0.766
29	70	0.027	0.206	0.766
29	80	0.027	0.206	0.766
30	30	0.006	0.116	0.878
30	40	0.006	0.116	0.878
31	50	0.027	0.206	0.766
31	60	0.027	0.206	0.766
31	70	0.027	0.206	0.766
31	80	0.027	0.206	0.766
32	30	0.006	0.116	0.878
32	40	0.006	0.116	0.878
33	50	0.027	0.206	0.766
33	60	0.027	0.206	0.766
33	70	0.027	0.206	0.766
33	80	0.027	0.206	0.766
34	30	0.006	0.116	0.878
34	40	0.006	0.116	0.878
35	50	0.027	0.206	0.766
35	60	0.027	0.206	0.766
35	70	0.027	0.206	0.766
35	80	0.027	0.206	0.766
36	30	0.006	0.116	0.878
36	40	0.006	0.116	0.878
37	50	0.009	0.117	0.874
37	60	0.009	0.117	0.874
37	70	0.009	0.117	0.874
37	80	0.009	0.117	0.874
38	30	0.006	0.107	0.887
38	40	0.006	0.107	0.887
39	50	0.009	0.117	0.874
39	60	0.009	0.117	0.874
39	70	0.009	0.117	0.874

39	80	0.009	0.117	0.874
40	30	0.006	0.107	0.887
40	40	0.006	0.107	0.887
41	50	0.009	0.115	0.876
41	60	0.009	0.115	0.876
41	70	0.009	0.115	0.876
41	80	0.009	0.115	0.876
42	30	0.006	0.107	0.887
42	40	0.006	0.107	0.887
43	50	0.009	0.115	0.876
43	60	0.009	0.115	0.876
43	70	0.009	0.115	0.876
43	80	0.009	0.115	0.876
44	30	0.006	0.107	0.887
44	40	0.006	0.107	0.887
45	50	0.009	0.115	0.876
45	60	0.009	0.115	0.876
45	70	0.009	0.115	0.876
45	80	0.009	0.115	0.876
46	30	0.006	0.107	0.887
46	40	0.006	0.107	0.887
47	50	0.009	0.115	0.876
47	60	0.009	0.115	0.876
47	70	0.009	0.115	0.876
47	80	0.009	0.115	0.876
48	30	0.006	0.107	0.887
48	40	0.006	0.107	0.887
49	50	0.006	0.091	0.903
49	60	0.006	0.091	0.903
49	70	0.006	0.091	0.903
49	80	0.006	0.091	0.903
50	30	0.003	0.075	0.923
50	40	0.003	0.075	0.923
51	50	0.006	0.091	0.903
51	60	0.006	0.091	0.903
51	70	0.006	0.091	0.903
51	80	0.006	0.091	0.903
52	30	0.003	0.075	0.923

52	40	0.003	0.075	0.923
53	50	0.006	0.091	0.903
53	60	0.006	0.091	0.903
53	70	0.006	0.091	0.903
53	80	0.006	0.091	0.903
54	30	0.003	0.075	0.923
54	40	0.003	0.075	0.923
55	50	0.006	0.091	0.903
55	60	0.006	0.091	0.903
55	70	0.006	0.091	0.903
55	80	0.006	0.091	0.903
56	30	0.003	0.075	0.923
56	40	0.003	0.075	0.923
57	50	0.006	0.091	0.903
57	60	0.006	0.091	0.903
57	70	0.006	0.091	0.903
57	80	0.006	0.091	0.903
58	30	0.003	0.075	0.923
58	40	0.003	0.075	0.923
59	50	0.006	0.091	0.903
59	60	0.006	0.091	0.903
59	70	0.006	0.091	0.903
59	80	0.006	0.091	0.903
60	30	0.003	0.075	0.923
60	40	0.003	0.075	0.923
61	50	0.006	0.091	0.903
61	60	0.006	0.091	0.903
61	70	0.006	0.091	0.903
61	80	0.006	0.091	0.903
62	30	0.003	0.075	0.923
62	40	0.003	0.075	0.923
63	50	0.006	0.091	0.903
63	60	0.006	0.091	0.903
63	70	0.006	0.091	0.903
63	80	0.006	0.091	0.903
64	30	0.003	0.075	0.923
64	40	0.003	0.075	0.923
65	50	0.006	0.091	0.903

65	60	0.006	0.091	0.903
65	70	0.006	0.091	0.903
65	80	0.006	0.091	0.903
66	30	0.003	0.075	0.923
66	40	0.003	0.075	0.923
67	50	0.006	0.091	0.903
67	60	0.006	0.091	0.903
67	70	0.006	0.091	0.903
67	80	0.006	0.091	0.903
68	30	0.003	0.075	0.923
68	40	0.003	0.075	0.923
69	50	0.006	0.091	0.903
69	60	0.006	0.091	0.903
69	70	0.006	0.091	0.903
69	80	0.006	0.091	0.903
70	30	0.003	0.075	0.923
70	40	0.003	0.075	0.923
71	50	0.006	0.091	0.903
71	60	0.006	0.091	0.903
71	70	0.006	0.091	0.903
71	80	0.006	0.091	0.903
72	30	0.003	0.075	0.923
72	40	0.003	0.075	0.923
73	50	0.006	0.091	0.903
73	60	0.006	0.091	0.903
73	70	0.006	0.091	0.903
73	80	0.006	0.091	0.903
74	30	0.003	0.087	0.910
74	40	0.003	0.087	0.910
75	50	0.006	0.091	0.903
75	60	0.006	0.091	0.903
75	70	0.006	0.091	0.903
75	80	0.006	0.091	0.903
76	30	0.003	0.087	0.910
76	40	0.003	0.087	0.910
77	50	0.006	0.091	0.903
77	60	0.006	0.091	0.903
77	70	0.006	0.091	0.903

77	80	0.006	0.091	0.903
78	30	0.003	0.087	0.910
78	40	0.003	0.087	0.910
79	50	0.006	0.091	0.903
79	60	0.006	0.091	0.903
79	70	0.006	0.091	0.903
79	80	0.006	0.091	0.903
80	30	0.003	0.087	0.910
80	40	0.003	0.087	0.910
81	50	0.006	0.091	0.903
81	60	0.006	0.091	0.903
81	70	0.006	0.091	0.903
81	80	0.006	0.091	0.903
82	30	0.003	0.087	0.910
82	40	0.003	0.087	0.910
83	50	0.006	0.091	0.903
83	60	0.006	0.091	0.903
83	70	0.006	0.091	0.903
83	80	0.006	0.091	0.903
84	30	0.003	0.087	0.910
84	40	0.003	0.087	0.910
85	50	0.004	0.062	0.934
85	60	0.004	0.062	0.934
85	70	0.004	0.062	0.934
85	80	0.004	0.062	0.934
86	30	0.003	0.064	0.933
86	40	0.003	0.064	0.933
87	50	0.004	0.062	0.934
87	60	0.004	0.062	0.934
87	70	0.004	0.062	0.934
87	80	0.004	0.062	0.934
88	30	0.003	0.064	0.933
88	40	0.003	0.064	0.933
89	50	0.004	0.062	0.934
89	60	0.004	0.062	0.934
89	70	0.004	0.062	0.934
89	80	0.004	0.062	0.934
90	30	0.003	0.064	0.933

90	40	0.003	0.064	0.933
91	50	0.004	0.062	0.934
91	60	0.004	0.062	0.934
91	70	0.004	0.062	0.934
91	80	0.004	0.062	0.934
92	30	0.003	0.064	0.933
92	40	0.003	0.064	0.933
93	50	0.004	0.062	0.934
93	60	0.004	0.062	0.934
93	70	0.004	0.062	0.934
93	80	0.004	0.062	0.934
94	30	0.003	0.064	0.933
94	40	0.003	0.064	0.933
95	50	0.004	0.062	0.934
95	60	0.004	0.062	0.934
95	70	0.004	0.062	0.934
95	80	0.004	0.062	0.934
96	30	0.003	0.064	0.933
96	40	0.003	0.064	0.933

Link Only Accident Rates and Change Factors

Base Year

2009

Road Type	Speed Limit (mph)	Accident Rate	Beta Factor
1	50	0.063	0.956
1	60	0.063	0.956
1	70	0.063	0.956
2	50	0.063	0.956
2	60	0.063	0.956
2	70	0.063	0.956
3	50	0.075	0.956
3	60	0.075	0.956
3	70	0.075	0.956
4	30	0.175	0.964
4	40	0.175	0.964
4	50	0.143	0.958
4	60	0.143	0.958

4	70	0.143	0.958
4	80	0.143	0.958
5	30	0.175	0.964
5	40	0.175	0.964
5	50	0.143	0.958
5	60	0.143	0.958
5	70	0.143	0.958
5	80	0.143	0.958
6	30	0.206	0.964
6	40	0.206	0.964
6	50	0.082	0.958
6	60	0.082	0.958
6	70	0.082	0.958
6	80	0.082	0.958
7	30	0.206	0.964
7	40	0.206	0.964
7	50	0.082	0.958
7	60	0.082	0.958
7	70	0.082	0.958
7	80	0.082	0.958
8	30	0.206	0.964
8	40	0.206	0.964
8	50	0.143	0.958
8	60	0.143	0.958
8	70	0.143	0.958
8	80	0.143	0.958
9	30	0.195	0.957
9	40	0.195	0.957
9	50	0.163	0.935
9	60	0.163	0.935
9	70	0.163	0.935
9	80	0.163	0.935
10	30	0.148	0.965
10	40	0.148	0.965
10	50	0.077	0.960
10	60	0.077	0.960
10	70	0.077	0.960
10	80	0.077	0.960

11	30	0.154	0.965
11	40	0.154	0.965
11	50	0.059	0.960
11	60	0.059	0.960
11	70	0.059	0.960
11	80	0.059	0.960
12	30	0.154	0.965
12	40	0.154	0.965
12	50	0.077	0.960
12	60	0.077	0.960
12	70	0.077	0.960
12	80	0.077	0.960
13	30	0.184	0.949
13	40	0.184	0.949
13	50	0.101	0.956
13	60	0.101	0.956
13	70	0.101	0.956
13	80	0.101	0.956
14	30	0.184	0.949
14	40	0.184	0.949
14	50	0.101	0.956
14	60	0.101	0.956
14	70	0.101	0.956
14	80	0.101	0.956
15	30	0.184	0.949
15	40	0.184	0.949
15	50	0.101	0.956
15	60	0.101	0.956
15	70	0.101	0.956
15	80	0.101	0.956

Link and Junction Combined Accident Rates and Change Factors

Base Year

2009

Road	Speed Limit	Accident	Beta
Type	(mph)	Rate	Factor
1	50	0.080	0.956
1	60	0.080	0.956

1	70	0.080	0.956
2	50	0.067	0.956
2	60	0.067	0.956
2	70	0.067	0.956
3	50	0.079	0.956
3	60	0.079	0.956
3	70	0.079	0.956
4	30	0.532	0.959
4	40	0.532	0.959
4	50	0.244	0.955
4	60	0.244	0.955
4	70	0.244	0.955
4	80	0.244	0.955
5	30	0.532	0.959
5	40	0.532	0.959
5	50	0.244	0.955
5	60	0.244	0.955
5	70	0.244	0.955
5	80	0.244	0.955
6	30	0.863	0.959
6	40	0.863	0.959
6	50	0.163	0.955
6	60	0.163	0.955
6	70	0.163	0.955
6	80	0.163	0.955
7	30	0.863	0.959
7	40	0.863	0.959
7	50	0.163	0.955
7	60	0.163	0.955
7	70	0.163	0.955
7	80	0.163	0.955
8	30	0.863	0.959
8	40	0.863	0.959
8	50	0.244	0.955
8	60	0.244	0.955
8	70	0.244	0.955
8	80	0.244	0.955
9	30	0.559	0.951

9	40	0.559	0.951
9	50	0.233	0.933
9	60	0.233	0.933
9	70	0.233	0.933
9	80	0.233	0.933
10	30	0.553	0.967
10	40	0.553	0.967
10	50	0.107	0.956
10	60	0.107	0.956
10	70	0.107	0.956
10	80	0.107	0.956
11	30	0.599	0.967
11	40	0.599	0.967
11	50	0.072	0.956
11	60	0.072	0.956
11	70	0.072	0.956
11	80	0.072	0.956
12	30	0.599	0.967
12	40	0.599	0.967
12	50	0.107	0.956
12	60	0.107	0.956
12	70	0.107	0.956
12	80	0.107	0.956
13	30	0.620	0.951
13	40	0.620	0.951
13	50	0.123	0.946
13	60	0.123	0.946
13	70	0.123	0.946
13	80	0.123	0.946
14	30	0.620	0.951
14	40	0.620	0.951
14	50	0.123	0.946
14	60	0.123	0.946
14	70	0.123	0.946
14	80	0.123	0.946
15	30	0.620	0.951
15	40	0.620	0.951
15	50	0.123	0.946

15	60	0.123	0.946
15	70	0.123	0.946
15	80	0.123	0.946

Link Only and Link and Junction Combined Accident Beta Factor Changes over Time

Range of Years Change to Beta Factor

2004-2019	1.000
2020-2029	0.500
2030-2039	0.250
2040-2153	0.000

Link Only Casualty Rates

Base Year

2009

Road Type Speed Limit Casualties per P.I.A.

	(mph)	Fatal	Serious	Slight
1	50	0.021	0.129	1.464
1	60	0.021	0.129	1.464
1	70	0.021	0.129	1.464
2	50	0.021	0.129	1.464
2	60	0.021	0.129	1.464
2	70	0.021	0.129	1.464
3	50	0.021	0.129	1.464
3	60	0.021	0.129	1.464
3	70	0.021	0.129	1.464
4	30	0.015	0.162	1.154
4	40	0.015	0.162	1.154
4	50	0.052	0.274	1.251
4	60	0.052	0.274	1.251
4	70	0.052	0.274	1.251
4	80	0.052	0.274	1.251
5	30	0.015	0.162	1.154
5	40	0.015	0.162	1.154
5	50	0.052	0.274	1.251
5	60	0.052	0.274	1.251
5	70	0.052	0.274	1.251
5	80	0.052	0.274	1.251
6	30	0.015	0.162	1.154

6	40	0.015	0.162	1.154
6	50	0.052	0.274	1.251
6	60	0.052	0.274	1.251
6	70	0.052	0.274	1.251
6	80	0.052	0.274	1.251
7	30	0.015	0.162	1.154
7	40	0.015	0.162	1.154
7	50	0.052	0.274	1.251
7	60	0.052	0.274	1.251
7	70	0.052	0.274	1.251
7	80	0.052	0.274	1.251
8	30	0.015	0.162	1.154
8	40	0.015	0.162	1.154
8	50	0.052	0.274	1.251
8	60	0.052	0.274	1.251
8	70	0.052	0.274	1.251
8	80	0.052	0.274	1.251
9	30	0.010	0.156	1.071
9	40	0.010	0.156	1.071
9	50	0.028	0.230	1.178
9	60	0.028	0.230	1.178
9	70	0.028	0.230	1.178
9	80	0.028	0.230	1.178
10	30	0.018	0.148	1.183
10	40	0.018	0.148	1.183
10	50	0.031	0.161	1.328
10	60	0.031	0.161	1.328
10	70	0.031	0.161	1.328
10	80	0.031	0.161	1.328
11	30	0.018	0.148	1.183
11	40	0.018	0.148	1.183
11	50	0.031	0.161	1.328
11	60	0.031	0.161	1.328
11	70	0.031	0.161	1.328
11	80	0.031	0.161	1.328
12	30	0.018	0.148	1.183
12	40	0.018	0.148	1.183
12	50	0.031	0.161	1.328

12	60	0.031	0.161	1.328
12	70	0.031	0.161	1.328
12	80	0.031	0.161	1.328
13	30	0.018	0.148	1.183
13	40	0.018	0.148	1.183
13	50	0.031	0.161	1.328
13	60	0.031	0.161	1.328
13	70	0.031	0.161	1.328
13	80	0.031	0.161	1.328
14	30	0.018	0.148	1.183
14	40	0.018	0.148	1.183
14	50	0.031	0.161	1.328
14	60	0.031	0.161	1.328
14	70	0.031	0.161	1.328
14	80	0.031	0.161	1.328
15	30	0.018	0.148	1.183
15	40	0.018	0.148	1.183
15	50	0.031	0.161	1.328
15	60	0.031	0.161	1.328
15	70	0.031	0.161	1.328
15	80	0.031	0.161	1.328

Link and Junction Combined Casualty Rates

Base Year

2009

Road Type Speed Limit Casualties per P.I.A.

	(mph)	Fatal	Serious	Slight
1	50	0.020	0.123	1.455
1	60	0.020	0.123	1.455
1	70	0.020	0.123	1.455
2	50	0.020	0.123	1.455
2	60	0.020	0.123	1.455
2	70	0.020	0.123	1.455
3	50	0.020	0.123	1.455
3	60	0.020	0.123	1.455
3	70	0.020	0.123	1.455
4	30	0.009	0.132	1.176
4	40	0.009	0.132	1.176

4	50	0.038	0.238	1.300
4	60	0.038	0.238	1.300
4	70	0.038	0.238	1.300
4	80	0.038	0.238	1.300
5	30	0.009	0.132	1.176
5	40	0.009	0.132	1.176
5	50	0.038	0.238	1.300
5	60	0.038	0.238	1.300
5	70	0.038	0.238	1.300
5	80	0.038	0.238	1.300
6	30	0.009	0.132	1.176
6	40	0.009	0.132	1.176
6	50	0.038	0.238	1.300
6	60	0.038	0.238	1.300
6	70	0.038	0.238	1.300
6	80	0.038	0.238	1.300
7	30	0.009	0.132	1.176
7	40	0.009	0.132	1.176
7	50	0.038	0.238	1.300
7	60	0.038	0.238	1.300
7	70	0.038	0.238	1.300
7	80	0.038	0.238	1.300
8	30	0.009	0.132	1.176
8	40	0.009	0.132	1.176
8	50	0.038	0.238	1.300
8	60	0.038	0.238	1.300
8	70	0.038	0.238	1.300
8	80	0.038	0.238	1.300
9	30	0.007	0.134	1.132
9	40	0.007	0.134	1.132
9	50	0.026	0.222	1.218
9	60	0.026	0.222	1.218
9	70	0.026	0.222	1.218
9	80	0.026	0.222	1.218
10	30	0.009	0.112	1.238
10	40	0.009	0.112	1.238
10	50	0.025	0.151	1.297
10	60	0.025	0.151	1.297

10	70	0.025	0.151	1.297
10	80	0.025	0.151	1.297
11	30	0.009	0.112	1.238
11	40	0.009	0.112	1.238
11	50	0.025	0.151	1.297
11	60	0.025	0.151	1.297
11	70	0.025	0.151	1.297
11	80	0.025	0.151	1.297
12	30	0.009	0.112	1.238
12	40	0.009	0.112	1.238
12	50	0.025	0.151	1.297
12	60	0.025	0.151	1.297
12	70	0.025	0.151	1.297
12	80	0.025	0.151	1.297
13	30	0.009	0.112	1.238
13	40	0.009	0.112	1.238
13	50	0.025	0.151	1.297
13	60	0.025	0.151	1.297
13	70	0.025	0.151	1.297
13	80	0.025	0.151	1.297
14	30	0.009	0.112	1.238
14	40	0.009	0.112	1.238
14	50	0.025	0.151	1.297
14	60	0.025	0.151	1.297
14	70	0.025	0.151	1.297
14	80	0.025	0.151	1.297
15	30	0.009	0.112	1.238
15	40	0.009	0.112	1.238
15	50	0.025	0.151	1.297
15	60	0.025	0.151	1.297
15	70	0.025	0.151	1.297
15	80	0.025	0.151	1.297

Link Only Casualty Change Factors

Base Year

2009

Road Type	Speed Limit	Beta Factor		
	(mph)	Fatal	Serious	Slight

1	50	0.978	0.979	1.002
1	60	0.978	0.979	1.002
1	70	0.978	0.979	1.002
2	50	0.978	0.979	1.002
2	60	0.978	0.979	1.002
2	70	0.978	0.979	1.002
3	50	0.978	0.979	1.002
3	60	0.978	0.979	1.002
3	70	0.978	0.979	1.002
4	30	0.971	0.995	1.001
4	40	0.971	0.995	1.001
4	50	0.979	0.983	1.002
4	60	0.979	0.983	1.002
4	70	0.979	0.983	1.002
4	80	0.979	0.983	1.002
5	30	0.971	0.995	1.001
5	40	0.971	0.995	1.001
5	50	0.979	0.983	1.002
5	60	0.979	0.983	1.002
5	70	0.979	0.983	1.002
5	80	0.979	0.983	1.002
6	30	0.971	0.995	1.001
6	40	0.971	0.995	1.001
6	50	0.979	0.983	1.002
6	60	0.979	0.983	1.002
6	70	0.979	0.983	1.002
6	80	0.979	0.983	1.002
7	30	0.971	0.995	1.001
7	40	0.971	0.995	1.001
7	50	0.979	0.983	1.002
7	60	0.979	0.983	1.002
7	70	0.979	0.983	1.002
7	80	0.979	0.983	1.002
8	30	0.971	0.995	1.001
8	40	0.971	0.995	1.001
8	50	0.979	0.983	1.002
8	60	0.979	0.983	1.002
8	70	0.979	0.983	1.002

8	80	0.979	0.983	1.002
9	30	0.985	0.997	1.001
9	40	0.985	0.997	1.001
9	50	0.987	0.989	0.998
9	60	0.987	0.989	0.998
9	70	0.987	0.989	0.998
9	80	0.987	0.989	0.998
10	30	0.998	0.990	1.002
10	40	0.998	0.990	1.002
10	50	0.984	0.985	0.998
10	60	0.984	0.985	0.998
10	70	0.984	0.985	0.998
10	80	0.984	0.985	0.998
11	30	0.998	0.990	1.002
11	40	0.998	0.990	1.002
11	50	0.984	0.985	0.998
11	60	0.984	0.985	0.998
11	70	0.984	0.985	0.998
11	80	0.984	0.985	0.998
12	30	0.998	0.990	1.002
12	40	0.998	0.990	1.002
12	50	0.984	0.985	0.998
12	60	0.984	0.985	0.998
12	70	0.984	0.985	0.998
12	80	0.984	0.985	0.998
13	30	0.998	0.990	1.002
13	40	0.998	0.990	1.002
13	50	0.984	0.985	0.998
13	60	0.984	0.985	0.998
13	70	0.984	0.985	0.998
13	80	0.984	0.985	0.998
14	30	0.998	0.990	1.002
14	40	0.998	0.990	1.002
14	50	0.984	0.985	0.998
14	60	0.984	0.985	0.998
14	70	0.984	0.985	0.998
14	80	0.984	0.985	0.998
15	30	0.998	0.990	1.002

15	40	0.998	0.990	1.002
15	50	0.984	0.985	0.998
15	60	0.984	0.985	0.998
15	70	0.984	0.985	0.998
15	80	0.984	0.985	0.998

Link and Junction Combined Casualty Change Factors

Base Year

2009

Road Type	Speed Limit (mph)	Beta Factor		
		Fatal	Serious	Slight
1	50	0.978	0.979	1.002
1	60	0.978	0.979	1.002
1	70	0.978	0.979	1.002
2	50	0.978	0.979	1.002
2	60	0.978	0.979	1.002
2	70	0.978	0.979	1.002
3	50	0.978	0.979	1.002
3	60	0.978	0.979	1.002
3	70	0.978	0.979	1.002
4	30	0.971	0.995	1.001
4	40	0.971	0.995	1.001
4	50	0.979	0.983	1.002
4	60	0.979	0.983	1.002
4	70	0.979	0.983	1.002
4	80	0.979	0.983	1.002
5	30	0.971	0.995	1.001
5	40	0.971	0.995	1.001
5	50	0.979	0.983	1.002
5	60	0.979	0.983	1.002
5	70	0.979	0.983	1.002
5	80	0.979	0.983	1.002
6	30	0.971	0.995	1.001
6	40	0.971	0.995	1.001
6	50	0.979	0.983	1.002
6	60	0.979	0.983	1.002
6	70	0.979	0.983	1.002
6	80	0.979	0.983	1.002

7	30	0.971	0.995	1.001
7	40	0.971	0.995	1.001
7	50	0.979	0.983	1.002
7	60	0.979	0.983	1.002
7	70	0.979	0.983	1.002
7	80	0.979	0.983	1.002
8	30	0.971	0.995	1.001
8	40	0.971	0.995	1.001
8	50	0.979	0.983	1.002
8	60	0.979	0.983	1.002
8	70	0.979	0.983	1.002
8	80	0.979	0.983	1.002
9	30	0.985	0.997	1.001
9	40	0.985	0.997	1.001
9	50	0.987	0.989	0.998
9	60	0.987	0.989	0.998
9	70	0.987	0.989	0.998
9	80	0.987	0.989	0.998
10	30	0.998	0.990	1.002
10	40	0.998	0.990	1.002
10	50	0.984	0.985	0.998
10	60	0.984	0.985	0.998
10	70	0.984	0.985	0.998
10	80	0.984	0.985	0.998
11	30	0.998	0.990	1.002
11	40	0.998	0.990	1.002
11	50	0.984	0.985	0.998
11	60	0.984	0.985	0.998
11	70	0.984	0.985	0.998
11	80	0.984	0.985	0.998
12	30	0.998	0.990	1.002
12	40	0.998	0.990	1.002
12	50	0.984	0.985	0.998
12	60	0.984	0.985	0.998
12	70	0.984	0.985	0.998
12	80	0.984	0.985	0.998
13	30	0.998	0.990	1.002
13	40	0.998	0.990	1.002

13	50	0.984	0.985	0.998
13	60	0.984	0.985	0.998
13	70	0.984	0.985	0.998
13	80	0.984	0.985	0.998
14	30	0.998	0.990	1.002
14	40	0.998	0.990	1.002
14	50	0.984	0.985	0.998
14	60	0.984	0.985	0.998
14	70	0.984	0.985	0.998
14	80	0.984	0.985	0.998
15	30	0.998	0.990	1.002
15	40	0.998	0.990	1.002
15	50	0.984	0.985	0.998
15	60	0.984	0.985	0.998
15	70	0.984	0.985	0.998
15	80	0.984	0.985	0.998

Link Only and Link and Junction Combined Casualty Beta Factor Changes over Time

Range of Years Change to Beta Factor

1995-2019	1.000
2020-2144	0.000

Junction Only Accident Parameters

Base Year

1997

Junction Type	Speed Limit (mph)	Coefficient 'a'	Coefficient 'b'	Power	Arms	Highest	Formula
1	50	0.195	0.460	3	S	C	
1	60	0.195	0.460	3	S	C	
1	70	0.195	0.460	3	S	C	
1	80	0.195	0.460	3	S	C	
2	20	0.195	0.460	3	S	C	
2	30	0.195	0.460	3	S	C	
2	40	0.195	0.460	3	S	C	
3	50	0.195	0.460	3	D	C	
3	60	0.195	0.460	3	D	C	
3	70	0.195	0.460	3	D	C	
3	80	0.195	0.460	3	D	C	

4	20	0.195	0.460	3	D	C
4	30	0.195	0.460	3	D	C
4	40	0.195	0.460	3	D	C
5	50	0.361	0.440	4	S	I
5	60	0.361	0.440	4	S	I
5	70	0.361	0.440	4	S	I
5	80	0.361	0.440	4	S	I
6	20	0.361	0.440	4	S	I
6	30	0.361	0.440	4	S	I
6	40	0.361	0.440	4	S	I
7	50	0.240	0.710	4	D	C
7	60	0.240	0.710	4	D	C
7	70	0.240	0.710	4	D	C
7	80	0.240	0.710	4	D	C
8	20	0.240	0.710	4	D	C
8	30	0.240	0.710	4	D	C
8	40	0.240	0.710	4	D	C
9	50	0.361	0.440	5	S	I
9	60	0.361	0.440	5	S	I
9	70	0.361	0.440	5	S	I
9	80	0.361	0.440	5	S	I
10	20	0.361	0.440	5	S	I
10	30	0.361	0.440	5	S	I
10	40	0.361	0.440	5	S	I
11	50	0.361	0.440	5	D	I
11	60	0.361	0.440	5	D	I
11	70	0.361	0.440	5	D	I
11	80	0.361	0.440	5	D	I
12	20	0.361	0.440	5	D	I
12	30	0.361	0.440	5	D	I
12	40	0.361	0.440	5	D	I
13	50	0.195	0.460	3	S	C
13	60	0.195	0.460	3	S	C
13	70	0.195	0.460	3	S	C
13	80	0.195	0.460	3	S	C
14	20	0.195	0.460	3	S	C
14	30	0.195	0.460	3	S	C
14	40	0.195	0.460	3	S	C

15	50	0.195	0.460	3	D	C
15	60	0.195	0.460	3	D	C
15	70	0.195	0.460	3	D	C
15	80	0.195	0.460	3	D	C
16	20	0.195	0.460	3	D	C
16	30	0.195	0.460	3	D	C
16	40	0.195	0.460	3	D	C
17	50	0.361	0.440	4	S	I
17	60	0.361	0.440	4	S	I
17	70	0.361	0.440	4	S	I
17	80	0.361	0.440	4	S	I
18	20	0.361	0.440	4	S	I
18	30	0.361	0.440	4	S	I
18	40	0.361	0.440	4	S	I
19	50	0.240	0.710	4	D	C
19	60	0.240	0.710	4	D	C
19	70	0.240	0.710	4	D	C
19	80	0.240	0.710	4	D	C
20	20	0.240	0.710	4	D	C
20	30	0.240	0.710	4	D	C
20	40	0.240	0.710	4	D	C
21	50	0.361	0.440	5	S	I
21	60	0.361	0.440	5	S	I
21	70	0.361	0.440	5	S	I
21	80	0.361	0.440	5	S	I
22	20	0.361	0.440	5	S	I
22	30	0.361	0.440	5	S	I
22	40	0.361	0.440	5	S	I
23	50	0.361	0.440	5	D	I
23	60	0.361	0.440	5	D	I
23	70	0.361	0.440	5	D	I
23	80	0.361	0.440	5	D	I
24	20	0.361	0.440	5	D	I
24	30	0.361	0.440	5	D	I
24	40	0.361	0.440	5	D	I
25	50	0.195	0.460	3	S	C
25	60	0.195	0.460	3	S	C
25	70	0.195	0.460	3	S	C

25	80	0.195	0.460	3	S	C
26	20	0.195	0.460	3	S	C
26	30	0.195	0.460	3	S	C
26	40	0.195	0.460	3	S	C
27	50	0.195	0.460	3	D	C
27	60	0.195	0.460	3	D	C
27	70	0.195	0.460	3	D	C
27	80	0.195	0.460	3	D	C
28	20	0.195	0.460	3	D	C
28	30	0.195	0.460	3	D	C
28	40	0.195	0.460	3	D	C
29	50	0.361	0.440	4	S	I
29	60	0.361	0.440	4	S	I
29	70	0.361	0.440	4	S	I
29	80	0.361	0.440	4	S	I
30	20	0.361	0.440	4	S	I
30	30	0.361	0.440	4	S	I
30	40	0.361	0.440	4	S	I
31	50	0.240	0.710	4	D	C
31	60	0.240	0.710	4	D	C
31	70	0.240	0.710	4	D	C
31	80	0.240	0.710	4	D	C
32	20	0.240	0.710	4	D	C
32	30	0.240	0.710	4	D	C
32	40	0.240	0.710	4	D	C
33	50	0.361	0.440	5	S	I
33	60	0.361	0.440	5	S	I
33	70	0.361	0.440	5	S	I
33	80	0.361	0.440	5	S	I
34	20	0.361	0.440	5	S	I
34	30	0.361	0.440	5	S	I
34	40	0.361	0.440	5	S	I
35	50	0.361	0.440	5	D	I
35	60	0.361	0.440	5	D	I
35	70	0.361	0.440	5	D	I
35	80	0.361	0.440	5	D	I
36	20	0.361	0.440	5	D	I
36	30	0.361	0.440	5	D	I

36	40	0.361	0.440	5	D	I
37	50	0.223	0.610	3	S	I
37	60	0.223	0.610	3	S	I
37	70	0.223	0.610	3	S	I
37	80	0.223	0.610	3	S	I
38	20	0.223	0.610	3	S	I
38	30	0.223	0.610	3	S	I
38	40	0.223	0.610	3	S	I
39	50	0.494	0.420	3	D	C
39	60	0.494	0.420	3	D	C
39	70	0.494	0.420	3	D	C
39	80	0.494	0.420	3	D	C
40	20	0.291	0.510	3	D	C
40	30	0.291	0.510	3	D	C
40	40	0.291	0.510	3	D	C
41	50	1.378	0.200	4	S	C
41	60	1.378	0.200	4	S	C
41	70	1.378	0.200	4	S	C
41	80	1.378	0.200	4	S	C
42	20	1.378	0.200	4	S	C
42	30	1.378	0.200	4	S	C
42	40	1.378	0.200	4	S	C
43	50	0.494	0.420	4	D	C
43	60	0.494	0.420	4	D	C
43	70	0.494	0.420	4	D	C
43	80	0.494	0.420	4	D	C
44	20	0.291	0.510	4	D	C
44	30	0.291	0.510	4	D	C
44	40	0.291	0.510	4	D	C
45	50	0.254	0.620	5	S	I
45	60	0.254	0.620	5	S	I
45	70	0.254	0.620	5	S	I
45	80	0.254	0.620	5	S	I
46	20	0.254	0.620	5	S	I
46	30	0.254	0.620	5	S	I
46	40	0.254	0.620	5	S	I
47	50	0.238	0.850	5	D	I
47	60	0.238	0.850	5	D	I

47	70	0.238	0.850	5	D	I
47	80	0.238	0.850	5	D	I
48	20	0.160	0.970	5	D	I
48	30	0.160	0.970	5	D	I
48	40	0.160	0.970	5	D	I
49	50	0.033	0.760	3	S	C
49	60	0.033	0.760	3	S	C
49	70	0.033	0.760	3	S	C
49	80	0.033	0.760	3	S	C
50	20	0.033	0.760	3	S	C
50	30	0.033	0.760	3	S	C
50	40	0.033	0.760	3	S	C
51	50	0.033	0.760	3	D	C
51	60	0.033	0.760	3	D	C
51	70	0.033	0.760	3	D	C
51	80	0.033	0.760	3	D	C
52	20	0.033	0.760	3	D	C
52	30	0.033	0.760	3	D	C
52	40	0.033	0.760	3	D	C
53	50	0.024	0.890	4	S	C
53	60	0.024	0.890	4	S	C
53	70	0.024	0.890	4	S	C
53	80	0.024	0.890	4	S	C
54	20	0.048	0.740	4	S	C
54	30	0.048	0.740	4	S	C
54	40	0.048	0.740	4	S	C
55	50	0.063	0.690	4	D	C
55	60	0.063	0.690	4	D	C
55	70	0.063	0.690	4	D	C
55	80	0.063	0.690	4	D	C
56	20	0.022	0.850	4	D	C
56	30	0.022	0.850	4	D	C
56	40	0.022	0.850	4	D	C
57	50	0.007	1.770	5	S	I
57	60	0.007	1.770	5	S	I
57	70	0.007	1.770	5	S	I
57	80	0.007	1.770	5	S	I
58	20	0.014	1.530	5	S	I

58	30	0.014	1.530	5	S	I
58	40	0.014	1.530	5	S	I
59	50	0.019	1.420	5	D	I
59	60	0.019	1.420	5	D	I
59	70	0.019	1.420	5	D	I
59	80	0.019	1.420	5	D	I
60	20	0.006	1.730	5	D	I
60	30	0.006	1.730	5	D	I
60	40	0.006	1.730	5	D	I
61	50	0.033	0.760	3	S	C
61	60	0.033	0.760	3	S	C
61	70	0.033	0.760	3	S	C
61	80	0.033	0.760	3	S	C
62	20	0.033	0.760	3	S	C
62	30	0.033	0.760	3	S	C
62	40	0.033	0.760	3	S	C
63	50	0.033	0.760	3	D	C
63	60	0.033	0.760	3	D	C
63	70	0.033	0.760	3	D	C
63	80	0.033	0.760	3	D	C
64	20	0.033	0.760	3	D	C
64	30	0.033	0.760	3	D	C
64	40	0.033	0.760	3	D	C
65	50	0.101	0.660	4	S	C
65	60	0.101	0.660	4	S	C
65	70	0.101	0.660	4	S	C
65	80	0.101	0.660	4	S	C
66	20	0.263	0.540	4	S	C
66	30	0.263	0.540	4	S	C
66	40	0.263	0.540	4	S	C
67	50	0.101	0.660	4	D	C
67	60	0.101	0.660	4	D	C
67	70	0.101	0.660	4	D	C
67	80	0.101	0.660	4	D	C
68	20	0.263	0.540	4	D	C
68	30	0.263	0.540	4	D	C
68	40	0.263	0.540	4	D	C
69	50	0.044	1.280	5	S	I

69	60	0.044	1.280	5	S	I
69	70	0.044	1.280	5	S	I
69	80	0.044	1.280	5	S	I
70	20	0.095	1.140	5	S	I
70	30	0.095	1.140	5	S	I
70	40	0.095	1.140	5	S	I
71	50	0.044	1.280	5	D	I
71	60	0.044	1.280	5	D	I
71	70	0.044	1.280	5	D	I
71	80	0.044	1.280	5	D	I
72	20	0.095	1.140	5	D	I
72	30	0.095	1.140	5	D	I
72	40	0.095	1.140	5	D	I
73	50	0.012	1.040	3	S	C
73	60	0.012	1.040	3	S	C
73	70	0.012	1.040	3	S	C
73	80	0.012	1.040	3	S	C
74	20	0.012	1.040	3	S	C
74	30	0.012	1.040	3	S	C
74	40	0.012	1.040	3	S	C
75	50	0.012	1.040	3	D	C
75	60	0.012	1.040	3	D	C
75	70	0.012	1.040	3	D	C
75	80	0.012	1.040	3	D	C
76	20	0.012	1.040	3	D	C
76	30	0.012	1.040	3	D	C
76	40	0.012	1.040	3	D	C
77	50	0.070	0.640	4	S	C
77	60	0.070	0.640	4	S	C
77	70	0.070	0.640	4	S	C
77	80	0.070	0.640	4	S	C
78	20	0.070	0.640	4	S	C
78	30	0.070	0.640	4	S	C
78	40	0.070	0.640	4	S	C
79	50	0.070	0.640	4	D	C
79	60	0.070	0.640	4	D	C
79	70	0.070	0.640	4	D	C
79	80	0.070	0.640	4	D	C

80	20	0.070	0.640	4	D	C
80	30	0.070	0.640	4	D	C
80	40	0.070	0.640	4	D	C
81	50	0.013	1.470	5	S	I
81	60	0.013	1.470	5	S	I
81	70	0.013	1.470	5	S	I
81	80	0.013	1.470	5	S	I
82	20	0.013	1.470	5	S	I
82	30	0.013	1.470	5	S	I
82	40	0.013	1.470	5	S	I
83	50	0.013	1.470	5	D	I
83	60	0.013	1.470	5	D	I
83	70	0.013	1.470	5	D	I
83	80	0.013	1.470	5	D	I
84	20	0.013	1.470	5	D	I
84	30	0.013	1.470	5	D	I
84	40	0.013	1.470	5	D	I
85	50	0.033	0.760	3	S	C
85	60	0.033	0.760	3	S	C
85	70	0.033	0.760	3	S	C
85	80	0.033	0.760	3	S	C
86	20	0.033	0.760	3	S	C
86	30	0.033	0.760	3	S	C
86	40	0.033	0.760	3	S	C
87	50	0.033	0.760	3	D	C
87	60	0.033	0.760	3	D	C
87	70	0.033	0.760	3	D	C
87	80	0.033	0.760	3	D	C
88	20	0.033	0.760	3	D	C
88	30	0.033	0.760	3	D	C
88	40	0.033	0.760	3	D	C
89	50	0.024	0.890	4	S	C
89	60	0.024	0.890	4	S	C
89	70	0.024	0.890	4	S	C
89	80	0.024	0.890	4	S	C
90	20	0.048	0.740	4	S	C
90	30	0.048	0.740	4	S	C
90	40	0.048	0.740	4	S	C

91	50	0.063	0.690	4	D	C
91	60	0.063	0.690	4	D	C
91	70	0.063	0.690	4	D	C
91	80	0.063	0.690	4	D	C
92	20	0.022	0.850	4	D	C
92	30	0.022	0.850	4	D	C
92	40	0.022	0.850	4	D	C
93	50	0.007	1.770	5	S	I
93	60	0.007	1.770	5	S	I
93	70	0.007	1.770	5	S	I
93	80	0.007	1.770	5	S	I
94	20	0.014	1.530	5	S	I
94	30	0.014	1.530	5	S	I
94	40	0.014	1.530	5	S	I
95	50	0.019	1.420	5	D	I
95	60	0.019	1.420	5	D	I
95	70	0.019	1.420	5	D	I
95	80	0.019	1.420	5	D	I
96	20	0.006	1.730	5	D	I
96	30	0.006	1.730	5	D	I
96	40	0.006	1.730	5	D	I

Junction Only Accident Change Factors

Base Year

2000

Classification Speed Limit Beta

	(mph)	Factor
Major	20	0.991
Major	30	0.991
Major	40	0.991
Major	50	0.984
Major	60	0.984
Major	70	0.984
Major	80	0.984
Minor	20	0.976
Minor	30	0.976
Minor	40	0.976
Minor	50	0.996

Minor	60	0.996
Minor	70	0.996
Minor	80	0.996

Junction Only Accident Beta Factor Changes over Time

Range of Years Change to Beta Factor

1995-2010	1.000
2011-2020	0.500
2021-2030	0.250
2031-2144	0.000

Junction Only Casualty Rates

Base Year

2000

Road Type Casualties per P.I.A.

	Fatal	Serious	Slight
1	0.0265	0.2413	1.355
2	0.0075	0.1350	1.144
3	0.0265	0.2413	1.355
4	0.0075	0.1350	1.144
5	0.0295	0.2793	1.459
6	0.0062	0.1292	1.244
7	0.0295	0.2793	1.459
8	0.0062	0.1292	1.244
9	0.0295	0.2793	1.459
10	0.0062	0.1292	1.244
11	0.0295	0.2793	1.459
12	0.0062	0.1292	1.244
13	0.0265	0.2413	1.355
14	0.0075	0.1350	1.144
15	0.0265	0.2413	1.355
16	0.0075	0.1350	1.144
17	0.0295	0.2793	1.459
18	0.0062	0.1292	1.244
19	0.0295	0.2793	1.459
20	0.0062	0.1292	1.244
21	0.0295	0.2793	1.459
22	0.0062	0.1292	1.244

23	0.0295	0.2793	1.459
24	0.0062	0.1292	1.244
25	0.0265	0.2413	1.355
26	0.0075	0.1350	1.144
27	0.0265	0.2413	1.355
28	0.0075	0.1350	1.144
29	0.0295	0.2793	1.459
30	0.0062	0.1292	1.244
31	0.0295	0.2793	1.459
32	0.0062	0.1292	1.244
33	0.0295	0.2793	1.459
34	0.0062	0.1292	1.244
35	0.0295	0.2793	1.459
36	0.0062	0.1292	1.244
37	0.0092	0.1631	1.444
38	0.0064	0.1157	1.214
39	0.0092	0.1631	1.444
40	0.0064	0.1157	1.214
41	0.0095	0.1423	1.467
42	0.0061	0.1177	1.253
43	0.0095	0.1423	1.467
44	0.0061	0.1177	1.253
45	0.0095	0.1423	1.467
46	0.0061	0.1177	1.253
47	0.0095	0.1423	1.467
48	0.0061	0.1177	1.253
49	0.0060	0.1019	1.214
50	0.0027	0.0806	1.163
51	0.0060	0.1019	1.214
52	0.0027	0.0806	1.163
53	0.0060	0.1019	1.214
54	0.0027	0.0806	1.163
55	0.0060	0.1019	1.214
56	0.0027	0.0806	1.163
57	0.0060	0.1019	1.214
58	0.0027	0.0806	1.163
59	0.0060	0.1019	1.214
60	0.0027	0.0806	1.163

61	0.0060	0.1019	1.214
62	0.0027	0.0806	1.163
63	0.0060	0.1019	1.214
64	0.0027	0.0806	1.163
65	0.0060	0.1019	1.214
66	0.0027	0.0806	1.163
67	0.0060	0.1019	1.214
68	0.0027	0.0806	1.163
69	0.0060	0.1019	1.214
70	0.0027	0.0806	1.163
71	0.0060	0.1019	1.214
72	0.0027	0.0806	1.163
73	0.0060	0.1019	1.214
74	0.0028	0.0965	1.182
75	0.0060	0.1019	1.214
76	0.0028	0.0965	1.182
77	0.0060	0.1019	1.214
78	0.0028	0.0965	1.182
79	0.0060	0.1019	1.214
80	0.0028	0.0965	1.182
81	0.0060	0.1019	1.214
82	0.0028	0.0965	1.182
83	0.0060	0.1019	1.214
84	0.0028	0.0965	1.182
85	0.0039	0.0703	1.258
86	0.0031	0.0705	1.221
87	0.0039	0.0703	1.258
88	0.0031	0.0705	1.221
89	0.0039	0.0703	1.258
90	0.0031	0.0705	1.221
91	0.0039	0.0703	1.258
92	0.0031	0.0705	1.221
93	0.0039	0.0703	1.258
94	0.0031	0.0705	1.221
95	0.0039	0.0703	1.258
96	0.0031	0.0705	1.221

Junction Only Casualty Change Factors

Base Year

2000

Classification	Speed Limit (mph)	Beta Factor		
		Fatal	Serious	Slight
Major	20	0.949	0.962	1.010
Major	30	0.949	0.962	1.010
Major	40	0.949	0.962	1.010
Major	50	0.961	0.959	1.011
Major	60	0.961	0.959	1.011
Major	70	0.961	0.959	1.011
Major	80	0.961	0.959	1.011
Minor	20	0.968	0.958	1.006
Minor	30	0.968	0.958	1.006
Minor	40	0.968	0.958	1.006
Minor	50	0.976	0.972	1.011
Minor	60	0.976	0.972	1.011
Minor	70	0.976	0.972	1.011
Minor	80	0.976	0.972	1.011

Junction Only Casualty Beta Factor Changes over Time

Range of Years Change to Beta Factor

1995-2010	1.000
2011-2144	0.000

Appendix L Wider Economic Impacts Report

A614/A6097 Wider Economic Impacts Update

Date: 4th April 2023

1. Scope and Purpose

AECOM produced a report in December 2020 which outlined the wider economic impacts of seven proposed junction improvements on the A614/A6097 corridor in Nottinghamshire (‘the Scheme’). This was commissioned by Nottinghamshire County Council to inform the Outline Business Case (OBC) submission to the Department for Transport (DfT). Since then, there have been changes to the dependent development assumptions at one of the dependent development sites, the Thoresby Colliery, which required a refresh of the wider economic impacts identified in the 2020 report. The changes to dependent development assumptions are as follows:

Table 0-1. Dependent Development Amendments

Site	Total Homes	Dependent Homes	Total Employment	Permitted Employment	Dependent Employment
Thoresby Colliery – 2020	800	650	32,375m2	8,094m2 (25%)	24,281m2 (75%)
Thoresby Colliery – 2023 update	800	192	32,375m2	2,428m2 (7.5%)	29,947m2 (92.5%)

Source: AECOM

The overall split of the employment land at the site between B1 and B2 space is assumed to be the same as in the 2020 assessment (58% B1 and 42% B2), and permitted employment development is assumed to be 7.5% of both B1 and B2 floorspace.

There have been no changes to the previous assumptions at the second dependent development site at Teal Close.

The methodology for the assessment refresh has followed the same methodology as set out in the 2020 report, while updates have been made that reflect changes in the following elements:

- Dependent development proportion of total development at Thoresby Colliery as set out above
- An updated build profile of housing and employment space
- Proportion and phasing of affordable housing (reduced from 30% of total homes to 7.5% at Thoresby Colliery, Teal Close remains unchanged)
- GVA per filled job indices, updated from 2018 values to 2020 values (which are the latest)
- Council tax receipts at Newark & Sherwood Council and Gedling Council, reflecting the increase in council tax band costs for Edwinstowe (at Thoresby Colliery) and Stoke Bardolph (at Teal Close)
- Business rates at Thoresby Colliery and Teal Close, reflecting the latest business rates multipliers for 2023/24

2. Assessment of Wider Economic Benefits

Dependent Development & Land Value Uplift

A summary of housing and employment land on dependent sites which will be enabled by the Scheme is presented in Table 0-2, based on the planning conditions which are restricting the developments in coming forward in full.

Table 0-2: Quantum of development by site: grand total and total which is dependent

Development site	Grand total homes	Dependent homes	Grand total employment land (Ha)		Dependent employment land (Ha)	
			B1	B2	B1	B2
Thoresby Colliery (Newark and Sherwood)	800	192	1.86	1.38	1.72	1.27
Teal Close (Gedling)	830	505	0.40	1.40	-	-
Total	1,630	697	2.26	2.78	1.72	1.27

It is generally accepted that the Thoresby Colliery development is capable of accommodating more than the 800 dwellings currently permitted. Indicative Masterplanning suggests that approximately 200 plots could be delivered within the existing outline planning application red line, taking the total number of dwellings to 1000 units (subject to planning). With the development of the additional 200 units, assuming the same viability related housing provision as the initial outline consent, 15 of the additional 200 units would be affordable. The additional 200 units are aspirational at this stage as an application has not been submitted yet for these, therefore the monetised value of the additional units is excluded from the assessment presented herein.

At Thoresby Colliery, the estimated net additional development, accounting for displacement and deadweight, is 3.40ha (net) of residential and 1.84ha (net) of commercial development land.

Table 0-3: Dependent development effects at Thoresby Colliery: gross and net additional

	Residential		Commercial: B1		Commercial: B2	
	Intervention Case	Reference Case	Intervention Case	Reference Case	Intervention Case	Reference Case
Gross Direct Effects (ha)	22.86	17.37	1.86	0.14	1.38	0.10
Net Local Direct Effects (ha) (post-displacement)	14.17	10.77	1.14	0.09	0.84	0.06
Net Additional Effects of the Scheme (ha)	3.40		1.06		0.78	

At Teal Close, the estimated net additional development, accounting for displacement and deadweight, is 8.95ha (net) of residential land.

Table 0-4: Dependent development effects at Teal Close: gross and net additional

	Residential	
	Intervention Case	Reference Case
Gross Direct Effects (ha)	23.71	9.29
Net Local Direct Effects (ha) (post-displacement)	14.70	5.76
Net Additional Effects of the Scheme (ha)	8.95	

The land value uplift (LVU) associated with the development is presented in the table below. The Scheme is estimated to deliver a present value of benefits of £11.57m gross LVU and £7.17m net additional LVU. The methodology underpinning the assessment and the key assumptions are presented in Appendix A of the main report¹.

	Gross impact of Scheme	Net impact of Scheme
Residential LVU – Thoresby Colliery	£3.89m	£2.42m
Residential LVU – Teal Close	£7.06m	£4.37m
Total Residential LVU	£10.96m	£6.79m
Commercial LVU (Thoresby Colliery only)	£0.62m	£0.38m
Total LVU	£11.57m	£7.17m

Source: AECOM calculation 2023; Values at 2010 prices

Sensitivity Testing

Each of the sensitivity tests undertaken in the AECOM 2020 study has also been updated, to demonstrate the impact of applying different land values on LVU. The results of the updated sensitivity testing are presented in the table below. The tests show that if residential and commercial (B1 & B2) values are lower than the MHCLG area benchmark by 10%, the Scheme would deliver circa £6.45m in net additional LVU. Where values are higher than the MHCLG benchmark by +10% the net additional LVU would increase to £7.89m. These values compare to LVU of £7.17m based on MHCLG benchmark.

Table 0-5: Land Value Sensitivity Tests

	Sensitivity test: Land value change	Gross impact of Scheme	Net impact of Scheme
Residential Land Value Uplift	High (+10%)	£12.05m	£7.47m
	Low (-10%)	£9.86m	£6.11m
Commercial Land Value Uplift	High (+10%)	£0.69m	£0.42m
	Low (-10%)	£0.55m	£0.34m
Total LVU	High	£12.73m	£7.89m
	Low	£10.41m	£6.45m

¹ AECOM (2020) A614/A6097 Major Road Network Junction Improvement Package - Wider Economic Impacts

Source: AECOM calculation 2023; Values at 2010 prices

External Land Amenity Value

At Thoresby Colliery, the development will take place on brownfield land and is anticipated to result in land amenity value gain. However, there is currently limited evidence available on the external amenity impact of development on brownfield land. As a conservative assumption and in line with the DCLG appraisal guide, it is assumed that the change in amenity value on the Thoresby Colliery site is zero.

At Teal Close, development will take place on agricultural land predominantly used to grow crops. This land is considered to have limited amenity value in terms of recreation or pleasantness of the area, and its agricultural uses are restricted to crops due history of site use for sewage sludge.² This type of land aligns with the definition for intensive agricultural land, with estimated land amenity value of £29,000 per hectare in perpetuity³. The delivery of net additional 8.9ha of residential development at Teal Close is therefore estimated to amount to an **amenity loss of £258,000** in present value (in 2010 prices). This value remains consistent with the previous estimate.

External Benefits from Affordable Housing

Social housing delivers additional health benefits which measure the annual net savings on health costs due to the provision of affordable housing, which helps to alleviate overcrowding and rough sleeping. The methodology to calculate this benefit follows the MHCLG guidance, which suggests a £125 benefit per unit per annum (or £2,400 in present value terms over 30 years). It is assumed that this benefit has 0% displacement given the high demand for affordable housing.

The changes in the affordable housing proportion have resulted in the number of affordable homes reducing from 240 to 63. Therefore, it is estimated that the Scheme delivers a net additional **£6,124 in external benefits** associated with the new affordable housing (expressed as present value over a 30-year period).

Wider Non-monetised Impacts

Gross Value Added (GVA)

The two sites supported by the Scheme are of strategic importance for the area and will support a large number of employment opportunities. It is estimated that once fully operational, Thoresby Colliery site will support 1,048 gross direct jobs, making a significant economic contribution to the local economy in Newark & Sherwood as well as Nottinghamshire more widely. As outlined in the previous section, it is estimated that only 7.5% of employment space at the site could come forward without the improvements being implemented, therefore the Scheme plays an important role in ensuring the employment impacts on the site materialise in full.

The Scheme will also benefit the site at Teal Close, which is estimated to support a further 684 gross direct jobs locally. The employment land at Teal Close is not identified as dependent on the improvements, however, given the constraints to the residential aspect of the development, the implementation of improvements will be beneficial in ensuring the site is built out in full and employment impacts materialise.

Illustrative GVA impacts associated with the jobs have been provided to demonstrate their value and significance for the local economy. This has been informed by GVA data⁴ by Local Authority

² Gedling Borough Council (2014) Application Number 2013/0545- Land off Teal Close Netherfield

³ DfT (2020) TAG Workbook Valuing Dependent Development

⁴ ONS Regional and Subregional Productivity, July 2022 release (2020 data)

District, using the Newark and Sherwood average for Thoresby Colliery and the Gedling average for Teal Close.⁵

Table 0-6: Gross direct employment impacts at Thoresby Colliery & Teal Close

Site	Floorspace	Area (m2)	Employment Density (m2 per job)	Number of gross jobs	GVA per filled job	Total indicative GVA benefits
Thoresby Colliery	B1a	4,855	13	373	£44,165	£16.47m
	B1c	13,760	47	293	£44,165	£12.94m
	B2	13,760	36	382	£44,165	£16.87m
Teal Close	B1	4,500	13	346	£47,732	£16.52m
	B2/B8	13,500	40	338	£47,732	£16.13m
Total		50,375		1,732		£78.93m

Source: AECOM calculation (2023); HCA (2015) Employment Density Guide 3rd Addition; GVA per job filled indices by Local Authority District, ONS (2020)

Jobs

Furthermore, the gross direct jobs would support further indirect and induced jobs. The HCA Additionality Guide⁶ provides economic multiplier ready reckoner values and states that the majority of interventions are expected to have a multiplier of 1.1 at the neighbourhood level and 1.5 at the regional level. Based on the above, a total of 1,153 direct, indirect and induced jobs could be supported locally by the development at Thoresby Colliery and 752 total jobs at Teal Close. At the regional level, the two sites could support 2,598 direct, indirect and induced jobs.

Council Tax Revenue

In addition to employment benefits, the development unlocked by the Scheme will support further fiscal impacts in the form of local council tax revenue:

- Based on the council tax receipts record from Newark & Sherwood Council and the typology of housing at Thoresby Colliery, the site will contribute an additional c. £1.68m per annum of Council tax revenues (of which £0.4m would be associated with the dependent housing on the site).⁷
- Similarly for Teal Close, the development could contribute additional c. £1.68m per annum in Council tax revenue for Gedling Council (of which £1m would be associated with the dependent housing on the site).

Business Rates

By increasing the amount of commercial and industrial space in the area, the Scheme will support further fiscal impacts in the form of business rates at the two development sites:

⁵ A different approach was taken here due to inconsistency with the old GVA dataset, with GVA per job filled at local authority level presenting the best estimate. As such, this was the approach taken.

⁶ HCA (2015) Additionality Guide 4th Addition

⁷ The figure has been calculated by analysing current council tax bands in the area and applying the Newark & Sherwood council tax band payments corresponding to the typologies provided by the proposed scheme. An equivalent approach is also taken to calculating the benefits at Teal Close for Gedling.

- The rateable value in the area around the Thoresby Colliery for offices is on average £45 per sqm, and £24 per sqm for industrial space⁸. Applying the business rates multiplier, the proposed scheme will lead to c. £600,000 increase in business rates revenues per annum in total, of which c. £143,000 is estimated to be associated with the dependent development on the site (VOA, 2020).
- The development at Teal Close is estimated to support a further £426,000 in business rates revenue per annum (although it should be noted that the employment space at Teal Close is not considered to be dependent on the Scheme) (VOA, 2020)⁹.

⁸ The average rateable values have been calculated on the basis of current information and rateable values (price per m²/unit) on existing properties (office, industrial & workshop) in Edwinstowe & Ollerton area (postcode NG22 9 and NG21 9). Values are set by the Valuation Office Agency (VOA).

⁹ The average rateable values have been calculated on the basis of current information and rateable values (price per m²/unit) on existing properties (office, industrial & workshop) in Netherfield area (postcode NG4 2). Values are set by the Valuation Office Agency (VOA).

Appendix M Ollerton TUBA TEC

SCHEME SPECIFIC PARAMETERS

PARAMETERS

TUBA_version 1.9.17
run_name TUBA-1_Ollerton_Draft_FBC_Dependent_Development
do_min_name DM
do_som_name DS

first_yr 2023
horizon_yr 2082
modelled_yrs 2023 2037
detail Yes
current_yr 2023
print_warn 20
P&R_car_speed 65.0
zones_as_sectors No

TIME_SLICES

*no.	duration(min)	annualisation	period	description
1	60	648	1	peak hour am 08:00-09:00
2	60	667	2	peak hour pm 17:00-18:00
3	60	2997	3	peak hour ip 10:00-16:00
4	60	4438	4	off peak hour

SCHEMES_DM

*Mode 1st Construction year Opening_yr Stage

DO_MIN_COSTS

*Type Mode Funding Cost Price RPI

DO_MIN_PROFILE

*Year Mode %Const %Land %Prep %Super %Maint %Op %Grant %Dev

DO_MIN_DELAY_COSTS

*Year Mode Business Commuting Other Freight

SCHEMES_DS

*Mode 1st Construction year Opening_yr Stage
1 2024 2027 SI

DO_SOM_COSTS

*Type Mode Funding Cost Price RPI

DO_SOM_PROFILE

*Year Mode %Const %Land %Prep %Super %Maint %Op %Grant %Dev

DO_SOM_DELAY_COSTS

*Year Mode Business Commuting Other Freight

BENEFIT_CHANGE

*% change p.a.

*Start_yr End_yr Submode ChangePer1 ChangePer2 ChangePer3 ChangePer4 ChangePer5

USER_CLASSES

*no. Veh/submode purpose person_type

1	1	1	0
2	1	2	0
3	1	3	0
4	2	3	0
5	3	1	0
6	4	1	0
7	5	1	0

INPUT_MATRICES

*no. userclasses timeslice type format scenario year factor filename

1	1	1	V	1	0	2023	0.05583	L:\60625845_A614 MRN DfT responses\2023_Draft_FBC\TUBA\1-DD_Ollerton_Update\1_Ollerton__Draft_FBC_DD AM 2023 DM.txt
2	2	1	V	1	0	2023	0.30763	L:\60625845_A614 MRN DfT responses\2023_Draft_FBC\TUBA\1-DD_Ollerton_Update\1_Ollerton__Draft_FBC_DD AM 2023 DM.txt
3	3	1	V	1	0	2023	0.43971	L:\60625845_A614 MRN DfT responses\2023_Draft_FBC\TUBA\1-DD_Ollerton_Update\1_Ollerton__Draft_FBC_DD AM 2023 DM.txt
4	4	1	V	1	0	2023	0.01535	L:\60625845_A614 MRN DfT responses\2023_Draft_FBC\TUBA\1-DD_Ollerton_Update\1_Ollerton__Draft_FBC_DD AM 2023 DM.txt
5	5	1	V	1	0	2023	0.11258	L:\60625845_A614 MRN DfT responses\2023_Draft_FBC\TUBA\1-DD_Ollerton_Update\1_Ollerton__Draft_FBC_DD AM 2023 DM.txt
6	6	1	V	1	0	2023	0.03823	L:\60625845_A614 MRN DfT responses\2023_Draft_FBC\TUBA\1-DD_Ollerton_Update\1_Ollerton__Draft_FBC_DD AM 2023 DM.txt
7	7	1	V	1	0	2023	0.03066	L:\60625845_A614 MRN DfT responses\2023_Draft_FBC\TUBA\1-DD_Ollerton_Update\1_Ollerton__Draft_FBC_DD AM 2023 DM.txt
8	1	2	V	1	0	2023	0.04371	L:\60625845_A614 MRN DfT responses\2023_Draft_FBC\TUBA\1-DD_Ollerton_Update\1_Ollerton__Draft_FBC_DD PM 2023 DM.txt
9	2	2	V	1	0	2023	0.27841	L:\60625845_A614 MRN DfT responses\2023_Draft_FBC\TUBA\1-DD_Ollerton_Update\1_Ollerton__Draft_FBC_DD PM 2023 DM.txt
10	3	2	V	1	0	2023	0.53249	L:\60625845_A614 MRN DfT responses\2023_Draft_FBC\TUBA\1-DD_Ollerton_Update\1_Ollerton__Draft_FBC_DD PM 2023 DM.txt
11	4	2	V	1	0	2023	0.01327	L:\60625845_A614 MRN DfT responses\2023_Draft_FBC\TUBA\1-DD_Ollerton_Update\1_Ollerton__Draft_FBC_DD PM 2023 DM.txt

186 4 2037 DM.txt	3	V	1	0	2037	0.01654	L:\60625845_A614 MRN DfT responses\2023_Draft_FBC\TUBA\1-DD_Ollerton_Update\1_Ollerton__Draft_FBC_DD IP
187 5 2037 DM.txt	3	V	1	0	2037	0.12130	L:\60625845_A614 MRN DfT responses\2023_Draft_FBC\TUBA\1-DD_Ollerton_Update\1_Ollerton__Draft_FBC_DD IP
188 6 2037 DM.txt	3	V	1	0	2037	0.05474	L:\60625845_A614 MRN DfT responses\2023_Draft_FBC\TUBA\1-DD_Ollerton_Update\1_Ollerton__Draft_FBC_DD IP
189 7 2037 DM.txt	3	V	1	0	2037	0.03858	L:\60625845_A614 MRN DfT responses\2023_Draft_FBC\TUBA\1-DD_Ollerton_Update\1_Ollerton__Draft_FBC_DD IP
190 1 2037 DM.txt	4	V	1	0	2037	0.03313	L:\60625845_A614 MRN DfT responses\2023_Draft_FBC\TUBA\1-DD_Ollerton_Update\1_Ollerton__Draft_FBC_DD OP
191 2 2037 DM.txt	4	V	1	0	2037	0.22108	L:\60625845_A614 MRN DfT responses\2023_Draft_FBC\TUBA\1-DD_Ollerton_Update\1_Ollerton__Draft_FBC_DD OP
192 3 2037 DM.txt	4	V	1	0	2037	0.51462	L:\60625845_A614 MRN DfT responses\2023_Draft_FBC\TUBA\1-DD_Ollerton_Update\1_Ollerton__Draft_FBC_DD OP
193 4 2037 DM.txt	4	V	1	0	2037	0.01654	L:\60625845_A614 MRN DfT responses\2023_Draft_FBC\TUBA\1-DD_Ollerton_Update\1_Ollerton__Draft_FBC_DD OP
194 5 2037 DM.txt	4	V	1	0	2037	0.12130	L:\60625845_A614 MRN DfT responses\2023_Draft_FBC\TUBA\1-DD_Ollerton_Update\1_Ollerton__Draft_FBC_DD OP
195 6 2037 DM.txt	4	V	1	0	2037	0.05474	L:\60625845_A614 MRN DfT responses\2023_Draft_FBC\TUBA\1-DD_Ollerton_Update\1_Ollerton__Draft_FBC_DD OP
196 7 2037 DM.txt	4	V	1	0	2037	0.03858	L:\60625845_A614 MRN DfT responses\2023_Draft_FBC\TUBA\1-DD_Ollerton_Update\1_Ollerton__Draft_FBC_DD OP
197 1 AM 2037 DS.txt	1	V	1	1	2037	0.05583	L:\60625845_A614 MRN DfT responses\2023_Draft_FBC\TUBA\1-DD_Ollerton_Update\1_Ollerton__Draft_FBC_DD
198 2 AM 2037 DS.txt	1	V	1	1	2037	0.30763	L:\60625845_A614 MRN DfT responses\2023_Draft_FBC\TUBA\1-DD_Ollerton_Update\1_Ollerton__Draft_FBC_DD
199 3 AM 2037 DS.txt	1	V	1	1	2037	0.43971	L:\60625845_A614 MRN DfT responses\2023_Draft_FBC\TUBA\1-DD_Ollerton_Update\1_Ollerton__Draft_FBC_DD
200 4 AM 2037 DS.txt	1	V	1	1	2037	0.01535	L:\60625845_A614 MRN DfT responses\2023_Draft_FBC\TUBA\1-DD_Ollerton_Update\1_Ollerton__Draft_FBC_DD
201 5 AM 2037 DS.txt	1	V	1	1	2037	0.11258	L:\60625845_A614 MRN DfT responses\2023_Draft_FBC\TUBA\1-DD_Ollerton_Update\1_Ollerton__Draft_FBC_DD
202 6 AM 2037 DS.txt	1	V	1	1	2037	0.03823	L:\60625845_A614 MRN DfT responses\2023_Draft_FBC\TUBA\1-DD_Ollerton_Update\1_Ollerton__Draft_FBC_DD
203 7 AM 2037 DS.txt	1	V	1	1	2037	0.03066	L:\60625845_A614 MRN DfT responses\2023_Draft_FBC\TUBA\1-DD_Ollerton_Update\1_Ollerton__Draft_FBC_DD
204 1 PM 2037 DS.txt	2	V	1	1	2037	0.04371	L:\60625845_A614 MRN DfT responses\2023_Draft_FBC\TUBA\1-DD_Ollerton_Update\1_Ollerton__Draft_FBC_DD
205 2 PM 2037 DS.txt	2	V	1	1	2037	0.27841	L:\60625845_A614 MRN DfT responses\2023_Draft_FBC\TUBA\1-DD_Ollerton_Update\1_Ollerton__Draft_FBC_DD
206 3 PM 2037 DS.txt	2	V	1	1	2037	0.53249	L:\60625845_A614 MRN DfT responses\2023_Draft_FBC\TUBA\1-DD_Ollerton_Update\1_Ollerton__Draft_FBC_DD
207 4 PM 2037 DS.txt	2	V	1	1	2037	0.01327	L:\60625845_A614 MRN DfT responses\2023_Draft_FBC\TUBA\1-DD_Ollerton_Update\1_Ollerton__Draft_FBC_DD
208 5 PM 2037 DS.txt	2	V	1	1	2037	0.09729	L:\60625845_A614 MRN DfT responses\2023_Draft_FBC\TUBA\1-DD_Ollerton_Update\1_Ollerton__Draft_FBC_DD
209 6 PM 2037 DS.txt	2	V	1	1	2037	0.01600	L:\60625845_A614 MRN DfT responses\2023_Draft_FBC\TUBA\1-DD_Ollerton_Update\1_Ollerton__Draft_FBC_DD
210 7 PM 2037 DS.txt	2	V	1	1	2037	0.01884	L:\60625845_A614 MRN DfT responses\2023_Draft_FBC\TUBA\1-DD_Ollerton_Update\1_Ollerton__Draft_FBC_DD
211 1 2037 DS.txt	3	V	1	1	2037	0.05528	L:\60625845_A614 MRN DfT responses\2023_Draft_FBC\TUBA\1-DD_Ollerton_Update\1_Ollerton__Draft_FBC_DD IP
212 2 2037 DS.txt	3	V	1	1	2037	0.08674	L:\60625845_A614 MRN DfT responses\2023_Draft_FBC\TUBA\1-DD_Ollerton_Update\1_Ollerton__Draft_FBC_DD IP
213 3 2037 DS.txt	3	V	1	1	2037	0.62682	L:\60625845_A614 MRN DfT responses\2023_Draft_FBC\TUBA\1-DD_Ollerton_Update\1_Ollerton__Draft_FBC_DD IP
214 4 2037 DS.txt	3	V	1	1	2037	0.01654	L:\60625845_A614 MRN DfT responses\2023_Draft_FBC\TUBA\1-DD_Ollerton_Update\1_Ollerton__Draft_FBC_DD IP

331	2	4	D	1	1	2037	1.00000	L:\60625845_A614 MRN DfT responses\2023_Draft_FBC\TUBA\1-DD_Ollerton_Update\D_1_Ollerton__Draft_FBC_DD
OP 2037 DS.txt								
332	3	4	D	1	1	2037	1.00000	L:\60625845_A614 MRN DfT responses\2023_Draft_FBC\TUBA\1-DD_Ollerton_Update\D_1_Ollerton__Draft_FBC_DD
OP 2037 DS.txt								
333	4	4	D	1	1	2037	1.00000	L:\60625845_A614 MRN DfT responses\2023_Draft_FBC\TUBA\1-DD_Ollerton_Update\D_1_Ollerton__Draft_FBC_DD
OP 2037 DS.txt								
334	5	4	D	1	1	2037	1.00000	L:\60625845_A614 MRN DfT responses\2023_Draft_FBC\TUBA\1-DD_Ollerton_Update\D_1_Ollerton__Draft_FBC_DD
OP 2037 DS.txt								
335	6	4	D	1	1	2037	1.00000	L:\60625845_A614 MRN DfT responses\2023_Draft_FBC\TUBA\1-DD_Ollerton_Update\D_1_Ollerton__Draft_FBC_DD
OP 2037 DS.txt								
336	7	4	D	1	1	2037	1.00000	L:\60625845_A614 MRN DfT responses\2023_Draft_FBC\TUBA\1-DD_Ollerton_Update\D_1_Ollerton__Draft_FBC_DD
OP 2037 DS.txt								
337	1	X	R	1	X	XXXX	1.00000	L:\60625845_A614 MRN DfT responses\2023_Draft_FBC\TUBA\1-DD_Ollerton_Update\D_1_Ollerton__Draft_FBC_DD
AM 2023 DM.txt								
338	2	X	R	1	X	XXXX	1.00000	L:\60625845_A614 MRN DfT responses\2023_Draft_FBC\TUBA\1-DD_Ollerton_Update\D_1_Ollerton__Draft_FBC_DD
AM 2023 DM.txt								
339	3	X	R	1	X	XXXX	1.00000	L:\60625845_A614 MRN DfT responses\2023_Draft_FBC\TUBA\1-DD_Ollerton_Update\D_1_Ollerton__Draft_FBC_DD
AM 2023 DM.txt								
340	4	X	R	1	X	XXXX	1.00000	L:\60625845_A614 MRN DfT responses\2023_Draft_FBC\TUBA\1-DD_Ollerton_Update\D_1_Ollerton__Draft_FBC_DD
AM 2023 DM.txt								
341	5	X	R	1	X	XXXX	1.00000	L:\60625845_A614 MRN DfT responses\2023_Draft_FBC\TUBA\1-DD_Ollerton_Update\D_1_Ollerton__Draft_FBC_DD
AM 2023 DM.txt								
342	6	X	R	1	X	XXXX	1.00000	L:\60625845_A614 MRN DfT responses\2023_Draft_FBC\TUBA\1-DD_Ollerton_Update\D_1_Ollerton__Draft_FBC_DD
AM 2023 DM.txt								
343	7	X	R	1	X	XXXX	1.00000	L:\60625845_A614 MRN DfT responses\2023_Draft_FBC\TUBA\1-DD_Ollerton_Update\D_1_Ollerton__Draft_FBC_DD
AM 2023 DM.txt								

SECTORS

*mode Sector_file_name

ERRORS AND WARNINGS

Warning: Scheme parameter zones_as_sectors set to no: Possibility that small aggregation errors may occur in the TEE table for some appraisals. Recommend undertaking a sensitivity test using a sector system (and some sectors) to check.

2795 Warnings found in total (including any above)

Warning (63 serious): Ratio of DM to DS travel time lower than limit for the following:

Origin	Destination	Time_slice	Veh_type	Purpose	Person_type	Year	DM_time	DS_time	Ratio	DM_trips	DS_trips
3	1	3	Car	Other	All	2037	0.001	0.005	0.265	147.303	147.303
3	2	3	Car	Other	All	2037	0.001	0.005	0.265	55.160	55.160
3	4	3	Car	Other	All	2037	0.001	0.005	0.265	10.656	10.656
3	5	3	Car	Other	All	2037	0.001	0.005	0.265	41.997	41.997
3	1	3	LGV Personal	Other	All	2037	0.001	0.005	0.265	3.887	3.887
3	1	3	Car	Business	All	2037	0.001	0.005	0.265	12.991	12.991
3	2	3	Car	Business	All	2037	0.001	0.005	0.265	4.865	4.865
3	4	3	Car	Business	All	2037	0.001	0.005	0.265	0.940	0.940
3	5	3	Car	Business	All	2037	0.001	0.005	0.265	3.704	3.704
3	4	3	Car	Commuting	All	2037	0.001	0.005	0.265	1.475	1.475
3	5	3	Car	Commuting	All	2037	0.001	0.005	0.265	5.812	5.812
3	2	3	LGV Personal	Other	All	2037	0.001	0.005	0.265	1.456	1.456
3	4	3	LGV Personal	Other	All	2037	0.001	0.005	0.265	0.281	0.281
3	5	3	LGV Personal	Other	All	2037	0.001	0.005	0.265	1.108	1.108
3	1	3	LGV Freight	Business	All	2037	0.001	0.005	0.265	28.505	28.505
3	2	3	LGV Freight	Business	All	2037	0.001	0.005	0.265	10.674	10.674
3	4	3	LGV Freight	Business	All	2037	0.001	0.005	0.265	2.062	2.062
3	5	3	LGV Freight	Business	All	2037	0.001	0.005	0.265	8.127	8.127
3	1	3	Car	Commuting	All	2037	0.001	0.005	0.265	20.384	20.384
3	2	3	Car	Commuting	All	2037	0.001	0.005	0.265	7.633	7.633

Displayed 20 warnings of a total of 217 of this type.

Warning: DM speeds greater than limit for the following:

Origin	Destination	Time_slice	Veh_type	Purpose	Person_type	Year	DM_dist	DM_time	Cal_Speed	DM_trips	VOC_Speed
2	2	4	LGV Freight	Business	All	2023	2.000	0.000	4347.826	0.000	110.000
2	3	4	LGV Freight	Business	All	2023	2.000	0.000	4347.826	0.485	110.000
2	4	4	LGV Freight	Business	All	2023	2.000	0.000	4347.826	1.213	110.000
2	2	4	Car	Business	All	2023	2.000	0.000	4347.826	0.000	130.000
2	3	4	Car	Business	All	2023	2.000	0.000	4347.826	0.133	130.000
2	5	4	LGV Freight	Business	All	2023	2.000	0.000	4347.826	3.396	110.000
2	1	4	OGV1	Business	All	2023	2.000	0.000	4347.826	1.314	85.000
2	2	4	OGV1	Business	All	2023	2.000	0.000	4347.826	0.000	85.000

2	3	4	OGV1	Business	All	2023	2.000	0.000	4347.826	0.219	85.000
2	4	4	OGV1	Business	All	2023	2.000	0.000	4347.826	0.547	85.000
2	4	4	Car	Business	All	2023	2.000	0.000	4347.826	0.331	130.000
2	5	4	OGV1	Business	All	2023	2.000	0.000	4347.826	1.533	85.000
2	1	4	OGV2	Business	All	2023	2.000	0.000	4347.826	0.926	85.000
2	5	4	Car	Business	All	2023	2.000	0.000	4347.826	0.928	130.000
2	2	4	OGV2	Business	All	2023	2.000	0.000	4347.826	0.000	85.000
2	3	4	OGV2	Business	All	2023	2.000	0.000	4347.826	0.154	85.000
2	4	4	OGV2	Business	All	2023	2.000	0.000	4347.826	0.386	85.000
2	1	4	Car	Business	All	2023	2.000	0.000	4347.826	0.795	130.000
2	1	4	LGV Freight	Business	All	2023	2.000	0.000	4347.826	2.911	110.000
2	5	4	OGV2	Business	All	2023	2.000	0.000	4347.826	1.080	85.000

Displayed 20 warnings of a total of 1288 of this type.

Warning: DS speeds greater than limit for the following:

Origin	Destination	Time_slice	Veh_type	Purpose	Person_type	Year	DS_dist	DS_time	Ca_Speed	DS_trips	VOC_Speed
2	2	4	LGV Freight	Business	All	2023	2.000	0.000	4347.826	0.000	110.000
2	3	4	LGV Freight	Business	All	2023	2.000	0.000	4347.826	0.485	110.000
2	4	4	LGV Freight	Business	All	2023	2.000	0.000	4347.826	1.213	110.000
2	2	4	Car	Business	All	2023	2.000	0.000	4347.826	0.000	130.000
2	3	4	Car	Business	All	2023	2.000	0.000	4347.826	0.133	130.000
2	5	4	LGV Freight	Business	All	2023	2.000	0.000	4347.826	3.396	110.000
2	1	4	OGV1	Business	All	2023	2.000	0.000	4347.826	1.314	85.000
2	2	4	OGV1	Business	All	2023	2.000	0.000	4347.826	0.000	85.000
2	3	4	OGV1	Business	All	2023	2.000	0.000	4347.826	0.219	85.000
2	4	4	OGV1	Business	All	2023	2.000	0.000	4347.826	0.547	85.000
2	4	4	Car	Business	All	2023	2.000	0.000	4347.826	0.331	130.000
2	5	4	OGV1	Business	All	2023	2.000	0.000	4347.826	1.533	85.000
2	1	4	OGV2	Business	All	2023	2.000	0.000	4347.826	0.926	85.000
2	5	4	Car	Business	All	2023	2.000	0.000	4347.826	0.928	130.000
2	2	4	OGV2	Business	All	2023	2.000	0.000	4347.826	0.000	85.000
2	3	4	OGV2	Business	All	2023	2.000	0.000	4347.826	0.154	85.000
2	4	4	OGV2	Business	All	2023	2.000	0.000	4347.826	0.386	85.000
2	1	4	Car	Business	All	2023	2.000	0.000	4347.826	0.795	130.000
2	1	4	LGV Freight	Business	All	2023	2.000	0.000	4347.826	2.911	110.000
2	5	4	OGV2	Business	All	2023	2.000	0.000	4347.826	1.080	85.000

Displayed 20 warnings of a total of 1288 of this type.

TUBA ECONOMICS FILE DIFFERENCES

PARAMETERS - (used)

TUBA_version 1.9.17

base_year 2010

pres_val_year 2010

GDP_base 100.00 0.00 0.00
av_ind_tax 19.00 0.00 0.00
nt_carbdxvalues 83.64 250.92 167.28
t_carbdxvalues 83.64250.92167.28

PARAMETERS - (std)

TUBA_version 1.9.17
base_year 2010
pres_val_year 2010
GDP_base 100.00 0.00 0.00
av_ind_tax 19.00 0.00 0.00
nt_carbdxvalues 82.97 248.92 165.94
t_carbdxvalues 82.97248.92165.94

GDP_PER_CAPITA_GROWTH - (used)

*% change p.a.

*Start_yr	End_yr	VOT_Gr_purpose1	VOT_Gr_purpose2	VOT_Gr_purpose3 ..
2011	2011	0.615	0.615	0.615
2012	2012	0.801	0.801	0.801
2013	2013	1.253	1.253	1.253
2014	2014	2.208	2.208	2.208
2015	2015	1.814	1.814	1.814
2016	2016	1.425	1.425	1.425
2017	2017	1.528	1.528	1.528
2018	2018	1.046	1.046	1.046
2019	2019	1.122	1.122	1.122
2020	2020	0.099	0.099	0.099
2021	2021	0.100	0.100	0.100
2022	2022	0.099	0.099	0.099
2023	2023	-1.769	-1.769	-1.769
2024	2024	0.956	0.956	0.956
2025	2025	2.307	2.307	2.307
2026	2026	2.347	2.347	2.347
2027	2027	1.954	1.954	1.954
2028	2028	1.687	1.687	1.687
2029	2029	1.657	1.657	1.657
2030	2030	1.621	1.621	1.621
2031	2031	1.570	1.570	1.570
2032	2032	1.552	1.552	1.552
2033	2033	1.539	1.539	1.539
2034	2034	1.518	1.518	1.518
2035	2035	1.505	1.505	1.505
2036	2036	1.638	1.638	1.638
2037	2037	1.611	1.611	1.611

2038	2038	1.578	1.578	1.578
2039	2039	1.546	1.546	1.546
2040	2040	1.506	1.506	1.506
2041	2041	1.476	1.476	1.476
2042	2042	1.439	1.439	1.439
2043	2043	1.401	1.401	1.401
2044	2044	1.369	1.369	1.369
2045	2045	1.350	1.350	1.350
2046	2046	1.342	1.342	1.342
2047	2047	1.321	1.321	1.321
2048	2048	1.302	1.302	1.302
2049	2049	1.282	1.282	1.282
2050	2050	1.277	1.277	1.277
2051	2051	1.278	1.278	1.278
2052	2052	1.281	1.281	1.281
2053	2053	1.286	1.286	1.286
2054	2054	1.294	1.294	1.294
2055	2055	1.312	1.312	1.312
2056	2056	1.325	1.325	1.325
2057	2057	1.339	1.339	1.339
2058	2058	1.349	1.349	1.349
2059	2059	1.359	1.359	1.359
2060	2060	1.370	1.370	1.370
2061	2061	1.379	1.379	1.379
2062	2062	1.387	1.387	1.387
2063	2063	1.399	1.399	1.399
2064	2064	1.406	1.406	1.406
2065	2065	1.413	1.413	1.413
2066	2066	1.418	1.418	1.418
2067	2067	1.420	1.420	1.420
2068	2068	1.421	1.421	1.421
2069	2069	1.428	1.428	1.428
2070	2070	1.468	1.468	1.468
2071	2071	1.534	1.534	1.534
2072	2072	1.592	1.592	1.592
2073	2073	1.548	1.548	1.548
2074	2074	1.472	1.472	1.472
2075	2075	1.426	1.426	1.426
2076	2076	1.358	1.358	1.358
2077	2077	1.363	1.363	1.363
2078	2078	1.337	1.337	1.337
2079	2079	1.299	1.299	1.299
2080	2080	1.269	1.269	1.269
2081	2081	1.321	1.321	1.321

2082	2082	1.359	1.359	1.359
2083	2083	1.372	1.372	1.372
2084	2084	1.369	1.369	1.369
2085	2085	1.420	1.420	1.420
2086	2086	1.469	1.469	1.469
2087	2087	1.528	1.528	1.528
2088	2088	1.589	1.589	1.589
2089	2089	1.666	1.666	1.666
2090	2090	1.690	1.690	1.690
2091	2091	1.703	1.703	1.703
2092	2092	1.699	1.699	1.699
2093	2093	1.700	1.700	1.700
2094	2094	1.705	1.705	1.705
2095	2095	1.709	1.709	1.709
2096	2096	1.712	1.712	1.712
2097	2097	1.712	1.712	1.712
2098	2098	1.711	1.711	1.711
2099	2099	1.708	1.708	1.708
2100	2100	1.702	1.702	1.702
2101	2101	1.702	1.702	1.702
2102	2102	1.702	1.702	1.702
2103	2103	1.702	1.702	1.702
2104	2104	1.702	1.702	1.702
2105	2105	1.702	1.702	1.702
2106	2106	1.702	1.702	1.702
2107	2107	1.702	1.702	1.702
2108	2108	1.702	1.702	1.702
2109	2109	1.702	1.702	1.702
2110	2110	1.702	1.702	1.702
2111	2111	1.702	1.702	1.702
2112	2112	1.702	1.702	1.702
2113	2113	1.702	1.702	1.702
2114	2114	1.702	1.702	1.702
2115	2115	1.702	1.702	1.702
2116	2116	1.702	1.702	1.702
2117	2117	1.702	1.702	1.702
2118	2118	1.702	1.702	1.702
2119	2119	1.702	1.702	1.702
2120	2120	1.702	1.702	1.702
2121	2121	1.702	1.702	1.702
2122	2122	1.702	1.702	1.702
2123	2123	1.702	1.702	1.702
2124	2124	1.702	1.702	1.702
2125	2125	1.702	1.702	1.702

2126	2126	1.702	1.702	1.702
2127	2127	1.702	1.702	1.702
2128	2128	1.702	1.702	1.702
2129	2129	1.702	1.702	1.702
2130	2130	1.702	1.702	1.702
2131	2131	1.702	1.702	1.702
2132	2132	1.702	1.702	1.702
2133	2133	1.702	1.702	1.702
2134	2134	1.702	1.702	1.702
2135	2135	1.702	1.702	1.702
2136	2136	1.702	1.702	1.702
2137	2137	1.702	1.702	1.702
2138	2138	1.702	1.702	1.702
2139	2139	1.702	1.702	1.702
2140	2140	1.702	1.702	1.702
2141	2141	1.702	1.702	1.702
2142	2142	1.702	1.702	1.702
2143	2143	1.702	1.702	1.702
2144	2144	1.702	1.702	1.702
2145	2145	1.702	1.702	1.702
2146	2146	1.702	1.702	1.702
2147	2147	1.702	1.702	1.702
2148	2148	1.702	1.702	1.702
2149	2149	1.702	1.702	1.702
2150	2150	1.702	1.702	1.702
2151	2151	1.702	1.702	1.702

GDP_PER_CAPITA_GROWTH - (std)

*% change p.a.

*Start_yr	End_yr	VOT_Gr_purpose1	VOT_Gr_purpose2	VOT_Gr_purpose3 ..
2011	2011	0.435	0.435	0.435
2012	2012	0.762	0.762	0.762
2013	2013	1.548	1.548	1.548
2014	2014	2.080	2.080	2.080
2015	2015	1.556	1.556	1.556
2016	2016	0.888	0.888	0.888
2017	2017	1.137	1.137	1.137
2018	2018	0.650	0.650	0.650
2019	2019	0.885	0.885	0.885
2020	2020	0.269	0.269	0.269
2021	2021	0.267	0.267	0.267
2022	2022	0.267	0.267	0.267
2023	2023	1.654	1.654	1.654
2024	2024	0.975	0.975	0.975

2025	2025	1.311	1.311	1.311
2026	2026	1.412	1.412	1.412
2027	2027	1.480	1.480	1.480
2028	2028	1.480	1.480	1.480
2029	2029	1.463	1.463	1.463
2030	2030	1.440	1.440	1.440
2031	2031	1.413	1.413	1.413
2032	2032	1.389	1.389	1.389
2033	2033	1.387	1.387	1.387
2034	2034	1.372	1.372	1.372
2035	2035	1.345	1.345	1.345
2036	2036	1.477	1.477	1.477
2037	2037	1.475	1.475	1.475
2038	2038	1.467	1.467	1.467
2039	2039	1.443	1.443	1.443
2040	2040	1.416	1.416	1.416
2041	2041	1.397	1.397	1.397
2042	2042	1.375	1.375	1.375
2043	2043	1.351	1.351	1.351
2044	2044	1.332	1.332	1.332
2045	2045	1.320	1.320	1.320
2046	2046	1.309	1.309	1.309
2047	2047	1.292	1.292	1.292
2048	2048	1.282	1.282	1.282
2049	2049	1.281	1.281	1.281
2050	2050	1.291	1.291	1.291
2051	2051	1.307	1.307	1.307
2052	2052	1.320	1.320	1.320
2053	2053	1.332	1.332	1.332
2054	2054	1.338	1.338	1.338
2055	2055	1.358	1.358	1.358
2056	2056	1.370	1.370	1.370
2057	2057	1.385	1.385	1.385
2058	2058	1.398	1.398	1.398
2059	2059	1.406	1.406	1.406
2060	2060	1.417	1.417	1.417
2061	2061	1.437	1.437	1.437
2062	2062	1.444	1.444	1.444
2063	2063	1.456	1.456	1.456
2064	2064	1.466	1.466	1.466
2065	2065	1.482	1.482	1.482
2066	2066	1.540	1.540	1.540
2067	2067	1.607	1.607	1.607
2068	2068	1.531	1.531	1.531

2069	2069	1.521	1.521	1.521
2070	2070	1.493	1.493	1.493
2071	2071	1.518	1.518	1.518
2072	2072	1.463	1.463	1.463
2073	2073	1.426	1.426	1.426
2074	2074	1.355	1.355	1.355
2075	2075	1.317	1.317	1.317
2076	2076	1.256	1.256	1.256
2077	2077	1.271	1.271	1.271
2078	2078	1.253	1.253	1.253
2079	2079	1.219	1.219	1.219
2080	2080	1.193	1.193	1.193
2081	2081	1.251	1.251	1.251
2082	2082	1.293	1.293	1.293
2083	2083	1.309	1.309	1.309
2084	2084	1.310	1.310	1.310
2085	2085	1.364	1.364	1.364
2086	2086	1.422	1.422	1.422
2087	2087	1.488	1.488	1.488
2088	2088	1.487	1.487	1.487
2089	2089	1.498	1.498	1.498
2090	2090	1.508	1.508	1.508
2091	2091	1.513	1.513	1.513
2092	2092	1.511	1.511	1.511
2093	2093	1.508	1.508	1.508
2094	2094	1.505	1.505	1.505
2095	2095	1.501	1.501	1.501
2096	2096	1.497	1.497	1.497
2097	2097	1.491	1.491	1.491
2098	2098	1.484	1.484	1.484
2099	2099	1.476	1.476	1.476
2100	2100	1.467	1.467	1.467
2101	2101	1.467	1.467	1.467
2102	2102	1.467	1.467	1.467
2103	2103	1.467	1.467	1.467
2104	2104	1.467	1.467	1.467
2105	2105	1.467	1.467	1.467
2106	2106	1.467	1.467	1.467
2107	2107	1.467	1.467	1.467
2108	2108	1.467	1.467	1.467
2109	2109	1.467	1.467	1.467
2110	2110	1.467	1.467	1.467
2111	2111	1.467	1.467	1.467
2112	2112	1.467	1.467	1.467

2113	2113	1.467	1.467	1.467
2114	2114	1.467	1.467	1.467
2115	2115	1.467	1.467	1.467
2116	2116	1.467	1.467	1.467
2117	2117	1.467	1.467	1.467
2118	2118	1.467	1.467	1.467
2119	2119	1.467	1.467	1.467
2120	2120	1.467	1.467	1.467
2121	2121	1.467	1.467	1.467
2122	2122	1.467	1.467	1.467
2123	2123	1.467	1.467	1.467
2124	2124	1.467	1.467	1.467
2125	2125	1.467	1.467	1.467
2126	2126	1.467	1.467	1.467
2127	2127	1.467	1.467	1.467
2128	2128	1.467	1.467	1.467
2129	2129	1.467	1.467	1.467
2130	2130	1.467	1.467	1.467
2131	2131	1.467	1.467	1.467
2132	2132	1.467	1.467	1.467
2133	2133	1.467	1.467	1.467
2134	2134	1.467	1.467	1.467
2135	2135	1.467	1.467	1.467
2136	2136	1.467	1.467	1.467
2137	2137	1.467	1.467	1.467
2138	2138	1.467	1.467	1.467
2139	2139	1.467	1.467	1.467
2140	2140	1.467	1.467	1.467
2141	2141	1.467	1.467	1.467
2142	2142	1.467	1.467	1.467
2143	2143	1.467	1.467	1.467
2144	2144	1.467	1.467	1.467
2145	2145	1.467	1.467	1.467
2146	2146	1.467	1.467	1.467
2147	2147	1.467	1.467	1.467
2148	2148	1.467	1.467	1.467
2149	2149	1.467	1.467	1.467
2150	2150	1.467	1.467	1.467
2151	2151	1.467	1.467	1.467

FUEL_COST - (used)

*type resource(p/unit) duty(p/unit) VAT(%) CO2_grammes/unit (unit=litre for fuel types 1 & 2; unit=KWH for electric)

1	42.6	57.2	17.5	2230.00
2	44.3	57.2	17.5	2562.00

3	11.8	0.0	5.0	389.00
---	------	-----	-----	--------

FUEL_COST - (std)

*type resource(p/unit) duty(p/unit) VAT(%) CO2_grammes/unit (unit=litre for fuel types 1 & 2; unit=KWH for electric)

1	42.6	57.2	17.5	2230.00
2	44.3	57.2	17.5	2562.00
3	11.9	0.0	5.0	389.00

FUEL_COST_CHANGES - (used)

*% change p.a.

*Start_yr End_yr fuel_type resource duty VAT CO2_Den_change

2011	2011	1	22.306	-0.354	14.286	1.171
2012	2012	1	1.986	-2.001	0.000	-1.031
2013	2013	1	-3.443	-1.746	0.000	-0.302
2014	2014	1	-11.771	-1.707	0.000	0.153
2015	2015	1	-28.520	-0.562	0.000	-0.016
2016	2016	1	-7.312	-1.719	0.000	-0.027
2017	2017	1	19.734	-1.752	0.000	-0.106
2018	2018	1	13.204	-2.472	0.000	0.128
2019	2019	1	-2.520	-2.412	0.000	0.010
2020	2020	1	-23.823	-6.920	0.000	0.015
2021	2021	1	37.033	0.586	0.000	-0.106
2022	2022	1	63.199	-5.002	0.000	-5.260
2023	2023	1	-5.410	5.535	0.000	0.000
2024	2024	1	-12.463	2.683	0.000	0.000
2025	2025	1	-3.454	0.465	0.000	0.000
2026	2026	1	-4.677	0.417	0.000	0.000
2027	2027	1	2.609	0.740	0.000	0.000
2028	2028	1	2.785	0.731	0.000	0.000
2029	2029	1	1.806	0.723	0.000	0.000
2030	2030	1	2.661	-0.293	0.000	0.000
2031	2031	1	1.728	-0.293	0.000	0.000
2032	2032	1	1.699	-0.293	0.000	0.000
2033	2033	1	2.506	-0.293	0.000	0.000
2034	2034	1	2.444	-0.293	0.000	0.000
2035	2035	1	1.591	-0.293	0.000	0.000
2036	2036	1	0.000	-0.293	0.000	0.000
2037	2037	1	0.000	-0.293	0.000	0.000
2038	2038	1	0.000	-0.293	0.000	0.000
2039	2039	1	0.000	-0.293	0.000	0.000
2040	2040	1	0.000	-0.293	0.000	0.000
2041	2041	1	0.000	-0.293	0.000	0.000
2042	2042	1	0.000	-0.293	0.000	0.000
2043	2043	1	0.000	-0.293	0.000	0.000

2044	2044	1	0.000	-0.293	0.000	0.000
2045	2045	1	0.000	-0.293	0.000	0.000
2046	2046	1	0.000	-0.293	0.000	0.000
2047	2047	1	0.000	-0.293	0.000	0.000
2048	2048	1	0.000	-0.293	0.000	0.000
2049	2049	1	0.000	-0.293	0.000	0.000
2050	2050	1	0.000	-0.293	0.000	0.000
2051	2051	1	0.000	-0.293	0.000	0.000
2052	2052	1	0.000	-0.293	0.000	0.000
2053	2053	1	0.000	-0.293	0.000	0.000
2054	2054	1	0.000	-0.293	0.000	0.000
2055	2055	1	0.000	-0.293	0.000	0.000
2056	2056	1	0.000	-0.293	0.000	0.000
2057	2057	1	0.000	-0.293	0.000	0.000
2058	2058	1	0.000	-0.293	0.000	0.000
2059	2059	1	0.000	-0.293	0.000	0.000
2060	2060	1	0.000	-0.293	0.000	0.000
2061	2061	1	0.000	-0.293	0.000	0.000
2062	2062	1	0.000	-0.293	0.000	0.000
2063	2063	1	0.000	-0.293	0.000	0.000
2064	2064	1	0.000	-0.293	0.000	0.000
2065	2065	1	0.000	-0.293	0.000	0.000
2066	2066	1	0.000	-0.293	0.000	0.000
2067	2067	1	0.000	-0.293	0.000	0.000
2068	2068	1	0.000	-0.293	0.000	0.000
2069	2069	1	0.000	-0.293	0.000	0.000
2070	2070	1	0.000	-0.293	0.000	0.000
2071	2071	1	0.000	-0.293	0.000	0.000
2072	2072	1	0.000	-0.293	0.000	0.000
2073	2073	1	0.000	-0.293	0.000	0.000
2074	2074	1	0.000	-0.293	0.000	0.000
2075	2075	1	0.000	-0.293	0.000	0.000
2076	2076	1	0.000	-0.293	0.000	0.000
2077	2077	1	0.000	-0.293	0.000	0.000
2078	2078	1	0.000	-0.293	0.000	0.000
2079	2079	1	0.000	-0.293	0.000	0.000
2080	2080	1	0.000	-0.293	0.000	0.000
2081	2081	1	0.000	-0.293	0.000	0.000
2082	2082	1	0.000	-0.293	0.000	0.000
2083	2083	1	0.000	-0.293	0.000	0.000
2084	2084	1	0.000	-0.293	0.000	0.000
2085	2085	1	0.000	-0.293	0.000	0.000
2086	2086	1	0.000	-0.293	0.000	0.000
2087	2087	1	0.000	-0.293	0.000	0.000

2088	2088	1	0.000	-0.293	0.000	0.000
2089	2089	1	0.000	-0.293	0.000	0.000
2090	2090	1	0.000	-0.293	0.000	0.000
2091	2091	1	0.000	-0.293	0.000	0.000
2092	2092	1	0.000	-0.293	0.000	0.000
2093	2093	1	0.000	-0.293	0.000	0.000
2094	2094	1	0.000	-0.293	0.000	0.000
2095	2095	1	0.000	-0.293	0.000	0.000
2096	2096	1	0.000	-0.293	0.000	0.000
2097	2097	1	0.000	-0.293	0.000	0.000
2098	2098	1	0.000	-0.293	0.000	0.000
2099	2099	1	0.000	-0.293	0.000	0.000
2100	2100	1	0.000	-0.293	0.000	0.000
2101	2101	1	0.000	-0.293	0.000	0.000
2102	2102	1	0.000	-0.293	0.000	0.000
2103	2103	1	0.000	-0.293	0.000	0.000
2104	2104	1	0.000	-0.293	0.000	0.000
2105	2105	1	0.000	-0.293	0.000	0.000
2106	2106	1	0.000	-0.293	0.000	0.000
2107	2107	1	0.000	-0.293	0.000	0.000
2108	2108	1	0.000	-0.293	0.000	0.000
2109	2109	1	0.000	-0.293	0.000	0.000
2110	2110	1	0.000	-0.293	0.000	0.000
2111	2111	1	0.000	-0.293	0.000	0.000
2112	2112	1	0.000	-0.293	0.000	0.000
2113	2113	1	0.000	-0.293	0.000	0.000
2114	2114	1	0.000	-0.293	0.000	0.000
2115	2115	1	0.000	-0.293	0.000	0.000
2116	2116	1	0.000	-0.293	0.000	0.000
2117	2117	1	0.000	-0.293	0.000	0.000
2118	2118	1	0.000	-0.293	0.000	0.000
2119	2119	1	0.000	-0.293	0.000	0.000
2120	2120	1	0.000	-0.293	0.000	0.000
2121	2121	1	0.000	-0.293	0.000	0.000
2122	2122	1	0.000	-0.293	0.000	0.000
2123	2123	1	0.000	-0.293	0.000	0.000
2124	2124	1	0.000	-0.293	0.000	0.000
2125	2125	1	0.000	-0.293	0.000	0.000
2126	2126	1	0.000	-0.293	0.000	0.000
2127	2127	1	0.000	-0.293	0.000	0.000
2128	2128	1	0.000	-0.293	0.000	0.000
2129	2129	1	0.000	-0.293	0.000	0.000
2130	2130	1	0.000	-0.293	0.000	0.000
2131	2131	1	0.000	-0.293	0.000	0.000

2132	2132	1	0.000	-0.293	0.000	0.000
2133	2133	1	0.000	-0.293	0.000	0.000
2134	2134	1	0.000	-0.293	0.000	0.000
2135	2135	1	0.000	-0.293	0.000	0.000
2136	2136	1	0.000	-0.293	0.000	0.000
2137	2137	1	0.000	-0.293	0.000	0.000
2138	2138	1	0.000	-0.293	0.000	0.000
2139	2139	1	0.000	-0.293	0.000	0.000
2140	2140	1	0.000	-0.293	0.000	0.000
2141	2141	1	0.000	-0.293	0.000	0.000
2142	2142	1	0.000	-0.293	0.000	0.000
2143	2143	1	0.000	-0.293	0.000	0.000
2144	2144	1	0.000	-0.293	0.000	0.000
2145	2145	1	0.000	-0.293	0.000	0.000
2146	2146	1	0.000	-0.293	0.000	0.000
2147	2147	1	0.000	-0.293	0.000	0.000
2148	2148	1	0.000	-0.293	0.000	0.000
2149	2149	1	0.000	-0.293	0.000	0.000
2150	2150	1	0.000	-0.293	0.000	0.000
2151	2151	1	0.000	-0.293	0.000	0.000
2011	2011	2	26.996	-0.354	14.286	1.917
2012	2012	2	3.197	-2.001	0.000	-1.071
2013	2013	2	-3.680	-1.746	0.000	4.731
2014	2014	2	-11.343	-1.707	0.000	-0.016
2015	2015	2	-29.504	-0.562	0.000	-0.020
2016	2016	2	-12.397	-1.719	0.000	0.004
2017	2017	2	22.316	-1.752	0.000	0.021
2018	2018	2	16.802	-2.472	0.000	-0.267
2019	2019	2	0.348	-2.412	0.000	-1.513
2020	2020	2	-24.318	-6.920	0.000	-4.516
2021	2021	2	30.464	0.586	0.000	-0.553
2022	2022	2	60.563	-5.002	0.000	0.295
2023	2023	2	-5.550	5.535	0.000	-0.288
2024	2024	2	-13.119	2.683	0.000	-0.174
2025	2025	2	-3.997	0.465	0.000	-0.148
2026	2026	2	-5.278	0.417	0.000	-0.034
2027	2027	2	2.671	0.740	0.000	-0.046
2028	2028	2	2.847	0.731	0.000	-0.036
2029	2029	2	1.845	0.723	0.000	-0.036
2030	2030	2	2.718	-0.293	0.000	-0.040
2031	2031	2	1.764	-0.293	0.000	-0.027
2032	2032	2	1.733	-0.293	0.000	-0.027
2033	2033	2	2.556	-0.293	0.000	0.000
2034	2034	2	2.492	-0.293	0.000	0.000

2035	2035	2	1.621	-0.293	0.000	0.000
2036	2036	2	0.000	-0.293	0.000	0.000
2037	2037	2	0.000	-0.293	0.000	0.000
2038	2038	2	0.000	-0.293	0.000	0.000
2039	2039	2	0.000	-0.293	0.000	0.000
2040	2040	2	0.000	-0.293	0.000	0.000
2041	2041	2	0.000	-0.293	0.000	0.000
2042	2042	2	0.000	-0.293	0.000	0.000
2043	2043	2	0.000	-0.293	0.000	0.000
2044	2044	2	0.000	-0.293	0.000	0.000
2045	2045	2	0.000	-0.293	0.000	0.000
2046	2046	2	0.000	-0.293	0.000	0.000
2047	2047	2	0.000	-0.293	0.000	0.000
2048	2048	2	0.000	-0.293	0.000	0.000
2049	2049	2	0.000	-0.293	0.000	0.000
2050	2050	2	0.000	-0.293	0.000	0.000
2051	2051	2	0.000	-0.293	0.000	0.000
2052	2052	2	0.000	-0.293	0.000	0.000
2053	2053	2	0.000	-0.293	0.000	0.000
2054	2054	2	0.000	-0.293	0.000	0.000
2055	2055	2	0.000	-0.293	0.000	0.000
2056	2056	2	0.000	-0.293	0.000	0.000
2057	2057	2	0.000	-0.293	0.000	0.000
2058	2058	2	0.000	-0.293	0.000	0.000
2059	2059	2	0.000	-0.293	0.000	0.000
2060	2060	2	0.000	-0.293	0.000	0.000
2061	2061	2	0.000	-0.293	0.000	0.000
2062	2062	2	0.000	-0.293	0.000	0.000
2063	2063	2	0.000	-0.293	0.000	0.000
2064	2064	2	0.000	-0.293	0.000	0.000
2065	2065	2	0.000	-0.293	0.000	0.000
2066	2066	2	0.000	-0.293	0.000	0.000
2067	2067	2	0.000	-0.293	0.000	0.000
2068	2068	2	0.000	-0.293	0.000	0.000
2069	2069	2	0.000	-0.293	0.000	0.000
2070	2070	2	0.000	-0.293	0.000	0.000
2071	2071	2	0.000	-0.293	0.000	0.000
2072	2072	2	0.000	-0.293	0.000	0.000
2073	2073	2	0.000	-0.293	0.000	0.000
2074	2074	2	0.000	-0.293	0.000	0.000
2075	2075	2	0.000	-0.293	0.000	0.000
2076	2076	2	0.000	-0.293	0.000	0.000
2077	2077	2	0.000	-0.293	0.000	0.000
2078	2078	2	0.000	-0.293	0.000	0.000

2079	2079	2	0.000	-0.293	0.000	0.000
2080	2080	2	0.000	-0.293	0.000	0.000
2081	2081	2	0.000	-0.293	0.000	0.000
2082	2082	2	0.000	-0.293	0.000	0.000
2083	2083	2	0.000	-0.293	0.000	0.000
2084	2084	2	0.000	-0.293	0.000	0.000
2085	2085	2	0.000	-0.293	0.000	0.000
2086	2086	2	0.000	-0.293	0.000	0.000
2087	2087	2	0.000	-0.293	0.000	0.000
2088	2088	2	0.000	-0.293	0.000	0.000
2089	2089	2	0.000	-0.293	0.000	0.000
2090	2090	2	0.000	-0.293	0.000	0.000
2091	2091	2	0.000	-0.293	0.000	0.000
2092	2092	2	0.000	-0.293	0.000	0.000
2093	2093	2	0.000	-0.293	0.000	0.000
2094	2094	2	0.000	-0.293	0.000	0.000
2095	2095	2	0.000	-0.293	0.000	0.000
2096	2096	2	0.000	-0.293	0.000	0.000
2097	2097	2	0.000	-0.293	0.000	0.000
2098	2098	2	0.000	-0.293	0.000	0.000
2099	2099	2	0.000	-0.293	0.000	0.000
2100	2100	2	0.000	-0.293	0.000	0.000
2101	2101	2	0.000	-0.293	0.000	0.000
2102	2102	2	0.000	-0.293	0.000	0.000
2103	2103	2	0.000	-0.293	0.000	0.000
2104	2104	2	0.000	-0.293	0.000	0.000
2105	2105	2	0.000	-0.293	0.000	0.000
2106	2106	2	0.000	-0.293	0.000	0.000
2107	2107	2	0.000	-0.293	0.000	0.000
2108	2108	2	0.000	-0.293	0.000	0.000
2109	2109	2	0.000	-0.293	0.000	0.000
2110	2110	2	0.000	-0.293	0.000	0.000
2111	2111	2	0.000	-0.293	0.000	0.000
2112	2112	2	0.000	-0.293	0.000	0.000
2113	2113	2	0.000	-0.293	0.000	0.000
2114	2114	2	0.000	-0.293	0.000	0.000
2115	2115	2	0.000	-0.293	0.000	0.000
2116	2116	2	0.000	-0.293	0.000	0.000
2117	2117	2	0.000	-0.293	0.000	0.000
2118	2118	2	0.000	-0.293	0.000	0.000
2119	2119	2	0.000	-0.293	0.000	0.000
2120	2120	2	0.000	-0.293	0.000	0.000
2121	2121	2	0.000	-0.293	0.000	0.000
2122	2122	2	0.000	-0.293	0.000	0.000

2123	2123	2	0.000	-0.293	0.000	0.000
2124	2124	2	0.000	-0.293	0.000	0.000
2125	2125	2	0.000	-0.293	0.000	0.000
2126	2126	2	0.000	-0.293	0.000	0.000
2127	2127	2	0.000	-0.293	0.000	0.000
2128	2128	2	0.000	-0.293	0.000	0.000
2129	2129	2	0.000	-0.293	0.000	0.000
2130	2130	2	0.000	-0.293	0.000	0.000
2131	2131	2	0.000	-0.293	0.000	0.000
2132	2132	2	0.000	-0.293	0.000	0.000
2133	2133	2	0.000	-0.293	0.000	0.000
2134	2134	2	0.000	-0.293	0.000	0.000
2135	2135	2	0.000	-0.293	0.000	0.000
2136	2136	2	0.000	-0.293	0.000	0.000
2137	2137	2	0.000	-0.293	0.000	0.000
2138	2138	2	0.000	-0.293	0.000	0.000
2139	2139	2	0.000	-0.293	0.000	0.000
2140	2140	2	0.000	-0.293	0.000	0.000
2141	2141	2	0.000	-0.293	0.000	0.000
2142	2142	2	0.000	-0.293	0.000	0.000
2143	2143	2	0.000	-0.293	0.000	0.000
2144	2144	2	0.000	-0.293	0.000	0.000
2145	2145	2	0.000	-0.293	0.000	0.000
2146	2146	2	0.000	-0.293	0.000	0.000
2147	2147	2	0.000	-0.293	0.000	0.000
2148	2148	2	0.000	-0.293	0.000	0.000
2149	2149	2	0.000	-0.293	0.000	0.000
2150	2150	2	0.000	-0.293	0.000	0.000
2151	2151	2	0.000	-0.293	0.000	0.000
2011	2011	3	6.623	0.000	0.000	-1.438
2012	2012	3	3.751	0.000	0.000	-1.878
2013	2013	3	4.428	0.000	0.000	-2.438
2014	2014	3	3.495	0.000	0.000	-1.891
2015	2015	3	-1.703	0.000	0.000	-2.837
2016	2016	3	-3.286	0.000	0.000	-3.035
2017	2017	3	4.940	0.000	0.000	-2.830
2018	2018	3	6.255	0.000	0.000	-3.251
2019	2019	3	7.007	0.000	0.000	-3.618
2020	2020	3	-4.724	0.000	0.000	-3.931
2021	2021	3	8.209	0.000	0.000	-4.324
2022	2022	3	44.098	0.000	0.000	-4.776
2023	2023	3	35.732	0.000	0.000	-5.300
2024	2024	3	-3.272	0.000	0.000	-5.915
2025	2025	3	-13.652	0.000	0.000	-6.643

2026	2026	3	-35.980	0.000	0.000	-7.520
2027	2027	3	-4.450	0.000	0.000	-8.594
2028	2028	3	-2.634	0.000	0.000	-9.934
2029	2029	3	-0.114	0.000	0.000	-11.657
2030	2030	3	-0.506	0.000	0.000	-13.944
2031	2031	3	-4.229	0.000	0.000	-19.089
2032	2032	3	0.441	0.000	0.000	-19.090
2033	2033	3	1.228	0.000	0.000	-19.088
2034	2034	3	1.712	0.000	0.000	-19.090
2035	2035	3	-0.946	0.000	0.000	-19.089
2036	2036	3	-0.271	0.000	0.000	-19.089
2037	2037	3	-2.629	0.000	0.000	-19.088
2038	2038	3	1.153	0.000	0.000	-19.090
2039	2039	3	-0.823	0.000	0.000	-19.092
2040	2040	3	2.635	0.000	0.000	-19.088
2041	2041	3	-1.504	0.000	0.000	-16.984
2042	2042	3	-0.001	0.000	0.000	-5.099
2043	2043	3	-0.216	0.000	0.000	-2.043
2044	2044	3	1.039	0.000	0.000	-6.009
2045	2045	3	-2.180	0.000	0.000	-15.076
2046	2046	3	1.866	0.000	0.000	-9.204
2047	2047	3	-1.602	0.000	0.000	-7.798
2048	2048	3	-2.514	0.000	0.000	-5.087
2049	2049	3	1.769	0.000	0.000	-6.945
2050	2050	3	-1.947	0.000	0.000	-1.718
2051	2051	3	0.000	0.000	0.000	0.000
2052	2052	3	0.000	0.000	0.000	0.000
2053	2053	3	0.000	0.000	0.000	0.000
2054	2054	3	0.000	0.000	0.000	0.000
2055	2055	3	0.000	0.000	0.000	0.000
2056	2056	3	0.000	0.000	0.000	0.000
2057	2057	3	0.000	0.000	0.000	0.000
2058	2058	3	0.000	0.000	0.000	0.000
2059	2059	3	0.000	0.000	0.000	0.000
2060	2060	3	0.000	0.000	0.000	0.000
2061	2061	3	0.000	0.000	0.000	0.000
2062	2062	3	0.000	0.000	0.000	0.000
2063	2063	3	0.000	0.000	0.000	0.000
2064	2064	3	0.000	0.000	0.000	0.000
2065	2065	3	0.000	0.000	0.000	0.000
2066	2066	3	0.000	0.000	0.000	0.000
2067	2067	3	0.000	0.000	0.000	0.000
2068	2068	3	0.000	0.000	0.000	0.000
2069	2069	3	0.000	0.000	0.000	0.000

2070	2070	3	0.000	0.000	0.000	0.000
2071	2071	3	0.000	0.000	0.000	0.000
2072	2072	3	0.000	0.000	0.000	0.000
2073	2073	3	0.000	0.000	0.000	0.000
2074	2074	3	0.000	0.000	0.000	0.000
2075	2075	3	0.000	0.000	0.000	0.000
2076	2076	3	0.000	0.000	0.000	0.000
2077	2077	3	0.000	0.000	0.000	0.000
2078	2078	3	0.000	0.000	0.000	0.000
2079	2079	3	0.000	0.000	0.000	0.000
2080	2080	3	0.000	0.000	0.000	0.000
2081	2081	3	0.000	0.000	0.000	0.000
2082	2082	3	0.000	0.000	0.000	0.000
2083	2083	3	0.000	0.000	0.000	0.000
2084	2084	3	0.000	0.000	0.000	0.000
2085	2085	3	0.000	0.000	0.000	0.000
2086	2086	3	0.000	0.000	0.000	0.000
2087	2087	3	0.000	0.000	0.000	0.000
2088	2088	3	0.000	0.000	0.000	0.000
2089	2089	3	0.000	0.000	0.000	0.000
2090	2090	3	0.000	0.000	0.000	0.000
2091	2091	3	0.000	0.000	0.000	0.000
2092	2092	3	0.000	0.000	0.000	0.000
2093	2093	3	0.000	0.000	0.000	0.000
2094	2094	3	0.000	0.000	0.000	0.000
2095	2095	3	0.000	0.000	0.000	0.000
2096	2096	3	0.000	0.000	0.000	0.000
2097	2097	3	0.000	0.000	0.000	0.000
2098	2098	3	0.000	0.000	0.000	0.000
2099	2099	3	0.000	0.000	0.000	0.000
2100	2100	3	0.000	0.000	0.000	0.000
2101	2101	3	0.000	0.000	0.000	0.000
2102	2102	3	0.000	0.000	0.000	0.000
2103	2103	3	0.000	0.000	0.000	0.000
2104	2104	3	0.000	0.000	0.000	0.000
2105	2105	3	0.000	0.000	0.000	0.000
2106	2106	3	0.000	0.000	0.000	0.000
2107	2107	3	0.000	0.000	0.000	0.000
2108	2108	3	0.000	0.000	0.000	0.000
2109	2109	3	0.000	0.000	0.000	0.000
2110	2110	3	0.000	0.000	0.000	0.000
2111	2111	3	0.000	0.000	0.000	0.000
2112	2112	3	0.000	0.000	0.000	0.000
2113	2113	3	0.000	0.000	0.000	0.000

2114	2114	3	0.000	0.000	0.000	0.000
2115	2115	3	0.000	0.000	0.000	0.000
2116	2116	3	0.000	0.000	0.000	0.000
2117	2117	3	0.000	0.000	0.000	0.000
2118	2118	3	0.000	0.000	0.000	0.000
2119	2119	3	0.000	0.000	0.000	0.000
2120	2120	3	0.000	0.000	0.000	0.000
2121	2121	3	0.000	0.000	0.000	0.000
2122	2122	3	0.000	0.000	0.000	0.000
2123	2123	3	0.000	0.000	0.000	0.000
2124	2124	3	0.000	0.000	0.000	0.000
2125	2125	3	0.000	0.000	0.000	0.000
2126	2126	3	0.000	0.000	0.000	0.000
2127	2127	3	0.000	0.000	0.000	0.000
2128	2128	3	0.000	0.000	0.000	0.000
2129	2129	3	0.000	0.000	0.000	0.000
2130	2130	3	0.000	0.000	0.000	0.000
2131	2131	3	0.000	0.000	0.000	0.000
2132	2132	3	0.000	0.000	0.000	0.000
2133	2133	3	0.000	0.000	0.000	0.000
2134	2134	3	0.000	0.000	0.000	0.000
2135	2135	3	0.000	0.000	0.000	0.000
2136	2136	3	0.000	0.000	0.000	0.000
2137	2137	3	0.000	0.000	0.000	0.000
2138	2138	3	0.000	0.000	0.000	0.000
2139	2139	3	0.000	0.000	0.000	0.000
2140	2140	3	0.000	0.000	0.000	0.000
2141	2141	3	0.000	0.000	0.000	0.000
2142	2142	3	0.000	0.000	0.000	0.000
2143	2143	3	0.000	0.000	0.000	0.000
2144	2144	3	0.000	0.000	0.000	0.000
2145	2145	3	0.000	0.000	0.000	0.000
2146	2146	3	0.000	0.000	0.000	0.000
2147	2147	3	0.000	0.000	0.000	0.000
2148	2148	3	0.000	0.000	0.000	0.000
2149	2149	3	0.000	0.000	0.000	0.000
2150	2150	3	0.000	0.000	0.000	0.000
2151	2151	3	0.000	0.000	0.000	0.000

FUEL_COST_CHANGES - (std)

*% change p.a.

*Start_yr	End_yr	fuel_type	resource	duty	VAT	CO2_Den_change
2011	2011	1	22.226	-0.297	14.286	-0.844
2012	2012	1	2.040	-2.049	0.000	-0.023

2013	2013	1	-3.443	-1.746	0.000	-0.438
2014	2014	1	-11.771	-1.707	0.000	-0.537
2015	2015	1	-28.520	-0.661	0.000	0.000
2016	2016	1	-7.312	-2.068	0.000	0.000
2017	2017	1	19.734	-1.912	0.000	-1.352
2018	2018	1	13.204	-2.203	0.000	-1.370
2019	2019	1	-10.631	-2.442	0.000	-1.389
2020	2020	1	-11.341	-4.832	0.000	-1.409
2021	2021	1	3.590	1.236	0.000	0.000
2022	2022	1	5.005	3.364	0.000	0.000
2023	2023	1	1.744	0.601	0.000	0.000
2024	2024	1	1.726	0.550	0.000	0.000
2025	2025	1	1.765	0.745	0.000	0.000
2026	2026	1	2.597	0.658	0.000	0.000
2027	2027	1	1.476	0.681	0.000	0.000
2028	2028	1	1.433	0.674	0.000	0.000
2029	2029	1	1.391	0.663	0.000	0.000
2030	2030	1	1.352	0.653	0.000	0.000
2031	2031	1	2.246	0.653	0.000	0.000
2032	2032	1	1.259	0.650	0.000	0.000
2033	2033	1	1.225	0.644	0.000	0.000
2034	2034	1	1.193	0.637	0.000	0.000
2035	2035	1	1.162	0.645	0.000	0.000
2036	2036	1	0.000	0.640	0.000	0.000
2037	2037	1	0.000	0.635	0.000	0.000
2038	2038	1	0.000	0.630	0.000	0.000
2039	2039	1	0.000	0.649	0.000	0.000
2040	2040	1	0.000	0.681	0.000	0.000
2041	2041	1	0.000	0.629	0.000	0.000
2042	2042	1	0.000	0.592	0.000	0.000
2043	2043	1	0.000	0.587	0.000	0.000
2044	2044	1	0.000	0.587	0.000	0.000
2045	2045	1	0.000	0.586	0.000	0.000
2046	2046	1	0.000	0.587	0.000	0.000
2047	2047	1	0.000	0.587	0.000	0.000
2048	2048	1	0.000	0.587	0.000	0.000
2049	2049	1	0.000	0.586	0.000	0.000
2050	2050	1	0.000	0.587	0.000	0.000
2051	2051	1	0.000	0.587	0.000	0.000
2052	2052	1	0.000	0.587	0.000	0.000
2053	2053	1	0.000	0.587	0.000	0.000
2054	2054	1	0.000	0.587	0.000	0.000
2055	2055	1	0.000	0.587	0.000	0.000
2056	2056	1	0.000	0.587	0.000	0.000

2057	2057	1	0.000	0.587	0.000	0.000
2058	2058	1	0.000	0.586	0.000	0.000
2059	2059	1	0.000	0.587	0.000	0.000
2060	2060	1	0.000	0.587	0.000	0.000
2061	2061	1	0.000	0.587	0.000	0.000
2062	2062	1	0.000	0.587	0.000	0.000
2063	2063	1	0.000	0.587	0.000	0.000
2064	2064	1	0.000	0.587	0.000	0.000
2065	2065	1	0.000	0.587	0.000	0.000
2066	2066	1	0.000	0.587	0.000	0.000
2067	2067	1	0.000	0.587	0.000	0.000
2068	2068	1	0.000	0.587	0.000	0.000
2069	2069	1	-1.686	0.587	0.000	0.000
2070	2070	1	0.000	0.587	0.000	0.000
2071	2071	1	0.000	0.587	0.000	0.000
2072	2072	1	0.000	0.587	0.000	0.000
2073	2073	1	0.000	0.587	0.000	0.000
2074	2074	1	0.000	0.586	0.000	0.000
2075	2075	1	0.000	0.587	0.000	0.000
2076	2076	1	0.000	0.587	0.000	0.000
2077	2077	1	0.000	0.586	0.000	0.000
2078	2078	1	0.000	0.587	0.000	0.000
2079	2079	1	0.000	0.587	0.000	0.000
2080	2080	1	0.000	0.587	0.000	0.000
2081	2081	1	0.000	0.587	0.000	0.000
2082	2082	1	0.000	0.587	0.000	0.000
2083	2083	1	0.000	0.587	0.000	0.000
2084	2084	1	0.000	0.587	0.000	0.000
2085	2085	1	0.000	0.587	0.000	0.000
2086	2086	1	0.000	0.587	0.000	0.000
2087	2087	1	0.000	0.587	0.000	0.000
2088	2088	1	0.000	0.587	0.000	0.000
2089	2089	1	0.000	0.587	0.000	0.000
2090	2090	1	0.000	0.587	0.000	0.000
2091	2091	1	0.000	0.587	0.000	0.000
2092	2092	1	0.000	0.587	0.000	0.000
2093	2093	1	0.000	0.587	0.000	0.000
2094	2094	1	0.000	0.587	0.000	0.000
2095	2095	1	0.000	0.587	0.000	0.000
2096	2096	1	0.000	0.587	0.000	0.000
2097	2097	1	0.000	0.587	0.000	0.000
2098	2098	1	0.000	0.587	0.000	0.000
2099	2099	1	0.000	0.587	0.000	0.000
2100	2100	1	0.000	0.587	0.000	0.000

2101	2101	1	0.000	0.587	0.000	0.000
2102	2102	1	0.000	0.587	0.000	0.000
2103	2103	1	0.000	0.587	0.000	0.000
2104	2104	1	0.000	0.587	0.000	0.000
2105	2105	1	0.000	0.587	0.000	0.000
2106	2106	1	0.000	0.587	0.000	0.000
2107	2107	1	0.000	0.587	0.000	0.000
2108	2108	1	0.000	0.587	0.000	0.000
2109	2109	1	0.000	0.587	0.000	0.000
2110	2110	1	0.000	0.587	0.000	0.000
2111	2111	1	0.000	0.587	0.000	0.000
2112	2112	1	0.000	0.587	0.000	0.000
2113	2113	1	0.000	0.587	0.000	0.000
2114	2114	1	0.000	0.587	0.000	0.000
2115	2115	1	0.000	0.587	0.000	0.000
2116	2116	1	0.000	0.587	0.000	0.000
2117	2117	1	0.000	0.587	0.000	0.000
2118	2118	1	0.000	0.587	0.000	0.000
2119	2119	1	0.000	0.587	0.000	0.000
2120	2120	1	0.000	0.587	0.000	0.000
2121	2121	1	0.000	0.587	0.000	0.000
2122	2122	1	0.000	0.587	0.000	0.000
2123	2123	1	0.000	0.587	0.000	0.000
2124	2124	1	0.000	0.587	0.000	0.000
2125	2125	1	0.000	0.587	0.000	0.000
2126	2126	1	0.000	0.587	0.000	0.000
2127	2127	1	0.000	0.587	0.000	0.000
2128	2128	1	0.000	0.587	0.000	0.000
2129	2129	1	0.000	0.587	0.000	0.000
2130	2130	1	0.000	0.587	0.000	0.000
2131	2131	1	0.000	0.587	0.000	0.000
2132	2132	1	0.000	0.587	0.000	0.000
2133	2133	1	0.000	0.587	0.000	0.000
2134	2134	1	0.000	0.587	0.000	0.000
2135	2135	1	0.000	0.587	0.000	0.000
2136	2136	1	0.000	0.587	0.000	0.000
2137	2137	1	0.000	0.587	0.000	0.000
2138	2138	1	0.000	0.587	0.000	0.000
2139	2139	1	0.000	0.587	0.000	0.000
2140	2140	1	0.000	0.587	0.000	0.000
2141	2141	1	0.000	0.587	0.000	0.000
2142	2142	1	0.000	0.587	0.000	0.000
2143	2143	1	0.000	0.587	0.000	0.000
2144	2144	1	0.000	0.587	0.000	0.000

2145	2145	1	0.000	0.587	0.000	0.000
2146	2146	1	0.000	0.587	0.000	0.000
2147	2147	1	0.000	0.587	0.000	0.000
2148	2148	1	0.000	0.587	0.000	0.000
2149	2149	1	0.000	0.587	0.000	0.000
2150	2150	1	0.000	0.587	0.000	0.000
2151	2151	1	0.000	0.587	0.000	0.000
2011	2011	2	26.919	-0.297	14.286	0.188
2012	2012	2	3.247	-2.049	0.000	1.643
2013	2013	2	-3.680	-1.746	0.000	-0.436
2014	2014	2	-11.343	-1.707	0.000	0.153
2015	2015	2	-29.504	-0.661	0.000	0.004
2016	2016	2	-12.397	-2.068	0.000	0.003
2017	2017	2	22.316	-1.912	0.000	-1.744
2018	2018	2	16.802	-2.203	0.000	-1.775
2019	2019	2	-11.392	-2.442	0.000	-1.807
2020	2020	2	-11.913	-4.832	0.000	-1.841
2021	2021	2	3.816	1.236	0.000	0.000
2022	2022	2	5.133	3.364	0.000	0.000
2023	2023	2	1.862	0.601	0.000	0.000
2024	2024	2	1.853	0.550	0.000	0.000
2025	2025	2	1.886	0.745	0.000	0.000
2026	2026	2	2.790	0.658	0.000	0.000
2027	2027	2	1.583	0.681	0.000	0.000
2028	2028	2	1.535	0.674	0.000	0.000
2029	2029	2	1.489	0.663	0.000	0.000
2030	2030	2	1.445	0.653	0.000	0.000
2031	2031	2	2.399	0.653	0.000	0.000
2032	2032	2	1.343	0.650	0.000	0.000
2033	2033	2	1.306	0.644	0.000	0.000
2034	2034	2	1.270	0.637	0.000	0.000
2035	2035	2	1.236	0.645	0.000	0.000
2036	2036	2	0.000	0.640	0.000	0.000
2037	2037	2	0.000	0.635	0.000	0.000
2038	2038	2	0.000	0.630	0.000	0.000
2039	2039	2	0.000	0.649	0.000	0.000
2040	2040	2	0.000	0.681	0.000	0.000
2041	2041	2	0.000	0.629	0.000	0.000
2042	2042	2	0.000	0.592	0.000	0.000
2043	2043	2	0.000	0.587	0.000	0.000
2044	2044	2	0.000	0.587	0.000	0.000
2045	2045	2	0.000	0.586	0.000	0.000
2046	2046	2	0.000	0.587	0.000	0.000
2047	2047	2	0.000	0.587	0.000	0.000

2048	2048	2	0.000	0.587	0.000	0.000
2049	2049	2	0.000	0.586	0.000	0.000
2050	2050	2	0.000	0.587	0.000	0.000
2051	2051	2	0.000	0.587	0.000	0.000
2052	2052	2	0.000	0.587	0.000	0.000
2053	2053	2	0.000	0.587	0.000	0.000
2054	2054	2	0.000	0.587	0.000	0.000
2055	2055	2	0.000	0.587	0.000	0.000
2056	2056	2	0.000	0.587	0.000	0.000
2057	2057	2	0.000	0.587	0.000	0.000
2058	2058	2	0.000	0.586	0.000	0.000
2059	2059	2	0.000	0.587	0.000	0.000
2060	2060	2	0.000	0.587	0.000	0.000
2061	2061	2	0.000	0.587	0.000	0.000
2062	2062	2	0.000	0.587	0.000	0.000
2063	2063	2	0.000	0.587	0.000	0.000
2064	2064	2	0.000	0.587	0.000	0.000
2065	2065	2	0.000	0.587	0.000	0.000
2066	2066	2	0.000	0.587	0.000	0.000
2067	2067	2	0.000	0.587	0.000	0.000
2068	2068	2	0.000	0.587	0.000	0.000
2069	2069	2	-1.686	0.587	0.000	0.000
2070	2070	2	0.000	0.587	0.000	0.000
2071	2071	2	0.000	0.587	0.000	0.000
2072	2072	2	0.000	0.587	0.000	0.000
2073	2073	2	0.000	0.587	0.000	0.000
2074	2074	2	0.000	0.586	0.000	0.000
2075	2075	2	0.000	0.587	0.000	0.000
2076	2076	2	0.000	0.587	0.000	0.000
2077	2077	2	0.000	0.586	0.000	0.000
2078	2078	2	0.000	0.587	0.000	0.000
2079	2079	2	0.000	0.587	0.000	0.000
2080	2080	2	0.000	0.587	0.000	0.000
2081	2081	2	0.000	0.587	0.000	0.000
2082	2082	2	0.000	0.587	0.000	0.000
2083	2083	2	0.000	0.587	0.000	0.000
2084	2084	2	0.000	0.587	0.000	0.000
2085	2085	2	0.000	0.587	0.000	0.000
2086	2086	2	0.000	0.587	0.000	0.000
2087	2087	2	0.000	0.587	0.000	0.000
2088	2088	2	0.000	0.587	0.000	0.000
2089	2089	2	0.000	0.587	0.000	0.000
2090	2090	2	0.000	0.587	0.000	0.000
2091	2091	2	0.000	0.587	0.000	0.000

2092	2092	2	0.000	0.587	0.000	0.000
2093	2093	2	0.000	0.587	0.000	0.000
2094	2094	2	0.000	0.587	0.000	0.000
2095	2095	2	0.000	0.587	0.000	0.000
2096	2096	2	0.000	0.587	0.000	0.000
2097	2097	2	0.000	0.587	0.000	0.000
2098	2098	2	0.000	0.587	0.000	0.000
2099	2099	2	0.000	0.587	0.000	0.000
2100	2100	2	0.000	0.587	0.000	0.000
2101	2101	2	0.000	0.587	0.000	0.000
2102	2102	2	0.000	0.587	0.000	0.000
2103	2103	2	0.000	0.587	0.000	0.000
2104	2104	2	0.000	0.587	0.000	0.000
2105	2105	2	0.000	0.587	0.000	0.000
2106	2106	2	0.000	0.587	0.000	0.000
2107	2107	2	0.000	0.587	0.000	0.000
2108	2108	2	0.000	0.587	0.000	0.000
2109	2109	2	0.000	0.587	0.000	0.000
2110	2110	2	0.000	0.587	0.000	0.000
2111	2111	2	0.000	0.587	0.000	0.000
2112	2112	2	0.000	0.587	0.000	0.000
2113	2113	2	0.000	0.587	0.000	0.000
2114	2114	2	0.000	0.587	0.000	0.000
2115	2115	2	0.000	0.587	0.000	0.000
2116	2116	2	0.000	0.587	0.000	0.000
2117	2117	2	0.000	0.587	0.000	0.000
2118	2118	2	0.000	0.587	0.000	0.000
2119	2119	2	0.000	0.587	0.000	0.000
2120	2120	2	0.000	0.587	0.000	0.000
2121	2121	2	0.000	0.587	0.000	0.000
2122	2122	2	0.000	0.587	0.000	0.000
2123	2123	2	0.000	0.587	0.000	0.000
2124	2124	2	0.000	0.587	0.000	0.000
2125	2125	2	0.000	0.587	0.000	0.000
2126	2126	2	0.000	0.587	0.000	0.000
2127	2127	2	0.000	0.587	0.000	0.000
2128	2128	2	0.000	0.587	0.000	0.000
2129	2129	2	0.000	0.587	0.000	0.000
2130	2130	2	0.000	0.587	0.000	0.000
2131	2131	2	0.000	0.587	0.000	0.000
2132	2132	2	0.000	0.587	0.000	0.000
2133	2133	2	0.000	0.587	0.000	0.000
2134	2134	2	0.000	0.587	0.000	0.000
2135	2135	2	0.000	0.587	0.000	0.000

2136	2136	2	0.000	0.587	0.000	0.000
2137	2137	2	0.000	0.587	0.000	0.000
2138	2138	2	0.000	0.587	0.000	0.000
2139	2139	2	0.000	0.587	0.000	0.000
2140	2140	2	0.000	0.587	0.000	0.000
2141	2141	2	0.000	0.587	0.000	0.000
2142	2142	2	0.000	0.587	0.000	0.000
2143	2143	2	0.000	0.587	0.000	0.000
2144	2144	2	0.000	0.587	0.000	0.000
2145	2145	2	0.000	0.587	0.000	0.000
2146	2146	2	0.000	0.587	0.000	0.000
2147	2147	2	0.000	0.587	0.000	0.000
2148	2148	2	0.000	0.587	0.000	0.000
2149	2149	2	0.000	0.587	0.000	0.000
2150	2150	2	0.000	0.587	0.000	0.000
2151	2151	2	0.000	0.587	0.000	0.000
2011	2011	3	6.000	0.000	0.000	-1.438
2012	2012	3	3.963	0.000	0.000	-1.878
2013	2013	3	4.453	0.000	0.000	-2.438
2014	2014	3	0.807	0.000	0.000	-1.891
2015	2015	3	-2.124	0.000	0.000	-2.837
2016	2016	3	-1.596	0.000	0.000	-3.035
2017	2017	3	3.662	0.000	0.000	-2.830
2018	2018	3	6.268	0.000	0.000	-3.251
2019	2019	3	4.006	0.000	0.000	-3.618
2020	2020	3	-3.240	0.000	0.000	-3.931
2021	2021	3	9.768	0.000	0.000	-4.324
2022	2022	3	1.799	0.000	0.000	-4.776
2023	2023	3	-0.216	0.000	0.000	-5.300
2024	2024	3	-1.595	0.000	0.000	-5.915
2025	2025	3	1.049	0.000	0.000	-6.643
2026	2026	3	0.894	0.000	0.000	-7.520
2027	2027	3	-1.865	0.000	0.000	-8.594
2028	2028	3	-0.274	0.000	0.000	-9.934
2029	2029	3	-0.789	0.000	0.000	-11.657
2030	2030	3	1.876	0.000	0.000	-13.944
2031	2031	3	-0.287	0.000	0.000	-19.089
2032	2032	3	-2.211	0.000	0.000	-19.090
2033	2033	3	-2.565	0.000	0.000	-19.088
2034	2034	3	-1.399	0.000	0.000	-19.090
2035	2035	3	-1.444	0.000	0.000	-19.089
2036	2036	3	-0.695	0.000	0.000	-19.089
2037	2037	3	-0.258	0.000	0.000	-19.088
2038	2038	3	-0.856	0.000	0.000	-19.090

2039	2039	3	1.452	0.000	0.000	-19.092
2040	2040	3	-1.512	0.000	0.000	-19.088
2041	2041	3	0.000	0.000	0.000	-16.984
2042	2042	3	0.000	0.000	0.000	-5.099
2043	2043	3	0.000	0.000	0.000	-2.043
2044	2044	3	0.000	0.000	0.000	-6.009
2045	2045	3	0.000	0.000	0.000	-15.076
2046	2046	3	0.000	0.000	0.000	-9.204
2047	2047	3	0.000	0.000	0.000	-7.798
2048	2048	3	0.000	0.000	0.000	-5.087
2049	2049	3	0.000	0.000	0.000	-6.945
2050	2050	3	0.000	0.000	0.000	-1.718
2051	2051	3	0.000	0.000	0.000	0.000
2052	2052	3	0.000	0.000	0.000	0.000
2053	2053	3	0.000	0.000	0.000	0.000
2054	2054	3	0.000	0.000	0.000	0.000
2055	2055	3	0.000	0.000	0.000	0.000
2056	2056	3	0.000	0.000	0.000	0.000
2057	2057	3	0.000	0.000	0.000	0.000
2058	2058	3	0.000	0.000	0.000	0.000
2059	2059	3	0.000	0.000	0.000	0.000
2060	2060	3	0.000	0.000	0.000	0.000
2061	2061	3	0.000	0.000	0.000	0.000
2062	2062	3	0.000	0.000	0.000	0.000
2063	2063	3	0.000	0.000	0.000	0.000
2064	2064	3	0.000	0.000	0.000	0.000
2065	2065	3	0.000	0.000	0.000	0.000
2066	2066	3	0.000	0.000	0.000	0.000
2067	2067	3	0.000	0.000	0.000	0.000
2068	2068	3	0.000	0.000	0.000	0.000
2069	2069	3	0.000	0.000	0.000	0.000
2070	2070	3	0.000	0.000	0.000	0.000
2071	2071	3	0.000	0.000	0.000	0.000
2072	2072	3	0.000	0.000	0.000	0.000
2073	2073	3	0.000	0.000	0.000	0.000
2074	2074	3	0.000	0.000	0.000	0.000
2075	2075	3	0.000	0.000	0.000	0.000
2076	2076	3	0.000	0.000	0.000	0.000
2077	2077	3	0.000	0.000	0.000	0.000
2078	2078	3	0.000	0.000	0.000	0.000
2079	2079	3	0.000	0.000	0.000	0.000
2080	2080	3	0.000	0.000	0.000	0.000
2081	2081	3	0.000	0.000	0.000	0.000
2082	2082	3	0.000	0.000	0.000	0.000

2083	2083	3	0.000	0.000	0.000	0.000
2084	2084	3	0.000	0.000	0.000	0.000
2085	2085	3	0.000	0.000	0.000	0.000
2086	2086	3	0.000	0.000	0.000	0.000
2087	2087	3	0.000	0.000	0.000	0.000
2088	2088	3	0.000	0.000	0.000	0.000
2089	2089	3	0.000	0.000	0.000	0.000
2090	2090	3	0.000	0.000	0.000	0.000
2091	2091	3	0.000	0.000	0.000	0.000
2092	2092	3	0.000	0.000	0.000	0.000
2093	2093	3	0.000	0.000	0.000	0.000
2094	2094	3	0.000	0.000	0.000	0.000
2095	2095	3	0.000	0.000	0.000	0.000
2096	2096	3	0.000	0.000	0.000	0.000
2097	2097	3	0.000	0.000	0.000	0.000
2098	2098	3	0.000	0.000	0.000	0.000
2099	2099	3	0.000	0.000	0.000	0.000
2100	2100	3	0.000	0.000	0.000	0.000
2101	2101	3	0.000	0.000	0.000	0.000
2102	2102	3	0.000	0.000	0.000	0.000
2103	2103	3	0.000	0.000	0.000	0.000
2104	2104	3	0.000	0.000	0.000	0.000
2105	2105	3	0.000	0.000	0.000	0.000
2106	2106	3	0.000	0.000	0.000	0.000
2107	2107	3	0.000	0.000	0.000	0.000
2108	2108	3	0.000	0.000	0.000	0.000
2109	2109	3	0.000	0.000	0.000	0.000
2110	2110	3	0.000	0.000	0.000	0.000
2111	2111	3	0.000	0.000	0.000	0.000
2112	2112	3	0.000	0.000	0.000	0.000
2113	2113	3	0.000	0.000	0.000	0.000
2114	2114	3	0.000	0.000	0.000	0.000
2115	2115	3	0.000	0.000	0.000	0.000
2116	2116	3	0.000	0.000	0.000	0.000
2117	2117	3	0.000	0.000	0.000	0.000
2118	2118	3	0.000	0.000	0.000	0.000
2119	2119	3	0.000	0.000	0.000	0.000
2120	2120	3	0.000	0.000	0.000	0.000
2121	2121	3	0.000	0.000	0.000	0.000
2122	2122	3	0.000	0.000	0.000	0.000
2123	2123	3	0.000	0.000	0.000	0.000
2124	2124	3	0.000	0.000	0.000	0.000
2125	2125	3	0.000	0.000	0.000	0.000
2126	2126	3	0.000	0.000	0.000	0.000

2127	2127	3	0.000	0.000	0.000	0.000
2128	2128	3	0.000	0.000	0.000	0.000
2129	2129	3	0.000	0.000	0.000	0.000
2130	2130	3	0.000	0.000	0.000	0.000
2131	2131	3	0.000	0.000	0.000	0.000
2132	2132	3	0.000	0.000	0.000	0.000
2133	2133	3	0.000	0.000	0.000	0.000
2134	2134	3	0.000	0.000	0.000	0.000
2135	2135	3	0.000	0.000	0.000	0.000
2136	2136	3	0.000	0.000	0.000	0.000
2137	2137	3	0.000	0.000	0.000	0.000
2138	2138	3	0.000	0.000	0.000	0.000
2139	2139	3	0.000	0.000	0.000	0.000
2140	2140	3	0.000	0.000	0.000	0.000
2141	2141	3	0.000	0.000	0.000	0.000
2142	2142	3	0.000	0.000	0.000	0.000
2143	2143	3	0.000	0.000	0.000	0.000
2144	2144	3	0.000	0.000	0.000	0.000
2145	2145	3	0.000	0.000	0.000	0.000
2146	2146	3	0.000	0.000	0.000	0.000
2147	2147	3	0.000	0.000	0.000	0.000
2148	2148	3	0.000	0.000	0.000	0.000
2149	2149	3	0.000	0.000	0.000	0.000
2150	2150	3	0.000	0.000	0.000	0.000
2151	2151	3	0.000	0.000	0.000	0.000

FLEET - (used)

*veh_type	%Petrol	%Diesel	%Electric
1	59.8962	40.0961	0.0077
2	3.4548	96.4566	0.0886
3	3.4548	96.4566	0.0886
4	0.0000	100.0000	0.0000
5	0.0000	100.0000	0.0000
6	0.0000	99.9221	0.0779
7	0.0000	100.0000	0.0000
8	0.0000	100.0000	0.0000

FLEET - (std)

*veh_type	%Petrol	%Diesel	%Electric
1	59.6299	40.3625	0.0076
2	3.4505	96.4583	0.0912
3	3.4505	96.4583	0.0912
4	0.0000	100.0000	0.0000
5	0.0000	100.0000	0.0000

6	0.0000	100.0000	0.0000
7	0.0000	100.0000	0.0000
8	0.0000	100.0000	0.0000

FLEET_CHANGES - (used)

*% p.a.

*Start_yr	End_yr	Veh_type	%Change_Petrol	%Change_Diesel	%Change_Electric
2011	2011	1	-3.5334	5.2644	72.7273
2012	2012	1	-3.5938	4.8952	77.4436
2013	2013	1	-3.6635	4.5816	52.5424
2014	2014	1	-3.5106	3.9580	142.2222
2015	2015	1	-3.2761	3.3338	105.1606
2016	2016	1	-2.7303	2.5141	65.3438
2017	2017	1	-0.9381	0.6152	48.4449
2018	2018	1	1.1306	-1.3993	39.2394
2019	2019	1	2.3623	-2.7214	36.5882
2020	2020	1	1.9473	-3.2533	75.2245
2021	2021	1	1.5292	-4.3172	87.2343
2022	2022	1	0.2404	-4.6395	72.5965
2023	2023	1	-0.8037	-5.4000	58.4144
2024	2024	1	-1.4484	-6.2086	43.9989
2025	2025	1	-2.0998	-7.3022	35.9550
2026	2026	1	-2.4509	-7.9695	27.7036
2027	2027	1	-2.9226	-8.6666	22.7674
2028	2028	1	-3.3225	-9.3402	18.9875
2029	2029	1	-3.6571	-9.8518	15.8753
2030	2030	1	-3.9691	-10.1168	13.3105
2031	2031	1	-4.0715	-10.1036	10.9677
2032	2032	1	-4.0434	-9.9044	9.0164
2033	2033	1	-4.1522	-9.4536	7.5826
2034	2034	1	-4.2021	-8.8854	6.4073
2035	2035	1	-4.0578	-8.4250	5.3933
2036	2036	1	-3.8855	-7.8288	4.5411
2037	2037	1	-3.8221	-7.0415	3.8820
2038	2038	1	-3.5816	-6.0722	3.2150
2039	2039	1	-3.3132	-5.1005	2.6551
2040	2040	1	-2.9987	-4.3872	2.2093
2041	2041	1	-2.5436	-3.6258	1.7546
2042	2042	1	-2.2945	-3.1222	1.4878
2043	2043	1	-1.9852	-2.7371	1.2411
2044	2044	1	-1.6650	-2.2924	1.0049
2045	2045	1	-1.4495	-1.9597	0.8450
2046	2046	1	-1.2558	-1.6572	0.7092
2047	2047	1	-1.0944	-1.4064	0.6005

2048	2048	1	-0.9945	-1.2353	0.5303
2049	2049	1	-0.8969	-1.0790	0.4665
2050	2050	1	-0.7964	-0.9332	0.4054
2011	2011	2	-9.9745	0.3593	-2.2573
2012	2012	2	-8.1699	0.2539	9.5843
2013	2013	2	-8.1580	0.2422	-2.1075
2014	2014	2	-8.2993	0.2019	22.8202
2015	2015	2	-7.8448	0.1740	16.8273
2016	2016	2	-8.3367	0.1676	15.7539
2017	2017	2	-1.9981	0.0132	17.9520
2018	2018	2	3.9723	-0.1194	20.7143
2019	2019	2	2.8159	-0.1663	47.4283
2020	2020	2	0.6107	-0.2061	58.0426
2021	2021	2	-7.3773	-0.2553	79.4296
2022	2022	2	-1.0385	-0.1683	20.0218
2023	2023	2	-1.0646	-0.1605	16.0196
2024	2024	2	-0.8959	-0.1530	12.9320
2025	2025	2	-0.8468	-0.2198	15.8266
2026	2026	2	-0.8017	-0.2901	17.6330
2027	2027	2	-0.8082	-0.3992	20.2846
2028	2028	2	-0.9106	-0.5771	24.0664
2029	2029	2	-1.0264	-0.7144	23.8074
2030	2030	2	-1.3629	-1.0477	27.9255
2031	2031	2	-1.8716	-1.4764	30.4203
2032	2032	2	-2.3561	-1.9387	30.1393
2033	2033	2	-2.9243	-2.4870	29.1112
2034	2034	2	-3.4326	-2.9768	26.3028
2035	2035	2	-3.8181	-3.3308	22.6024
2036	2036	2	-4.0270	-3.5179	18.8201
2037	2037	2	-4.0964	-3.5581	15.4568
2038	2038	2	-4.1052	-3.5435	12.8578
2039	2039	2	-3.7973	-3.2205	9.9910
2040	2040	2	-3.7896	-3.2207	8.7892
2041	2041	2	-3.3695	-2.8372	6.8894
2042	2042	2	-3.3659	-2.8357	6.2576
2043	2043	2	-3.3161	-2.7852	5.6196
2044	2044	2	-3.2138	-2.6951	5.0050
2045	2045	2	-3.0706	-2.5788	4.4374
2046	2046	2	-2.8271	-2.3669	3.7986
2047	2047	2	-2.6535	-2.2117	3.3391
2048	2048	2	-2.4825	-2.0531	2.9326
2049	2049	2	-2.2761	-1.8776	2.5526
2050	2050	2	-2.0738	-1.6824	2.1886
2011	2011	3	-9.9745	0.3593	-2.2573

2012	2012	3	-8.1699	0.2539	9.5843
2013	2013	3	-8.1580	0.2422	-2.1075
2014	2014	3	-8.2993	0.2019	22.8202
2015	2015	3	-7.8448	0.1740	16.8273
2016	2016	3	-8.3367	0.1676	15.7539
2017	2017	3	-1.9981	0.0132	17.9520
2018	2018	3	3.9723	-0.1194	20.7143
2019	2019	3	2.8159	-0.1663	47.4283
2020	2020	3	0.6107	-0.2061	58.0426
2021	2021	3	-7.3773	-0.2553	79.4296
2022	2022	3	-1.0385	-0.1683	20.0218
2023	2023	3	-1.0646	-0.1605	16.0196
2024	2024	3	-0.8959	-0.1530	12.9320
2025	2025	3	-0.8468	-0.2198	15.8266
2026	2026	3	-0.8017	-0.2901	17.6330
2027	2027	3	-0.8082	-0.3992	20.2846
2028	2028	3	-0.9106	-0.5771	24.0664
2029	2029	3	-1.0264	-0.7144	23.8074
2030	2030	3	-1.3629	-1.0477	27.9255
2031	2031	3	-1.8716	-1.4764	30.4203
2032	2032	3	-2.3561	-1.9387	30.1393
2033	2033	3	-2.9243	-2.4870	29.1112
2034	2034	3	-3.4326	-2.9768	26.3028
2035	2035	3	-3.8181	-3.3308	22.6024
2036	2036	3	-4.0270	-3.5179	18.8201
2037	2037	3	-4.0964	-3.5581	15.4568
2038	2038	3	-4.1052	-3.5435	12.8578
2039	2039	3	-3.7973	-3.2205	9.9910
2040	2040	3	-3.7896	-3.2207	8.7892
2041	2041	3	-3.3695	-2.8372	6.8894
2042	2042	3	-3.3659	-2.8357	6.2576
2043	2043	3	-3.3161	-2.7852	5.6196
2044	2044	3	-3.2138	-2.6951	5.0050
2045	2045	3	-3.0706	-2.5788	4.4374
2046	2046	3	-2.8271	-2.3669	3.7986
2047	2047	3	-2.6535	-2.2117	3.3391
2048	2048	3	-2.4825	-2.0531	2.9326
2049	2049	3	-2.2761	-1.8776	2.5526
2050	2050	3	-2.0738	-1.6824	2.1886
2011	2011	6	0.0000	-0.0011	1.4121
2012	2012	6	0.0000	-0.0202	25.5696
2013	2013	6	0.0000	-0.0327	32.9637
2014	2014	6	0.0000	-0.0723	54.7384
2015	2015	6	0.0000	-0.0313	15.2866

2016	2016	6	0.0000	-0.0935	39.6515
2017	2017	6	0.0000	-0.0617	18.7158
2018	2018	6	0.0000	-0.1298	33.1453
2019	2019	6	0.0000	-0.3121	59.7805
2020	2020	6	0.0000	-0.2987	35.6910
2021	2021	6	0.0000	-0.7068	62.0549
2022	2022	6	0.0000	-4.7142	253.6139
2023	2023	6	0.0000	-4.4616	64.6774
2024	2024	6	0.0000	-2.5792	21.6914
2025	2025	6	0.0000	-3.3217	22.3641
2026	2026	6	0.0000	-2.9956	15.9353
2027	2027	6	0.0000	-3.3685	14.9927
2028	2028	6	0.0000	-3.8909	14.5529
2029	2029	6	0.0000	-3.5896	11.2641
2030	2030	6	0.0000	-1.2289	3.3416
2031	2031	6	0.0000	-1.0185	2.6469
2032	2032	6	0.0000	-0.7730	1.9371
2033	2033	6	0.0000	-0.6043	1.4741
2034	2034	6	0.0000	-0.4783	1.1429
2035	2035	6	0.0000	-0.3495	0.8217
2036	2036	6	0.0000	-0.2085	0.4846
2037	2037	6	0.0000	-0.0851	0.1965
2038	2038	6	0.0000	0.0268	-0.0617
2039	2039	6	0.0000	0.0965	-0.2223
2040	2040	6	0.0000	-0.6920	1.5991
2041	2041	6	0.0000	-0.5875	1.3269
2042	2042	6	0.0000	-0.5265	1.1667
2043	2043	6	0.0000	-0.4615	1.0055
2044	2044	6	0.0000	-0.3947	0.8475
2045	2045	6	0.0000	-0.3467	0.7352
2046	2046	6	0.0000	-0.3361	0.7051
2047	2047	6	0.0000	-0.3365	0.6986
2048	2048	6	0.0000	-0.3394	0.6974
2049	2049	6	0.0000	-0.3277	0.6665
2050	2050	6	0.0000	-0.3043	0.6127
2051	2151	1	0.0000	0.0000	0.0000
2051	2151	2	0.0000	0.0000	0.0000
2051	2151	3	0.0000	0.0000	0.0000
2011	2151	4	0.0000	0.0000	0.0000
2011	2151	5	0.0000	0.0000	0.0000
2051	2151	6	0.0000	0.0000	0.0000

FLEET_CHANGES - (std)

***% p.a.

*Start_yr	End_yr	Veh_type	%Change_Petrol	%Change_Diesel	%Change_Electric
2011	2011	1	-3.5474	5.2271	72.3684
2012	2012	1	-3.6255	4.8862	75.5725
2013	2013	1	-3.7045	4.5823	52.6087
2014	2014	1	-3.5372	3.9494	137.0370
2015	2015	1	-3.3037	3.3379	101.4423
2016	2016	1	-2.7361	2.5097	63.3652
2017	2017	1	-0.8923	0.5861	47.9912
2018	2018	1	1.1991	-1.4201	38.8203
2019	2019	1	1.7017	-1.9941	33.4222
2020	2020	1	1.8536	-2.2461	27.1952
2021	2021	1	1.6150	-2.5074	42.8975
2022	2022	1	1.4618	-2.7336	40.4296
2023	2023	1	1.3175	-3.0441	37.7636
2024	2024	1	0.9803	-3.5199	40.2425
2025	2025	1	0.2872	-4.2813	45.8903
2026	2026	1	-0.0235	-4.6731	36.0447
2027	2027	1	-0.1975	-4.8289	27.3620
2028	2028	1	-0.3930	-4.9178	21.9646
2029	2029	1	-0.6139	-4.9385	18.2947
2030	2030	1	-0.9186	-4.8594	15.7936
2031	2031	1	-1.1396	-4.5854	13.2690
2032	2032	1	-1.3598	-4.2639	11.3740
2033	2033	1	-1.5543	-3.9092	9.8508
2034	2034	1	-1.7099	-3.6116	8.6724
2035	2035	1	-1.8177	-3.2999	7.6247
2036	2036	1	-1.8688	-3.0327	6.7218
2037	2037	1	-1.8936	-2.8160	5.9844
2038	2038	1	-1.8686	-2.5621	5.2552
2039	2039	1	-1.8261	-2.3161	4.6228
2040	2040	1	-2.0337	-2.4757	4.7437
2041	2041	1	-1.9404	-2.3503	4.2169
2042	2042	1	-1.8614	-2.2344	3.7873
2043	2043	1	-1.7986	-2.0982	3.4172
2044	2044	1	-1.8062	-2.0617	3.2286
2045	2045	1	-1.7138	-1.9060	2.8834
2046	2046	1	-1.6902	-1.8698	2.7094
2047	2047	1	-1.6879	-1.8470	2.5779
2048	2048	1	-1.6589	-1.8011	2.4200
2049	2049	1	-1.6009	-1.7231	2.2342
2050	2050	1	-1.5935	-1.7035	2.1344
2011	2011	2	-9.9551	0.3589	-2.9605
2012	2012	2	-8.0850	0.2503	10.1695
2013	2013	2	-8.1413	0.2417	-2.2564

2014	2014	2	-8.3635	0.2034	22.5603
2015	2015	2	-7.9288	0.1755	16.6952
2016	2016	2	-8.3676	0.1677	15.7007
2017	2017	2	-1.9723	0.0123	17.7552
2018	2018	2	4.0994	-0.1225	20.6247
2019	2019	2	-1.5414	-0.0689	44.2857
2020	2020	2	-1.2465	0.0340	-2.4134
2021	2021	2	-0.1690	-0.0505	16.7089
2022	2022	2	0.1344	-0.0690	17.5767
2023	2023	2	0.9644	-0.1262	23.9603
2024	2024	2	2.0384	-0.2103	30.4753
2025	2025	2	4.5262	-0.4417	47.9714
2026	2026	2	3.4807	-0.4261	32.5352
2027	2027	2	3.9436	-0.5348	31.1116
2028	2028	2	4.5536	-0.6795	30.2961
2029	2029	2	4.8684	-0.7989	27.3836
2030	2030	2	4.9673	-0.9096	24.5096
2031	2031	2	5.0865	-0.9474	20.1742
2032	2032	2	4.8793	-1.0056	17.7808
2033	2033	2	4.6320	-1.0543	15.7803
2034	2034	2	4.3655	-1.0969	14.1249
2035	2035	2	4.0807	-1.1390	12.8123
2036	2036	2	3.8076	-1.1648	11.5496
2037	2037	2	3.5417	-1.1887	10.5057
2038	2038	2	3.2793	-1.2049	9.5762
2039	2039	2	3.0357	-1.2185	8.7799
2040	2040	2	2.8032	-1.2286	8.0825
2041	2041	2	2.5647	-1.2034	7.2582
2042	2042	2	2.4018	-1.2091	6.7416
2043	2043	2	2.2033	-1.2237	6.3558
2044	2044	2	2.0402	-1.2164	5.8890
2045	2045	2	1.8815	-1.2057	5.4663
2046	2046	2	1.6834	-1.1668	4.9758
2047	2047	2	1.5551	-1.1570	4.6635
2048	2048	2	1.4237	-1.1416	4.3618
2049	2049	2	1.2542	-1.1392	4.1548
2050	2050	2	1.1467	-1.1150	3.8719
2011	2011	3	-9.9551	0.3589	-2.9605
2012	2012	3	-8.0850	0.2503	10.1695
2013	2013	3	-8.1413	0.2417	-2.2564
2014	2014	3	-8.3635	0.2034	22.5603
2015	2015	3	-7.9288	0.1755	16.6952
2016	2016	3	-8.3676	0.1677	15.7007
2017	2017	3	-1.9723	0.0123	17.7552

2018	2018	3	4.0994	-0.1225	20.6247
2019	2019	3	-1.5414	-0.0689	44.2857
2020	2020	3	-1.2465	0.0340	-2.4134
2021	2021	3	-0.1690	-0.0505	16.7089
2022	2022	3	0.1344	-0.0690	17.5767
2023	2023	3	0.9644	-0.1262	23.9603
2024	2024	3	2.0384	-0.2103	30.4753
2025	2025	3	4.5262	-0.4417	47.9714
2026	2026	3	3.4807	-0.4261	32.5352
2027	2027	3	3.9436	-0.5348	31.1116
2028	2028	3	4.5536	-0.6795	30.2961
2029	2029	3	4.8684	-0.7989	27.3836
2030	2030	3	4.9673	-0.9096	24.5096
2031	2031	3	5.0865	-0.9474	20.1742
2032	2032	3	4.8793	-1.0056	17.7808
2033	2033	3	4.6320	-1.0543	15.7803
2034	2034	3	4.3655	-1.0969	14.1249
2035	2035	3	4.0807	-1.1390	12.8123
2036	2036	3	3.8076	-1.1648	11.5496
2037	2037	3	3.5417	-1.1887	10.5057
2038	2038	3	3.2793	-1.2049	9.5762
2039	2039	3	3.0357	-1.2185	8.7799
2040	2040	3	2.8032	-1.2286	8.0825
2041	2041	3	2.5647	-1.2034	7.2582
2042	2042	3	2.4018	-1.2091	6.7416
2043	2043	3	2.2033	-1.2237	6.3558
2044	2044	3	2.0402	-1.2164	5.8890
2045	2045	3	1.8815	-1.2057	5.4663
2046	2046	3	1.6834	-1.1668	4.9758
2047	2047	3	1.5551	-1.1570	4.6635
2048	2048	3	1.4237	-1.1416	4.3618
2049	2049	3	1.2542	-1.1392	4.1548
2050	2050	3	1.1467	-1.1150	3.8719
2051	2151	1	0.0000	0.0000	0.0000
2051	2151	2	0.0000	0.0000	0.0000
2051	2151	3	0.0000	0.0000	0.0000
2011	2151	4	0.0000	0.0000	0.0000
2011	2151	5	0.0000	0.0000	0.0000
2011	2151	6	0.0000	0.0000	0.0000

FUEL_CONSUMPTION - (used)

*veh_type fuel_type a_fuel b_fuel c_fuel d_fuel cut-off_speeds(km/h)

*

max min

1 1 0.4666 0.09917 -0.11296E-02 0.74815E-05 130 10

1	2	0.5050	0.07241	-0.69660E-03	0.54893E-05	130	10
1	3	0.0000	0.22466	0.00000E+00	0.00000E+00	120	10
2	1	0.3518	0.19727	-0.30966E-02	0.19998E-04	120	10
2	2	0.4682	0.11444	-0.16510E-02	0.13977E-04	110	10
2	3	0.0000	0.25706	0.00000E+00	0.00000E+00	120	10
3	1	0.3518	0.19727	-0.30966E-02	0.19998E-04	120	10
3	2	0.4682	0.11444	-0.16510E-02	0.13977E-04	110	10
3	3	0.0000	0.25706	0.00000E+00	0.00000E+00	120	10
4	2	2.6039	0.13816	-0.99860E-03	0.10906E-04	85	12
5	2	5.7277	0.29745	-0.19708E-02	0.11746E-04	85	12
6	2	3.3350	0.29304	-0.31851E-02	0.23364E-04	85	12
6	3	0.0000	1.17983	0.00000E+00	0.00000E+00	85	12

FUEL_CONSUMPTION - (std)

*veh_type	fuel_type	a_fuel	b_fuel	c_fuel	d_fuel	cut-off_speeds(km/h)
		max	min			
1	1	0.4707	0.10003	-0.11394E-02	0.75462E-05	130 10
1	2	0.5069	0.07268	-0.69920E-03	0.55097E-05	130 10
1	3	0.0000	0.21366	0.00000E+00	0.00000E+00	120 10
2	1	0.3487	0.19552	-0.30690E-02	0.19819E-04	120 10
2	2	0.4688	0.11457	-0.16529E-02	0.13993E-04	110 10
2	3	0.0000	0.23232	0.00000E+00	0.00000E+00	120 10
3	1	0.3487	0.19552	-0.30690E-02	0.19819E-04	120 10
3	2	0.4688	0.11457	-0.16529E-02	0.13993E-04	110 10
3	3	0.0000	0.23232	0.00000E+00	0.00000E+00	120 10
4	2	2.6115	0.13856	-0.10015E-02	0.10938E-04	85 12
5	2	5.7221	0.29716	-0.19688E-02	0.11735E-04	85 12
6	2	3.3602	0.29525	-0.32091E-02	0.23540E-04	85 12

FUEL EFFICIENCY - (used)

*% p.a.

*Start_yr	End_yr	veh_type	fuel_type	change
2011	2011	1	1	0.662
2011	2011	1	2	0.817
2011	2011	1	3	-0.025
2011	2011	2	1	-0.095
2011	2011	2	2	0.139
2011	2011	2	3	0.000
2011	2011	3	1	-0.095
2011	2011	3	2	0.139
2011	2011	3	3	0.000
2011	2011	4	2	-0.217
2011	2011	4	3	0.000
2011	2011	5	2	-0.047

2011	2011	5	3	0.000
2011	2011	6	2	-0.140
2011	2011	6	3	0.000
2012	2012	1	1	0.824
2012	2012	1	2	0.877
2012	2012	1	3	0.491
2012	2012	2	1	-0.074
2012	2012	2	2	0.386
2012	2012	2	3	0.000
2012	2012	3	1	-0.074
2012	2012	3	2	0.386
2012	2012	3	3	0.000
2012	2012	4	2	-3.140
2012	2012	4	3	0.000
2012	2012	5	2	0.414
2012	2012	5	3	0.000
2012	2012	6	2	-0.258
2012	2012	6	3	0.000
2013	2013	1	1	1.035
2013	2013	1	2	0.939
2013	2013	1	3	0.025
2013	2013	2	1	0.178
2013	2013	2	2	0.142
2013	2013	2	3	0.000
2013	2013	3	1	0.178
2013	2013	3	2	0.142
2013	2013	3	3	0.000
2013	2013	4	2	0.524
2013	2013	4	3	0.000
2013	2013	5	2	0.199
2013	2013	5	3	0.000
2013	2013	6	2	-0.069
2013	2013	6	3	0.000
2014	2014	1	1	-0.594
2014	2014	1	2	0.712
2014	2014	1	3	0.709
2014	2014	2	1	-0.410
2014	2014	2	2	0.114
2014	2014	2	3	-0.064
2014	2014	3	1	-0.410
2014	2014	3	2	0.114
2014	2014	3	3	-0.064
2014	2014	4	2	-1.002
2014	2014	4	3	0.000

2014	2014	5	2	0.195
2014	2014	5	3	0.000
2014	2014	6	2	-0.064
2014	2014	6	3	0.000
2015	2015	1	1	1.252
2015	2015	1	2	1.319
2015	2015	1	3	0.591
2015	2015	2	1	2.511
2015	2015	2	2	0.235
2015	2015	2	3	-0.700
2015	2015	3	1	2.511
2015	2015	3	2	0.235
2015	2015	3	3	-0.700
2015	2015	4	2	0.295
2015	2015	4	3	0.000
2015	2015	5	2	0.327
2015	2015	5	3	0.000
2015	2015	6	2	-0.221
2015	2015	6	3	0.000
2016	2016	1	1	1.373
2016	2016	1	2	1.203
2016	2016	1	3	0.418
2016	2016	2	1	-0.117
2016	2016	2	2	0.703
2016	2016	2	3	-0.216
2016	2016	3	1	-0.117
2016	2016	3	2	0.703
2016	2016	3	3	-0.216
2016	2016	4	2	0.922
2016	2016	4	3	0.000
2016	2016	5	2	0.233
2016	2016	5	3	0.000
2016	2016	6	2	-0.060
2016	2016	6	3	-0.097
2017	2017	1	1	1.236
2017	2017	1	2	0.778
2017	2017	1	3	0.132
2017	2017	2	1	1.631
2017	2017	2	2	1.238
2017	2017	2	3	-0.009
2017	2017	3	1	1.631
2017	2017	3	2	1.238
2017	2017	3	3	-0.009
2017	2017	4	2	-0.773

2017	2017	4	3	0.000
2017	2017	5	2	0.317
2017	2017	5	3	0.000
2017	2017	6	2	-0.036
2017	2017	6	3	-0.080
2018	2018	1	1	0.987
2018	2018	1	2	0.058
2018	2018	1	3	0.092
2018	2018	2	1	3.066
2018	2018	2	2	0.884
2018	2018	2	3	-0.418
2018	2018	3	1	3.066
2018	2018	3	2	0.884
2018	2018	3	3	-0.418
2018	2018	4	2	0.421
2018	2018	4	3	0.000
2018	2018	5	2	0.544
2018	2018	5	3	0.000
2018	2018	6	2	-0.161
2018	2018	6	3	-0.191
2019	2019	1	1	0.626
2019	2019	1	2	-0.319
2019	2019	1	3	-0.347
2019	2019	2	1	1.138
2019	2019	2	2	0.740
2019	2019	2	3	0.088
2019	2019	3	1	1.138
2019	2019	3	2	0.740
2019	2019	3	3	0.088
2019	2019	4	2	-0.944
2019	2019	4	3	0.000
2019	2019	5	2	0.546
2019	2019	5	3	0.000
2019	2019	6	2	-0.168
2019	2019	6	3	-0.223
2020	2020	1	1	0.927
2020	2020	1	2	-0.092
2020	2020	1	3	-0.578
2020	2020	2	1	1.902
2020	2020	2	2	0.372
2020	2020	2	3	-0.341
2020	2020	3	1	1.902
2020	2020	3	2	0.372
2020	2020	3	3	-0.341

2020	2020	4	2	-0.700
2020	2020	4	3	0.000
2020	2020	5	2	0.352
2020	2020	5	3	0.000
2020	2020	6	2	-0.118
2020	2020	6	3	-0.337
2021	2021	1	1	1.169
2021	2021	1	2	-0.014
2021	2021	1	3	3.385
2021	2021	2	1	2.499
2021	2021	2	2	1.189
2021	2021	2	3	0.466
2021	2021	3	1	2.499
2021	2021	3	2	1.189
2021	2021	3	3	0.466
2021	2021	4	2	0.532
2021	2021	4	3	0.000
2021	2021	5	2	0.644
2021	2021	5	3	0.000
2021	2021	6	2	-0.093
2021	2021	6	3	0.885
2022	2022	1	1	-0.836
2022	2022	1	2	0.006
2022	2022	1	3	3.869
2022	2022	2	1	4.304
2022	2022	2	2	0.815
2022	2022	2	3	-0.062
2022	2022	3	1	4.304
2022	2022	3	2	0.815
2022	2022	3	3	-0.062
2022	2022	4	2	0.589
2022	2022	4	3	0.000
2022	2022	5	2	0.547
2022	2022	5	3	0.000
2022	2022	6	2	-0.120
2022	2022	6	3	3.311
2023	2023	1	1	0.823
2023	2023	1	2	-0.026
2023	2023	1	3	2.928
2023	2023	2	1	2.131
2023	2023	2	2	0.721
2023	2023	2	3	0.297
2023	2023	3	1	2.131
2023	2023	3	2	0.721

2023	2023	3	3	0.297
2023	2023	4	2	0.577
2023	2023	4	3	0.000
2023	2023	5	2	0.560
2023	2023	5	3	0.000
2023	2023	6	2	-0.095
2023	2023	6	3	1.901
2024	2024	1	1	0.593
2024	2024	1	2	-0.057
2024	2024	1	3	2.092
2024	2024	2	1	2.062
2024	2024	2	2	0.675
2024	2024	2	3	0.341
2024	2024	3	1	2.062
2024	2024	3	2	0.675
2024	2024	3	3	0.341
2024	2024	4	2	0.567
2024	2024	4	3	0.000
2024	2024	5	2	0.586
2024	2024	5	3	0.000
2024	2024	6	2	0.011
2024	2024	6	3	1.362
2025	2025	1	1	0.334
2025	2025	1	2	-0.072
2025	2025	1	3	1.828
2025	2025	2	1	2.658
2025	2025	2	2	1.643
2025	2025	2	3	0.472
2025	2025	3	1	2.658
2025	2025	3	2	1.643
2025	2025	3	3	0.472
2025	2025	4	2	1.078
2025	2025	4	3	0.000
2025	2025	5	2	1.849
2025	2025	5	3	0.000
2025	2025	6	2	0.031
2025	2025	6	3	1.886
2026	2026	1	1	0.238
2026	2026	1	2	-0.115
2026	2026	1	3	1.458
2026	2026	2	1	2.532
2026	2026	2	2	1.489
2026	2026	2	3	0.578
2026	2026	3	1	2.532

2026	2026	3	2	1.489
2026	2026	3	3	0.578
2026	2026	4	2	1.050
2026	2026	4	3	0.000
2026	2026	5	2	1.888
2026	2026	5	3	0.000
2026	2026	6	2	0.052
2026	2026	6	3	1.530
2027	2027	1	1	0.159
2027	2027	1	2	-0.159
2027	2027	1	3	1.326
2027	2027	2	1	4.516
2027	2027	2	2	1.360
2027	2027	2	3	0.506
2027	2027	3	1	4.516
2027	2027	3	2	1.360
2027	2027	3	3	0.506
2027	2027	4	2	1.010
2027	2027	4	3	0.000
2027	2027	5	2	1.827
2027	2027	5	3	0.000
2027	2027	6	2	0.127
2027	2027	6	3	1.497
2028	2028	1	1	0.087
2028	2028	1	2	-0.216
2028	2028	1	3	1.215
2028	2028	2	1	2.106
2028	2028	2	2	1.237
2028	2028	2	3	0.556
2028	2028	3	1	2.106
2028	2028	3	2	1.237
2028	2028	3	3	0.556
2028	2028	4	2	0.976
2028	2028	4	3	0.000
2028	2028	5	2	1.778
2028	2028	5	3	0.000
2028	2028	6	2	0.136
2028	2028	6	3	1.429
2029	2029	1	1	0.024
2029	2029	1	2	-0.284
2029	2029	1	3	1.180
2029	2029	2	1	1.991
2029	2029	2	2	1.142
2029	2029	2	3	0.357

2029	2029	3	1	1.991
2029	2029	3	2	1.142
2029	2029	3	3	0.357
2029	2029	4	2	0.948
2029	2029	4	3	0.000
2029	2029	5	2	1.702
2029	2029	5	3	0.000
2029	2029	6	2	0.148
2029	2029	6	3	1.250
2030	2030	1	1	0.021
2030	2030	1	2	-0.366
2030	2030	1	3	1.123
2030	2030	2	1	2.720
2030	2030	2	2	2.177
2030	2030	2	3	-0.469
2030	2030	3	1	2.720
2030	2030	3	2	2.177
2030	2030	3	3	-0.469
2030	2030	4	2	1.599
2030	2030	4	3	0.000
2030	2030	5	2	3.302
2030	2030	5	3	0.000
2030	2030	6	2	0.190
2030	2030	6	3	0.841
2031	2031	1	1	-0.068
2031	2031	1	2	-0.361
2031	2031	1	3	0.961
2031	2031	2	1	0.062
2031	2031	2	2	2.084
2031	2031	2	3	-1.235
2031	2031	3	1	0.062
2031	2031	3	2	2.084
2031	2031	3	3	-1.235
2031	2031	4	2	1.522
2031	2031	4	3	0.000
2031	2031	5	2	3.277
2031	2031	5	3	0.000
2031	2031	6	2	0.192
2031	2031	6	3	0.787
2032	2032	1	1	-0.106
2032	2032	1	2	-0.381
2032	2032	1	3	0.857
2032	2032	2	1	2.503
2032	2032	2	2	1.668

2032	2032	2	3	-1.684
2032	2032	3	1	2.503
2032	2032	3	2	1.668
2032	2032	3	3	-1.684
2032	2032	4	2	1.484
2032	2032	4	3	0.000
2032	2032	5	2	3.008
2032	2032	5	3	0.000
2032	2032	6	2	0.084
2032	2032	6	3	0.750
2033	2033	1	1	-0.116
2033	2033	1	2	-0.386
2033	2033	1	3	0.790
2033	2033	2	1	2.964
2033	2033	2	2	1.626
2033	2033	2	3	-1.777
2033	2033	3	1	2.964
2033	2033	3	2	1.626
2033	2033	3	3	-1.777
2033	2033	4	2	1.404
2033	2033	4	3	0.000
2033	2033	5	2	2.748
2033	2033	5	3	0.000
2033	2033	6	2	0.145
2033	2033	6	3	0.721
2034	2034	1	1	-0.126
2034	2034	1	2	-0.393
2034	2034	1	3	0.748
2034	2034	2	1	4.667
2034	2034	2	2	1.264
2034	2034	2	3	-1.521
2034	2034	3	1	4.667
2034	2034	3	2	1.264
2034	2034	3	3	-1.521
2034	2034	4	2	1.321
2034	2034	4	3	0.000
2034	2034	5	2	2.559
2034	2034	5	3	0.000
2034	2034	6	2	0.401
2034	2034	6	3	0.724
2035	2035	1	1	-0.173
2035	2035	1	2	-0.358
2035	2035	1	3	0.722
2035	2035	2	1	-2.719

2035	2035	2	2	1.183
2035	2035	2	3	-1.133
2035	2035	3	1	-2.719
2035	2035	3	2	1.183
2035	2035	3	3	-1.133
2035	2035	4	2	1.229
2035	2035	4	3	0.000
2035	2035	5	2	2.323
2035	2035	5	3	0.000
2035	2035	6	2	0.252
2035	2035	6	3	0.748
2036	2036	1	1	-0.188
2036	2036	1	2	-0.251
2036	2036	1	3	0.712
2036	2036	2	1	2.305
2036	2036	2	2	1.146
2036	2036	2	3	-0.751
2036	2036	3	1	2.305
2036	2036	3	2	1.146
2036	2036	3	3	-0.751
2036	2036	4	2	1.142
2036	2036	4	3	0.000
2036	2036	5	2	2.020
2036	2036	5	3	0.000
2036	2036	6	2	0.188
2036	2036	6	3	0.761
2037	2037	1	1	-0.232
2037	2037	1	2	-0.323
2037	2037	1	3	0.717
2037	2037	2	1	1.801
2037	2037	2	2	1.152
2037	2037	2	3	-0.441
2037	2037	3	1	1.801
2037	2037	3	2	1.152
2037	2037	3	3	-0.441
2037	2037	4	2	1.035
2037	2037	4	3	0.000
2037	2037	5	2	1.558
2037	2037	5	3	0.000
2037	2037	6	2	0.354
2037	2037	6	3	0.782
2038	2038	1	1	-0.236
2038	2038	1	2	-0.424
2038	2038	1	3	0.717

2038	2038	2	1	5.995
2038	2038	2	2	1.204
2038	2038	2	3	-0.217
2038	2038	3	1	5.995
2038	2038	3	2	1.204
2038	2038	3	3	-0.217
2038	2038	4	2	0.915
2038	2038	4	3	0.000
2038	2038	5	2	1.195
2038	2038	5	3	0.000
2038	2038	6	2	0.272
2038	2038	6	3	0.805
2039	2039	1	1	-0.233
2039	2039	1	2	-0.611
2039	2039	1	3	0.713
2039	2039	2	1	-0.357
2039	2039	2	2	0.702
2039	2039	2	3	0.021
2039	2039	3	1	-0.357
2039	2039	3	2	0.702
2039	2039	3	3	0.021
2039	2039	4	2	0.794
2039	2039	4	3	0.000
2039	2039	5	2	0.889
2039	2039	5	3	0.000
2039	2039	6	2	0.201
2039	2039	6	3	0.822
2040	2040	1	1	-0.203
2040	2040	1	2	-0.411
2040	2040	1	3	0.720
2040	2040	2	1	1.080
2040	2040	2	2	0.723
2040	2040	2	3	0.104
2040	2040	3	1	1.080
2040	2040	3	2	0.723
2040	2040	3	3	0.104
2040	2040	4	2	0.689
2040	2040	4	3	0.000
2040	2040	5	2	0.664
2040	2040	5	3	0.000
2040	2040	6	2	0.256
2040	2040	6	3	0.928
2041	2041	1	1	0.027
2041	2041	1	2	0.054

2041	2041	1	3	0.701
2041	2041	2	1	4.247
2041	2041	2	2	0.511
2041	2041	2	3	0.157
2041	2041	3	1	4.247
2041	2041	3	2	0.511
2041	2041	3	3	0.157
2041	2041	4	2	0.607
2041	2041	4	3	0.000
2041	2041	5	2	0.494
2041	2041	5	3	0.000
2041	2041	6	2	0.423
2041	2041	6	3	0.866
2042	2042	1	1	-0.082
2042	2042	1	2	-0.073
2042	2042	1	3	0.685
2042	2042	2	1	2.107
2042	2042	2	2	0.932
2042	2042	2	3	0.161
2042	2042	3	1	2.107
2042	2042	3	2	0.932
2042	2042	3	3	0.161
2042	2042	4	2	0.538
2042	2042	4	3	0.000
2042	2042	5	2	0.370
2042	2042	5	3	0.000
2042	2042	6	2	0.288
2042	2042	6	3	0.802
2043	2043	1	1	-0.107
2043	2043	1	2	-0.009
2043	2043	1	3	0.662
2043	2043	2	1	0.816
2043	2043	2	2	0.626
2043	2043	2	3	0.170
2043	2043	3	1	0.816
2043	2043	3	2	0.626
2043	2043	3	3	0.170
2043	2043	4	2	0.485
2043	2043	4	3	0.000
2043	2043	5	2	0.292
2043	2043	5	3	0.000
2043	2043	6	2	0.262
2043	2043	6	3	0.744
2044	2044	1	1	-0.075

2044	2044	1	2	-0.004
2044	2044	1	3	0.639
2044	2044	2	1	0.451
2044	2044	2	2	0.395
2044	2044	2	3	0.197
2044	2044	3	1	0.451
2044	2044	3	2	0.395
2044	2044	3	3	0.197
2044	2044	4	2	0.446
2044	2044	4	3	0.000
2044	2044	5	2	0.234
2044	2044	5	3	0.000
2044	2044	6	2	0.256
2044	2044	6	3	0.710
2045	2045	1	1	-0.046
2045	2045	1	2	-0.001
2045	2045	1	3	0.620
2045	2045	2	1	0.400
2045	2045	2	2	0.339
2045	2045	2	3	0.217
2045	2045	3	1	0.400
2045	2045	3	2	0.339
2045	2045	3	3	0.217
2045	2045	4	2	0.415
2045	2045	4	3	0.000
2045	2045	5	2	0.199
2045	2045	5	3	0.000
2045	2045	6	2	0.255
2045	2045	6	3	0.674
2046	2046	1	1	-0.022
2046	2046	1	2	0.000
2046	2046	1	3	0.603
2046	2046	2	1	1.958
2046	2046	2	2	1.266
2046	2046	2	3	0.233
2046	2046	3	1	1.958
2046	2046	3	2	1.266
2046	2046	3	3	0.233
2046	2046	4	2	0.425
2046	2046	4	3	0.000
2046	2046	5	2	0.214
2046	2046	5	3	0.000
2046	2046	6	2	0.248
2046	2046	6	3	0.634

2047	2047	1	1	-0.009
2047	2047	1	2	0.002
2047	2047	1	3	0.581
2047	2047	2	1	0.207
2047	2047	2	2	0.178
2047	2047	2	3	0.264
2047	2047	3	1	0.207
2047	2047	3	2	0.178
2047	2047	3	3	0.264
2047	2047	4	2	0.362
2047	2047	4	3	0.000
2047	2047	5	2	0.138
2047	2047	5	3	0.000
2047	2047	6	2	0.247
2047	2047	6	3	0.577
2048	2048	1	1	0.004
2048	2048	1	2	0.003
2048	2048	1	3	0.565
2048	2048	2	1	0.179
2048	2048	2	2	0.147
2048	2048	2	3	0.285
2048	2048	3	1	0.179
2048	2048	3	2	0.147
2048	2048	3	3	0.285
2048	2048	4	2	0.349
2048	2048	4	3	0.000
2048	2048	5	2	0.124
2048	2048	5	3	0.000
2048	2048	6	2	0.252
2048	2048	6	3	0.549
2049	2049	1	1	0.013
2049	2049	1	2	0.004
2049	2049	1	3	0.545
2049	2049	2	1	0.156
2049	2049	2	2	0.124
2049	2049	2	3	0.310
2049	2049	3	1	0.156
2049	2049	3	2	0.124
2049	2049	3	3	0.310
2049	2049	4	2	0.340
2049	2049	4	3	0.000
2049	2049	5	2	0.116
2049	2049	5	3	0.000
2049	2049	6	2	0.241

2049	2049	6	3	0.528
2050	2050	1	1	0.019
2050	2050	1	2	0.004
2050	2050	1	3	0.529
2050	2050	2	1	0.139
2050	2050	2	2	0.106
2050	2050	2	3	0.332
2050	2050	3	1	0.139
2050	2050	3	2	0.106
2050	2050	3	3	0.332
2050	2050	4	2	0.333
2050	2050	4	3	0.000
2050	2050	5	2	0.109
2050	2050	5	3	0.000
2050	2050	6	2	0.270
2050	2050	6	3	0.512
2051	2151	1	1	0.000
2051	2151	1	2	0.000
2051	2151	1	3	0.000
2051	2151	2	1	0.000
2051	2151	2	2	0.000
2051	2151	2	3	0.000
2051	2151	3	1	0.000
2051	2151	3	2	0.000
2051	2151	3	3	0.000
2051	2151	4	2	0.000
2051	2151	4	3	0.000
2051	2151	5	2	0.000
2051	2151	5	3	0.000
2051	2151	6	2	0.000
2051	2151	6	3	0.000

FUEL_EFFICIENCY - (std)

*% p.a.

*Start_yr	End_yr	veh_type	fuel_type	change
2011	2011	1	1	0.604
2011	2011	1	2	0.874
2011	2011	1	3	0.032
2011	2011	2	1	-0.168
2011	2011	2	2	0.177
2011	2011	2	3	0.000
2011	2011	3	1	-0.168
2011	2011	3	2	0.177
2011	2011	3	3	0.000

2011	2011	4	2	-0.113
2011	2011	5	2	0.011
2012	2012	1	1	0.285
2012	2012	1	2	0.975
2012	2012	1	3	-0.707
2012	2012	2	1	-0.630
2012	2012	2	2	0.468
2012	2012	2	3	0.000
2012	2012	3	1	-0.630
2012	2012	3	2	0.468
2012	2012	3	3	0.000
2012	2012	4	2	-2.932
2012	2012	5	2	0.288
2013	2013	1	1	0.891
2013	2013	1	2	0.920
2013	2013	1	3	0.085
2013	2013	2	1	0.031
2013	2013	2	2	0.107
2013	2013	2	3	0.000
2013	2013	3	1	0.031
2013	2013	3	2	0.107
2013	2013	3	3	0.000
2013	2013	4	2	0.475
2013	2013	5	2	0.068
2014	2014	1	1	0.979
2014	2014	1	2	0.945
2014	2014	1	3	-1.015
2014	2014	2	1	-0.518
2014	2014	2	2	0.057
2014	2014	2	3	-0.042
2014	2014	3	1	-0.518
2014	2014	3	2	0.057
2014	2014	3	3	-0.042
2014	2014	4	2	-1.038
2014	2014	5	2	0.144
2015	2015	1	1	1.281
2015	2015	1	2	1.319
2015	2015	1	3	-0.927
2015	2015	2	1	2.498
2015	2015	2	2	0.323
2015	2015	2	3	-0.454
2015	2015	3	1	2.498
2015	2015	3	2	0.323
2015	2015	3	3	-0.454

2015	2015	4	2	0.361
2015	2015	5	2	0.480
2016	2016	1	1	1.406
2016	2016	1	2	1.207
2016	2016	1	3	1.034
2016	2016	2	1	-0.062
2016	2016	2	2	0.705
2016	2016	2	3	0.340
2016	2016	3	1	-0.062
2016	2016	3	2	0.705
2016	2016	3	3	0.340
2016	2016	4	2	0.747
2016	2016	5	2	0.239
2017	2017	1	1	1.270
2017	2017	1	2	0.783
2017	2017	1	3	1.188
2017	2017	2	1	1.646
2017	2017	2	2	1.249
2017	2017	2	3	0.804
2017	2017	3	1	1.646
2017	2017	3	2	1.249
2017	2017	3	3	0.804
2017	2017	4	2	-0.771
2017	2017	5	2	0.316
2018	2018	1	1	1.029
2018	2018	1	2	0.063
2018	2018	1	3	1.035
2018	2018	2	1	3.029
2018	2018	2	2	0.770
2018	2018	2	3	0.708
2018	2018	3	1	3.029
2018	2018	3	2	0.770
2018	2018	3	3	0.708
2018	2018	4	2	-0.058
2018	2018	5	2	0.407
2019	2019	1	1	0.990
2019	2019	1	2	-0.041
2019	2019	1	3	2.359
2019	2019	2	1	1.141
2019	2019	2	2	0.522
2019	2019	2	3	2.118
2019	2019	3	1	1.141
2019	2019	3	2	0.522
2019	2019	3	3	2.118

2019	2019	4	2	0.247
2019	2019	5	2	0.388
2020	2020	1	1	2.680
2020	2020	1	2	1.323
2020	2020	1	3	2.699
2020	2020	2	1	1.842
2020	2020	2	2	1.432
2020	2020	2	3	-2.324
2020	2020	3	1	1.842
2020	2020	3	2	1.432
2020	2020	3	3	-2.324
2020	2020	4	2	0.341
2020	2020	5	2	0.470
2021	2021	1	1	2.289
2021	2021	1	2	1.469
2021	2021	1	3	5.660
2021	2021	2	1	1.283
2021	2021	2	2	1.165
2021	2021	2	3	-0.804
2021	2021	3	1	1.283
2021	2021	3	2	1.165
2021	2021	3	3	-0.804
2021	2021	4	2	0.484
2021	2021	5	2	0.523
2022	2022	1	1	2.080
2022	2022	1	2	1.497
2022	2022	1	3	3.960
2022	2022	2	1	2.960
2022	2022	2	2	1.102
2022	2022	2	3	-0.880
2022	2022	3	1	2.960
2022	2022	3	2	1.102
2022	2022	3	3	-0.880
2022	2022	4	2	0.491
2022	2022	5	2	0.531
2023	2023	1	1	1.895
2023	2023	1	2	1.393
2023	2023	1	3	2.637
2023	2023	2	1	1.045
2023	2023	2	2	0.925
2023	2023	2	3	-1.450
2023	2023	3	1	1.045
2023	2023	3	2	0.925
2023	2023	3	3	-1.450

2023	2023	4	2	0.500
2023	2023	5	2	0.548
2024	2024	1	1	1.891
2024	2024	1	2	1.258
2024	2024	1	3	2.035
2024	2024	2	1	1.277
2024	2024	2	2	0.822
2024	2024	2	3	-1.389
2024	2024	3	1	1.277
2024	2024	3	2	0.822
2024	2024	3	3	-1.389
2024	2024	4	2	0.490
2024	2024	5	2	0.544
2025	2025	1	1	1.650
2025	2025	1	2	1.164
2025	2025	1	3	1.843
2025	2025	2	1	2.913
2025	2025	2	2	1.999
2025	2025	2	3	-1.541
2025	2025	3	1	2.913
2025	2025	3	2	1.999
2025	2025	3	3	-1.541
2025	2025	4	2	0.918
2025	2025	5	2	1.864
2026	2026	1	1	1.468
2026	2026	1	2	1.107
2026	2026	1	3	1.211
2026	2026	2	1	2.351
2026	2026	2	2	1.780
2026	2026	2	3	-0.553
2026	2026	3	1	2.351
2026	2026	3	2	1.780
2026	2026	3	3	-0.553
2026	2026	4	2	0.900
2026	2026	5	2	1.854
2027	2027	1	1	1.372
2027	2027	1	2	1.130
2027	2027	1	3	0.922
2027	2027	2	1	3.660
2027	2027	2	2	1.600
2027	2027	2	3	-0.253
2027	2027	3	1	3.660
2027	2027	3	2	1.600
2027	2027	3	3	-0.253

2027	2027	4	2	0.874
2027	2027	5	2	1.767
2028	2028	1	1	1.234
2028	2028	1	2	1.148
2028	2028	1	3	0.747
2028	2028	2	1	1.853
2028	2028	2	2	1.433
2028	2028	2	3	0.019
2028	2028	3	1	1.853
2028	2028	3	2	1.433
2028	2028	3	3	0.019
2028	2028	4	2	0.846
2028	2028	5	2	1.644
2029	2029	1	1	1.110
2029	2029	1	2	1.140
2029	2029	1	3	0.694
2029	2029	2	1	1.699
2029	2029	2	2	1.299
2029	2029	2	3	0.258
2029	2029	3	1	1.699
2029	2029	3	2	1.299
2029	2029	3	3	0.258
2029	2029	4	2	0.808
2029	2029	5	2	1.531
2030	2030	1	1	2.306
2030	2030	1	2	2.305
2030	2030	1	3	0.690
2030	2030	2	1	3.530
2030	2030	2	2	2.726
2030	2030	2	3	0.398
2030	2030	3	1	3.530
2030	2030	3	2	2.726
2030	2030	3	3	0.398
2030	2030	4	2	1.394
2030	2030	5	2	3.225
2031	2031	1	1	2.230
2031	2031	1	2	2.375
2031	2031	1	3	0.571
2031	2031	2	1	1.740
2031	2031	2	2	2.564
2031	2031	2	3	0.251
2031	2031	3	1	1.740
2031	2031	3	2	2.564
2031	2031	3	3	0.251

2031	2031	4	2	1.307
2031	2031	5	2	3.126
2032	2032	1	1	2.088
2032	2032	1	2	2.387
2032	2032	1	3	0.492
2032	2032	2	1	2.870
2032	2032	2	2	2.133
2032	2032	2	3	0.170
2032	2032	3	1	2.870
2032	2032	3	2	2.133
2032	2032	3	3	0.170
2032	2032	4	2	1.294
2032	2032	5	2	2.946
2033	2033	1	1	2.021
2033	2033	1	2	2.185
2033	2033	1	3	0.435
2033	2033	2	1	2.820
2033	2033	2	2	2.016
2033	2033	2	3	0.145
2033	2033	3	1	2.820
2033	2033	3	2	2.016
2033	2033	3	3	0.145
2033	2033	4	2	1.240
2033	2033	5	2	2.667
2034	2034	1	1	1.933
2034	2034	1	2	1.998
2034	2034	1	3	0.405
2034	2034	2	1	3.326
2034	2034	2	2	1.646
2034	2034	2	3	0.151
2034	2034	3	1	3.326
2034	2034	3	2	1.646
2034	2034	3	3	0.151
2034	2034	4	2	1.176
2034	2034	5	2	2.450
2035	2035	1	1	1.795
2035	2035	1	2	1.826
2035	2035	1	3	0.374
2035	2035	2	1	-0.177
2035	2035	2	2	1.517
2035	2035	2	3	0.162
2035	2035	3	1	-0.177
2035	2035	3	2	1.517
2035	2035	3	3	0.162

2035	2035	4	2	1.110
2035	2035	5	2	2.072
2036	2036	1	1	1.602
2036	2036	1	2	1.723
2036	2036	1	3	0.362
2036	2036	2	1	1.873
2036	2036	2	2	1.401
2036	2036	2	3	0.192
2036	2036	3	1	1.873
2036	2036	3	2	1.401
2036	2036	3	3	0.192
2036	2036	4	2	1.026
2036	2036	5	2	1.652
2037	2037	1	1	1.499
2037	2037	1	2	1.565
2037	2037	1	3	0.374
2037	2037	2	1	1.484
2037	2037	2	2	1.325
2037	2037	2	3	0.232
2037	2037	3	1	1.484
2037	2037	3	2	1.325
2037	2037	3	3	0.232
2037	2037	4	2	0.935
2037	2037	5	2	1.356
2038	2038	1	1	1.372
2038	2038	1	2	1.357
2038	2038	1	3	0.386
2038	2038	2	1	2.766
2038	2038	2	2	1.280
2038	2038	2	3	0.263
2038	2038	3	1	2.766
2038	2038	3	2	1.280
2038	2038	3	3	0.263
2038	2038	4	2	0.848
2038	2038	5	2	1.046
2039	2039	1	1	1.233
2039	2039	1	2	1.098
2039	2039	1	3	0.402
2039	2039	2	1	0.398
2039	2039	2	2	0.831
2039	2039	2	3	0.296
2039	2039	3	1	0.398
2039	2039	3	2	0.831
2039	2039	3	3	0.296

2039	2039	4	2	0.758
2039	2039	5	2	0.806
2040	2040	1	1	1.198
2040	2040	1	2	1.161
2040	2040	1	3	0.342
2040	2040	2	1	0.753
2040	2040	2	2	0.771
2040	2040	2	3	0.329
2040	2040	3	1	0.753
2040	2040	3	2	0.771
2040	2040	3	3	0.329
2040	2040	4	2	0.660
2040	2040	5	2	0.599
2041	2041	1	1	1.300
2041	2041	1	2	1.581
2041	2041	1	3	0.360
2041	2041	2	1	1.010
2041	2041	2	2	1.026
2041	2041	2	3	0.390
2041	2041	3	1	1.010
2041	2041	3	2	1.026
2041	2041	3	3	0.390
2041	2041	4	2	0.582
2041	2041	5	2	0.436
2042	2042	1	1	0.879
2042	2042	1	2	0.843
2042	2042	1	3	0.374
2042	2042	2	1	0.496
2042	2042	2	2	0.525
2042	2042	2	3	0.477
2042	2042	3	1	0.496
2042	2042	3	2	0.525
2042	2042	3	3	0.477
2042	2042	4	2	0.512
2042	2042	5	2	0.335
2043	2043	1	1	0.765
2043	2043	1	2	0.693
2043	2043	1	3	0.385
2043	2043	2	1	0.415
2043	2043	2	2	0.437
2043	2043	2	3	0.533
2043	2043	3	1	0.415
2043	2043	3	2	0.437
2043	2043	3	3	0.533

2043	2043	4	2	0.451
2043	2043	5	2	0.259
2044	2044	1	1	0.624
2044	2044	1	2	0.557
2044	2044	1	3	0.405
2044	2044	2	1	0.345
2044	2044	2	2	0.357
2044	2044	2	3	0.581
2044	2044	3	1	0.345
2044	2044	3	2	0.357
2044	2044	3	3	0.581
2044	2044	4	2	0.404
2044	2044	5	2	0.202
2045	2045	1	1	0.483
2045	2045	1	2	0.421
2045	2045	1	3	0.407
2045	2045	2	1	0.285
2045	2045	2	2	0.288
2045	2045	2	3	0.623
2045	2045	3	1	0.285
2045	2045	3	2	0.288
2045	2045	3	3	0.623
2045	2045	4	2	0.365
2045	2045	5	2	0.160
2046	2046	1	1	0.320
2046	2046	1	2	0.344
2046	2046	1	3	0.428
2046	2046	2	1	0.652
2046	2046	2	2	0.858
2046	2046	2	3	0.645
2046	2046	3	1	0.652
2046	2046	3	2	0.858
2046	2046	3	3	0.645
2046	2046	4	2	0.374
2046	2046	5	2	0.157
2047	2047	1	1	0.238
2047	2047	1	2	0.257
2047	2047	1	3	0.441
2047	2047	2	1	0.150
2047	2047	2	2	0.136
2047	2047	2	3	0.686
2047	2047	3	1	0.150
2047	2047	3	2	0.136
2047	2047	3	3	0.686

2047	2047	4	2	0.304
2047	2047	5	2	0.087
2048	2048	1	1	0.179
2048	2048	1	2	0.195
2048	2048	1	3	0.452
2048	2048	2	1	0.126
2048	2048	2	2	0.108
2048	2048	2	3	0.717
2048	2048	3	1	0.126
2048	2048	3	2	0.108
2048	2048	3	3	0.717
2048	2048	4	2	0.288
2048	2048	5	2	0.074
2049	2049	1	1	0.135
2049	2049	1	2	0.148
2049	2049	1	3	0.461
2049	2049	2	1	0.106
2049	2049	2	2	0.087
2049	2049	2	3	0.745
2049	2049	3	1	0.106
2049	2049	3	2	0.087
2049	2049	3	3	0.745
2049	2049	4	2	0.275
2049	2049	5	2	0.062
2050	2050	1	1	0.103
2050	2050	1	2	0.114
2050	2050	1	3	0.472
2050	2050	2	1	0.091
2050	2050	2	2	0.072
2050	2050	2	3	0.770
2050	2050	3	1	0.091
2050	2050	3	2	0.072
2050	2050	3	3	0.770
2050	2050	4	2	0.266
2050	2050	5	2	0.055
2051	2151	1	1	0.000
2051	2151	1	2	0.000
2051	2151	1	3	0.000
2051	2151	2	1	0.000
2051	2151	2	2	0.000
2051	2151	2	3	0.000
2051	2151	3	1	0.000
2051	2151	3	2	0.000
2051	2151	3	3	0.000

PRESENT_VALUE_COSTS

Scheme investment and operating costs (i.e. excluding grant/subsidy, developer contributions and delays) and differences. £000s.

Mode	Year	DM_scheme_costs	DS_scheme_costs	Difference
Road	2023	0	0	0
Road	2024	0	0	0
Road	2025	0	0	0
Road	2026	0	0	0
Road	2027	0	0	0
Road	Total	0	0	0

TRIP_MATRIX_TOTALS

Annualised total trip numbers(thousands)

Submode	Year	Time period	DO MIN	DO SOM
Car	2023	AM peak	1719	1719
Car	2023	PM peak	1985	1985
Car	2023	Inter-peak	5505	5505
Car	2023	Off-peak	788	788
Car	2023	All	9997	9997
Car	2037	AM peak	1835	1835
Car	2037	PM peak	2014	2014
Car	2037	Inter-peak	5996	5996
Car	2037	Off-peak	901	901
Car	2037	All	10745	10745
LGV Personal	2023	AM peak	33	33
LGV Personal	2023	PM peak	31	31
LGV Personal	2023	Inter-peak	118	118
LGV Personal	2023	Off-peak	17	17
LGV Personal	2023	All	199	199
LGV Personal	2037	AM peak	35	35
LGV Personal	2037	PM peak	31	31
LGV Personal	2037	Inter-peak	129	129
LGV Personal	2037	Off-peak	19	19
LGV Personal	2037	All	215	215
LGV Freight	2023	AM peak	241	241
LGV Freight	2023	PM peak	226	226
LGV Freight	2023	Inter-peak	868	868
LGV Freight	2023	Off-peak	124	124
LGV Freight	2023	All	1460	1460
LGV Freight	2037	AM peak	257	257
LGV Freight	2037	PM peak	229	229
LGV Freight	2037	Inter-peak	946	946
LGV Freight	2037	Off-peak	142	142
LGV Freight	2037	All	1575	1575

OGV1	2023 AM peak	82	82
OGV1	2023 PM peak	37	37
OGV1	2023 Inter-peak	392	392
OGV1	2023 Off-peak	56	56
OGV1	2023 All	567	567
OGV1	2037 AM peak	87	87
OGV1	2037 PM peak	38	38
OGV1	2037 Inter-peak	427	427
OGV1	2037 Off-peak	64	64
OGV1	2037 All	616	616
OGV2	2023 AM peak	66	66
OGV2	2023 PM peak	44	44
OGV2	2023 Inter-peak	276	276
OGV2	2023 Off-peak	40	40
OGV2	2023 All	425	425
OGV2	2037 AM peak	70	70
OGV2	2037 PM peak	44	44
OGV2	2037 Inter-peak	301	301
OGV2	2037 Off-peak	45	45
OGV2	2037 All	461	461
All	2023 AM peak	2140	2140
All	2023 PM peak	2323	2323
All	2023 Inter-peak	7160	7160
All	2023 Off-peak	1025	1025
All	2023 All	12648	12648
All	2037 AM peak	2285	2285
All	2037 PM peak	2357	2357
All	2037 Inter-peak	7798	7798
All	2037 Off-peak	1172	1172
All	2037 All	13611	13611

DM&DS_USER_COSTS

Total value of user costs, DM and DS. £000s.

Mode	Year	DMtot_time	DMtot_charge	DMtot_fuel	DMtot_nonfuel	DStot_time	DStot_charge	DStot_fuel	DStot_nonfuel
Road	2023	97	0	1869	929	97	0	1869	929
Road	2037	85	0	816	619	167	0	816	622

FUEL_CONSUMPTION

Total fuel consumption, DM and DS. kilounits.

Submode	Year	Do minimum			Do something		
		Petrol	Diesel	Electric	Petrol	Diesel	Electric
Car	2023	769	606	299	769	606	299
Car	2037	504	190	2084	504	190	2084
LGV Personal	2023	1	38	1	1	38	1

LGV Personal	2037	0	27	26	0	27	26
LGV Freight	2023	5	278	10	5	278	10
LGV Freight	2037	3	195	188	3	195	188
OGV1	2023	0	190	0	0	190	0
OGV1	2037	0	175	0	0	175	0
OGV2	2023	0	229	0	0	229	0
OGV2	2037	0	182	0	0	182	0
All	2023	776	1340	310	776	1340	310
All	2037	508	769	2297	508	769	2297
Car	Total	27875	11735	121015	27875	11735	121015
LGV Personal	Total	21	1333	2327	21	1333	2327
LGV Freight	Total	152	9778	17065	152	9778	17065
OGV1	Total	0	10164	0	0	10164	0
OGV2	Total	0	10918	0	0	10918	0
All	Total	28048	43929	140407	28048	43929	140407

CO2_EMISSIONS_UNTRADED

Submode	Year	Emissions (tonnes)			cost (£000s, low)			cost (£000s, central)			cost (£000s, high)		
		DM	DS	Increase	DM	DS	Increase	DM	DS	Increase	DM	DS	Increase
Car	2023	3152	3152	0	206	206	0	412	412	0	618	618	0
Car	2037	1541	1541	0	77	77	0	154	154	0	231	231	0
LGV Personal	2023	97	97	0	6	6	0	13	13	0	19	19	0
LGV Personal	2037	68	68	0	3	3	0	7	7	0	10	10	0
LGV Freight	2023	713	713	0	47	47	0	93	93	0	140	140	0
LGV Freight	2037	496	496	0	25	25	0	49	49	0	74	74	0
OGV1	2023	479	479	0	31	31	0	63	63	0	94	94	0
OGV1	2037	439	439	0	22	22	0	44	44	0	66	66	0
OGV2	2023	577	577	0	38	38	0	75	75	0	113	113	0
OGV2	2037	457	457	0	23	23	0	46	46	0	68	68	0
All	2023	5017	5017	0	328	328	0	655	655	0	983	983	0
All	2024	4898	4898	0	314	314	0	628	628	0	942	942	0
All	2025	4746	4746	0	298	298	0	597	597	0	895	895	0
All	2026	4592	4592	0	283	283	0	566	566	0	849	849	0
All	2027	4433	4433	0	268	268	0	536	536	0	804	804	0
All	2028	4271	4271	0	253	253	0	507	507	0	760	760	0
All	2029	4111	4111	0	239	239	0	478	478	0	718	718	0
All	2030	3933	3933	0	224	224	0	449	449	0	673	673	0
All	2031	3764	3764	0	211	211	0	421	421	0	632	632	0
All	2032	3609	3609	0	198	198	0	396	396	0	595	595	0
All	2033	3464	3464	0	187	187	0	373	373	0	560	560	0
All	2034	3330	3330	0	176	176	0	352	352	0	528	528	0
All	2035	3208	3208	0	166	166	0	333	333	0	499	499	0
All	2036	3098	3098	0	157	157	0	315	315	0	472	472	0
All	2037	3000	3000	0	150	150	0	299	299	0	449	449	0

All	2038	2901	2901	0	142	142	0	284	284	0	426	426	0
All	2039	2821	2821	0	135	135	0	271	271	0	406	406	0
All	2040	2749	2749	0	129	129	0	259	259	0	388	388	0
All	2041	2688	2688	0	124	124	0	248	248	0	372	372	0
All	2042	2633	2633	0	119	119	0	238	238	0	357	357	0
All	2043	2586	2586	0	115	115	0	230	230	0	344	344	0
All	2044	2546	2546	0	111	111	0	222	222	0	332	332	0
All	2045	2511	2511	0	107	107	0	214	214	0	322	322	0
All	2046	2477	2477	0	104	104	0	207	207	0	311	311	0
All	2047	2451	2451	0	101	101	0	201	201	0	302	302	0
All	2048	2427	2427	0	98	98	0	195	195	0	293	293	0
All	2049	2406	2406	0	95	95	0	190	190	0	285	285	0
All	2050	2387	2387	0	92	92	0	185	185	0	277	277	0
All	2051	2387	2387	0	91	91	0	181	181	0	272	272	0
All	2052	2387	2387	0	89	89	0	178	178	0	267	267	0
All	2053	2387	2387	0	87	87	0	174	174	0	262	262	0
All	2054	2387	2387	0	86	86	0	172	172	0	258	258	0
All	2055	2387	2387	0	85	85	0	169	169	0	254	254	0
All	2056	2387	2387	0	83	83	0	167	167	0	250	250	0
All	2057	2387	2387	0	82	82	0	164	164	0	247	247	0
All	2058	2387	2387	0	81	81	0	162	162	0	243	243	0
All	2059	2387	2387	0	80	80	0	160	160	0	239	239	0
All	2060	2387	2387	0	79	79	0	157	157	0	236	236	0
All	2061	2387	2387	0	78	78	0	155	155	0	233	233	0
All	2062	2387	2387	0	76	76	0	153	153	0	229	229	0
All	2063	2387	2387	0	75	75	0	151	151	0	226	226	0
All	2064	2387	2387	0	74	74	0	148	148	0	223	223	0
All	2065	2387	2387	0	73	73	0	146	146	0	219	219	0
All	2066	2387	2387	0	72	72	0	144	144	0	216	216	0
All	2067	2387	2387	0	71	71	0	142	142	0	213	213	0
All	2068	2387	2387	0	70	70	0	140	140	0	210	210	0
All	2069	2387	2387	0	69	69	0	138	138	0	207	207	0
All	2070	2387	2387	0	68	68	0	136	136	0	204	204	0
All	2071	2387	2387	0	67	67	0	134	134	0	201	201	0
All	2072	2387	2387	0	66	66	0	132	132	0	198	198	0
All	2073	2387	2387	0	65	65	0	130	130	0	195	195	0
All	2074	2387	2387	0	64	64	0	128	128	0	192	192	0
All	2075	2387	2387	0	63	63	0	126	126	0	189	189	0
All	2076	2387	2387	0	62	62	0	124	124	0	187	187	0
All	2077	2387	2387	0	61	61	0	123	123	0	184	184	0
All	2078	2387	2387	0	60	60	0	121	121	0	181	181	0
All	2079	2387	2387	0	60	60	0	119	119	0	179	179	0
All	2080	2387	2387	0	59	59	0	117	117	0	176	176	0
All	2081	2387	2387	0	58	58	0	116	116	0	173	173	0

All	2082	2387	2387	0	57	57	0	114	114	0	171	171	0
Car	Total	88286	88286	-0	3856	3856	0	7712	7712	0	11568	11568	0
LGV Personal	Total	3391	3391	-0	147	147	0	295	295	0	442	442	0
LGV Freight	Total	24867	24867	0	1080	1080	0	2160	2160	0	3241	3241	0
OGV1	Total	25508	25508	0	1033	1033	0	2065	2065	0	3098	3098	0
OGV2	Total	27403	27403	-0	1119	1119	0	2239	2239	0	3358	3358	0
All	Total	169455	169455	-0	7235	7235	0	14471	14471	0	21706	21706	0

CO2_EMISSIONS_TRADED

Submode	Year	Emissions (tonnes)			cost (£000s, low)			cost (£000s, central)			cost (£000s, high)		
		DM	DS	Increase	DM	DS	Increase	DM	DS	Increase	DM	DS	Increase
Car	2023	76	76	0	5	5	0	10	10	0	15	15	0
Car	2037	61	61	0	3	3	0	6	6	0	9	9	0
LGV Personal	2023	0	0	0	0	0	0	0	0	0	0	0	0
LGV Personal	2037	1	1	0	0	0	0	0	0	0	0	0	0
LGV Freight	2023	2	2	0	0	0	0	0	0	0	0	0	0
LGV Freight	2037	6	6	0	0	0	0	1	1	0	1	1	0
OGV1	2023	0	0	0	0	0	0	0	0	0	0	0	0
OGV1	2037	0	0	0	0	0	0	0	0	0	0	0	0
OGV2	2023	0	0	0	0	0	0	0	0	0	0	0	0
OGV2	2037	0	0	0	0	0	0	0	0	0	0	0	0
All	2023	79	79	0	5	5	0	10	10	0	15	15	0
All	2024	105	105	0	7	7	0	13	13	0	20	20	0
All	2025	130	130	0	8	8	0	16	16	0	25	25	0
All	2026	152	152	0	9	9	0	19	19	0	28	28	0
All	2027	169	169	0	10	10	0	20	20	0	31	31	0
All	2028	181	181	0	11	11	0	21	21	0	32	32	0
All	2029	184	184	0	11	11	0	21	21	0	32	32	0
All	2030	179	179	0	10	10	0	20	20	0	31	31	0
All	2031	161	161	0	9	9	0	18	18	0	27	27	0
All	2032	143	143	0	8	8	0	16	16	0	23	23	0
All	2033	125	125	0	7	7	0	13	13	0	20	20	0
All	2034	109	109	0	6	6	0	11	11	0	17	17	0
All	2035	93	93	0	5	5	0	10	10	0	15	15	0
All	2036	80	80	0	4	4	0	8	8	0	12	12	0
All	2037	68	68	0	3	3	0	7	7	0	10	10	0
All	2038	57	57	0	3	3	0	6	6	0	8	8	0
All	2039	47	47	0	2	2	0	5	5	0	7	7	0
All	2040	39	39	0	2	2	0	4	4	0	5	5	0
All	2041	33	33	0	2	2	0	3	3	0	5	5	0
All	2042	32	32	0	1	1	0	3	3	0	4	4	0
All	2043	31	31	0	1	1	0	3	3	0	4	4	0
All	2044	30	30	0	1	1	0	3	3	0	4	4	0
All	2045	25	25	0	1	1	0	2	2	0	3	3	0

All	2046	23	23	0	1	1	0	2	2	0	3	3	0
All	2047	22	22	0	1	1	0	2	2	0	3	3	0
All	2048	21	21	0	1	1	0	2	2	0	2	2	0
All	2049	19	19	0	1	1	0	2	2	0	2	2	0
All	2050	19	19	0	1	1	0	1	1	0	2	2	0
All	2051	19	19	0	1	1	0	1	1	0	2	2	0
All	2052	19	19	0	1	1	0	1	1	0	2	2	0
All	2053	19	19	0	1	1	0	1	1	0	2	2	0
All	2054	19	19	0	1	1	0	1	1	0	2	2	0
All	2055	19	19	0	1	1	0	1	1	0	2	2	0
All	2056	19	19	0	1	1	0	1	1	0	2	2	0
All	2057	19	19	0	1	1	0	1	1	0	2	2	0
All	2058	19	19	0	1	1	0	1	1	0	2	2	0
All	2059	19	19	0	1	1	0	1	1	0	2	2	0
All	2060	19	19	0	1	1	0	1	1	0	2	2	0
All	2061	19	19	0	1	1	0	1	1	0	2	2	0
All	2062	19	19	0	1	1	0	1	1	0	2	2	0
All	2063	19	19	0	1	1	0	1	1	0	2	2	0
All	2064	19	19	0	1	1	0	1	1	0	2	2	0
All	2065	19	19	0	1	1	0	1	1	0	2	2	0
All	2066	19	19	0	1	1	0	1	1	0	2	2	0
All	2067	19	19	0	1	1	0	1	1	0	2	2	0
All	2068	19	19	0	1	1	0	1	1	0	2	2	0
All	2069	19	19	0	1	1	0	1	1	0	2	2	0
All	2070	19	19	0	1	1	0	1	1	0	2	2	0
All	2071	19	19	0	1	1	0	1	1	0	2	2	0
All	2072	19	19	0	1	1	0	1	1	0	2	2	0
All	2073	19	19	0	1	1	0	1	1	0	2	2	0
All	2074	19	19	0	1	1	0	1	1	0	2	2	0
All	2075	19	19	0	0	0	0	1	1	0	1	1	0
All	2076	19	19	0	0	0	0	1	1	0	1	1	0
All	2077	19	19	0	0	0	0	1	1	0	1	1	0
All	2078	19	19	0	0	0	0	1	1	0	1	1	0
All	2079	19	19	0	0	0	0	1	1	0	1	1	0
All	2080	19	19	0	0	0	0	1	1	0	1	1	0
All	2081	19	19	0	0	0	0	1	1	0	1	1	0
All	2082	19	19	0	0	0	0	1	1	0	1	1	0
Car	Total	2734	2734	0	139	139	0	279	279	0	418	418	0
LGV Personal	Total	27	27	0	1	1	0	2	2	0	3	3	0
LGV Freight	Total	196	196	-0	8	8	0	17	17	0	25	25	0
OGV1	Total	0	0	0	0	0	0	0	0	0	0	0	0
OGV2	Total	0	0	0	0	0	0	0	0	0	0	0	0
All	Total	2956	2956	0	149	149	0	298	298	0	447	447	0

CO2_EMISSIONS_BY_TIME_PERIOD_UNTRADED

Submode	Year	Emissions (tonnes)			cost (£000s, low)			cost (£000s, central)			cost (£000s, high)		
		DM	DS	Increase	DM	DS	Increase	DM	DS	Increase	DM	DS	Increase
AM peak	2023	834	834	0	54	54	0	109	109	0	163	163	0
AM peak	2037	487	487	0	24	24	0	49	49	0	73	73	0
PM peak	2023	842	842	0	55	55	0	110	110	0	165	165	0
PM peak	2037	442	442	0	22	22	0	44	44	0	66	66	0
Inter-peak	2023	2923	2923	0	191	191	0	382	382	0	573	573	0
Inter-peak	2037	1801	1801	0	90	90	0	180	180	0	269	269	0
Off-peak	2023	419	419	0	27	27	0	55	55	0	82	82	0
Off-peak	2037	271	271	0	13	13	0	27	27	0	40	40	0
AM peak	Total	27529	27529	0	1179	1179	0	2358	2358	0	3536	3536	0
PM peak	Total	25169	25169	0	1091	1091	0	2182	2182	0	3273	3273	0
Inter-peak	Total	101622	101622	0	4324	4324	0	8648	8648	0	12972	12972	0
Off-peak	Total	15135	15135	0	642	642	0	1283	1283	0	1925	1925	0

NOTE: The cost of any UK Allowances (UKAs) purchased to cover traded emissions (i.e. emissions from sectors covered by the UK Emissions Trading System) will be reflected in the purchase price of traded sector goods (such as electricity). Since the purchase price is used in the costs, considered in transport appraisal, the cost of the relevant UKAs will be included in the cost benefit analysis, "internalising" the costs of emissions from traded sectors.

The CO2 EMISSIONS BY TIME PERIOD TRADED reported in the table below are therefore provided for information purposes only - they are not included in the Economic Efficiency of the Transport System (TEE) table.

For further information, please refer to TAG Unit A-3 para. 4.1.5 and 4.2.9

CO2_EMISSIONS_BY_TIME_PERIOD_TRADED

Submode	Year	Emissions (tonnes)			cost (£000s, low)			cost (£000s, central)			cost (£000s, high)		
		DM	DS	Increase	DM	DS	Increase	DM	DS	Increase	DM	DS	Increase
AM peak	2023	14	14	0	1	1	0	2	2	0	3	3	0
AM peak	2037	11	11	0	1	1	0	1	1	0	2	2	0
PM peak	2023	16	16	0	1	1	0	2	2	0	3	3	0
PM peak	2037	12	12	0	1	1	0	1	1	0	2	2	0
Inter-peak	2023	44	44	0	3	3	0	6	6	0	9	9	0
Inter-peak	2037	38	38	0	2	2	0	4	4	0	6	6	0
Off-peak	2023	6	6	0	0	0	0	1	1	0	1	1	0
Off-peak	2037	6	6	0	0	0	0	1	1	0	1	1	0
AM peak	Total	504	504	0	25	25	0	51	51	0	76	76	0
PM peak	Total	556	556	0	28	28	0	56	56	0	85	85	0
Inter-peak	Total	1652	1652	0	83	83	0	166	166	0	249	249	0
Off-peak	Total	244	244	0	12	12	0	24	24	0	37	37	0

MODE

User benefits and changes in revenues by mode, all years. £000s.

Mode	Year	User	User_Charges	Vehicle_Operating_Cost	Operator_Rev	Indirect	
		Time	PT_fares_(pri)	Fuel	Non_fuel	PT_fares_(pri)	Taxes
Road	2023	0	0	0	0	0	0

Road	2024	-8	0	0	-0	0	0
Road	2025	-15	0	0	-1	0	0
Road	2026	-22	0	0	-1	0	0
Road	2027	-28	0	0	-1	0	0
Road	2028	-35	0	0	-2	0	0
Road	2029	-41	0	0	-2	0	0
Road	2030	-47	0	0	-2	0	0
Road	2031	-52	0	0	-2	0	0
Road	2032	-58	0	0	-2	0	0
Road	2033	-63	0	0	-3	0	0
Road	2034	-68	0	0	-3	0	0
Road	2035	-73	0	0	-3	0	0
Road	2036	-77	0	0	-3	0	0
Road	2037	-82	0	0	-3	0	0
Road	2038	-80	0	0	-3	0	0
Road	2039	-78	0	0	-3	0	0
Road	2040	-77	0	0	-3	0	0
Road	2041	-75	0	0	-3	0	0
Road	2042	-74	0	0	-3	0	0
Road	2043	-73	0	0	-3	0	0
Road	2044	-71	0	0	-2	0	0
Road	2045	-70	0	0	-2	0	0
Road	2046	-68	0	0	-2	0	0
Road	2047	-67	0	0	-2	0	0
Road	2048	-66	0	0	-2	0	0
Road	2049	-65	0	0	-2	0	0
Road	2050	-63	0	0	-2	0	0
Road	2051	-62	0	0	-2	0	0
Road	2052	-61	0	0	-2	0	0
Road	2053	-60	0	0	-2	0	0
Road	2054	-59	0	0	-2	0	0
Road	2055	-58	0	0	-2	0	0
Road	2056	-57	0	0	-2	0	0
Road	2057	-56	0	0	-2	0	0
Road	2058	-55	0	0	-2	0	0
Road	2059	-55	0	0	-2	0	0
Road	2060	-54	0	0	-1	0	0
Road	2061	-53	0	0	-1	0	0
Road	2062	-52	0	0	-1	0	0
Road	2063	-52	0	0	-1	0	0
Road	2064	-51	0	0	-1	0	0
Road	2065	-50	0	0	-1	0	0
Road	2066	-49	0	0	-1	0	0
Road	2067	-49	0	0	-1	0	0

Road	2068	-48	0	0	-1	0	0
Road	2069	-47	0	0	-1	0	0
Road	2070	-47	0	0	-1	0	0
Road	2071	-46	0	0	-1	0	0
Road	2072	-45	0	0	-1	0	0
Road	2073	-45	0	0	-1	0	0
Road	2074	-44	0	0	-1	0	0
Road	2075	-43	0	0	-1	0	0
Road	2076	-43	0	0	-1	0	0
Road	2077	-42	0	0	-1	0	0
Road	2078	-41	0	0	-1	0	0
Road	2079	-41	0	0	-1	0	0
Road	2080	-40	0	0	-1	0	0
Road	2081	-40	0	0	-1	0	0
Road	2082	-39	0	0	-1	0	0
Road	Total	-3177	0	0	-99	0	0

SUBMODE

User benefits and changes in revenues by submode/vehicle type, modelled years and total. £000s.

Submode	Year	User	User_Charges	Vehicle_Operating_Cost	Operator_Rev	Indirect	
		Time	PT_fares_(pri	Fuel	Non_fuel	PT_fares_(pri	Taxes
Car	2023	0	0	0	0	0	0
Car	2037	-56	0	0	-1	0	0
LGV Personal	2023	0	0	0	0	0	0
LGV Personal	2037	-1	0	0	0	0	0
LGV Freight	2023	0	0	0	0	0	0
LGV Freight	2037	-14	0	0	-0	0	0
OGV1	2023	0	0	0	0	0	0
OGV1	2037	-6	0	0	-1	0	0
OGV2	2023	0	0	0	0	0	0
OGV2	2037	-4	0	0	-1	0	0
All	2023	0	0	0	0	0	0
All	2037	-82	0	0	-3	0	0
Car	Total	-2196	0	0	-17	0	0
LGV Personal	Total	-34	0	0	0	0	0
LGV Freight	Total	-561	0	0	-13	0	0
OGV1	Total	-222	0	0	-29	0	0
OGV2	Total	-163	0	0	-41	0	0
All	Total	-3177	0	0	-99	0	0

PERSON_TYPES

User benefits and changes in revenues by person type, modelled years and total. £000s.

Person_type	Year	User	User_Charges	Vehicle_Operating_Cost	Operator_Rev	Indirect	
		Time	PT_fares_(pri	Fuel	Non_fuel	PT_fares_(pri	Taxes

All	2023	0	0	0	0	0	0
All	2037	-82	0	0	-3	0	0
All	Total	-3177	0	0	-99	0	0

PURPOSE

User benefits and changes in revenues by trip purpose, modelled years and total. £000s.

Purpose	Year	User	User_Charges	Vehicle_Operating_Cost		Operator_Rev	Indirect
		Time	PT_fares_(pri	Fuel	Non_fuel	PT_fares_(pri	Taxes
Business	2023	0	0	0	0	0	0
Business	2037	-28	0	0	-3	0	0
Commuting	2023	0	0	0	0	0	0
Commuting	2037	-12	0	0	0	0	0
Other	2023	0	0	0	0	0	0
Other	2037	-41	0	0	0	0	0
Business	Total	-1108	0	0	-99	0	0
Commuting	Total	-466	0	0	0	0	0
Other	Total	-1603	0	0	0	0	0

PERIOD

User benefits and changes in revenues by time period, modelled years and total. £000s.

Period	Year	User	User_Charges	Vehicle_Operating_Cost		Operator_Rev	Indirect
		Time	PT_fares_(pri	Fuel	Non_fuel	PT_fares_(pri	Taxes
AM peak	2023	0	0	0	0	0	0
AM peak	2037	-6	0	0	-0	0	0
PM peak	2023	0	0	0	0	0	0
PM peak	2037	-11	0	0	-0	0	0
Inter-peak	2023	0	0	0	0	0	0
Inter-peak	2037	-65	0	0	-3	0	0
Off-peak	2023	0	0	0	0	0	0
Off-peak	2037	-0	0	0	-0	0	0
AM peak	Total	-249	0	0	-7	0	0
PM peak	Total	-409	0	0	-7	0	0
Inter-peak	Total	-2516	0	0	-85	0	0
Off-peak	Total	-2	0	0	-0	0	0

NON MONETISED TIME BENEFITS BY TIME SAVING

Time benefits (thousands of person hrs) by size of time saving

Vehicle type	Purpose	Year	< -5 mins	-5 to -2 mins	-2 to 0 mins	0 to 2 mins	2 to 5 mins	> 5 mins
Car	Business	2023	0	0	0	0	0	0
Car	Business	2037	0	0	-1	0	0	0
Car	Business	Total	0	0	-49	0	0	0
Car	Commuting	2023	0	0	0	0	0	0
Car	Commuting	2037	0	0	-2	0	0	0
Car	Commuting	Total	0	0	-117	0	0	0

Car	Other	2023	0	0	0	0	0	0
Car	Other	2037	0	0	-16	0	0	0
Car	Other	Total	0	0	-864	0	0	0
LGV Personal Business		2023	0	0	0	0	0	0
LGV Personal Business		2037	0	0	0	0	0	0
LGV Personal Business		Total	0	0	0	0	0	0
LGV Personal Commuting		2023	0	0	0	0	0	0
LGV Personal Commuting		2037	0	0	0	0	0	0
LGV Personal Commuting		Total	0	0	0	0	0	0
LGV Personal Other		2023	0	0	0	0	0	0
LGV Personal Other		2037	0	0	-0	0	0	0
LGV Personal Other		Total	0	0	-19	0	0	0
LGV Freight Business		2023	0	0	0	0	0	0
LGV Freight Business		2037	0	0	-2	0	0	0
LGV Freight Business		Total	0	0	-112	0	0	0
LGV Freight Commuting		2023	0	0	0	0	0	0
LGV Freight Commuting		2037	0	0	0	0	0	0
LGV Freight Commuting		Total	0	0	0	0	0	0
LGV Freight Other		2023	0	0	0	0	0	0
LGV Freight Other		2037	0	0	0	0	0	0
LGV Freight Other		Total	0	0	0	0	0	0
OGV1 Business		2023	0	0	0	0	0	0
OGV1 Business		2037	0	0	-1	0	0	0
OGV1 Business		Total	0	0	-39	0	0	0
OGV1 Commuting		2023	0	0	0	0	0	0
OGV1 Commuting		2037	0	0	0	0	0	0
OGV1 Commuting		Total	0	0	0	0	0	0
OGV1 Other		2023	0	0	0	0	0	0
OGV1 Other		2037	0	0	0	0	0	0
OGV1 Other		Total	0	0	0	0	0	0
OGV2 Business		2023	0	0	0	0	0	0
OGV2 Business		2037	0	0	-1	0	0	0
OGV2 Business		Total	0	0	-28	0	0	0
OGV2 Commuting		2023	0	0	0	0	0	0
OGV2 Commuting		2037	0	0	0	0	0	0
OGV2 Commuting		Total	0	0	0	0	0	0
OGV2 Other		2023	0	0	0	0	0	0
OGV2 Other		2037	0	0	0	0	0	0
OGV2 Other		Total	0	0	0	0	0	0

MONETISED TIME BENEFITS BY TIME SAVING

Time benefits (£000s) by size of time saving

Vehicle type	Purpose	Year	< -5 mins	-5 to -2 mins	-2 to 0 mins	0 to 2 mins	2 to 5 mins	> 5 mins
Car	Business	2023	0	0	0	0	0	0

Car	Business	2037	0	0	-4	0	0	0
Car	Business	Total	0	0	-161	0	0	0
Car	Commuting	2023	0	0	0	0	0	0
Car	Commuting	2037	0	0	-12	0	0	0
Car	Commuting	Total	0	0	-466	0	0	0
Car	Other	2023	0	0	0	0	0	0
Car	Other	2037	0	0	-40	0	0	0
Car	Other	Total	0	0	-1569	0	0	0
LGV Personal	Business	2023	0	0	0	0	0	0
LGV Personal	Business	2037	0	0	0	0	0	0
LGV Personal	Business	Total	0	0	0	0	0	0
LGV Personal	Commuting	2023	0	0	0	0	0	0
LGV Personal	Commuting	2037	0	0	0	0	0	0
LGV Personal	Commuting	Total	0	0	0	0	0	0
LGV Personal	Other	2023	0	0	0	0	0	0
LGV Personal	Other	2037	0	0	-1	0	0	0
LGV Personal	Other	Total	0	0	-34	0	0	0
LGV Freight	Business	2023	0	0	0	0	0	0
LGV Freight	Business	2037	0	0	-14	0	0	0
LGV Freight	Business	Total	0	0	-561	0	0	0
LGV Freight	Commuting	2023	0	0	0	0	0	0
LGV Freight	Commuting	2037	0	0	0	0	0	0
LGV Freight	Commuting	Total	0	0	0	0	0	0
LGV Freight	Other	2023	0	0	0	0	0	0
LGV Freight	Other	2037	0	0	0	0	0	0
LGV Freight	Other	Total	0	0	0	0	0	0
OGV1	Business	2023	0	0	0	0	0	0
OGV1	Business	2037	0	0	-6	0	0	0
OGV1	Business	Total	0	0	-222	0	0	0
OGV1	Commuting	2023	0	0	0	0	0	0
OGV1	Commuting	2037	0	0	0	0	0	0
OGV1	Commuting	Total	0	0	0	0	0	0
OGV1	Other	2023	0	0	0	0	0	0
OGV1	Other	2037	0	0	0	0	0	0
OGV1	Other	Total	0	0	0	0	0	0
OGV2	Business	2023	0	0	0	0	0	0
OGV2	Business	2037	0	0	-4	0	0	0
OGV2	Business	Total	0	0	-163	0	0	0
OGV2	Commuting	2023	0	0	0	0	0	0
OGV2	Commuting	2037	0	0	0	0	0	0
OGV2	Commuting	Total	0	0	0	0	0	0
OGV2	Other	2023	0	0	0	0	0	0
OGV2	Other	2037	0	0	0	0	0	0
OGV2	Other	Total	0	0	0	0	0	0

TOTAL BENEFITS BY TIME SAVING

Total benefits (£000s) by size of time saving

Vehicle type	Purpose	Year	< -5 mins	-5 to -2 mins	-2 to 0 mins	0 to 2 mins	2 to 5 mins	> 5 mins
Car	Business	2023	0	0	0	0	0	0
Car	Business	2037	0	0	-5	0	0	0
Car	Business	Total	0	0	-178	0	0	0
Car	Commuting	2023	0	0	0	0	0	0
Car	Commuting	2037	0	0	-12	0	0	0
Car	Commuting	Total	0	0	-466	0	0	0
Car	Other	2023	0	0	0	0	0	0
Car	Other	2037	0	0	-40	0	0	0
Car	Other	Total	0	0	-1569	0	0	0
LGV Personal	Business	2023	0	0	0	0	0	0
LGV Personal	Business	2037	0	0	0	0	0	0
LGV Personal	Business	Total	0	0	0	0	0	0
LGV Personal	Commuting	2023	0	0	0	0	0	0
LGV Personal	Commuting	2037	0	0	0	0	0	0
LGV Personal	Commuting	Total	0	0	0	0	0	0
LGV Personal	Other	2023	0	0	0	0	0	0
LGV Personal	Other	2037	0	0	-1	0	0	0
LGV Personal	Other	Total	0	0	-34	0	0	0
LGV Freight	Business	2023	0	0	0	0	0	0
LGV Freight	Business	2037	0	0	-15	0	0	0
LGV Freight	Business	Total	0	0	-574	0	0	0
LGV Freight	Commuting	2023	0	0	0	0	0	0
LGV Freight	Commuting	2037	0	0	0	0	0	0
LGV Freight	Commuting	Total	0	0	0	0	0	0
LGV Freight	Other	2023	0	0	0	0	0	0
LGV Freight	Other	2037	0	0	0	0	0	0
LGV Freight	Other	Total	0	0	0	0	0	0
OGV1	Business	2023	0	0	0	0	0	0
OGV1	Business	2037	0	0	-7	0	0	0
OGV1	Business	Total	0	0	-251	0	0	0
OGV1	Commuting	2023	0	0	0	0	0	0
OGV1	Commuting	2037	0	0	0	0	0	0
OGV1	Commuting	Total	0	0	0	0	0	0
OGV1	Other	2023	0	0	0	0	0	0
OGV1	Other	2037	0	0	0	0	0	0
OGV1	Other	Total	0	0	0	0	0	0
OGV2	Business	2023	0	0	0	0	0	0
OGV2	Business	2037	0	0	-5	0	0	0
OGV2	Business	Total	0	0	-204	0	0	0
OGV2	Commuting	2023	0	0	0	0	0	0

OGV1	Other	Total	0	0	0	0	0	0	0	0
OGV2	Business	2023	0	0	0	0	0	0	0	0
OGV2	Business	2037	0	-1	0	0	0	0	0	0
OGV2	Business	Total	0	-28	0	0	0	0	0	0
OGV2	Commuting	2023	0	0	0	0	0	0	0	0
OGV2	Commuting	2037	0	0	0	0	0	0	0	0
OGV2	Commuting	Total	0	0	0	0	0	0	0	0
OGV2	Other	2023	0	0	0	0	0	0	0	0
OGV2	Other	2037	0	0	0	0	0	0	0	0
OGV2	Other	Total	0	0	0	0	0	0	0	0

MONETISED TIME BENEFITS BY DISTANCE

Time benefits (£000s) by distance

Vehicle type	Purpose	Year	< 1 kms	1 to 5 kms	5 to 10 kms	10 to 25 kms	25 to 50 kms	50 to 100 kms	100 to 200 kms	>200 kms
Car	Business	2023	0	0	0	0	0	0	0	0
Car	Business	2037	0	-4	0	0	0	0	0	0
Car	Business	Total	0	-161	0	0	0	0	0	0
Car	Commuting	2023	0	0	0	0	0	0	0	0
Car	Commuting	2037	0	-12	0	0	0	0	0	0
Car	Commuting	Total	0	-466	0	0	0	0	0	0
Car	Other	2023	0	0	0	0	0	0	0	0
Car	Other	2037	0	-40	0	0	0	0	0	0
Car	Other	Total	0	-1569	0	0	0	0	0	0
LGV Personal	Business	2023	0	0	0	0	0	0	0	0
LGV Personal	Business	2037	0	0	0	0	0	0	0	0
LGV Personal	Business	Total	0	0	0	0	0	0	0	0
LGV Personal	Commuting	2023	0	0	0	0	0	0	0	0
LGV Personal	Commuting	2037	0	0	0	0	0	0	0	0
LGV Personal	Commuting	Total	0	0	0	0	0	0	0	0
LGV Personal	Other	2023	0	0	0	0	0	0	0	0
LGV Personal	Other	2037	0	-1	0	0	0	0	0	0
LGV Personal	Other	Total	0	-34	0	0	0	0	0	0
LGV Freight	Business	2023	0	0	0	0	0	0	0	0
LGV Freight	Business	2037	0	-14	0	0	0	0	0	0
LGV Freight	Business	Total	0	-561	0	0	0	0	0	0
LGV Freight	Commuting	2023	0	0	0	0	0	0	0	0
LGV Freight	Commuting	2037	0	0	0	0	0	0	0	0
LGV Freight	Commuting	Total	0	0	0	0	0	0	0	0
LGV Freight	Other	2023	0	0	0	0	0	0	0	0
LGV Freight	Other	2037	0	0	0	0	0	0	0	0
LGV Freight	Other	Total	0	0	0	0	0	0	0	0
OGV1	Business	2023	0	0	0	0	0	0	0	0
OGV1	Business	2037	0	-6	0	0	0	0	0	0
OGV1	Business	Total	0	-222	0	0	0	0	0	0

LGV Freight	Other	2037	0	0	0	0	0	0	0	0
LGV Freight	Other	Total	0	0	0	0	0	0	0	0
OGV1	Business	2023	0	0	0	0	0	0	0	0
OGV1	Business	2037	0	-7	0	0	0	0	0	0
OGV1	Business	Total	0	-251	0	0	0	0	0	0
OGV1	Commuting	2023	0	0	0	0	0	0	0	0
OGV1	Commuting	2037	0	0	0	0	0	0	0	0
OGV1	Commuting	Total	0	0	0	0	0	0	0	0
OGV1	Other	2023	0	0	0	0	0	0	0	0
OGV1	Other	2037	0	0	0	0	0	0	0	0
OGV1	Other	Total	0	0	0	0	0	0	0	0
OGV2	Business	2023	0	0	0	0	0	0	0	0
OGV2	Business	2037	0	-5	0	0	0	0	0	0
OGV2	Business	Total	0	-204	0	0	0	0	0	0
OGV2	Commuting	2023	0	0	0	0	0	0	0	0
OGV2	Commuting	2037	0	0	0	0	0	0	0	0
OGV2	Commuting	Total	0	0	0	0	0	0	0	0
OGV2	Other	2023	0	0	0	0	0	0	0	0
OGV2	Other	2037	0	0	0	0	0	0	0	0
OGV2	Other	Total	0	0	0	0	0	0	0	0

SENSITIVITY

Total user benefits as a percentage of total DM user costs

Modelled Years		
Mode	2023	2037
Road	0.00%	-5.57%

Economy:Economic Efficiency of the Transport System (TEE)

Consumer - Commuting user benefits	All Modes	Road
Travel Time	-466	-466
Vehicle operating costs	0	0
User charges	0	0
During Construction & Maintenance	0	0
NET CONSUMER - COMMUTING BENEFITS	-466	-466

Consumer - Other user benefits	All Modes	Road
Travel Time	-1603	-1603
Vehicle operating costs	0	0
User charges	0	0
During Construction & Maintenance	0	0
NET CONSUMER - OTHER BENEFITS	-1603	-1603

Business All Modes Road Personal Road Freight

Travel Time	-1108	-161	-946
Vehicle operating costs	-99	-17	-83
User charges	0	0	0
During Construction & Maintenance	0	0	0
Subtotal	-1207	-178	-1029

Private Sector Provider Impacts

Revenue	0	0
Operating costs	0	0
Investment costs	0	0
Grant/subsidy	0	0
Subtotal	0	0

Other business Impacts

Developer contributions	0	0
NET BUSINESS IMPACT	-1207	

TOTAL

Present Value of Transport Economic

Efficiency Benefits (TEE)	-3276
---------------------------	-------

Note: Benefits appear as positive numbers, while costs appear as negative numbers.

Note: All entries are present values discounted to 2010, in 2010 prices

Public Accounts

Local Government Funding	ALL MODES	Road
Revenue	0	0
Operating Costs	0	0
Investment Costs	0	0
Developer Contributions	0	0
Grant/Subsidy Payments	0	0
NET IMPACT	0	0

Central Government Funding: Transport

	ALL MODES	Road
Revenue	0	0
Operating costs	0	0
Investment costs	0	0
Developer Contributions	0	0
Grant/Subsidy Payments	0	0
NET IMPACT	0	0

Central Government Funding: Non-Transport

Indirect Tax Revenues	0	0
-----------------------	---	---

TOTALS

Broad Transport Budget	0	0
Wider Public Finances	0	0

Note: Costs appear as positive numbers, while revenues and developer contributions appear as negative numbers.

Note: All entries are present values discounted to 2010, in 2010 prices

Analysis of Monetised Costs and Benefits

Greenhouse Gases	0
Economic Efficiency: Consumer Users (Commuting)	-466
Economic Efficiency: Consumer Users (Other)	-1603
Economic Efficiency: Business Users and Providers	-1207
Wider Public Finances (Indirect Taxation Revenues)	0
Present Value of Benefits (PVB)	-3276
Broad Transport Budget	0
Present Value of Costs (PVC)	0

OVERALL IMPACTS

Net Present Value (NPV)	-3276
Benefit to Cost Ratio (BCR)	0.000

Note: This table includes costs and benefits which are regularly or occasionally presented in monetised form in transport appraisals, together with some where monetisation is in prospect. There may also be other significant costs and benefits, some of which cannot be presented in monetised form. Where this is the case, the analysis presented above does NOT provide a good measure of value for money and should not be used as the sole basis for decisions.

TUBA Run Information

- calculations completed

File Summary

* Run Name : TUBA-1_Ollerton_Draft_FBC_Dependent_Development

* Scheme File : L:\60625845_A614 MRN DFT responses\2023_Draft_FBC\TUBA\MasterFile - 1_Ollerton_V1_Draft_FBC_Dependent_Development.txt

* Economic File : L:\60625845_A614 MRN DFT responses\2023_Draft_FBC\TUBA\Economics_TAG_db1_20_2.txt

* Output File : L:\60625845_A614 MRN DFT responses\2023_Draft_FBC\TUBA\Ollerton_FBC_Dependent_Development.OUT

* Log File : L:\60625845_A614 MRN DFT responses\2023_Draft_FBC\TUBA\Ollerton_FBC_Dependent_Development.log

* User ID : philip.g.jones

* Computer ID : UKDBYLFHQB1T3

Elapsed time : 0hrs 0mins 1secs

Appendix N Ollerton TUBA - QRA

SCHEME SPECIFIC PARAMETERS

PARAMETERS

TUBA_version 1.9.17
run_name TUBA-1_Ollerton_FBC_QRA_V3
do_min_name DM
do_som_name DS

first_yr 2023
horizon_yr 2082
modelled_yrs 2023 2037
detail Yes
current_yr 2023
print_warn 20
P&R_car_speed 65.0
zones_as_sectors No

TIME_SLICES

*no.	duration(min)	annualisation	period	description
1	60	648	1	peak hour am 08:00-09:00
2	60	667	2	peak hour pm 17:00-18:00
3	60	2997	3	peak hour ip 10:00-16:00
4	60	4438	4	off peak hour

SCHEMES_DM

*Mode 1st Construction year Opening_yr Stage

DO_MIN_COSTS

*Type Mode Funding Cost Price RPI

DO_MIN_PROFILE

*Year Mode %Const %Land %Prep %Super %Maint %Op %Grant %Dev

DO_MIN_DELAY_COSTS

*Year Mode Business Commuting Other Freight

SCHEMES_DS

*Mode 1st Construction year Opening_yr Stage
1 2023 2027 SI

DO_SOM_COSTS

*Type	Mode	Funding	Cost	Price	RPI		
M	1		LOC	1058.27	F	123.41	1
P	1		CEN	904.33	F	133.39	1.00
C	1		CEN	9778.12	F	133.39	1.00
L	1		CEN	471.97	F	133.39	1.00
S	1		CEN	61.03	F	133.39	1.00
P	1		LOC	459.66	F	133.39	1.00
C	1		LOC	3197.23	F	133.39	1.00
L	1		LOC	275.56	F	133.39	1.00
S	1		LOC	19.34	F	133.39	1.00
D	1		LOC	1480.74	F	133.39	1.00

DO_SOM_PROFILE

*Year	Mode	%Const	%Land	%Prep	%Super	%Maint	%Op	%Grant	%Dev
2023	1	1.65	50.00	29.04	0.00	0.00	0.00	0.00	16.16
2024	1	29.77	50.00	30.12	30.00	0.00	0.00	0.00	0.00
2025	1	39.19	0.00	23.34	40.00	0.00	0.00	0.00	0.00
2026	1	29.39	0.00	17.50	30.00	0.00	0.00	0.00	83.84
2027	1	0	0	0	0	0.326	0	0	0
2028	1	0	0	0	0	0.326	0	0	0
2029	1	0	0	0	0	0.326	0	0	0
2030	1	0	0	0	0	3.387	0	0	0
2031	1	0	0	0	0	0.326	0	0	0
2032	1	0	0	0	0	0.326	0	0	0
2033	1	0	0	0	0	0.326	0	0	0
2034	1	0	0	0	0	0.326	0	0	0
2035	1	0	0	0	0	4.846	0	0	0
2036	1	0	0	0	0	0.326	0	0	0
2037	1	0	0	0	0	0.326	0	0	0
2038	1	0	0	0	0	0.326	0	0	0
2039	1	0	0	0	0	0.326	0	0	0
2040	1	0	0	0	0	3.387	0	0	0
2041	1	0	0	0	0	0.326	0	0	0
2042	1	0	0	0	0	0.326	0	0	0
2043	1	0	0	0	0	0.326	0	0	0
2044	1	0	0	0	0	0.326	0	0	0
2045	1	0	0	0	0	18.704	0	0	0
2046	1	0	0	0	0	0.326	0	0	0
2047	1	0	0	0	0	0.326	0	0	0
2048	1	0	0	0	0	0.326	0	0	0
2049	1	0	0	0	0	0.326	0	0	0
2050	1	0	0	0	0	4.986	0	0	0
2051	1	0	0	0	0	0.326	0	0	0

2052	1	0	0	0	0	0.326	0	0	0
2053	1	0	0	0	0	0.326	0	0	0
2054	1	0	0	0	0	0.326	0	0	0
2055	1	0	0	0	0	4.846	0	0	0
2056	1	0	0	0	0	0.326	0	0	0
2057	1	0	0	0	0	0.326	0	0	0
2058	1	0	0	0	0	0.326	0	0	0
2059	1	0	0	0	0	0.326	0	0	0
2060	1	0	0	0	0	3.387	0	0	0
2061	1	0	0	0	0	0.326	0	0	0
2062	1	0	0	0	0	0.326	0	0	0
2063	1	0	0	0	0	0.326	0	0	0
2064	1	0	0	0	0	0.326	0	0	0
2065	1	0	0	0	0	26.909	0	0	0
2066	1	0	0	0	0	0.326	0	0	0
2067	1	0	0	0	0	0.326	0	0	0
2068	1	0	0	0	0	0.326	0	0	0
2069	1	0	0	0	0	0.326	0	0	0
2070	1	0	0	0	0	3.376	0	0	0
2071	1	0	0	0	0	0.326	0	0	0
2072	1	0	0	0	0	0.326	0	0	0
2073	1	0	0	0	0	0.326	0	0	0
2074	1	0	0	0	0	0.326	0	0	0
2075	1	0	0	0	0	7.791	0	0	0
2076	1	0	0	0	0	0.326	0	0	0
2077	1	0	0	0	0	0.326	0	0	0
2078	1	0	0	0	0	0.326	0	0	0
2079	1	0	0	0	0	0.325	0	0	0
2080	1	0	0	0	0	3.387	0	0	0
2081	1	0	0	0	0	0.325	0	0	0
2082	1	0	0	0	0	0.652	0	0	0

DO_SOM_DELAY_COSTS

*Year Mode Business Commuting Other Freight

BENEFIT_CHANGE

*% change p.a.

*Start_yr End_yr Submode ChangePer1 ChangePer2 ChangePer3 ChangePer4 ChangePer5

USER_CLASSES

*no. Veh/submode purpose person_type

1 1 1 0

2	1	2	0
3	1	3	0
4	2	3	0
5	3	1	0
6	4	1	0
7	5	1	0

INPUT_MATRICES

*no.	userclasses	timeslice	type	format	scenario	year	factor	filename
1	1	1	V	1	0	2023	0.05583	L:\60625845_A614 MRN DFT responses\2023_Draft_FBC\TUBA\1-Ollerton-2023-Draft-FBC\Outputs\V_1_Ollerton AM 2023 DM.txt
2	2	1	V	1	0	2023	0.30763	L:\60625845_A614 MRN DFT responses\2023_Draft_FBC\TUBA\1-Ollerton-2023-Draft-FBC\Outputs\V_1_Ollerton AM 2023 DM.txt
3	3	1	V	1	0	2023	0.43971	L:\60625845_A614 MRN DFT responses\2023_Draft_FBC\TUBA\1-Ollerton-2023-Draft-FBC\Outputs\V_1_Ollerton AM 2023 DM.txt
4	4	1	V	1	0	2023	0.01535	L:\60625845_A614 MRN DFT responses\2023_Draft_FBC\TUBA\1-Ollerton-2023-Draft-FBC\Outputs\V_1_Ollerton AM 2023 DM.txt
5	5	1	V	1	0	2023	0.11258	L:\60625845_A614 MRN DFT responses\2023_Draft_FBC\TUBA\1-Ollerton-2023-Draft-FBC\Outputs\V_1_Ollerton AM 2023 DM.txt
6	6	1	V	1	0	2023	0.03823	L:\60625845_A614 MRN DFT responses\2023_Draft_FBC\TUBA\1-Ollerton-2023-Draft-FBC\Outputs\V_1_Ollerton AM 2023 DM.txt
7	7	1	V	1	0	2023	0.03066	L:\60625845_A614 MRN DFT responses\2023_Draft_FBC\TUBA\1-Ollerton-2023-Draft-FBC\Outputs\V_1_Ollerton AM 2023 DM.txt
8	1	2	V	1	0	2023	0.04371	L:\60625845_A614 MRN DFT responses\2023_Draft_FBC\TUBA\1-Ollerton-2023-Draft-FBC\Outputs\V_1_Ollerton PM 2023 DM.txt
9	2	2	V	1	0	2023	0.27841	L:\60625845_A614 MRN DFT responses\2023_Draft_FBC\TUBA\1-Ollerton-2023-Draft-FBC\Outputs\V_1_Ollerton PM 2023 DM.txt
10	3	2	V	1	0	2023	0.53249	L:\60625845_A614 MRN DFT responses\2023_Draft_FBC\TUBA\1-Ollerton-2023-Draft-FBC\Outputs\V_1_Ollerton PM 2023 DM.txt
11	4	2	V	1	0	2023	0.01327	L:\60625845_A614 MRN DFT responses\2023_Draft_FBC\TUBA\1-Ollerton-2023-Draft-FBC\Outputs\V_1_Ollerton PM 2023 DM.txt
12	5	2	V	1	0	2023	0.09729	L:\60625845_A614 MRN DFT responses\2023_Draft_FBC\TUBA\1-Ollerton-2023-Draft-FBC\Outputs\V_1_Ollerton PM 2023 DM.txt
13	6	2	V	1	0	2023	0.01600	L:\60625845_A614 MRN DFT responses\2023_Draft_FBC\TUBA\1-Ollerton-2023-Draft-FBC\Outputs\V_1_Ollerton PM 2023 DM.txt
14	7	2	V	1	0	2023	0.01884	L:\60625845_A614 MRN DFT responses\2023_Draft_FBC\TUBA\1-Ollerton-2023-Draft-FBC\Outputs\V_1_Ollerton PM 2023 DM.txt
15	1	3	V	1	0	2023	0.05528	L:\60625845_A614 MRN DFT responses\2023_Draft_FBC\TUBA\1-Ollerton-2023-Draft-FBC\Outputs\V_1_Ollerton IP 2023 DM.txt
16	2	3	V	1	0	2023	0.08674	L:\60625845_A614 MRN DFT responses\2023_Draft_FBC\TUBA\1-Ollerton-2023-Draft-FBC\Outputs\V_1_Ollerton IP 2023 DM.txt
17	3	3	V	1	0	2023	0.62682	L:\60625845_A614 MRN DFT responses\2023_Draft_FBC\TUBA\1-Ollerton-2023-Draft-FBC\Outputs\V_1_Ollerton IP 2023 DM.txt
18	4	3	V	1	0	2023	0.01654	L:\60625845_A614 MRN DFT responses\2023_Draft_FBC\TUBA\1-Ollerton-2023-Draft-FBC\Outputs\V_1_Ollerton IP 2023 DM.txt
19	5	3	V	1	0	2023	0.12130	L:\60625845_A614 MRN DFT responses\2023_Draft_FBC\TUBA\1-Ollerton-2023-Draft-FBC\Outputs\V_1_Ollerton IP 2023 DM.txt
20	6	3	V	1	0	2023	0.05474	L:\60625845_A614 MRN DFT responses\2023_Draft_FBC\TUBA\1-Ollerton-2023-Draft-FBC\Outputs\V_1_Ollerton IP 2023 DM.txt
21	7	3	V	1	0	2023	0.03858	L:\60625845_A614 MRN DFT responses\2023_Draft_FBC\TUBA\1-Ollerton-2023-Draft-FBC\Outputs\V_1_Ollerton IP 2023 DM.txt
22	1	4	V	1	0	2023	0.03313	L:\60625845_A614 MRN DFT responses\2023_Draft_FBC\TUBA\1-Ollerton-2023-Draft-FBC\Outputs\V_1_Ollerton OP 2023 DM.txt
23	2	4	V	1	0	2023	0.22108	L:\60625845_A614 MRN DFT responses\2023_Draft_FBC\TUBA\1-Ollerton-2023-Draft-FBC\Outputs\V_1_Ollerton OP 2023 DM.txt

169 1 2037 DM.txt	1	V	1	0	2037	0.05583	L:\60625845_A614 MRN DfT responses\2023_Draft_FBC\TUBA\1-Ollerton-2023-Draft-FBC\Outputs\V_1_Ollerton AM
170 2 2037 DM.txt	1	V	1	0	2037	0.30763	L:\60625845_A614 MRN DfT responses\2023_Draft_FBC\TUBA\1-Ollerton-2023-Draft-FBC\Outputs\V_1_Ollerton AM
171 3 2037 DM.txt	1	V	1	0	2037	0.43971	L:\60625845_A614 MRN DfT responses\2023_Draft_FBC\TUBA\1-Ollerton-2023-Draft-FBC\Outputs\V_1_Ollerton AM
172 4 2037 DM.txt	1	V	1	0	2037	0.01535	L:\60625845_A614 MRN DfT responses\2023_Draft_FBC\TUBA\1-Ollerton-2023-Draft-FBC\Outputs\V_1_Ollerton AM
173 5 2037 DM.txt	1	V	1	0	2037	0.11258	L:\60625845_A614 MRN DfT responses\2023_Draft_FBC\TUBA\1-Ollerton-2023-Draft-FBC\Outputs\V_1_Ollerton AM
174 6 2037 DM.txt	1	V	1	0	2037	0.03823	L:\60625845_A614 MRN DfT responses\2023_Draft_FBC\TUBA\1-Ollerton-2023-Draft-FBC\Outputs\V_1_Ollerton AM
175 7 2037 DM.txt	1	V	1	0	2037	0.03066	L:\60625845_A614 MRN DfT responses\2023_Draft_FBC\TUBA\1-Ollerton-2023-Draft-FBC\Outputs\V_1_Ollerton AM
176 1 2037 DM.txt	2	V	1	0	2037	0.04371	L:\60625845_A614 MRN DfT responses\2023_Draft_FBC\TUBA\1-Ollerton-2023-Draft-FBC\Outputs\V_1_Ollerton PM
177 2 2037 DM.txt	2	V	1	0	2037	0.27841	L:\60625845_A614 MRN DfT responses\2023_Draft_FBC\TUBA\1-Ollerton-2023-Draft-FBC\Outputs\V_1_Ollerton PM
178 3 2037 DM.txt	2	V	1	0	2037	0.53249	L:\60625845_A614 MRN DfT responses\2023_Draft_FBC\TUBA\1-Ollerton-2023-Draft-FBC\Outputs\V_1_Ollerton PM
179 4 2037 DM.txt	2	V	1	0	2037	0.01327	L:\60625845_A614 MRN DfT responses\2023_Draft_FBC\TUBA\1-Ollerton-2023-Draft-FBC\Outputs\V_1_Ollerton PM
180 5 2037 DM.txt	2	V	1	0	2037	0.09729	L:\60625845_A614 MRN DfT responses\2023_Draft_FBC\TUBA\1-Ollerton-2023-Draft-FBC\Outputs\V_1_Ollerton PM
181 6 2037 DM.txt	2	V	1	0	2037	0.01600	L:\60625845_A614 MRN DfT responses\2023_Draft_FBC\TUBA\1-Ollerton-2023-Draft-FBC\Outputs\V_1_Ollerton PM
182 7 2037 DM.txt	2	V	1	0	2037	0.01884	L:\60625845_A614 MRN DfT responses\2023_Draft_FBC\TUBA\1-Ollerton-2023-Draft-FBC\Outputs\V_1_Ollerton PM
183 1 DM.txt	3	V	1	0	2037	0.05528	L:\60625845_A614 MRN DfT responses\2023_Draft_FBC\TUBA\1-Ollerton-2023-Draft-FBC\Outputs\V_1_Ollerton IP 2037
184 2 DM.txt	3	V	1	0	2037	0.08674	L:\60625845_A614 MRN DfT responses\2023_Draft_FBC\TUBA\1-Ollerton-2023-Draft-FBC\Outputs\V_1_Ollerton IP 2037
185 3 DM.txt	3	V	1	0	2037	0.62682	L:\60625845_A614 MRN DfT responses\2023_Draft_FBC\TUBA\1-Ollerton-2023-Draft-FBC\Outputs\V_1_Ollerton IP 2037
186 4 DM.txt	3	V	1	0	2037	0.01654	L:\60625845_A614 MRN DfT responses\2023_Draft_FBC\TUBA\1-Ollerton-2023-Draft-FBC\Outputs\V_1_Ollerton IP 2037
187 5 DM.txt	3	V	1	0	2037	0.12130	L:\60625845_A614 MRN DfT responses\2023_Draft_FBC\TUBA\1-Ollerton-2023-Draft-FBC\Outputs\V_1_Ollerton IP 2037
188 6 DM.txt	3	V	1	0	2037	0.05474	L:\60625845_A614 MRN DfT responses\2023_Draft_FBC\TUBA\1-Ollerton-2023-Draft-FBC\Outputs\V_1_Ollerton IP 2037
189 7 DM.txt	3	V	1	0	2037	0.03858	L:\60625845_A614 MRN DfT responses\2023_Draft_FBC\TUBA\1-Ollerton-2023-Draft-FBC\Outputs\V_1_Ollerton IP 2037
190 1 2037 DM.txt	4	V	1	0	2037	0.03313	L:\60625845_A614 MRN DfT responses\2023_Draft_FBC\TUBA\1-Ollerton-2023-Draft-FBC\Outputs\V_1_Ollerton OP
191 2 2037 DM.txt	4	V	1	0	2037	0.22108	L:\60625845_A614 MRN DfT responses\2023_Draft_FBC\TUBA\1-Ollerton-2023-Draft-FBC\Outputs\V_1_Ollerton OP
192 3 2037 DM.txt	4	V	1	0	2037	0.51462	L:\60625845_A614 MRN DfT responses\2023_Draft_FBC\TUBA\1-Ollerton-2023-Draft-FBC\Outputs\V_1_Ollerton OP
193 4 2037 DM.txt	4	V	1	0	2037	0.01654	L:\60625845_A614 MRN DfT responses\2023_Draft_FBC\TUBA\1-Ollerton-2023-Draft-FBC\Outputs\V_1_Ollerton OP
194 5 2037 DM.txt	4	V	1	0	2037	0.12130	L:\60625845_A614 MRN DfT responses\2023_Draft_FBC\TUBA\1-Ollerton-2023-Draft-FBC\Outputs\V_1_Ollerton OP
195 6 2037 DM.txt	4	V	1	0	2037	0.05474	L:\60625845_A614 MRN DfT responses\2023_Draft_FBC\TUBA\1-Ollerton-2023-Draft-FBC\Outputs\V_1_Ollerton OP
196 7 2037 DM.txt	4	V	1	0	2037	0.03858	L:\60625845_A614 MRN DfT responses\2023_Draft_FBC\TUBA\1-Ollerton-2023-Draft-FBC\Outputs\V_1_Ollerton OP
197 1 2037 DS.txt	1	V	1	1	2037	0.05583	L:\60625845_A614 MRN DfT responses\2023_Draft_FBC\TUBA\1-Ollerton-2023-Draft-FBC\Outputs\V_1_Ollerton AM

198 2 2037 DS.txt	1	V	1	1	2037	0.30763	L:\60625845_A614 MRN DfT responses\2023_Draft_FBC\TUBA\1-Ollerton-2023-Draft-FBC\Outputs\V_1_Ollerton AM
199 3 2037 DS.txt	1	V	1	1	2037	0.43971	L:\60625845_A614 MRN DfT responses\2023_Draft_FBC\TUBA\1-Ollerton-2023-Draft-FBC\Outputs\V_1_Ollerton AM
200 4 2037 DS.txt	1	V	1	1	2037	0.01535	L:\60625845_A614 MRN DfT responses\2023_Draft_FBC\TUBA\1-Ollerton-2023-Draft-FBC\Outputs\V_1_Ollerton AM
201 5 2037 DS.txt	1	V	1	1	2037	0.11258	L:\60625845_A614 MRN DfT responses\2023_Draft_FBC\TUBA\1-Ollerton-2023-Draft-FBC\Outputs\V_1_Ollerton AM
202 6 2037 DS.txt	1	V	1	1	2037	0.03823	L:\60625845_A614 MRN DfT responses\2023_Draft_FBC\TUBA\1-Ollerton-2023-Draft-FBC\Outputs\V_1_Ollerton AM
203 7 2037 DS.txt	1	V	1	1	2037	0.03066	L:\60625845_A614 MRN DfT responses\2023_Draft_FBC\TUBA\1-Ollerton-2023-Draft-FBC\Outputs\V_1_Ollerton AM
204 1 2037 DS.txt	2	V	1	1	2037	0.04371	L:\60625845_A614 MRN DfT responses\2023_Draft_FBC\TUBA\1-Ollerton-2023-Draft-FBC\Outputs\V_1_Ollerton PM
205 2 2037 DS.txt	2	V	1	1	2037	0.27841	L:\60625845_A614 MRN DfT responses\2023_Draft_FBC\TUBA\1-Ollerton-2023-Draft-FBC\Outputs\V_1_Ollerton PM
206 3 2037 DS.txt	2	V	1	1	2037	0.53249	L:\60625845_A614 MRN DfT responses\2023_Draft_FBC\TUBA\1-Ollerton-2023-Draft-FBC\Outputs\V_1_Ollerton PM
207 4 2037 DS.txt	2	V	1	1	2037	0.01327	L:\60625845_A614 MRN DfT responses\2023_Draft_FBC\TUBA\1-Ollerton-2023-Draft-FBC\Outputs\V_1_Ollerton PM
208 5 2037 DS.txt	2	V	1	1	2037	0.09729	L:\60625845_A614 MRN DfT responses\2023_Draft_FBC\TUBA\1-Ollerton-2023-Draft-FBC\Outputs\V_1_Ollerton PM
209 6 2037 DS.txt	2	V	1	1	2037	0.01600	L:\60625845_A614 MRN DfT responses\2023_Draft_FBC\TUBA\1-Ollerton-2023-Draft-FBC\Outputs\V_1_Ollerton PM
210 7 2037 DS.txt	2	V	1	1	2037	0.01884	L:\60625845_A614 MRN DfT responses\2023_Draft_FBC\TUBA\1-Ollerton-2023-Draft-FBC\Outputs\V_1_Ollerton PM
211 1 DS.txt	3	V	1	1	2037	0.05528	L:\60625845_A614 MRN DfT responses\2023_Draft_FBC\TUBA\1-Ollerton-2023-Draft-FBC\Outputs\V_1_Ollerton IP 2037
212 2 DS.txt	3	V	1	1	2037	0.08674	L:\60625845_A614 MRN DfT responses\2023_Draft_FBC\TUBA\1-Ollerton-2023-Draft-FBC\Outputs\V_1_Ollerton IP 2037
213 3 DS.txt	3	V	1	1	2037	0.62682	L:\60625845_A614 MRN DfT responses\2023_Draft_FBC\TUBA\1-Ollerton-2023-Draft-FBC\Outputs\V_1_Ollerton IP 2037
214 4 DS.txt	3	V	1	1	2037	0.01654	L:\60625845_A614 MRN DfT responses\2023_Draft_FBC\TUBA\1-Ollerton-2023-Draft-FBC\Outputs\V_1_Ollerton IP 2037
215 5 DS.txt	3	V	1	1	2037	0.12130	L:\60625845_A614 MRN DfT responses\2023_Draft_FBC\TUBA\1-Ollerton-2023-Draft-FBC\Outputs\V_1_Ollerton IP 2037
216 6 DS.txt	3	V	1	1	2037	0.05474	L:\60625845_A614 MRN DfT responses\2023_Draft_FBC\TUBA\1-Ollerton-2023-Draft-FBC\Outputs\V_1_Ollerton IP 2037
217 7 DS.txt	3	V	1	1	2037	0.03858	L:\60625845_A614 MRN DfT responses\2023_Draft_FBC\TUBA\1-Ollerton-2023-Draft-FBC\Outputs\V_1_Ollerton IP 2037
218 1 2037 DS.txt	4	V	1	1	2037	0.03313	L:\60625845_A614 MRN DfT responses\2023_Draft_FBC\TUBA\1-Ollerton-2023-Draft-FBC\Outputs\V_1_Ollerton OP
219 2 2037 DS.txt	4	V	1	1	2037	0.22108	L:\60625845_A614 MRN DfT responses\2023_Draft_FBC\TUBA\1-Ollerton-2023-Draft-FBC\Outputs\V_1_Ollerton OP
220 3 2037 DS.txt	4	V	1	1	2037	0.51462	L:\60625845_A614 MRN DfT responses\2023_Draft_FBC\TUBA\1-Ollerton-2023-Draft-FBC\Outputs\V_1_Ollerton OP
221 4 2037 DS.txt	4	V	1	1	2037	0.01654	L:\60625845_A614 MRN DfT responses\2023_Draft_FBC\TUBA\1-Ollerton-2023-Draft-FBC\Outputs\V_1_Ollerton OP
222 5 2037 DS.txt	4	V	1	1	2037	0.12130	L:\60625845_A614 MRN DfT responses\2023_Draft_FBC\TUBA\1-Ollerton-2023-Draft-FBC\Outputs\V_1_Ollerton OP
223 6 2037 DS.txt	4	V	1	1	2037	0.05474	L:\60625845_A614 MRN DfT responses\2023_Draft_FBC\TUBA\1-Ollerton-2023-Draft-FBC\Outputs\V_1_Ollerton OP
224 7 2037 DS.txt	4	V	1	1	2037	0.03858	L:\60625845_A614 MRN DfT responses\2023_Draft_FBC\TUBA\1-Ollerton-2023-Draft-FBC\Outputs\V_1_Ollerton OP
225 1 2037 DM.txt	1	T	1	0	2037	1.00000	L:\60625845_A614 MRN DfT responses\2023_Draft_FBC\TUBA\1-Ollerton-2023-Draft-FBC\Outputs\T_1_Ollerton AM
226 2 2037 DM.txt	1	T	1	0	2037	1.00000	L:\60625845_A614 MRN DfT responses\2023_Draft_FBC\TUBA\1-Ollerton-2023-Draft-FBC\Outputs\T_1_Ollerton AM

343 7 X R 1 X XXXX 1.00000 L:\60625845_A614 MRN DfT responses\2023_Draft_FBC\TUBA\1-Ollerton-2023-Draft-FBC\Outputs\D_1_Ollerton AM
2023 DM.txt

SECTORS

*mode Sector_file_name

ERRORS AND WARNINGS

Warning: Scheme parameter zones_as_sectors set to no: Possibility that small aggregation errors may occur in the TEE table for some appraisals. Recommend undertaking a sensitivity test using a sector system (and some sectors) to check.

3036 Warnings found in total (including any above)

Warning (406 serious): Ratio of DM to DS travel time higher than limit for the following:

Origin	Destination	Time_slice	Veh_type	Purpose	Person_type	Year	DM_time	DS_time	Ratio	DM_trips	DS_trips	
3	1	2	Car	Business	All	2037	0.099	0.003	34.996	12.851	12.851	
3	2	2	Car	Business	All	2037	0.099	0.003	34.996	2.929	2.929	
3	4	2	Car	Business	All	2037	0.099	0.003	34.996	0.612	0.612	
3	5	2	Car	Business	All	2037	0.099	0.003	34.996	3.715	3.715	
3	1	2	Car	Commuting	All	2037	0.099	0.003	34.996	81.853	81.853	
3	2	2	Car	Commuting	All	2037	0.099	0.003	34.996	18.653	18.653	
3	4	2	Car	Commuting	All	2037	0.099	0.003	34.996	3.898	3.898	
3	5	2	Car	Commuting	All	2037	0.099	0.003	34.996	23.665	23.665	
3	1	2	Car	Other	All	2037	0.099	0.003	34.996	156.552	156.552	
3	2	2	Car	Other	All	2037	0.099	0.003	34.996	35.677	35.677	
3	4	2	Car	Other	All	2037	0.099	0.003	34.996	7.455	7.455	
3	5	2	Car	Other	All	2037	0.099	0.003	34.996	45.262	45.262	
3	1	2	LGV	Personal	Other	All	2037	0.099	0.003	34.996	3.901	3.901
3	2	2	LGV	Personal	Other	All	2037	0.099	0.003	34.996	0.889	0.889
3	4	2	LGV	Personal	Other	All	2037	0.099	0.003	34.996	0.186	0.186
3	5	2	LGV	Personal	Other	All	2037	0.099	0.003	34.996	1.128	1.128
3	1	2	LGV	Freight	Business	All	2037	0.099	0.003	34.996	28.603	28.603
3	2	2	LGV	Freight	Business	All	2037	0.099	0.003	34.996	6.518	6.518
3	4	2	LGV	Freight	Business	All	2037	0.099	0.003	34.996	1.362	1.362
3	5	2	LGV	Freight	Business	All	2037	0.099	0.003	34.996	8.270	8.270

Displayed 20 warnings of a total of 630 of this type.

Warning: DM speeds greater than limit for the following:

Origin	Destination	Time_slice	Veh_type	Purpose	Person_type	Year	DM_dist	DM_time	Cal_Speed	DM_trips	VOC_Speed	
2	2	4	LGV	Freight	Business	All	2023	2.000	0.000	4166.667	0.000	110.000
2	3	4	LGV	Freight	Business	All	2023	2.000	0.000	4166.667	0.485	110.000
2	4	4	LGV	Freight	Business	All	2023	2.000	0.000	4166.667	1.213	110.000
2	1	4	OGV1	Business	All	2023	2.000	0.000	4166.667	1.314	85.000	
2	2	4	OGV1	Business	All	2023	2.000	0.000	4166.667	0.000	85.000	
2	3	4	OGV1	Business	All	2023	2.000	0.000	4166.667	0.219	85.000	
2	4	4	OGV1	Business	All	2023	2.000	0.000	4166.667	0.547	85.000	
2	5	4	OGV1	Business	All	2023	2.000	0.000	4166.667	1.533	85.000	

2	1	4	LGV Freight	Business	All	2023	2.000	0.000	4166.667	2.911	110.000
2	5	4	LGV Freight	Business	All	2023	2.000	0.000	4166.667	3.396	110.000
2	1	4	Car	Business	All	2023	2.000	0.000	4166.667	0.795	130.000
2	2	4	Car	Business	All	2023	2.000	0.000	4166.667	0.000	130.000
2	3	4	Car	Business	All	2023	2.000	0.000	4166.667	0.133	130.000
2	4	4	Car	Business	All	2023	2.000	0.000	4166.667	0.331	130.000
2	1	4	OGV2	Business	All	2023	2.000	0.000	4166.667	0.926	85.000
2	2	4	OGV2	Business	All	2023	2.000	0.000	4166.667	0.000	85.000
2	3	4	OGV2	Business	All	2023	2.000	0.000	4166.667	0.154	85.000
2	4	4	OGV2	Business	All	2023	2.000	0.000	4166.667	0.386	85.000
2	5	4	OGV2	Business	All	2023	2.000	0.000	4166.667	1.080	85.000
2	5	4	Car	Business	All	2023	2.000	0.000	4166.667	0.928	130.000

Displayed 20 warnings of a total of 1116 of this type.

Warning: DS speeds greater than limit for the following:

Origin	Destination	Time_slice	Veh_type	Purpose	Person_type	Year	DS_dist	DS_time	Ca_Speed	DS_trips	VOC_Speed
2	2	4	LGV Freight	Business	All	2023	2.000	0.000	4347.826	0.000	110.000
2	3	4	LGV Freight	Business	All	2023	2.000	0.000	4347.826	0.485	110.000
2	4	4	LGV Freight	Business	All	2023	2.000	0.000	4347.826	1.213	110.000
2	2	4	Car	Business	All	2023	2.000	0.000	4347.826	0.000	130.000
2	3	4	Car	Business	All	2023	2.000	0.000	4347.826	0.133	130.000
2	5	4	LGV Freight	Business	All	2023	2.000	0.000	4347.826	3.396	110.000
2	1	4	OGV1	Business	All	2023	2.000	0.000	4347.826	1.314	85.000
2	2	4	OGV1	Business	All	2023	2.000	0.000	4347.826	0.000	85.000
2	3	4	OGV1	Business	All	2023	2.000	0.000	4347.826	0.219	85.000
2	4	4	OGV1	Business	All	2023	2.000	0.000	4347.826	0.547	85.000
2	4	4	Car	Business	All	2023	2.000	0.000	4347.826	0.331	130.000
2	5	4	OGV1	Business	All	2023	2.000	0.000	4347.826	1.533	85.000
2	1	4	OGV2	Business	All	2023	2.000	0.000	4347.826	0.926	85.000
2	5	4	Car	Business	All	2023	2.000	0.000	4347.826	0.928	130.000
2	2	4	OGV2	Business	All	2023	2.000	0.000	4347.826	0.000	85.000
2	3	4	OGV2	Business	All	2023	2.000	0.000	4347.826	0.154	85.000
2	4	4	OGV2	Business	All	2023	2.000	0.000	4347.826	0.386	85.000
2	1	4	Car	Business	All	2023	2.000	0.000	4347.826	0.795	130.000
2	1	4	LGV Freight	Business	All	2023	2.000	0.000	4347.826	2.911	110.000
2	5	4	OGV2	Business	All	2023	2.000	0.000	4347.826	1.080	85.000

Displayed 20 warnings of a total of 1288 of this type.

TUBA ECONOMICS FILE DIFFERENCES

PARAMETERS - (used)

TUBA_version 1.9.17

base_year 2010

pres_val_year 2010

GDP_base 100.00 0.00 0.00
av_ind_tax 19.00 0.00 0.00
nt_carbdxvalues 83.64 250.92 167.28
t_carbdxvalues 83.64250.92167.28

PARAMETERS - (std)

TUBA_version 1.9.17
base_year 2010
pres_val_year 2010
GDP_base 100.00 0.00 0.00
av_ind_tax 19.00 0.00 0.00
nt_carbdxvalues 82.97 248.92 165.94
t_carbdxvalues 82.97248.92165.94

GDP_PER_CAPITA_GROWTH - (used)

*% change p.a.

*Start_yr End_yr VOT_Gr_purpose1 VOT_Gr_purpose2 VOT_Gr_purpose3 ..

2011	2011	0.615	0.615	0.615
2012	2012	0.801	0.801	0.801
2013	2013	1.253	1.253	1.253
2014	2014	2.208	2.208	2.208
2015	2015	1.814	1.814	1.814
2016	2016	1.425	1.425	1.425
2017	2017	1.528	1.528	1.528
2018	2018	1.046	1.046	1.046
2019	2019	1.122	1.122	1.122
2020	2020	0.099	0.099	0.099
2021	2021	0.100	0.100	0.100
2022	2022	0.099	0.099	0.099
2023	2023	-1.769	-1.769	-1.769
2024	2024	0.956	0.956	0.956
2025	2025	2.307	2.307	2.307
2026	2026	2.347	2.347	2.347
2027	2027	1.954	1.954	1.954
2028	2028	1.687	1.687	1.687
2029	2029	1.657	1.657	1.657
2030	2030	1.621	1.621	1.621
2031	2031	1.570	1.570	1.570
2032	2032	1.552	1.552	1.552
2033	2033	1.539	1.539	1.539
2034	2034	1.518	1.518	1.518
2035	2035	1.505	1.505	1.505
2036	2036	1.638	1.638	1.638
2037	2037	1.611	1.611	1.611

2038	2038	1.578	1.578	1.578
2039	2039	1.546	1.546	1.546
2040	2040	1.506	1.506	1.506
2041	2041	1.476	1.476	1.476
2042	2042	1.439	1.439	1.439
2043	2043	1.401	1.401	1.401
2044	2044	1.369	1.369	1.369
2045	2045	1.350	1.350	1.350
2046	2046	1.342	1.342	1.342
2047	2047	1.321	1.321	1.321
2048	2048	1.302	1.302	1.302
2049	2049	1.282	1.282	1.282
2050	2050	1.277	1.277	1.277
2051	2051	1.278	1.278	1.278
2052	2052	1.281	1.281	1.281
2053	2053	1.286	1.286	1.286
2054	2054	1.294	1.294	1.294
2055	2055	1.312	1.312	1.312
2056	2056	1.325	1.325	1.325
2057	2057	1.339	1.339	1.339
2058	2058	1.349	1.349	1.349
2059	2059	1.359	1.359	1.359
2060	2060	1.370	1.370	1.370
2061	2061	1.379	1.379	1.379
2062	2062	1.387	1.387	1.387
2063	2063	1.399	1.399	1.399
2064	2064	1.406	1.406	1.406
2065	2065	1.413	1.413	1.413
2066	2066	1.418	1.418	1.418
2067	2067	1.420	1.420	1.420
2068	2068	1.421	1.421	1.421
2069	2069	1.428	1.428	1.428
2070	2070	1.468	1.468	1.468
2071	2071	1.534	1.534	1.534
2072	2072	1.592	1.592	1.592
2073	2073	1.548	1.548	1.548
2074	2074	1.472	1.472	1.472
2075	2075	1.426	1.426	1.426
2076	2076	1.358	1.358	1.358
2077	2077	1.363	1.363	1.363
2078	2078	1.337	1.337	1.337
2079	2079	1.299	1.299	1.299
2080	2080	1.269	1.269	1.269
2081	2081	1.321	1.321	1.321

2082	2082	1.359	1.359	1.359
2083	2083	1.372	1.372	1.372
2084	2084	1.369	1.369	1.369
2085	2085	1.420	1.420	1.420
2086	2086	1.469	1.469	1.469
2087	2087	1.528	1.528	1.528
2088	2088	1.589	1.589	1.589
2089	2089	1.666	1.666	1.666
2090	2090	1.690	1.690	1.690
2091	2091	1.703	1.703	1.703
2092	2092	1.699	1.699	1.699
2093	2093	1.700	1.700	1.700
2094	2094	1.705	1.705	1.705
2095	2095	1.709	1.709	1.709
2096	2096	1.712	1.712	1.712
2097	2097	1.712	1.712	1.712
2098	2098	1.711	1.711	1.711
2099	2099	1.708	1.708	1.708
2100	2100	1.702	1.702	1.702
2101	2101	1.702	1.702	1.702
2102	2102	1.702	1.702	1.702
2103	2103	1.702	1.702	1.702
2104	2104	1.702	1.702	1.702
2105	2105	1.702	1.702	1.702
2106	2106	1.702	1.702	1.702
2107	2107	1.702	1.702	1.702
2108	2108	1.702	1.702	1.702
2109	2109	1.702	1.702	1.702
2110	2110	1.702	1.702	1.702
2111	2111	1.702	1.702	1.702
2112	2112	1.702	1.702	1.702
2113	2113	1.702	1.702	1.702
2114	2114	1.702	1.702	1.702
2115	2115	1.702	1.702	1.702
2116	2116	1.702	1.702	1.702
2117	2117	1.702	1.702	1.702
2118	2118	1.702	1.702	1.702
2119	2119	1.702	1.702	1.702
2120	2120	1.702	1.702	1.702
2121	2121	1.702	1.702	1.702
2122	2122	1.702	1.702	1.702
2123	2123	1.702	1.702	1.702
2124	2124	1.702	1.702	1.702
2125	2125	1.702	1.702	1.702

2126	2126	1.702	1.702	1.702
2127	2127	1.702	1.702	1.702
2128	2128	1.702	1.702	1.702
2129	2129	1.702	1.702	1.702
2130	2130	1.702	1.702	1.702
2131	2131	1.702	1.702	1.702
2132	2132	1.702	1.702	1.702
2133	2133	1.702	1.702	1.702
2134	2134	1.702	1.702	1.702
2135	2135	1.702	1.702	1.702
2136	2136	1.702	1.702	1.702
2137	2137	1.702	1.702	1.702
2138	2138	1.702	1.702	1.702
2139	2139	1.702	1.702	1.702
2140	2140	1.702	1.702	1.702
2141	2141	1.702	1.702	1.702
2142	2142	1.702	1.702	1.702
2143	2143	1.702	1.702	1.702
2144	2144	1.702	1.702	1.702
2145	2145	1.702	1.702	1.702
2146	2146	1.702	1.702	1.702
2147	2147	1.702	1.702	1.702
2148	2148	1.702	1.702	1.702
2149	2149	1.702	1.702	1.702
2150	2150	1.702	1.702	1.702
2151	2151	1.702	1.702	1.702

GDP_PER_CAPITA_GROWTH - (std)

*% change p.a.

*Start_yr	End_yr	VOT_Gr_purpose1	VOT_Gr_purpose2	VOT_Gr_purpose3 ..
2011	2011	0.435	0.435	0.435
2012	2012	0.762	0.762	0.762
2013	2013	1.548	1.548	1.548
2014	2014	2.080	2.080	2.080
2015	2015	1.556	1.556	1.556
2016	2016	0.888	0.888	0.888
2017	2017	1.137	1.137	1.137
2018	2018	0.650	0.650	0.650
2019	2019	0.885	0.885	0.885
2020	2020	0.269	0.269	0.269
2021	2021	0.267	0.267	0.267
2022	2022	0.267	0.267	0.267
2023	2023	1.654	1.654	1.654
2024	2024	0.975	0.975	0.975

2025	2025	1.311	1.311	1.311
2026	2026	1.412	1.412	1.412
2027	2027	1.480	1.480	1.480
2028	2028	1.480	1.480	1.480
2029	2029	1.463	1.463	1.463
2030	2030	1.440	1.440	1.440
2031	2031	1.413	1.413	1.413
2032	2032	1.389	1.389	1.389
2033	2033	1.387	1.387	1.387
2034	2034	1.372	1.372	1.372
2035	2035	1.345	1.345	1.345
2036	2036	1.477	1.477	1.477
2037	2037	1.475	1.475	1.475
2038	2038	1.467	1.467	1.467
2039	2039	1.443	1.443	1.443
2040	2040	1.416	1.416	1.416
2041	2041	1.397	1.397	1.397
2042	2042	1.375	1.375	1.375
2043	2043	1.351	1.351	1.351
2044	2044	1.332	1.332	1.332
2045	2045	1.320	1.320	1.320
2046	2046	1.309	1.309	1.309
2047	2047	1.292	1.292	1.292
2048	2048	1.282	1.282	1.282
2049	2049	1.281	1.281	1.281
2050	2050	1.291	1.291	1.291
2051	2051	1.307	1.307	1.307
2052	2052	1.320	1.320	1.320
2053	2053	1.332	1.332	1.332
2054	2054	1.338	1.338	1.338
2055	2055	1.358	1.358	1.358
2056	2056	1.370	1.370	1.370
2057	2057	1.385	1.385	1.385
2058	2058	1.398	1.398	1.398
2059	2059	1.406	1.406	1.406
2060	2060	1.417	1.417	1.417
2061	2061	1.437	1.437	1.437
2062	2062	1.444	1.444	1.444
2063	2063	1.456	1.456	1.456
2064	2064	1.466	1.466	1.466
2065	2065	1.482	1.482	1.482
2066	2066	1.540	1.540	1.540
2067	2067	1.607	1.607	1.607
2068	2068	1.531	1.531	1.531

2069	2069	1.521	1.521	1.521
2070	2070	1.493	1.493	1.493
2071	2071	1.518	1.518	1.518
2072	2072	1.463	1.463	1.463
2073	2073	1.426	1.426	1.426
2074	2074	1.355	1.355	1.355
2075	2075	1.317	1.317	1.317
2076	2076	1.256	1.256	1.256
2077	2077	1.271	1.271	1.271
2078	2078	1.253	1.253	1.253
2079	2079	1.219	1.219	1.219
2080	2080	1.193	1.193	1.193
2081	2081	1.251	1.251	1.251
2082	2082	1.293	1.293	1.293
2083	2083	1.309	1.309	1.309
2084	2084	1.310	1.310	1.310
2085	2085	1.364	1.364	1.364
2086	2086	1.422	1.422	1.422
2087	2087	1.488	1.488	1.488
2088	2088	1.487	1.487	1.487
2089	2089	1.498	1.498	1.498
2090	2090	1.508	1.508	1.508
2091	2091	1.513	1.513	1.513
2092	2092	1.511	1.511	1.511
2093	2093	1.508	1.508	1.508
2094	2094	1.505	1.505	1.505
2095	2095	1.501	1.501	1.501
2096	2096	1.497	1.497	1.497
2097	2097	1.491	1.491	1.491
2098	2098	1.484	1.484	1.484
2099	2099	1.476	1.476	1.476
2100	2100	1.467	1.467	1.467
2101	2101	1.467	1.467	1.467
2102	2102	1.467	1.467	1.467
2103	2103	1.467	1.467	1.467
2104	2104	1.467	1.467	1.467
2105	2105	1.467	1.467	1.467
2106	2106	1.467	1.467	1.467
2107	2107	1.467	1.467	1.467
2108	2108	1.467	1.467	1.467
2109	2109	1.467	1.467	1.467
2110	2110	1.467	1.467	1.467
2111	2111	1.467	1.467	1.467
2112	2112	1.467	1.467	1.467

2113	2113	1.467	1.467	1.467
2114	2114	1.467	1.467	1.467
2115	2115	1.467	1.467	1.467
2116	2116	1.467	1.467	1.467
2117	2117	1.467	1.467	1.467
2118	2118	1.467	1.467	1.467
2119	2119	1.467	1.467	1.467
2120	2120	1.467	1.467	1.467
2121	2121	1.467	1.467	1.467
2122	2122	1.467	1.467	1.467
2123	2123	1.467	1.467	1.467
2124	2124	1.467	1.467	1.467
2125	2125	1.467	1.467	1.467
2126	2126	1.467	1.467	1.467
2127	2127	1.467	1.467	1.467
2128	2128	1.467	1.467	1.467
2129	2129	1.467	1.467	1.467
2130	2130	1.467	1.467	1.467
2131	2131	1.467	1.467	1.467
2132	2132	1.467	1.467	1.467
2133	2133	1.467	1.467	1.467
2134	2134	1.467	1.467	1.467
2135	2135	1.467	1.467	1.467
2136	2136	1.467	1.467	1.467
2137	2137	1.467	1.467	1.467
2138	2138	1.467	1.467	1.467
2139	2139	1.467	1.467	1.467
2140	2140	1.467	1.467	1.467
2141	2141	1.467	1.467	1.467
2142	2142	1.467	1.467	1.467
2143	2143	1.467	1.467	1.467
2144	2144	1.467	1.467	1.467
2145	2145	1.467	1.467	1.467
2146	2146	1.467	1.467	1.467
2147	2147	1.467	1.467	1.467
2148	2148	1.467	1.467	1.467
2149	2149	1.467	1.467	1.467
2150	2150	1.467	1.467	1.467
2151	2151	1.467	1.467	1.467

FUEL_COST - (used)

*type resource(p/unit) duty(p/unit) VAT(%) CO2_grammes/unit (unit=litre for fuel types 1 & 2; unit=KWH for electric)

1	42.6	57.2	17.5	2230.00
2	44.3	57.2	17.5	2562.00

3	11.8	0.0	5.0	389.00
---	------	-----	-----	--------

FUEL_COST - (std)

*type resource(p/unit) duty(p/unit) VAT(%) CO2_grammes/unit (unit=litre for fuel types 1 & 2; unit=KWH for electric)

1	42.6	57.2	17.5	2230.00
2	44.3	57.2	17.5	2562.00
3	11.9	0.0	5.0	389.00

FUEL_COST_CHANGES - (used)

*% change p.a.

*Start_yr End_yr fuel_type resource duty VAT CO2_Den_change

2011	2011	1	22.306	-0.354	14.286	1.171
2012	2012	1	1.986	-2.001	0.000	-1.031
2013	2013	1	-3.443	-1.746	0.000	-0.302
2014	2014	1	-11.771	-1.707	0.000	0.153
2015	2015	1	-28.520	-0.562	0.000	-0.016
2016	2016	1	-7.312	-1.719	0.000	-0.027
2017	2017	1	19.734	-1.752	0.000	-0.106
2018	2018	1	13.204	-2.472	0.000	0.128
2019	2019	1	-2.520	-2.412	0.000	0.010
2020	2020	1	-23.823	-6.920	0.000	0.015
2021	2021	1	37.033	0.586	0.000	-0.106
2022	2022	1	63.199	-5.002	0.000	-5.260
2023	2023	1	-5.410	5.535	0.000	0.000
2024	2024	1	-12.463	2.683	0.000	0.000
2025	2025	1	-3.454	0.465	0.000	0.000
2026	2026	1	-4.677	0.417	0.000	0.000
2027	2027	1	2.609	0.740	0.000	0.000
2028	2028	1	2.785	0.731	0.000	0.000
2029	2029	1	1.806	0.723	0.000	0.000
2030	2030	1	2.661	-0.293	0.000	0.000
2031	2031	1	1.728	-0.293	0.000	0.000
2032	2032	1	1.699	-0.293	0.000	0.000
2033	2033	1	2.506	-0.293	0.000	0.000
2034	2034	1	2.444	-0.293	0.000	0.000
2035	2035	1	1.591	-0.293	0.000	0.000
2036	2036	1	0.000	-0.293	0.000	0.000
2037	2037	1	0.000	-0.293	0.000	0.000
2038	2038	1	0.000	-0.293	0.000	0.000
2039	2039	1	0.000	-0.293	0.000	0.000
2040	2040	1	0.000	-0.293	0.000	0.000
2041	2041	1	0.000	-0.293	0.000	0.000
2042	2042	1	0.000	-0.293	0.000	0.000
2043	2043	1	0.000	-0.293	0.000	0.000

2044	2044	1	0.000	-0.293	0.000	0.000
2045	2045	1	0.000	-0.293	0.000	0.000
2046	2046	1	0.000	-0.293	0.000	0.000
2047	2047	1	0.000	-0.293	0.000	0.000
2048	2048	1	0.000	-0.293	0.000	0.000
2049	2049	1	0.000	-0.293	0.000	0.000
2050	2050	1	0.000	-0.293	0.000	0.000
2051	2051	1	0.000	-0.293	0.000	0.000
2052	2052	1	0.000	-0.293	0.000	0.000
2053	2053	1	0.000	-0.293	0.000	0.000
2054	2054	1	0.000	-0.293	0.000	0.000
2055	2055	1	0.000	-0.293	0.000	0.000
2056	2056	1	0.000	-0.293	0.000	0.000
2057	2057	1	0.000	-0.293	0.000	0.000
2058	2058	1	0.000	-0.293	0.000	0.000
2059	2059	1	0.000	-0.293	0.000	0.000
2060	2060	1	0.000	-0.293	0.000	0.000
2061	2061	1	0.000	-0.293	0.000	0.000
2062	2062	1	0.000	-0.293	0.000	0.000
2063	2063	1	0.000	-0.293	0.000	0.000
2064	2064	1	0.000	-0.293	0.000	0.000
2065	2065	1	0.000	-0.293	0.000	0.000
2066	2066	1	0.000	-0.293	0.000	0.000
2067	2067	1	0.000	-0.293	0.000	0.000
2068	2068	1	0.000	-0.293	0.000	0.000
2069	2069	1	0.000	-0.293	0.000	0.000
2070	2070	1	0.000	-0.293	0.000	0.000
2071	2071	1	0.000	-0.293	0.000	0.000
2072	2072	1	0.000	-0.293	0.000	0.000
2073	2073	1	0.000	-0.293	0.000	0.000
2074	2074	1	0.000	-0.293	0.000	0.000
2075	2075	1	0.000	-0.293	0.000	0.000
2076	2076	1	0.000	-0.293	0.000	0.000
2077	2077	1	0.000	-0.293	0.000	0.000
2078	2078	1	0.000	-0.293	0.000	0.000
2079	2079	1	0.000	-0.293	0.000	0.000
2080	2080	1	0.000	-0.293	0.000	0.000
2081	2081	1	0.000	-0.293	0.000	0.000
2082	2082	1	0.000	-0.293	0.000	0.000
2083	2083	1	0.000	-0.293	0.000	0.000
2084	2084	1	0.000	-0.293	0.000	0.000
2085	2085	1	0.000	-0.293	0.000	0.000
2086	2086	1	0.000	-0.293	0.000	0.000
2087	2087	1	0.000	-0.293	0.000	0.000

2088	2088	1	0.000	-0.293	0.000	0.000
2089	2089	1	0.000	-0.293	0.000	0.000
2090	2090	1	0.000	-0.293	0.000	0.000
2091	2091	1	0.000	-0.293	0.000	0.000
2092	2092	1	0.000	-0.293	0.000	0.000
2093	2093	1	0.000	-0.293	0.000	0.000
2094	2094	1	0.000	-0.293	0.000	0.000
2095	2095	1	0.000	-0.293	0.000	0.000
2096	2096	1	0.000	-0.293	0.000	0.000
2097	2097	1	0.000	-0.293	0.000	0.000
2098	2098	1	0.000	-0.293	0.000	0.000
2099	2099	1	0.000	-0.293	0.000	0.000
2100	2100	1	0.000	-0.293	0.000	0.000
2101	2101	1	0.000	-0.293	0.000	0.000
2102	2102	1	0.000	-0.293	0.000	0.000
2103	2103	1	0.000	-0.293	0.000	0.000
2104	2104	1	0.000	-0.293	0.000	0.000
2105	2105	1	0.000	-0.293	0.000	0.000
2106	2106	1	0.000	-0.293	0.000	0.000
2107	2107	1	0.000	-0.293	0.000	0.000
2108	2108	1	0.000	-0.293	0.000	0.000
2109	2109	1	0.000	-0.293	0.000	0.000
2110	2110	1	0.000	-0.293	0.000	0.000
2111	2111	1	0.000	-0.293	0.000	0.000
2112	2112	1	0.000	-0.293	0.000	0.000
2113	2113	1	0.000	-0.293	0.000	0.000
2114	2114	1	0.000	-0.293	0.000	0.000
2115	2115	1	0.000	-0.293	0.000	0.000
2116	2116	1	0.000	-0.293	0.000	0.000
2117	2117	1	0.000	-0.293	0.000	0.000
2118	2118	1	0.000	-0.293	0.000	0.000
2119	2119	1	0.000	-0.293	0.000	0.000
2120	2120	1	0.000	-0.293	0.000	0.000
2121	2121	1	0.000	-0.293	0.000	0.000
2122	2122	1	0.000	-0.293	0.000	0.000
2123	2123	1	0.000	-0.293	0.000	0.000
2124	2124	1	0.000	-0.293	0.000	0.000
2125	2125	1	0.000	-0.293	0.000	0.000
2126	2126	1	0.000	-0.293	0.000	0.000
2127	2127	1	0.000	-0.293	0.000	0.000
2128	2128	1	0.000	-0.293	0.000	0.000
2129	2129	1	0.000	-0.293	0.000	0.000
2130	2130	1	0.000	-0.293	0.000	0.000
2131	2131	1	0.000	-0.293	0.000	0.000

2132	2132	1	0.000	-0.293	0.000	0.000
2133	2133	1	0.000	-0.293	0.000	0.000
2134	2134	1	0.000	-0.293	0.000	0.000
2135	2135	1	0.000	-0.293	0.000	0.000
2136	2136	1	0.000	-0.293	0.000	0.000
2137	2137	1	0.000	-0.293	0.000	0.000
2138	2138	1	0.000	-0.293	0.000	0.000
2139	2139	1	0.000	-0.293	0.000	0.000
2140	2140	1	0.000	-0.293	0.000	0.000
2141	2141	1	0.000	-0.293	0.000	0.000
2142	2142	1	0.000	-0.293	0.000	0.000
2143	2143	1	0.000	-0.293	0.000	0.000
2144	2144	1	0.000	-0.293	0.000	0.000
2145	2145	1	0.000	-0.293	0.000	0.000
2146	2146	1	0.000	-0.293	0.000	0.000
2147	2147	1	0.000	-0.293	0.000	0.000
2148	2148	1	0.000	-0.293	0.000	0.000
2149	2149	1	0.000	-0.293	0.000	0.000
2150	2150	1	0.000	-0.293	0.000	0.000
2151	2151	1	0.000	-0.293	0.000	0.000
2011	2011	2	26.996	-0.354	14.286	1.917
2012	2012	2	3.197	-2.001	0.000	-1.071
2013	2013	2	-3.680	-1.746	0.000	4.731
2014	2014	2	-11.343	-1.707	0.000	-0.016
2015	2015	2	-29.504	-0.562	0.000	-0.020
2016	2016	2	-12.397	-1.719	0.000	0.004
2017	2017	2	22.316	-1.752	0.000	0.021
2018	2018	2	16.802	-2.472	0.000	-0.267
2019	2019	2	0.348	-2.412	0.000	-1.513
2020	2020	2	-24.318	-6.920	0.000	-4.516
2021	2021	2	30.464	0.586	0.000	-0.553
2022	2022	2	60.563	-5.002	0.000	0.295
2023	2023	2	-5.550	5.535	0.000	-0.288
2024	2024	2	-13.119	2.683	0.000	-0.174
2025	2025	2	-3.997	0.465	0.000	-0.148
2026	2026	2	-5.278	0.417	0.000	-0.034
2027	2027	2	2.671	0.740	0.000	-0.046
2028	2028	2	2.847	0.731	0.000	-0.036
2029	2029	2	1.845	0.723	0.000	-0.036
2030	2030	2	2.718	-0.293	0.000	-0.040
2031	2031	2	1.764	-0.293	0.000	-0.027
2032	2032	2	1.733	-0.293	0.000	-0.027
2033	2033	2	2.556	-0.293	0.000	0.000
2034	2034	2	2.492	-0.293	0.000	0.000

2035	2035	2	1.621	-0.293	0.000	0.000
2036	2036	2	0.000	-0.293	0.000	0.000
2037	2037	2	0.000	-0.293	0.000	0.000
2038	2038	2	0.000	-0.293	0.000	0.000
2039	2039	2	0.000	-0.293	0.000	0.000
2040	2040	2	0.000	-0.293	0.000	0.000
2041	2041	2	0.000	-0.293	0.000	0.000
2042	2042	2	0.000	-0.293	0.000	0.000
2043	2043	2	0.000	-0.293	0.000	0.000
2044	2044	2	0.000	-0.293	0.000	0.000
2045	2045	2	0.000	-0.293	0.000	0.000
2046	2046	2	0.000	-0.293	0.000	0.000
2047	2047	2	0.000	-0.293	0.000	0.000
2048	2048	2	0.000	-0.293	0.000	0.000
2049	2049	2	0.000	-0.293	0.000	0.000
2050	2050	2	0.000	-0.293	0.000	0.000
2051	2051	2	0.000	-0.293	0.000	0.000
2052	2052	2	0.000	-0.293	0.000	0.000
2053	2053	2	0.000	-0.293	0.000	0.000
2054	2054	2	0.000	-0.293	0.000	0.000
2055	2055	2	0.000	-0.293	0.000	0.000
2056	2056	2	0.000	-0.293	0.000	0.000
2057	2057	2	0.000	-0.293	0.000	0.000
2058	2058	2	0.000	-0.293	0.000	0.000
2059	2059	2	0.000	-0.293	0.000	0.000
2060	2060	2	0.000	-0.293	0.000	0.000
2061	2061	2	0.000	-0.293	0.000	0.000
2062	2062	2	0.000	-0.293	0.000	0.000
2063	2063	2	0.000	-0.293	0.000	0.000
2064	2064	2	0.000	-0.293	0.000	0.000
2065	2065	2	0.000	-0.293	0.000	0.000
2066	2066	2	0.000	-0.293	0.000	0.000
2067	2067	2	0.000	-0.293	0.000	0.000
2068	2068	2	0.000	-0.293	0.000	0.000
2069	2069	2	0.000	-0.293	0.000	0.000
2070	2070	2	0.000	-0.293	0.000	0.000
2071	2071	2	0.000	-0.293	0.000	0.000
2072	2072	2	0.000	-0.293	0.000	0.000
2073	2073	2	0.000	-0.293	0.000	0.000
2074	2074	2	0.000	-0.293	0.000	0.000
2075	2075	2	0.000	-0.293	0.000	0.000
2076	2076	2	0.000	-0.293	0.000	0.000
2077	2077	2	0.000	-0.293	0.000	0.000
2078	2078	2	0.000	-0.293	0.000	0.000

2079	2079	2	0.000	-0.293	0.000	0.000
2080	2080	2	0.000	-0.293	0.000	0.000
2081	2081	2	0.000	-0.293	0.000	0.000
2082	2082	2	0.000	-0.293	0.000	0.000
2083	2083	2	0.000	-0.293	0.000	0.000
2084	2084	2	0.000	-0.293	0.000	0.000
2085	2085	2	0.000	-0.293	0.000	0.000
2086	2086	2	0.000	-0.293	0.000	0.000
2087	2087	2	0.000	-0.293	0.000	0.000
2088	2088	2	0.000	-0.293	0.000	0.000
2089	2089	2	0.000	-0.293	0.000	0.000
2090	2090	2	0.000	-0.293	0.000	0.000
2091	2091	2	0.000	-0.293	0.000	0.000
2092	2092	2	0.000	-0.293	0.000	0.000
2093	2093	2	0.000	-0.293	0.000	0.000
2094	2094	2	0.000	-0.293	0.000	0.000
2095	2095	2	0.000	-0.293	0.000	0.000
2096	2096	2	0.000	-0.293	0.000	0.000
2097	2097	2	0.000	-0.293	0.000	0.000
2098	2098	2	0.000	-0.293	0.000	0.000
2099	2099	2	0.000	-0.293	0.000	0.000
2100	2100	2	0.000	-0.293	0.000	0.000
2101	2101	2	0.000	-0.293	0.000	0.000
2102	2102	2	0.000	-0.293	0.000	0.000
2103	2103	2	0.000	-0.293	0.000	0.000
2104	2104	2	0.000	-0.293	0.000	0.000
2105	2105	2	0.000	-0.293	0.000	0.000
2106	2106	2	0.000	-0.293	0.000	0.000
2107	2107	2	0.000	-0.293	0.000	0.000
2108	2108	2	0.000	-0.293	0.000	0.000
2109	2109	2	0.000	-0.293	0.000	0.000
2110	2110	2	0.000	-0.293	0.000	0.000
2111	2111	2	0.000	-0.293	0.000	0.000
2112	2112	2	0.000	-0.293	0.000	0.000
2113	2113	2	0.000	-0.293	0.000	0.000
2114	2114	2	0.000	-0.293	0.000	0.000
2115	2115	2	0.000	-0.293	0.000	0.000
2116	2116	2	0.000	-0.293	0.000	0.000
2117	2117	2	0.000	-0.293	0.000	0.000
2118	2118	2	0.000	-0.293	0.000	0.000
2119	2119	2	0.000	-0.293	0.000	0.000
2120	2120	2	0.000	-0.293	0.000	0.000
2121	2121	2	0.000	-0.293	0.000	0.000
2122	2122	2	0.000	-0.293	0.000	0.000

2123	2123	2	0.000	-0.293	0.000	0.000
2124	2124	2	0.000	-0.293	0.000	0.000
2125	2125	2	0.000	-0.293	0.000	0.000
2126	2126	2	0.000	-0.293	0.000	0.000
2127	2127	2	0.000	-0.293	0.000	0.000
2128	2128	2	0.000	-0.293	0.000	0.000
2129	2129	2	0.000	-0.293	0.000	0.000
2130	2130	2	0.000	-0.293	0.000	0.000
2131	2131	2	0.000	-0.293	0.000	0.000
2132	2132	2	0.000	-0.293	0.000	0.000
2133	2133	2	0.000	-0.293	0.000	0.000
2134	2134	2	0.000	-0.293	0.000	0.000
2135	2135	2	0.000	-0.293	0.000	0.000
2136	2136	2	0.000	-0.293	0.000	0.000
2137	2137	2	0.000	-0.293	0.000	0.000
2138	2138	2	0.000	-0.293	0.000	0.000
2139	2139	2	0.000	-0.293	0.000	0.000
2140	2140	2	0.000	-0.293	0.000	0.000
2141	2141	2	0.000	-0.293	0.000	0.000
2142	2142	2	0.000	-0.293	0.000	0.000
2143	2143	2	0.000	-0.293	0.000	0.000
2144	2144	2	0.000	-0.293	0.000	0.000
2145	2145	2	0.000	-0.293	0.000	0.000
2146	2146	2	0.000	-0.293	0.000	0.000
2147	2147	2	0.000	-0.293	0.000	0.000
2148	2148	2	0.000	-0.293	0.000	0.000
2149	2149	2	0.000	-0.293	0.000	0.000
2150	2150	2	0.000	-0.293	0.000	0.000
2151	2151	2	0.000	-0.293	0.000	0.000
2011	2011	3	6.623	0.000	0.000	-1.438
2012	2012	3	3.751	0.000	0.000	-1.878
2013	2013	3	4.428	0.000	0.000	-2.438
2014	2014	3	3.495	0.000	0.000	-1.891
2015	2015	3	-1.703	0.000	0.000	-2.837
2016	2016	3	-3.286	0.000	0.000	-3.035
2017	2017	3	4.940	0.000	0.000	-2.830
2018	2018	3	6.255	0.000	0.000	-3.251
2019	2019	3	7.007	0.000	0.000	-3.618
2020	2020	3	-4.724	0.000	0.000	-3.931
2021	2021	3	8.209	0.000	0.000	-4.324
2022	2022	3	44.098	0.000	0.000	-4.776
2023	2023	3	35.732	0.000	0.000	-5.300
2024	2024	3	-3.272	0.000	0.000	-5.915
2025	2025	3	-13.652	0.000	0.000	-6.643

2026	2026	3	-35.980	0.000	0.000	-7.520
2027	2027	3	-4.450	0.000	0.000	-8.594
2028	2028	3	-2.634	0.000	0.000	-9.934
2029	2029	3	-0.114	0.000	0.000	-11.657
2030	2030	3	-0.506	0.000	0.000	-13.944
2031	2031	3	-4.229	0.000	0.000	-19.089
2032	2032	3	0.441	0.000	0.000	-19.090
2033	2033	3	1.228	0.000	0.000	-19.088
2034	2034	3	1.712	0.000	0.000	-19.090
2035	2035	3	-0.946	0.000	0.000	-19.089
2036	2036	3	-0.271	0.000	0.000	-19.089
2037	2037	3	-2.629	0.000	0.000	-19.088
2038	2038	3	1.153	0.000	0.000	-19.090
2039	2039	3	-0.823	0.000	0.000	-19.092
2040	2040	3	2.635	0.000	0.000	-19.088
2041	2041	3	-1.504	0.000	0.000	-16.984
2042	2042	3	-0.001	0.000	0.000	-5.099
2043	2043	3	-0.216	0.000	0.000	-2.043
2044	2044	3	1.039	0.000	0.000	-6.009
2045	2045	3	-2.180	0.000	0.000	-15.076
2046	2046	3	1.866	0.000	0.000	-9.204
2047	2047	3	-1.602	0.000	0.000	-7.798
2048	2048	3	-2.514	0.000	0.000	-5.087
2049	2049	3	1.769	0.000	0.000	-6.945
2050	2050	3	-1.947	0.000	0.000	-1.718
2051	2051	3	0.000	0.000	0.000	0.000
2052	2052	3	0.000	0.000	0.000	0.000
2053	2053	3	0.000	0.000	0.000	0.000
2054	2054	3	0.000	0.000	0.000	0.000
2055	2055	3	0.000	0.000	0.000	0.000
2056	2056	3	0.000	0.000	0.000	0.000
2057	2057	3	0.000	0.000	0.000	0.000
2058	2058	3	0.000	0.000	0.000	0.000
2059	2059	3	0.000	0.000	0.000	0.000
2060	2060	3	0.000	0.000	0.000	0.000
2061	2061	3	0.000	0.000	0.000	0.000
2062	2062	3	0.000	0.000	0.000	0.000
2063	2063	3	0.000	0.000	0.000	0.000
2064	2064	3	0.000	0.000	0.000	0.000
2065	2065	3	0.000	0.000	0.000	0.000
2066	2066	3	0.000	0.000	0.000	0.000
2067	2067	3	0.000	0.000	0.000	0.000
2068	2068	3	0.000	0.000	0.000	0.000
2069	2069	3	0.000	0.000	0.000	0.000

2070	2070	3	0.000	0.000	0.000	0.000
2071	2071	3	0.000	0.000	0.000	0.000
2072	2072	3	0.000	0.000	0.000	0.000
2073	2073	3	0.000	0.000	0.000	0.000
2074	2074	3	0.000	0.000	0.000	0.000
2075	2075	3	0.000	0.000	0.000	0.000
2076	2076	3	0.000	0.000	0.000	0.000
2077	2077	3	0.000	0.000	0.000	0.000
2078	2078	3	0.000	0.000	0.000	0.000
2079	2079	3	0.000	0.000	0.000	0.000
2080	2080	3	0.000	0.000	0.000	0.000
2081	2081	3	0.000	0.000	0.000	0.000
2082	2082	3	0.000	0.000	0.000	0.000
2083	2083	3	0.000	0.000	0.000	0.000
2084	2084	3	0.000	0.000	0.000	0.000
2085	2085	3	0.000	0.000	0.000	0.000
2086	2086	3	0.000	0.000	0.000	0.000
2087	2087	3	0.000	0.000	0.000	0.000
2088	2088	3	0.000	0.000	0.000	0.000
2089	2089	3	0.000	0.000	0.000	0.000
2090	2090	3	0.000	0.000	0.000	0.000
2091	2091	3	0.000	0.000	0.000	0.000
2092	2092	3	0.000	0.000	0.000	0.000
2093	2093	3	0.000	0.000	0.000	0.000
2094	2094	3	0.000	0.000	0.000	0.000
2095	2095	3	0.000	0.000	0.000	0.000
2096	2096	3	0.000	0.000	0.000	0.000
2097	2097	3	0.000	0.000	0.000	0.000
2098	2098	3	0.000	0.000	0.000	0.000
2099	2099	3	0.000	0.000	0.000	0.000
2100	2100	3	0.000	0.000	0.000	0.000
2101	2101	3	0.000	0.000	0.000	0.000
2102	2102	3	0.000	0.000	0.000	0.000
2103	2103	3	0.000	0.000	0.000	0.000
2104	2104	3	0.000	0.000	0.000	0.000
2105	2105	3	0.000	0.000	0.000	0.000
2106	2106	3	0.000	0.000	0.000	0.000
2107	2107	3	0.000	0.000	0.000	0.000
2108	2108	3	0.000	0.000	0.000	0.000
2109	2109	3	0.000	0.000	0.000	0.000
2110	2110	3	0.000	0.000	0.000	0.000
2111	2111	3	0.000	0.000	0.000	0.000
2112	2112	3	0.000	0.000	0.000	0.000
2113	2113	3	0.000	0.000	0.000	0.000

2114	2114	3	0.000	0.000	0.000	0.000
2115	2115	3	0.000	0.000	0.000	0.000
2116	2116	3	0.000	0.000	0.000	0.000
2117	2117	3	0.000	0.000	0.000	0.000
2118	2118	3	0.000	0.000	0.000	0.000
2119	2119	3	0.000	0.000	0.000	0.000
2120	2120	3	0.000	0.000	0.000	0.000
2121	2121	3	0.000	0.000	0.000	0.000
2122	2122	3	0.000	0.000	0.000	0.000
2123	2123	3	0.000	0.000	0.000	0.000
2124	2124	3	0.000	0.000	0.000	0.000
2125	2125	3	0.000	0.000	0.000	0.000
2126	2126	3	0.000	0.000	0.000	0.000
2127	2127	3	0.000	0.000	0.000	0.000
2128	2128	3	0.000	0.000	0.000	0.000
2129	2129	3	0.000	0.000	0.000	0.000
2130	2130	3	0.000	0.000	0.000	0.000
2131	2131	3	0.000	0.000	0.000	0.000
2132	2132	3	0.000	0.000	0.000	0.000
2133	2133	3	0.000	0.000	0.000	0.000
2134	2134	3	0.000	0.000	0.000	0.000
2135	2135	3	0.000	0.000	0.000	0.000
2136	2136	3	0.000	0.000	0.000	0.000
2137	2137	3	0.000	0.000	0.000	0.000
2138	2138	3	0.000	0.000	0.000	0.000
2139	2139	3	0.000	0.000	0.000	0.000
2140	2140	3	0.000	0.000	0.000	0.000
2141	2141	3	0.000	0.000	0.000	0.000
2142	2142	3	0.000	0.000	0.000	0.000
2143	2143	3	0.000	0.000	0.000	0.000
2144	2144	3	0.000	0.000	0.000	0.000
2145	2145	3	0.000	0.000	0.000	0.000
2146	2146	3	0.000	0.000	0.000	0.000
2147	2147	3	0.000	0.000	0.000	0.000
2148	2148	3	0.000	0.000	0.000	0.000
2149	2149	3	0.000	0.000	0.000	0.000
2150	2150	3	0.000	0.000	0.000	0.000
2151	2151	3	0.000	0.000	0.000	0.000

FUEL_COST_CHANGES - (std)

*% change p.a.

*Start_yr	End_yr	fuel_type	resource	duty	VAT	CO2_Den_change
2011	2011	1	22.226	-0.297	14.286	-0.844
2012	2012	1	2.040	-2.049	0.000	-0.023

2013	2013	1	-3.443	-1.746	0.000	-0.438
2014	2014	1	-11.771	-1.707	0.000	-0.537
2015	2015	1	-28.520	-0.661	0.000	0.000
2016	2016	1	-7.312	-2.068	0.000	0.000
2017	2017	1	19.734	-1.912	0.000	-1.352
2018	2018	1	13.204	-2.203	0.000	-1.370
2019	2019	1	-10.631	-2.442	0.000	-1.389
2020	2020	1	-11.341	-4.832	0.000	-1.409
2021	2021	1	3.590	1.236	0.000	0.000
2022	2022	1	5.005	3.364	0.000	0.000
2023	2023	1	1.744	0.601	0.000	0.000
2024	2024	1	1.726	0.550	0.000	0.000
2025	2025	1	1.765	0.745	0.000	0.000
2026	2026	1	2.597	0.658	0.000	0.000
2027	2027	1	1.476	0.681	0.000	0.000
2028	2028	1	1.433	0.674	0.000	0.000
2029	2029	1	1.391	0.663	0.000	0.000
2030	2030	1	1.352	0.653	0.000	0.000
2031	2031	1	2.246	0.653	0.000	0.000
2032	2032	1	1.259	0.650	0.000	0.000
2033	2033	1	1.225	0.644	0.000	0.000
2034	2034	1	1.193	0.637	0.000	0.000
2035	2035	1	1.162	0.645	0.000	0.000
2036	2036	1	0.000	0.640	0.000	0.000
2037	2037	1	0.000	0.635	0.000	0.000
2038	2038	1	0.000	0.630	0.000	0.000
2039	2039	1	0.000	0.649	0.000	0.000
2040	2040	1	0.000	0.681	0.000	0.000
2041	2041	1	0.000	0.629	0.000	0.000
2042	2042	1	0.000	0.592	0.000	0.000
2043	2043	1	0.000	0.587	0.000	0.000
2044	2044	1	0.000	0.587	0.000	0.000
2045	2045	1	0.000	0.586	0.000	0.000
2046	2046	1	0.000	0.587	0.000	0.000
2047	2047	1	0.000	0.587	0.000	0.000
2048	2048	1	0.000	0.587	0.000	0.000
2049	2049	1	0.000	0.586	0.000	0.000
2050	2050	1	0.000	0.587	0.000	0.000
2051	2051	1	0.000	0.587	0.000	0.000
2052	2052	1	0.000	0.587	0.000	0.000
2053	2053	1	0.000	0.587	0.000	0.000
2054	2054	1	0.000	0.587	0.000	0.000
2055	2055	1	0.000	0.587	0.000	0.000
2056	2056	1	0.000	0.587	0.000	0.000

2057	2057	1	0.000	0.587	0.000	0.000
2058	2058	1	0.000	0.586	0.000	0.000
2059	2059	1	0.000	0.587	0.000	0.000
2060	2060	1	0.000	0.587	0.000	0.000
2061	2061	1	0.000	0.587	0.000	0.000
2062	2062	1	0.000	0.587	0.000	0.000
2063	2063	1	0.000	0.587	0.000	0.000
2064	2064	1	0.000	0.587	0.000	0.000
2065	2065	1	0.000	0.587	0.000	0.000
2066	2066	1	0.000	0.587	0.000	0.000
2067	2067	1	0.000	0.587	0.000	0.000
2068	2068	1	0.000	0.587	0.000	0.000
2069	2069	1	-1.686	0.587	0.000	0.000
2070	2070	1	0.000	0.587	0.000	0.000
2071	2071	1	0.000	0.587	0.000	0.000
2072	2072	1	0.000	0.587	0.000	0.000
2073	2073	1	0.000	0.587	0.000	0.000
2074	2074	1	0.000	0.586	0.000	0.000
2075	2075	1	0.000	0.587	0.000	0.000
2076	2076	1	0.000	0.587	0.000	0.000
2077	2077	1	0.000	0.586	0.000	0.000
2078	2078	1	0.000	0.587	0.000	0.000
2079	2079	1	0.000	0.587	0.000	0.000
2080	2080	1	0.000	0.587	0.000	0.000
2081	2081	1	0.000	0.587	0.000	0.000
2082	2082	1	0.000	0.587	0.000	0.000
2083	2083	1	0.000	0.587	0.000	0.000
2084	2084	1	0.000	0.587	0.000	0.000
2085	2085	1	0.000	0.587	0.000	0.000
2086	2086	1	0.000	0.587	0.000	0.000
2087	2087	1	0.000	0.587	0.000	0.000
2088	2088	1	0.000	0.587	0.000	0.000
2089	2089	1	0.000	0.587	0.000	0.000
2090	2090	1	0.000	0.587	0.000	0.000
2091	2091	1	0.000	0.587	0.000	0.000
2092	2092	1	0.000	0.587	0.000	0.000
2093	2093	1	0.000	0.587	0.000	0.000
2094	2094	1	0.000	0.587	0.000	0.000
2095	2095	1	0.000	0.587	0.000	0.000
2096	2096	1	0.000	0.587	0.000	0.000
2097	2097	1	0.000	0.587	0.000	0.000
2098	2098	1	0.000	0.587	0.000	0.000
2099	2099	1	0.000	0.587	0.000	0.000
2100	2100	1	0.000	0.587	0.000	0.000

2101	2101	1	0.000	0.587	0.000	0.000
2102	2102	1	0.000	0.587	0.000	0.000
2103	2103	1	0.000	0.587	0.000	0.000
2104	2104	1	0.000	0.587	0.000	0.000
2105	2105	1	0.000	0.587	0.000	0.000
2106	2106	1	0.000	0.587	0.000	0.000
2107	2107	1	0.000	0.587	0.000	0.000
2108	2108	1	0.000	0.587	0.000	0.000
2109	2109	1	0.000	0.587	0.000	0.000
2110	2110	1	0.000	0.587	0.000	0.000
2111	2111	1	0.000	0.587	0.000	0.000
2112	2112	1	0.000	0.587	0.000	0.000
2113	2113	1	0.000	0.587	0.000	0.000
2114	2114	1	0.000	0.587	0.000	0.000
2115	2115	1	0.000	0.587	0.000	0.000
2116	2116	1	0.000	0.587	0.000	0.000
2117	2117	1	0.000	0.587	0.000	0.000
2118	2118	1	0.000	0.587	0.000	0.000
2119	2119	1	0.000	0.587	0.000	0.000
2120	2120	1	0.000	0.587	0.000	0.000
2121	2121	1	0.000	0.587	0.000	0.000
2122	2122	1	0.000	0.587	0.000	0.000
2123	2123	1	0.000	0.587	0.000	0.000
2124	2124	1	0.000	0.587	0.000	0.000
2125	2125	1	0.000	0.587	0.000	0.000
2126	2126	1	0.000	0.587	0.000	0.000
2127	2127	1	0.000	0.587	0.000	0.000
2128	2128	1	0.000	0.587	0.000	0.000
2129	2129	1	0.000	0.587	0.000	0.000
2130	2130	1	0.000	0.587	0.000	0.000
2131	2131	1	0.000	0.587	0.000	0.000
2132	2132	1	0.000	0.587	0.000	0.000
2133	2133	1	0.000	0.587	0.000	0.000
2134	2134	1	0.000	0.587	0.000	0.000
2135	2135	1	0.000	0.587	0.000	0.000
2136	2136	1	0.000	0.587	0.000	0.000
2137	2137	1	0.000	0.587	0.000	0.000
2138	2138	1	0.000	0.587	0.000	0.000
2139	2139	1	0.000	0.587	0.000	0.000
2140	2140	1	0.000	0.587	0.000	0.000
2141	2141	1	0.000	0.587	0.000	0.000
2142	2142	1	0.000	0.587	0.000	0.000
2143	2143	1	0.000	0.587	0.000	0.000
2144	2144	1	0.000	0.587	0.000	0.000

2145	2145	1	0.000	0.587	0.000	0.000
2146	2146	1	0.000	0.587	0.000	0.000
2147	2147	1	0.000	0.587	0.000	0.000
2148	2148	1	0.000	0.587	0.000	0.000
2149	2149	1	0.000	0.587	0.000	0.000
2150	2150	1	0.000	0.587	0.000	0.000
2151	2151	1	0.000	0.587	0.000	0.000
2011	2011	2	26.919	-0.297	14.286	0.188
2012	2012	2	3.247	-2.049	0.000	1.643
2013	2013	2	-3.680	-1.746	0.000	-0.436
2014	2014	2	-11.343	-1.707	0.000	0.153
2015	2015	2	-29.504	-0.661	0.000	0.004
2016	2016	2	-12.397	-2.068	0.000	0.003
2017	2017	2	22.316	-1.912	0.000	-1.744
2018	2018	2	16.802	-2.203	0.000	-1.775
2019	2019	2	-11.392	-2.442	0.000	-1.807
2020	2020	2	-11.913	-4.832	0.000	-1.841
2021	2021	2	3.816	1.236	0.000	0.000
2022	2022	2	5.133	3.364	0.000	0.000
2023	2023	2	1.862	0.601	0.000	0.000
2024	2024	2	1.853	0.550	0.000	0.000
2025	2025	2	1.886	0.745	0.000	0.000
2026	2026	2	2.790	0.658	0.000	0.000
2027	2027	2	1.583	0.681	0.000	0.000
2028	2028	2	1.535	0.674	0.000	0.000
2029	2029	2	1.489	0.663	0.000	0.000
2030	2030	2	1.445	0.653	0.000	0.000
2031	2031	2	2.399	0.653	0.000	0.000
2032	2032	2	1.343	0.650	0.000	0.000
2033	2033	2	1.306	0.644	0.000	0.000
2034	2034	2	1.270	0.637	0.000	0.000
2035	2035	2	1.236	0.645	0.000	0.000
2036	2036	2	0.000	0.640	0.000	0.000
2037	2037	2	0.000	0.635	0.000	0.000
2038	2038	2	0.000	0.630	0.000	0.000
2039	2039	2	0.000	0.649	0.000	0.000
2040	2040	2	0.000	0.681	0.000	0.000
2041	2041	2	0.000	0.629	0.000	0.000
2042	2042	2	0.000	0.592	0.000	0.000
2043	2043	2	0.000	0.587	0.000	0.000
2044	2044	2	0.000	0.587	0.000	0.000
2045	2045	2	0.000	0.586	0.000	0.000
2046	2046	2	0.000	0.587	0.000	0.000
2047	2047	2	0.000	0.587	0.000	0.000

2048	2048	2	0.000	0.587	0.000	0.000
2049	2049	2	0.000	0.586	0.000	0.000
2050	2050	2	0.000	0.587	0.000	0.000
2051	2051	2	0.000	0.587	0.000	0.000
2052	2052	2	0.000	0.587	0.000	0.000
2053	2053	2	0.000	0.587	0.000	0.000
2054	2054	2	0.000	0.587	0.000	0.000
2055	2055	2	0.000	0.587	0.000	0.000
2056	2056	2	0.000	0.587	0.000	0.000
2057	2057	2	0.000	0.587	0.000	0.000
2058	2058	2	0.000	0.586	0.000	0.000
2059	2059	2	0.000	0.587	0.000	0.000
2060	2060	2	0.000	0.587	0.000	0.000
2061	2061	2	0.000	0.587	0.000	0.000
2062	2062	2	0.000	0.587	0.000	0.000
2063	2063	2	0.000	0.587	0.000	0.000
2064	2064	2	0.000	0.587	0.000	0.000
2065	2065	2	0.000	0.587	0.000	0.000
2066	2066	2	0.000	0.587	0.000	0.000
2067	2067	2	0.000	0.587	0.000	0.000
2068	2068	2	0.000	0.587	0.000	0.000
2069	2069	2	-1.686	0.587	0.000	0.000
2070	2070	2	0.000	0.587	0.000	0.000
2071	2071	2	0.000	0.587	0.000	0.000
2072	2072	2	0.000	0.587	0.000	0.000
2073	2073	2	0.000	0.587	0.000	0.000
2074	2074	2	0.000	0.586	0.000	0.000
2075	2075	2	0.000	0.587	0.000	0.000
2076	2076	2	0.000	0.587	0.000	0.000
2077	2077	2	0.000	0.586	0.000	0.000
2078	2078	2	0.000	0.587	0.000	0.000
2079	2079	2	0.000	0.587	0.000	0.000
2080	2080	2	0.000	0.587	0.000	0.000
2081	2081	2	0.000	0.587	0.000	0.000
2082	2082	2	0.000	0.587	0.000	0.000
2083	2083	2	0.000	0.587	0.000	0.000
2084	2084	2	0.000	0.587	0.000	0.000
2085	2085	2	0.000	0.587	0.000	0.000
2086	2086	2	0.000	0.587	0.000	0.000
2087	2087	2	0.000	0.587	0.000	0.000
2088	2088	2	0.000	0.587	0.000	0.000
2089	2089	2	0.000	0.587	0.000	0.000
2090	2090	2	0.000	0.587	0.000	0.000
2091	2091	2	0.000	0.587	0.000	0.000

2092	2092	2	0.000	0.587	0.000	0.000
2093	2093	2	0.000	0.587	0.000	0.000
2094	2094	2	0.000	0.587	0.000	0.000
2095	2095	2	0.000	0.587	0.000	0.000
2096	2096	2	0.000	0.587	0.000	0.000
2097	2097	2	0.000	0.587	0.000	0.000
2098	2098	2	0.000	0.587	0.000	0.000
2099	2099	2	0.000	0.587	0.000	0.000
2100	2100	2	0.000	0.587	0.000	0.000
2101	2101	2	0.000	0.587	0.000	0.000
2102	2102	2	0.000	0.587	0.000	0.000
2103	2103	2	0.000	0.587	0.000	0.000
2104	2104	2	0.000	0.587	0.000	0.000
2105	2105	2	0.000	0.587	0.000	0.000
2106	2106	2	0.000	0.587	0.000	0.000
2107	2107	2	0.000	0.587	0.000	0.000
2108	2108	2	0.000	0.587	0.000	0.000
2109	2109	2	0.000	0.587	0.000	0.000
2110	2110	2	0.000	0.587	0.000	0.000
2111	2111	2	0.000	0.587	0.000	0.000
2112	2112	2	0.000	0.587	0.000	0.000
2113	2113	2	0.000	0.587	0.000	0.000
2114	2114	2	0.000	0.587	0.000	0.000
2115	2115	2	0.000	0.587	0.000	0.000
2116	2116	2	0.000	0.587	0.000	0.000
2117	2117	2	0.000	0.587	0.000	0.000
2118	2118	2	0.000	0.587	0.000	0.000
2119	2119	2	0.000	0.587	0.000	0.000
2120	2120	2	0.000	0.587	0.000	0.000
2121	2121	2	0.000	0.587	0.000	0.000
2122	2122	2	0.000	0.587	0.000	0.000
2123	2123	2	0.000	0.587	0.000	0.000
2124	2124	2	0.000	0.587	0.000	0.000
2125	2125	2	0.000	0.587	0.000	0.000
2126	2126	2	0.000	0.587	0.000	0.000
2127	2127	2	0.000	0.587	0.000	0.000
2128	2128	2	0.000	0.587	0.000	0.000
2129	2129	2	0.000	0.587	0.000	0.000
2130	2130	2	0.000	0.587	0.000	0.000
2131	2131	2	0.000	0.587	0.000	0.000
2132	2132	2	0.000	0.587	0.000	0.000
2133	2133	2	0.000	0.587	0.000	0.000
2134	2134	2	0.000	0.587	0.000	0.000
2135	2135	2	0.000	0.587	0.000	0.000

2136	2136	2	0.000	0.587	0.000	0.000
2137	2137	2	0.000	0.587	0.000	0.000
2138	2138	2	0.000	0.587	0.000	0.000
2139	2139	2	0.000	0.587	0.000	0.000
2140	2140	2	0.000	0.587	0.000	0.000
2141	2141	2	0.000	0.587	0.000	0.000
2142	2142	2	0.000	0.587	0.000	0.000
2143	2143	2	0.000	0.587	0.000	0.000
2144	2144	2	0.000	0.587	0.000	0.000
2145	2145	2	0.000	0.587	0.000	0.000
2146	2146	2	0.000	0.587	0.000	0.000
2147	2147	2	0.000	0.587	0.000	0.000
2148	2148	2	0.000	0.587	0.000	0.000
2149	2149	2	0.000	0.587	0.000	0.000
2150	2150	2	0.000	0.587	0.000	0.000
2151	2151	2	0.000	0.587	0.000	0.000
2011	2011	3	6.000	0.000	0.000	-1.438
2012	2012	3	3.963	0.000	0.000	-1.878
2013	2013	3	4.453	0.000	0.000	-2.438
2014	2014	3	0.807	0.000	0.000	-1.891
2015	2015	3	-2.124	0.000	0.000	-2.837
2016	2016	3	-1.596	0.000	0.000	-3.035
2017	2017	3	3.662	0.000	0.000	-2.830
2018	2018	3	6.268	0.000	0.000	-3.251
2019	2019	3	4.006	0.000	0.000	-3.618
2020	2020	3	-3.240	0.000	0.000	-3.931
2021	2021	3	9.768	0.000	0.000	-4.324
2022	2022	3	1.799	0.000	0.000	-4.776
2023	2023	3	-0.216	0.000	0.000	-5.300
2024	2024	3	-1.595	0.000	0.000	-5.915
2025	2025	3	1.049	0.000	0.000	-6.643
2026	2026	3	0.894	0.000	0.000	-7.520
2027	2027	3	-1.865	0.000	0.000	-8.594
2028	2028	3	-0.274	0.000	0.000	-9.934
2029	2029	3	-0.789	0.000	0.000	-11.657
2030	2030	3	1.876	0.000	0.000	-13.944
2031	2031	3	-0.287	0.000	0.000	-19.089
2032	2032	3	-2.211	0.000	0.000	-19.090
2033	2033	3	-2.565	0.000	0.000	-19.088
2034	2034	3	-1.399	0.000	0.000	-19.090
2035	2035	3	-1.444	0.000	0.000	-19.089
2036	2036	3	-0.695	0.000	0.000	-19.089
2037	2037	3	-0.258	0.000	0.000	-19.088
2038	2038	3	-0.856	0.000	0.000	-19.090

2039	2039	3	1.452	0.000	0.000	-19.092
2040	2040	3	-1.512	0.000	0.000	-19.088
2041	2041	3	0.000	0.000	0.000	-16.984
2042	2042	3	0.000	0.000	0.000	-5.099
2043	2043	3	0.000	0.000	0.000	-2.043
2044	2044	3	0.000	0.000	0.000	-6.009
2045	2045	3	0.000	0.000	0.000	-15.076
2046	2046	3	0.000	0.000	0.000	-9.204
2047	2047	3	0.000	0.000	0.000	-7.798
2048	2048	3	0.000	0.000	0.000	-5.087
2049	2049	3	0.000	0.000	0.000	-6.945
2050	2050	3	0.000	0.000	0.000	-1.718
2051	2051	3	0.000	0.000	0.000	0.000
2052	2052	3	0.000	0.000	0.000	0.000
2053	2053	3	0.000	0.000	0.000	0.000
2054	2054	3	0.000	0.000	0.000	0.000
2055	2055	3	0.000	0.000	0.000	0.000
2056	2056	3	0.000	0.000	0.000	0.000
2057	2057	3	0.000	0.000	0.000	0.000
2058	2058	3	0.000	0.000	0.000	0.000
2059	2059	3	0.000	0.000	0.000	0.000
2060	2060	3	0.000	0.000	0.000	0.000
2061	2061	3	0.000	0.000	0.000	0.000
2062	2062	3	0.000	0.000	0.000	0.000
2063	2063	3	0.000	0.000	0.000	0.000
2064	2064	3	0.000	0.000	0.000	0.000
2065	2065	3	0.000	0.000	0.000	0.000
2066	2066	3	0.000	0.000	0.000	0.000
2067	2067	3	0.000	0.000	0.000	0.000
2068	2068	3	0.000	0.000	0.000	0.000
2069	2069	3	0.000	0.000	0.000	0.000
2070	2070	3	0.000	0.000	0.000	0.000
2071	2071	3	0.000	0.000	0.000	0.000
2072	2072	3	0.000	0.000	0.000	0.000
2073	2073	3	0.000	0.000	0.000	0.000
2074	2074	3	0.000	0.000	0.000	0.000
2075	2075	3	0.000	0.000	0.000	0.000
2076	2076	3	0.000	0.000	0.000	0.000
2077	2077	3	0.000	0.000	0.000	0.000
2078	2078	3	0.000	0.000	0.000	0.000
2079	2079	3	0.000	0.000	0.000	0.000
2080	2080	3	0.000	0.000	0.000	0.000
2081	2081	3	0.000	0.000	0.000	0.000
2082	2082	3	0.000	0.000	0.000	0.000

2083	2083	3	0.000	0.000	0.000	0.000
2084	2084	3	0.000	0.000	0.000	0.000
2085	2085	3	0.000	0.000	0.000	0.000
2086	2086	3	0.000	0.000	0.000	0.000
2087	2087	3	0.000	0.000	0.000	0.000
2088	2088	3	0.000	0.000	0.000	0.000
2089	2089	3	0.000	0.000	0.000	0.000
2090	2090	3	0.000	0.000	0.000	0.000
2091	2091	3	0.000	0.000	0.000	0.000
2092	2092	3	0.000	0.000	0.000	0.000
2093	2093	3	0.000	0.000	0.000	0.000
2094	2094	3	0.000	0.000	0.000	0.000
2095	2095	3	0.000	0.000	0.000	0.000
2096	2096	3	0.000	0.000	0.000	0.000
2097	2097	3	0.000	0.000	0.000	0.000
2098	2098	3	0.000	0.000	0.000	0.000
2099	2099	3	0.000	0.000	0.000	0.000
2100	2100	3	0.000	0.000	0.000	0.000
2101	2101	3	0.000	0.000	0.000	0.000
2102	2102	3	0.000	0.000	0.000	0.000
2103	2103	3	0.000	0.000	0.000	0.000
2104	2104	3	0.000	0.000	0.000	0.000
2105	2105	3	0.000	0.000	0.000	0.000
2106	2106	3	0.000	0.000	0.000	0.000
2107	2107	3	0.000	0.000	0.000	0.000
2108	2108	3	0.000	0.000	0.000	0.000
2109	2109	3	0.000	0.000	0.000	0.000
2110	2110	3	0.000	0.000	0.000	0.000
2111	2111	3	0.000	0.000	0.000	0.000
2112	2112	3	0.000	0.000	0.000	0.000
2113	2113	3	0.000	0.000	0.000	0.000
2114	2114	3	0.000	0.000	0.000	0.000
2115	2115	3	0.000	0.000	0.000	0.000
2116	2116	3	0.000	0.000	0.000	0.000
2117	2117	3	0.000	0.000	0.000	0.000
2118	2118	3	0.000	0.000	0.000	0.000
2119	2119	3	0.000	0.000	0.000	0.000
2120	2120	3	0.000	0.000	0.000	0.000
2121	2121	3	0.000	0.000	0.000	0.000
2122	2122	3	0.000	0.000	0.000	0.000
2123	2123	3	0.000	0.000	0.000	0.000
2124	2124	3	0.000	0.000	0.000	0.000
2125	2125	3	0.000	0.000	0.000	0.000
2126	2126	3	0.000	0.000	0.000	0.000

2127	2127	3	0.000	0.000	0.000	0.000
2128	2128	3	0.000	0.000	0.000	0.000
2129	2129	3	0.000	0.000	0.000	0.000
2130	2130	3	0.000	0.000	0.000	0.000
2131	2131	3	0.000	0.000	0.000	0.000
2132	2132	3	0.000	0.000	0.000	0.000
2133	2133	3	0.000	0.000	0.000	0.000
2134	2134	3	0.000	0.000	0.000	0.000
2135	2135	3	0.000	0.000	0.000	0.000
2136	2136	3	0.000	0.000	0.000	0.000
2137	2137	3	0.000	0.000	0.000	0.000
2138	2138	3	0.000	0.000	0.000	0.000
2139	2139	3	0.000	0.000	0.000	0.000
2140	2140	3	0.000	0.000	0.000	0.000
2141	2141	3	0.000	0.000	0.000	0.000
2142	2142	3	0.000	0.000	0.000	0.000
2143	2143	3	0.000	0.000	0.000	0.000
2144	2144	3	0.000	0.000	0.000	0.000
2145	2145	3	0.000	0.000	0.000	0.000
2146	2146	3	0.000	0.000	0.000	0.000
2147	2147	3	0.000	0.000	0.000	0.000
2148	2148	3	0.000	0.000	0.000	0.000
2149	2149	3	0.000	0.000	0.000	0.000
2150	2150	3	0.000	0.000	0.000	0.000
2151	2151	3	0.000	0.000	0.000	0.000

FLEET - (used)

*veh_type	%Petrol	%Diesel	%Electric
1	59.8962	40.0961	0.0077
2	3.4548	96.4566	0.0886
3	3.4548	96.4566	0.0886
4	0.0000	100.0000	0.0000
5	0.0000	100.0000	0.0000
6	0.0000	99.9221	0.0779
7	0.0000	100.0000	0.0000
8	0.0000	100.0000	0.0000

FLEET - (std)

*veh_type	%Petrol	%Diesel	%Electric
1	59.6299	40.3625	0.0076
2	3.4505	96.4583	0.0912
3	3.4505	96.4583	0.0912
4	0.0000	100.0000	0.0000
5	0.0000	100.0000	0.0000

6	0.0000	100.0000	0.0000
7	0.0000	100.0000	0.0000
8	0.0000	100.0000	0.0000

FLEET_CHANGES - (used)

*% p.a.

*Start_yr	End_yr	Veh_type	%Change_Petrol	%Change_Diesel	%Change_Electric
2011	2011	1	-3.5334	5.2644	72.7273
2012	2012	1	-3.5938	4.8952	77.4436
2013	2013	1	-3.6635	4.5816	52.5424
2014	2014	1	-3.5106	3.9580	142.2222
2015	2015	1	-3.2761	3.3338	105.1606
2016	2016	1	-2.7303	2.5141	65.3438
2017	2017	1	-0.9381	0.6152	48.4449
2018	2018	1	1.1306	-1.3993	39.2394
2019	2019	1	2.3623	-2.7214	36.5882
2020	2020	1	1.9473	-3.2533	75.2245
2021	2021	1	1.5292	-4.3172	87.2343
2022	2022	1	0.2404	-4.6395	72.5965
2023	2023	1	-0.8037	-5.4000	58.4144
2024	2024	1	-1.4484	-6.2086	43.9989
2025	2025	1	-2.0998	-7.3022	35.9550
2026	2026	1	-2.4509	-7.9695	27.7036
2027	2027	1	-2.9226	-8.6666	22.7674
2028	2028	1	-3.3225	-9.3402	18.9875
2029	2029	1	-3.6571	-9.8518	15.8753
2030	2030	1	-3.9691	-10.1168	13.3105
2031	2031	1	-4.0715	-10.1036	10.9677
2032	2032	1	-4.0434	-9.9044	9.0164
2033	2033	1	-4.1522	-9.4536	7.5826
2034	2034	1	-4.2021	-8.8854	6.4073
2035	2035	1	-4.0578	-8.4250	5.3933
2036	2036	1	-3.8855	-7.8288	4.5411
2037	2037	1	-3.8221	-7.0415	3.8820
2038	2038	1	-3.5816	-6.0722	3.2150
2039	2039	1	-3.3132	-5.1005	2.6551
2040	2040	1	-2.9987	-4.3872	2.2093
2041	2041	1	-2.5436	-3.6258	1.7546
2042	2042	1	-2.2945	-3.1222	1.4878
2043	2043	1	-1.9852	-2.7371	1.2411
2044	2044	1	-1.6650	-2.2924	1.0049
2045	2045	1	-1.4495	-1.9597	0.8450
2046	2046	1	-1.2558	-1.6572	0.7092
2047	2047	1	-1.0944	-1.4064	0.6005

2048	2048	1	-0.9945	-1.2353	0.5303
2049	2049	1	-0.8969	-1.0790	0.4665
2050	2050	1	-0.7964	-0.9332	0.4054
2011	2011	2	-9.9745	0.3593	-2.2573
2012	2012	2	-8.1699	0.2539	9.5843
2013	2013	2	-8.1580	0.2422	-2.1075
2014	2014	2	-8.2993	0.2019	22.8202
2015	2015	2	-7.8448	0.1740	16.8273
2016	2016	2	-8.3367	0.1676	15.7539
2017	2017	2	-1.9981	0.0132	17.9520
2018	2018	2	3.9723	-0.1194	20.7143
2019	2019	2	2.8159	-0.1663	47.4283
2020	2020	2	0.6107	-0.2061	58.0426
2021	2021	2	-7.3773	-0.2553	79.4296
2022	2022	2	-1.0385	-0.1683	20.0218
2023	2023	2	-1.0646	-0.1605	16.0196
2024	2024	2	-0.8959	-0.1530	12.9320
2025	2025	2	-0.8468	-0.2198	15.8266
2026	2026	2	-0.8017	-0.2901	17.6330
2027	2027	2	-0.8082	-0.3992	20.2846
2028	2028	2	-0.9106	-0.5771	24.0664
2029	2029	2	-1.0264	-0.7144	23.8074
2030	2030	2	-1.3629	-1.0477	27.9255
2031	2031	2	-1.8716	-1.4764	30.4203
2032	2032	2	-2.3561	-1.9387	30.1393
2033	2033	2	-2.9243	-2.4870	29.1112
2034	2034	2	-3.4326	-2.9768	26.3028
2035	2035	2	-3.8181	-3.3308	22.6024
2036	2036	2	-4.0270	-3.5179	18.8201
2037	2037	2	-4.0964	-3.5581	15.4568
2038	2038	2	-4.1052	-3.5435	12.8578
2039	2039	2	-3.7973	-3.2205	9.9910
2040	2040	2	-3.7896	-3.2207	8.7892
2041	2041	2	-3.3695	-2.8372	6.8894
2042	2042	2	-3.3659	-2.8357	6.2576
2043	2043	2	-3.3161	-2.7852	5.6196
2044	2044	2	-3.2138	-2.6951	5.0050
2045	2045	2	-3.0706	-2.5788	4.4374
2046	2046	2	-2.8271	-2.3669	3.7986
2047	2047	2	-2.6535	-2.2117	3.3391
2048	2048	2	-2.4825	-2.0531	2.9326
2049	2049	2	-2.2761	-1.8776	2.5526
2050	2050	2	-2.0738	-1.6824	2.1886
2011	2011	3	-9.9745	0.3593	-2.2573

2012	2012	3	-8.1699	0.2539	9.5843
2013	2013	3	-8.1580	0.2422	-2.1075
2014	2014	3	-8.2993	0.2019	22.8202
2015	2015	3	-7.8448	0.1740	16.8273
2016	2016	3	-8.3367	0.1676	15.7539
2017	2017	3	-1.9981	0.0132	17.9520
2018	2018	3	3.9723	-0.1194	20.7143
2019	2019	3	2.8159	-0.1663	47.4283
2020	2020	3	0.6107	-0.2061	58.0426
2021	2021	3	-7.3773	-0.2553	79.4296
2022	2022	3	-1.0385	-0.1683	20.0218
2023	2023	3	-1.0646	-0.1605	16.0196
2024	2024	3	-0.8959	-0.1530	12.9320
2025	2025	3	-0.8468	-0.2198	15.8266
2026	2026	3	-0.8017	-0.2901	17.6330
2027	2027	3	-0.8082	-0.3992	20.2846
2028	2028	3	-0.9106	-0.5771	24.0664
2029	2029	3	-1.0264	-0.7144	23.8074
2030	2030	3	-1.3629	-1.0477	27.9255
2031	2031	3	-1.8716	-1.4764	30.4203
2032	2032	3	-2.3561	-1.9387	30.1393
2033	2033	3	-2.9243	-2.4870	29.1112
2034	2034	3	-3.4326	-2.9768	26.3028
2035	2035	3	-3.8181	-3.3308	22.6024
2036	2036	3	-4.0270	-3.5179	18.8201
2037	2037	3	-4.0964	-3.5581	15.4568
2038	2038	3	-4.1052	-3.5435	12.8578
2039	2039	3	-3.7973	-3.2205	9.9910
2040	2040	3	-3.7896	-3.2207	8.7892
2041	2041	3	-3.3695	-2.8372	6.8894
2042	2042	3	-3.3659	-2.8357	6.2576
2043	2043	3	-3.3161	-2.7852	5.6196
2044	2044	3	-3.2138	-2.6951	5.0050
2045	2045	3	-3.0706	-2.5788	4.4374
2046	2046	3	-2.8271	-2.3669	3.7986
2047	2047	3	-2.6535	-2.2117	3.3391
2048	2048	3	-2.4825	-2.0531	2.9326
2049	2049	3	-2.2761	-1.8776	2.5526
2050	2050	3	-2.0738	-1.6824	2.1886
2011	2011	6	0.0000	-0.0011	1.4121
2012	2012	6	0.0000	-0.0202	25.5696
2013	2013	6	0.0000	-0.0327	32.9637
2014	2014	6	0.0000	-0.0723	54.7384
2015	2015	6	0.0000	-0.0313	15.2866

2016	2016	6	0.0000	-0.0935	39.6515
2017	2017	6	0.0000	-0.0617	18.7158
2018	2018	6	0.0000	-0.1298	33.1453
2019	2019	6	0.0000	-0.3121	59.7805
2020	2020	6	0.0000	-0.2987	35.6910
2021	2021	6	0.0000	-0.7068	62.0549
2022	2022	6	0.0000	-4.7142	253.6139
2023	2023	6	0.0000	-4.4616	64.6774
2024	2024	6	0.0000	-2.5792	21.6914
2025	2025	6	0.0000	-3.3217	22.3641
2026	2026	6	0.0000	-2.9956	15.9353
2027	2027	6	0.0000	-3.3685	14.9927
2028	2028	6	0.0000	-3.8909	14.5529
2029	2029	6	0.0000	-3.5896	11.2641
2030	2030	6	0.0000	-1.2289	3.3416
2031	2031	6	0.0000	-1.0185	2.6469
2032	2032	6	0.0000	-0.7730	1.9371
2033	2033	6	0.0000	-0.6043	1.4741
2034	2034	6	0.0000	-0.4783	1.1429
2035	2035	6	0.0000	-0.3495	0.8217
2036	2036	6	0.0000	-0.2085	0.4846
2037	2037	6	0.0000	-0.0851	0.1965
2038	2038	6	0.0000	0.0268	-0.0617
2039	2039	6	0.0000	0.0965	-0.2223
2040	2040	6	0.0000	-0.6920	1.5991
2041	2041	6	0.0000	-0.5875	1.3269
2042	2042	6	0.0000	-0.5265	1.1667
2043	2043	6	0.0000	-0.4615	1.0055
2044	2044	6	0.0000	-0.3947	0.8475
2045	2045	6	0.0000	-0.3467	0.7352
2046	2046	6	0.0000	-0.3361	0.7051
2047	2047	6	0.0000	-0.3365	0.6986
2048	2048	6	0.0000	-0.3394	0.6974
2049	2049	6	0.0000	-0.3277	0.6665
2050	2050	6	0.0000	-0.3043	0.6127
2051	2151	1	0.0000	0.0000	0.0000
2051	2151	2	0.0000	0.0000	0.0000
2051	2151	3	0.0000	0.0000	0.0000
2011	2151	4	0.0000	0.0000	0.0000
2011	2151	5	0.0000	0.0000	0.0000
2051	2151	6	0.0000	0.0000	0.0000

FLEET_CHANGES - (std)

***% p.a.

*Start_yr	End_yr	Veh_type	%Change_Petrol	%Change_Diesel	%Change_Electric
2011	2011	1	-3.5474	5.2271	72.3684
2012	2012	1	-3.6255	4.8862	75.5725
2013	2013	1	-3.7045	4.5823	52.6087
2014	2014	1	-3.5372	3.9494	137.0370
2015	2015	1	-3.3037	3.3379	101.4423
2016	2016	1	-2.7361	2.5097	63.3652
2017	2017	1	-0.8923	0.5861	47.9912
2018	2018	1	1.1991	-1.4201	38.8203
2019	2019	1	1.7017	-1.9941	33.4222
2020	2020	1	1.8536	-2.2461	27.1952
2021	2021	1	1.6150	-2.5074	42.8975
2022	2022	1	1.4618	-2.7336	40.4296
2023	2023	1	1.3175	-3.0441	37.7636
2024	2024	1	0.9803	-3.5199	40.2425
2025	2025	1	0.2872	-4.2813	45.8903
2026	2026	1	-0.0235	-4.6731	36.0447
2027	2027	1	-0.1975	-4.8289	27.3620
2028	2028	1	-0.3930	-4.9178	21.9646
2029	2029	1	-0.6139	-4.9385	18.2947
2030	2030	1	-0.9186	-4.8594	15.7936
2031	2031	1	-1.1396	-4.5854	13.2690
2032	2032	1	-1.3598	-4.2639	11.3740
2033	2033	1	-1.5543	-3.9092	9.8508
2034	2034	1	-1.7099	-3.6116	8.6724
2035	2035	1	-1.8177	-3.2999	7.6247
2036	2036	1	-1.8688	-3.0327	6.7218
2037	2037	1	-1.8936	-2.8160	5.9844
2038	2038	1	-1.8686	-2.5621	5.2552
2039	2039	1	-1.8261	-2.3161	4.6228
2040	2040	1	-2.0337	-2.4757	4.7437
2041	2041	1	-1.9404	-2.3503	4.2169
2042	2042	1	-1.8614	-2.2344	3.7873
2043	2043	1	-1.7986	-2.0982	3.4172
2044	2044	1	-1.8062	-2.0617	3.2286
2045	2045	1	-1.7138	-1.9060	2.8834
2046	2046	1	-1.6902	-1.8698	2.7094
2047	2047	1	-1.6879	-1.8470	2.5779
2048	2048	1	-1.6589	-1.8011	2.4200
2049	2049	1	-1.6009	-1.7231	2.2342
2050	2050	1	-1.5935	-1.7035	2.1344
2011	2011	2	-9.9551	0.3589	-2.9605
2012	2012	2	-8.0850	0.2503	10.1695
2013	2013	2	-8.1413	0.2417	-2.2564

2014	2014	2	-8.3635	0.2034	22.5603
2015	2015	2	-7.9288	0.1755	16.6952
2016	2016	2	-8.3676	0.1677	15.7007
2017	2017	2	-1.9723	0.0123	17.7552
2018	2018	2	4.0994	-0.1225	20.6247
2019	2019	2	-1.5414	-0.0689	44.2857
2020	2020	2	-1.2465	0.0340	-2.4134
2021	2021	2	-0.1690	-0.0505	16.7089
2022	2022	2	0.1344	-0.0690	17.5767
2023	2023	2	0.9644	-0.1262	23.9603
2024	2024	2	2.0384	-0.2103	30.4753
2025	2025	2	4.5262	-0.4417	47.9714
2026	2026	2	3.4807	-0.4261	32.5352
2027	2027	2	3.9436	-0.5348	31.1116
2028	2028	2	4.5536	-0.6795	30.2961
2029	2029	2	4.8684	-0.7989	27.3836
2030	2030	2	4.9673	-0.9096	24.5096
2031	2031	2	5.0865	-0.9474	20.1742
2032	2032	2	4.8793	-1.0056	17.7808
2033	2033	2	4.6320	-1.0543	15.7803
2034	2034	2	4.3655	-1.0969	14.1249
2035	2035	2	4.0807	-1.1390	12.8123
2036	2036	2	3.8076	-1.1648	11.5496
2037	2037	2	3.5417	-1.1887	10.5057
2038	2038	2	3.2793	-1.2049	9.5762
2039	2039	2	3.0357	-1.2185	8.7799
2040	2040	2	2.8032	-1.2286	8.0825
2041	2041	2	2.5647	-1.2034	7.2582
2042	2042	2	2.4018	-1.2091	6.7416
2043	2043	2	2.2033	-1.2237	6.3558
2044	2044	2	2.0402	-1.2164	5.8890
2045	2045	2	1.8815	-1.2057	5.4663
2046	2046	2	1.6834	-1.1668	4.9758
2047	2047	2	1.5551	-1.1570	4.6635
2048	2048	2	1.4237	-1.1416	4.3618
2049	2049	2	1.2542	-1.1392	4.1548
2050	2050	2	1.1467	-1.1150	3.8719
2011	2011	3	-9.9551	0.3589	-2.9605
2012	2012	3	-8.0850	0.2503	10.1695
2013	2013	3	-8.1413	0.2417	-2.2564
2014	2014	3	-8.3635	0.2034	22.5603
2015	2015	3	-7.9288	0.1755	16.6952
2016	2016	3	-8.3676	0.1677	15.7007
2017	2017	3	-1.9723	0.0123	17.7552

2018	2018	3	4.0994	-0.1225	20.6247
2019	2019	3	-1.5414	-0.0689	44.2857
2020	2020	3	-1.2465	0.0340	-2.4134
2021	2021	3	-0.1690	-0.0505	16.7089
2022	2022	3	0.1344	-0.0690	17.5767
2023	2023	3	0.9644	-0.1262	23.9603
2024	2024	3	2.0384	-0.2103	30.4753
2025	2025	3	4.5262	-0.4417	47.9714
2026	2026	3	3.4807	-0.4261	32.5352
2027	2027	3	3.9436	-0.5348	31.1116
2028	2028	3	4.5536	-0.6795	30.2961
2029	2029	3	4.8684	-0.7989	27.3836
2030	2030	3	4.9673	-0.9096	24.5096
2031	2031	3	5.0865	-0.9474	20.1742
2032	2032	3	4.8793	-1.0056	17.7808
2033	2033	3	4.6320	-1.0543	15.7803
2034	2034	3	4.3655	-1.0969	14.1249
2035	2035	3	4.0807	-1.1390	12.8123
2036	2036	3	3.8076	-1.1648	11.5496
2037	2037	3	3.5417	-1.1887	10.5057
2038	2038	3	3.2793	-1.2049	9.5762
2039	2039	3	3.0357	-1.2185	8.7799
2040	2040	3	2.8032	-1.2286	8.0825
2041	2041	3	2.5647	-1.2034	7.2582
2042	2042	3	2.4018	-1.2091	6.7416
2043	2043	3	2.2033	-1.2237	6.3558
2044	2044	3	2.0402	-1.2164	5.8890
2045	2045	3	1.8815	-1.2057	5.4663
2046	2046	3	1.6834	-1.1668	4.9758
2047	2047	3	1.5551	-1.1570	4.6635
2048	2048	3	1.4237	-1.1416	4.3618
2049	2049	3	1.2542	-1.1392	4.1548
2050	2050	3	1.1467	-1.1150	3.8719
2051	2151	1	0.0000	0.0000	0.0000
2051	2151	2	0.0000	0.0000	0.0000
2051	2151	3	0.0000	0.0000	0.0000
2011	2151	4	0.0000	0.0000	0.0000
2011	2151	5	0.0000	0.0000	0.0000
2011	2151	6	0.0000	0.0000	0.0000

FUEL_CONSUMPTION - (used)

*veh_type fuel_type a_fuel b_fuel c_fuel d_fuel cut-off_speeds(km/h)

*

max min

1 1 0.4666 0.09917 -0.11296E-02 0.74815E-05 130 10

1	2	0.5050	0.07241	-0.69660E-03	0.54893E-05	130	10
1	3	0.0000	0.22466	0.00000E+00	0.00000E+00	120	10
2	1	0.3518	0.19727	-0.30966E-02	0.19998E-04	120	10
2	2	0.4682	0.11444	-0.16510E-02	0.13977E-04	110	10
2	3	0.0000	0.25706	0.00000E+00	0.00000E+00	120	10
3	1	0.3518	0.19727	-0.30966E-02	0.19998E-04	120	10
3	2	0.4682	0.11444	-0.16510E-02	0.13977E-04	110	10
3	3	0.0000	0.25706	0.00000E+00	0.00000E+00	120	10
4	2	2.6039	0.13816	-0.99860E-03	0.10906E-04	85	12
5	2	5.7277	0.29745	-0.19708E-02	0.11746E-04	85	12
6	2	3.3350	0.29304	-0.31851E-02	0.23364E-04	85	12
6	3	0.0000	1.17983	0.00000E+00	0.00000E+00	85	12

FUEL_CONSUMPTION - (std)

*veh_type	fuel_type	a_fuel	b_fuel	c_fuel	d_fuel	cut-off_speeds(km/h)	
		max	min				
1	1	0.4707	0.10003	-0.11394E-02	0.75462E-05	130	10
1	2	0.5069	0.07268	-0.69920E-03	0.55097E-05	130	10
1	3	0.0000	0.21366	0.00000E+00	0.00000E+00	120	10
2	1	0.3487	0.19552	-0.30690E-02	0.19819E-04	120	10
2	2	0.4688	0.11457	-0.16529E-02	0.13993E-04	110	10
2	3	0.0000	0.23232	0.00000E+00	0.00000E+00	120	10
3	1	0.3487	0.19552	-0.30690E-02	0.19819E-04	120	10
3	2	0.4688	0.11457	-0.16529E-02	0.13993E-04	110	10
3	3	0.0000	0.23232	0.00000E+00	0.00000E+00	120	10
4	2	2.6115	0.13856	-0.10015E-02	0.10938E-04	85	12
5	2	5.7221	0.29716	-0.19688E-02	0.11735E-04	85	12
6	2	3.3602	0.29525	-0.32091E-02	0.23540E-04	85	12

FUEL_EFFICIENCY - (used)

*% p.a.

*Start_yr	End_yr	veh_type	fuel_type	change
2011	2011	1	1	0.662
2011	2011	1	2	0.817
2011	2011	1	3	-0.025
2011	2011	2	1	-0.095
2011	2011	2	2	0.139
2011	2011	2	3	0.000
2011	2011	3	1	-0.095
2011	2011	3	2	0.139
2011	2011	3	3	0.000
2011	2011	4	2	-0.217
2011	2011	4	3	0.000
2011	2011	5	2	-0.047

2011	2011	5	3	0.000
2011	2011	6	2	-0.140
2011	2011	6	3	0.000
2012	2012	1	1	0.824
2012	2012	1	2	0.877
2012	2012	1	3	0.491
2012	2012	2	1	-0.074
2012	2012	2	2	0.386
2012	2012	2	3	0.000
2012	2012	3	1	-0.074
2012	2012	3	2	0.386
2012	2012	3	3	0.000
2012	2012	4	2	-3.140
2012	2012	4	3	0.000
2012	2012	5	2	0.414
2012	2012	5	3	0.000
2012	2012	6	2	-0.258
2012	2012	6	3	0.000
2013	2013	1	1	1.035
2013	2013	1	2	0.939
2013	2013	1	3	0.025
2013	2013	2	1	0.178
2013	2013	2	2	0.142
2013	2013	2	3	0.000
2013	2013	3	1	0.178
2013	2013	3	2	0.142
2013	2013	3	3	0.000
2013	2013	4	2	0.524
2013	2013	4	3	0.000
2013	2013	5	2	0.199
2013	2013	5	3	0.000
2013	2013	6	2	-0.069
2013	2013	6	3	0.000
2014	2014	1	1	-0.594
2014	2014	1	2	0.712
2014	2014	1	3	0.709
2014	2014	2	1	-0.410
2014	2014	2	2	0.114
2014	2014	2	3	-0.064
2014	2014	3	1	-0.410
2014	2014	3	2	0.114
2014	2014	3	3	-0.064
2014	2014	4	2	-1.002
2014	2014	4	3	0.000

2014	2014	5	2	0.195
2014	2014	5	3	0.000
2014	2014	6	2	-0.064
2014	2014	6	3	0.000
2015	2015	1	1	1.252
2015	2015	1	2	1.319
2015	2015	1	3	0.591
2015	2015	2	1	2.511
2015	2015	2	2	0.235
2015	2015	2	3	-0.700
2015	2015	3	1	2.511
2015	2015	3	2	0.235
2015	2015	3	3	-0.700
2015	2015	4	2	0.295
2015	2015	4	3	0.000
2015	2015	5	2	0.327
2015	2015	5	3	0.000
2015	2015	6	2	-0.221
2015	2015	6	3	0.000
2016	2016	1	1	1.373
2016	2016	1	2	1.203
2016	2016	1	3	0.418
2016	2016	2	1	-0.117
2016	2016	2	2	0.703
2016	2016	2	3	-0.216
2016	2016	3	1	-0.117
2016	2016	3	2	0.703
2016	2016	3	3	-0.216
2016	2016	4	2	0.922
2016	2016	4	3	0.000
2016	2016	5	2	0.233
2016	2016	5	3	0.000
2016	2016	6	2	-0.060
2016	2016	6	3	-0.097
2017	2017	1	1	1.236
2017	2017	1	2	0.778
2017	2017	1	3	0.132
2017	2017	2	1	1.631
2017	2017	2	2	1.238
2017	2017	2	3	-0.009
2017	2017	3	1	1.631
2017	2017	3	2	1.238
2017	2017	3	3	-0.009
2017	2017	4	2	-0.773

2017	2017	4	3	0.000
2017	2017	5	2	0.317
2017	2017	5	3	0.000
2017	2017	6	2	-0.036
2017	2017	6	3	-0.080
2018	2018	1	1	0.987
2018	2018	1	2	0.058
2018	2018	1	3	0.092
2018	2018	2	1	3.066
2018	2018	2	2	0.884
2018	2018	2	3	-0.418
2018	2018	3	1	3.066
2018	2018	3	2	0.884
2018	2018	3	3	-0.418
2018	2018	4	2	0.421
2018	2018	4	3	0.000
2018	2018	5	2	0.544
2018	2018	5	3	0.000
2018	2018	6	2	-0.161
2018	2018	6	3	-0.191
2019	2019	1	1	0.626
2019	2019	1	2	-0.319
2019	2019	1	3	-0.347
2019	2019	2	1	1.138
2019	2019	2	2	0.740
2019	2019	2	3	0.088
2019	2019	3	1	1.138
2019	2019	3	2	0.740
2019	2019	3	3	0.088
2019	2019	4	2	-0.944
2019	2019	4	3	0.000
2019	2019	5	2	0.546
2019	2019	5	3	0.000
2019	2019	6	2	-0.168
2019	2019	6	3	-0.223
2020	2020	1	1	0.927
2020	2020	1	2	-0.092
2020	2020	1	3	-0.578
2020	2020	2	1	1.902
2020	2020	2	2	0.372
2020	2020	2	3	-0.341
2020	2020	3	1	1.902
2020	2020	3	2	0.372
2020	2020	3	3	-0.341

2020	2020	4	2	-0.700
2020	2020	4	3	0.000
2020	2020	5	2	0.352
2020	2020	5	3	0.000
2020	2020	6	2	-0.118
2020	2020	6	3	-0.337
2021	2021	1	1	1.169
2021	2021	1	2	-0.014
2021	2021	1	3	3.385
2021	2021	2	1	2.499
2021	2021	2	2	1.189
2021	2021	2	3	0.466
2021	2021	3	1	2.499
2021	2021	3	2	1.189
2021	2021	3	3	0.466
2021	2021	4	2	0.532
2021	2021	4	3	0.000
2021	2021	5	2	0.644
2021	2021	5	3	0.000
2021	2021	6	2	-0.093
2021	2021	6	3	0.885
2022	2022	1	1	-0.836
2022	2022	1	2	0.006
2022	2022	1	3	3.869
2022	2022	2	1	4.304
2022	2022	2	2	0.815
2022	2022	2	3	-0.062
2022	2022	3	1	4.304
2022	2022	3	2	0.815
2022	2022	3	3	-0.062
2022	2022	4	2	0.589
2022	2022	4	3	0.000
2022	2022	5	2	0.547
2022	2022	5	3	0.000
2022	2022	6	2	-0.120
2022	2022	6	3	3.311
2023	2023	1	1	0.823
2023	2023	1	2	-0.026
2023	2023	1	3	2.928
2023	2023	2	1	2.131
2023	2023	2	2	0.721
2023	2023	2	3	0.297
2023	2023	3	1	2.131
2023	2023	3	2	0.721

2023	2023	3	3	0.297
2023	2023	4	2	0.577
2023	2023	4	3	0.000
2023	2023	5	2	0.560
2023	2023	5	3	0.000
2023	2023	6	2	-0.095
2023	2023	6	3	1.901
2024	2024	1	1	0.593
2024	2024	1	2	-0.057
2024	2024	1	3	2.092
2024	2024	2	1	2.062
2024	2024	2	2	0.675
2024	2024	2	3	0.341
2024	2024	3	1	2.062
2024	2024	3	2	0.675
2024	2024	3	3	0.341
2024	2024	4	2	0.567
2024	2024	4	3	0.000
2024	2024	5	2	0.586
2024	2024	5	3	0.000
2024	2024	6	2	0.011
2024	2024	6	3	1.362
2025	2025	1	1	0.334
2025	2025	1	2	-0.072
2025	2025	1	3	1.828
2025	2025	2	1	2.658
2025	2025	2	2	1.643
2025	2025	2	3	0.472
2025	2025	3	1	2.658
2025	2025	3	2	1.643
2025	2025	3	3	0.472
2025	2025	4	2	1.078
2025	2025	4	3	0.000
2025	2025	5	2	1.849
2025	2025	5	3	0.000
2025	2025	6	2	0.031
2025	2025	6	3	1.886
2026	2026	1	1	0.238
2026	2026	1	2	-0.115
2026	2026	1	3	1.458
2026	2026	2	1	2.532
2026	2026	2	2	1.489
2026	2026	2	3	0.578
2026	2026	3	1	2.532

2026	2026	3	2	1.489
2026	2026	3	3	0.578
2026	2026	4	2	1.050
2026	2026	4	3	0.000
2026	2026	5	2	1.888
2026	2026	5	3	0.000
2026	2026	6	2	0.052
2026	2026	6	3	1.530
2027	2027	1	1	0.159
2027	2027	1	2	-0.159
2027	2027	1	3	1.326
2027	2027	2	1	4.516
2027	2027	2	2	1.360
2027	2027	2	3	0.506
2027	2027	3	1	4.516
2027	2027	3	2	1.360
2027	2027	3	3	0.506
2027	2027	4	2	1.010
2027	2027	4	3	0.000
2027	2027	5	2	1.827
2027	2027	5	3	0.000
2027	2027	6	2	0.127
2027	2027	6	3	1.497
2028	2028	1	1	0.087
2028	2028	1	2	-0.216
2028	2028	1	3	1.215
2028	2028	2	1	2.106
2028	2028	2	2	1.237
2028	2028	2	3	0.556
2028	2028	3	1	2.106
2028	2028	3	2	1.237
2028	2028	3	3	0.556
2028	2028	4	2	0.976
2028	2028	4	3	0.000
2028	2028	5	2	1.778
2028	2028	5	3	0.000
2028	2028	6	2	0.136
2028	2028	6	3	1.429
2029	2029	1	1	0.024
2029	2029	1	2	-0.284
2029	2029	1	3	1.180
2029	2029	2	1	1.991
2029	2029	2	2	1.142
2029	2029	2	3	0.357

2029	2029	3	1	1.991
2029	2029	3	2	1.142
2029	2029	3	3	0.357
2029	2029	4	2	0.948
2029	2029	4	3	0.000
2029	2029	5	2	1.702
2029	2029	5	3	0.000
2029	2029	6	2	0.148
2029	2029	6	3	1.250
2030	2030	1	1	0.021
2030	2030	1	2	-0.366
2030	2030	1	3	1.123
2030	2030	2	1	2.720
2030	2030	2	2	2.177
2030	2030	2	3	-0.469
2030	2030	3	1	2.720
2030	2030	3	2	2.177
2030	2030	3	3	-0.469
2030	2030	4	2	1.599
2030	2030	4	3	0.000
2030	2030	5	2	3.302
2030	2030	5	3	0.000
2030	2030	6	2	0.190
2030	2030	6	3	0.841
2031	2031	1	1	-0.068
2031	2031	1	2	-0.361
2031	2031	1	3	0.961
2031	2031	2	1	0.062
2031	2031	2	2	2.084
2031	2031	2	3	-1.235
2031	2031	3	1	0.062
2031	2031	3	2	2.084
2031	2031	3	3	-1.235
2031	2031	4	2	1.522
2031	2031	4	3	0.000
2031	2031	5	2	3.277
2031	2031	5	3	0.000
2031	2031	6	2	0.192
2031	2031	6	3	0.787
2032	2032	1	1	-0.106
2032	2032	1	2	-0.381
2032	2032	1	3	0.857
2032	2032	2	1	2.503
2032	2032	2	2	1.668

2032	2032	2	3	-1.684
2032	2032	3	1	2.503
2032	2032	3	2	1.668
2032	2032	3	3	-1.684
2032	2032	4	2	1.484
2032	2032	4	3	0.000
2032	2032	5	2	3.008
2032	2032	5	3	0.000
2032	2032	6	2	0.084
2032	2032	6	3	0.750
2033	2033	1	1	-0.116
2033	2033	1	2	-0.386
2033	2033	1	3	0.790
2033	2033	2	1	2.964
2033	2033	2	2	1.626
2033	2033	2	3	-1.777
2033	2033	3	1	2.964
2033	2033	3	2	1.626
2033	2033	3	3	-1.777
2033	2033	4	2	1.404
2033	2033	4	3	0.000
2033	2033	5	2	2.748
2033	2033	5	3	0.000
2033	2033	6	2	0.145
2033	2033	6	3	0.721
2034	2034	1	1	-0.126
2034	2034	1	2	-0.393
2034	2034	1	3	0.748
2034	2034	2	1	4.667
2034	2034	2	2	1.264
2034	2034	2	3	-1.521
2034	2034	3	1	4.667
2034	2034	3	2	1.264
2034	2034	3	3	-1.521
2034	2034	4	2	1.321
2034	2034	4	3	0.000
2034	2034	5	2	2.559
2034	2034	5	3	0.000
2034	2034	6	2	0.401
2034	2034	6	3	0.724
2035	2035	1	1	-0.173
2035	2035	1	2	-0.358
2035	2035	1	3	0.722
2035	2035	2	1	-2.719

2035	2035	2	2	1.183
2035	2035	2	3	-1.133
2035	2035	3	1	-2.719
2035	2035	3	2	1.183
2035	2035	3	3	-1.133
2035	2035	4	2	1.229
2035	2035	4	3	0.000
2035	2035	5	2	2.323
2035	2035	5	3	0.000
2035	2035	6	2	0.252
2035	2035	6	3	0.748
2036	2036	1	1	-0.188
2036	2036	1	2	-0.251
2036	2036	1	3	0.712
2036	2036	2	1	2.305
2036	2036	2	2	1.146
2036	2036	2	3	-0.751
2036	2036	3	1	2.305
2036	2036	3	2	1.146
2036	2036	3	3	-0.751
2036	2036	4	2	1.142
2036	2036	4	3	0.000
2036	2036	5	2	2.020
2036	2036	5	3	0.000
2036	2036	6	2	0.188
2036	2036	6	3	0.761
2037	2037	1	1	-0.232
2037	2037	1	2	-0.323
2037	2037	1	3	0.717
2037	2037	2	1	1.801
2037	2037	2	2	1.152
2037	2037	2	3	-0.441
2037	2037	3	1	1.801
2037	2037	3	2	1.152
2037	2037	3	3	-0.441
2037	2037	4	2	1.035
2037	2037	4	3	0.000
2037	2037	5	2	1.558
2037	2037	5	3	0.000
2037	2037	6	2	0.354
2037	2037	6	3	0.782
2038	2038	1	1	-0.236
2038	2038	1	2	-0.424
2038	2038	1	3	0.717

2038	2038	2	1	5.995
2038	2038	2	2	1.204
2038	2038	2	3	-0.217
2038	2038	3	1	5.995
2038	2038	3	2	1.204
2038	2038	3	3	-0.217
2038	2038	4	2	0.915
2038	2038	4	3	0.000
2038	2038	5	2	1.195
2038	2038	5	3	0.000
2038	2038	6	2	0.272
2038	2038	6	3	0.805
2039	2039	1	1	-0.233
2039	2039	1	2	-0.611
2039	2039	1	3	0.713
2039	2039	2	1	-0.357
2039	2039	2	2	0.702
2039	2039	2	3	0.021
2039	2039	3	1	-0.357
2039	2039	3	2	0.702
2039	2039	3	3	0.021
2039	2039	4	2	0.794
2039	2039	4	3	0.000
2039	2039	5	2	0.889
2039	2039	5	3	0.000
2039	2039	6	2	0.201
2039	2039	6	3	0.822
2040	2040	1	1	-0.203
2040	2040	1	2	-0.411
2040	2040	1	3	0.720
2040	2040	2	1	1.080
2040	2040	2	2	0.723
2040	2040	2	3	0.104
2040	2040	3	1	1.080
2040	2040	3	2	0.723
2040	2040	3	3	0.104
2040	2040	4	2	0.689
2040	2040	4	3	0.000
2040	2040	5	2	0.664
2040	2040	5	3	0.000
2040	2040	6	2	0.256
2040	2040	6	3	0.928
2041	2041	1	1	0.027
2041	2041	1	2	0.054

2041	2041	1	3	0.701
2041	2041	2	1	4.247
2041	2041	2	2	0.511
2041	2041	2	3	0.157
2041	2041	3	1	4.247
2041	2041	3	2	0.511
2041	2041	3	3	0.157
2041	2041	4	2	0.607
2041	2041	4	3	0.000
2041	2041	5	2	0.494
2041	2041	5	3	0.000
2041	2041	6	2	0.423
2041	2041	6	3	0.866
2042	2042	1	1	-0.082
2042	2042	1	2	-0.073
2042	2042	1	3	0.685
2042	2042	2	1	2.107
2042	2042	2	2	0.932
2042	2042	2	3	0.161
2042	2042	3	1	2.107
2042	2042	3	2	0.932
2042	2042	3	3	0.161
2042	2042	4	2	0.538
2042	2042	4	3	0.000
2042	2042	5	2	0.370
2042	2042	5	3	0.000
2042	2042	6	2	0.288
2042	2042	6	3	0.802
2043	2043	1	1	-0.107
2043	2043	1	2	-0.009
2043	2043	1	3	0.662
2043	2043	2	1	0.816
2043	2043	2	2	0.626
2043	2043	2	3	0.170
2043	2043	3	1	0.816
2043	2043	3	2	0.626
2043	2043	3	3	0.170
2043	2043	4	2	0.485
2043	2043	4	3	0.000
2043	2043	5	2	0.292
2043	2043	5	3	0.000
2043	2043	6	2	0.262
2043	2043	6	3	0.744
2044	2044	1	1	-0.075

2044	2044	1	2	-0.004
2044	2044	1	3	0.639
2044	2044	2	1	0.451
2044	2044	2	2	0.395
2044	2044	2	3	0.197
2044	2044	3	1	0.451
2044	2044	3	2	0.395
2044	2044	3	3	0.197
2044	2044	4	2	0.446
2044	2044	4	3	0.000
2044	2044	5	2	0.234
2044	2044	5	3	0.000
2044	2044	6	2	0.256
2044	2044	6	3	0.710
2045	2045	1	1	-0.046
2045	2045	1	2	-0.001
2045	2045	1	3	0.620
2045	2045	2	1	0.400
2045	2045	2	2	0.339
2045	2045	2	3	0.217
2045	2045	3	1	0.400
2045	2045	3	2	0.339
2045	2045	3	3	0.217
2045	2045	4	2	0.415
2045	2045	4	3	0.000
2045	2045	5	2	0.199
2045	2045	5	3	0.000
2045	2045	6	2	0.255
2045	2045	6	3	0.674
2046	2046	1	1	-0.022
2046	2046	1	2	0.000
2046	2046	1	3	0.603
2046	2046	2	1	1.958
2046	2046	2	2	1.266
2046	2046	2	3	0.233
2046	2046	3	1	1.958
2046	2046	3	2	1.266
2046	2046	3	3	0.233
2046	2046	4	2	0.425
2046	2046	4	3	0.000
2046	2046	5	2	0.214
2046	2046	5	3	0.000
2046	2046	6	2	0.248
2046	2046	6	3	0.634

2047	2047	1	1	-0.009
2047	2047	1	2	0.002
2047	2047	1	3	0.581
2047	2047	2	1	0.207
2047	2047	2	2	0.178
2047	2047	2	3	0.264
2047	2047	3	1	0.207
2047	2047	3	2	0.178
2047	2047	3	3	0.264
2047	2047	4	2	0.362
2047	2047	4	3	0.000
2047	2047	5	2	0.138
2047	2047	5	3	0.000
2047	2047	6	2	0.247
2047	2047	6	3	0.577
2048	2048	1	1	0.004
2048	2048	1	2	0.003
2048	2048	1	3	0.565
2048	2048	2	1	0.179
2048	2048	2	2	0.147
2048	2048	2	3	0.285
2048	2048	3	1	0.179
2048	2048	3	2	0.147
2048	2048	3	3	0.285
2048	2048	4	2	0.349
2048	2048	4	3	0.000
2048	2048	5	2	0.124
2048	2048	5	3	0.000
2048	2048	6	2	0.252
2048	2048	6	3	0.549
2049	2049	1	1	0.013
2049	2049	1	2	0.004
2049	2049	1	3	0.545
2049	2049	2	1	0.156
2049	2049	2	2	0.124
2049	2049	2	3	0.310
2049	2049	3	1	0.156
2049	2049	3	2	0.124
2049	2049	3	3	0.310
2049	2049	4	2	0.340
2049	2049	4	3	0.000
2049	2049	5	2	0.116
2049	2049	5	3	0.000
2049	2049	6	2	0.241

2049	2049	6	3	0.528
2050	2050	1	1	0.019
2050	2050	1	2	0.004
2050	2050	1	3	0.529
2050	2050	2	1	0.139
2050	2050	2	2	0.106
2050	2050	2	3	0.332
2050	2050	3	1	0.139
2050	2050	3	2	0.106
2050	2050	3	3	0.332
2050	2050	4	2	0.333
2050	2050	4	3	0.000
2050	2050	5	2	0.109
2050	2050	5	3	0.000
2050	2050	6	2	0.270
2050	2050	6	3	0.512
2051	2151	1	1	0.000
2051	2151	1	2	0.000
2051	2151	1	3	0.000
2051	2151	2	1	0.000
2051	2151	2	2	0.000
2051	2151	2	3	0.000
2051	2151	3	1	0.000
2051	2151	3	2	0.000
2051	2151	3	3	0.000
2051	2151	4	2	0.000
2051	2151	4	3	0.000
2051	2151	5	2	0.000
2051	2151	5	3	0.000
2051	2151	6	2	0.000
2051	2151	6	3	0.000

FUEL_EFFICIENCY - (std)

*% p.a.

*Start_yr	End_yr	veh_type	fuel_type	change
2011	2011	1	1	0.604
2011	2011	1	2	0.874
2011	2011	1	3	0.032
2011	2011	2	1	-0.168
2011	2011	2	2	0.177
2011	2011	2	3	0.000
2011	2011	3	1	-0.168
2011	2011	3	2	0.177
2011	2011	3	3	0.000

2011	2011	4	2	-0.113
2011	2011	5	2	0.011
2012	2012	1	1	0.285
2012	2012	1	2	0.975
2012	2012	1	3	-0.707
2012	2012	2	1	-0.630
2012	2012	2	2	0.468
2012	2012	2	3	0.000
2012	2012	3	1	-0.630
2012	2012	3	2	0.468
2012	2012	3	3	0.000
2012	2012	4	2	-2.932
2012	2012	5	2	0.288
2013	2013	1	1	0.891
2013	2013	1	2	0.920
2013	2013	1	3	0.085
2013	2013	2	1	0.031
2013	2013	2	2	0.107
2013	2013	2	3	0.000
2013	2013	3	1	0.031
2013	2013	3	2	0.107
2013	2013	3	3	0.000
2013	2013	4	2	0.475
2013	2013	5	2	0.068
2014	2014	1	1	0.979
2014	2014	1	2	0.945
2014	2014	1	3	-1.015
2014	2014	2	1	-0.518
2014	2014	2	2	0.057
2014	2014	2	3	-0.042
2014	2014	3	1	-0.518
2014	2014	3	2	0.057
2014	2014	3	3	-0.042
2014	2014	4	2	-1.038
2014	2014	5	2	0.144
2015	2015	1	1	1.281
2015	2015	1	2	1.319
2015	2015	1	3	-0.927
2015	2015	2	1	2.498
2015	2015	2	2	0.323
2015	2015	2	3	-0.454
2015	2015	3	1	2.498
2015	2015	3	2	0.323
2015	2015	3	3	-0.454

2015	2015	4	2	0.361
2015	2015	5	2	0.480
2016	2016	1	1	1.406
2016	2016	1	2	1.207
2016	2016	1	3	1.034
2016	2016	2	1	-0.062
2016	2016	2	2	0.705
2016	2016	2	3	0.340
2016	2016	3	1	-0.062
2016	2016	3	2	0.705
2016	2016	3	3	0.340
2016	2016	4	2	0.747
2016	2016	5	2	0.239
2017	2017	1	1	1.270
2017	2017	1	2	0.783
2017	2017	1	3	1.188
2017	2017	2	1	1.646
2017	2017	2	2	1.249
2017	2017	2	3	0.804
2017	2017	3	1	1.646
2017	2017	3	2	1.249
2017	2017	3	3	0.804
2017	2017	4	2	-0.771
2017	2017	5	2	0.316
2018	2018	1	1	1.029
2018	2018	1	2	0.063
2018	2018	1	3	1.035
2018	2018	2	1	3.029
2018	2018	2	2	0.770
2018	2018	2	3	0.708
2018	2018	3	1	3.029
2018	2018	3	2	0.770
2018	2018	3	3	0.708
2018	2018	4	2	-0.058
2018	2018	5	2	0.407
2019	2019	1	1	0.990
2019	2019	1	2	-0.041
2019	2019	1	3	2.359
2019	2019	2	1	1.141
2019	2019	2	2	0.522
2019	2019	2	3	2.118
2019	2019	3	1	1.141
2019	2019	3	2	0.522
2019	2019	3	3	2.118

2019	2019	4	2	0.247
2019	2019	5	2	0.388
2020	2020	1	1	2.680
2020	2020	1	2	1.323
2020	2020	1	3	2.699
2020	2020	2	1	1.842
2020	2020	2	2	1.432
2020	2020	2	3	-2.324
2020	2020	3	1	1.842
2020	2020	3	2	1.432
2020	2020	3	3	-2.324
2020	2020	4	2	0.341
2020	2020	5	2	0.470
2021	2021	1	1	2.289
2021	2021	1	2	1.469
2021	2021	1	3	5.660
2021	2021	2	1	1.283
2021	2021	2	2	1.165
2021	2021	2	3	-0.804
2021	2021	3	1	1.283
2021	2021	3	2	1.165
2021	2021	3	3	-0.804
2021	2021	4	2	0.484
2021	2021	5	2	0.523
2022	2022	1	1	2.080
2022	2022	1	2	1.497
2022	2022	1	3	3.960
2022	2022	2	1	2.960
2022	2022	2	2	1.102
2022	2022	2	3	-0.880
2022	2022	3	1	2.960
2022	2022	3	2	1.102
2022	2022	3	3	-0.880
2022	2022	4	2	0.491
2022	2022	5	2	0.531
2023	2023	1	1	1.895
2023	2023	1	2	1.393
2023	2023	1	3	2.637
2023	2023	2	1	1.045
2023	2023	2	2	0.925
2023	2023	2	3	-1.450
2023	2023	3	1	1.045
2023	2023	3	2	0.925
2023	2023	3	3	-1.450

2023	2023	4	2	0.500
2023	2023	5	2	0.548
2024	2024	1	1	1.891
2024	2024	1	2	1.258
2024	2024	1	3	2.035
2024	2024	2	1	1.277
2024	2024	2	2	0.822
2024	2024	2	3	-1.389
2024	2024	3	1	1.277
2024	2024	3	2	0.822
2024	2024	3	3	-1.389
2024	2024	4	2	0.490
2024	2024	5	2	0.544
2025	2025	1	1	1.650
2025	2025	1	2	1.164
2025	2025	1	3	1.843
2025	2025	2	1	2.913
2025	2025	2	2	1.999
2025	2025	2	3	-1.541
2025	2025	3	1	2.913
2025	2025	3	2	1.999
2025	2025	3	3	-1.541
2025	2025	4	2	0.918
2025	2025	5	2	1.864
2026	2026	1	1	1.468
2026	2026	1	2	1.107
2026	2026	1	3	1.211
2026	2026	2	1	2.351
2026	2026	2	2	1.780
2026	2026	2	3	-0.553
2026	2026	3	1	2.351
2026	2026	3	2	1.780
2026	2026	3	3	-0.553
2026	2026	4	2	0.900
2026	2026	5	2	1.854
2027	2027	1	1	1.372
2027	2027	1	2	1.130
2027	2027	1	3	0.922
2027	2027	2	1	3.660
2027	2027	2	2	1.600
2027	2027	2	3	-0.253
2027	2027	3	1	3.660
2027	2027	3	2	1.600
2027	2027	3	3	-0.253

2027	2027	4	2	0.874
2027	2027	5	2	1.767
2028	2028	1	1	1.234
2028	2028	1	2	1.148
2028	2028	1	3	0.747
2028	2028	2	1	1.853
2028	2028	2	2	1.433
2028	2028	2	3	0.019
2028	2028	3	1	1.853
2028	2028	3	2	1.433
2028	2028	3	3	0.019
2028	2028	4	2	0.846
2028	2028	5	2	1.644
2029	2029	1	1	1.110
2029	2029	1	2	1.140
2029	2029	1	3	0.694
2029	2029	2	1	1.699
2029	2029	2	2	1.299
2029	2029	2	3	0.258
2029	2029	3	1	1.699
2029	2029	3	2	1.299
2029	2029	3	3	0.258
2029	2029	4	2	0.808
2029	2029	5	2	1.531
2030	2030	1	1	2.306
2030	2030	1	2	2.305
2030	2030	1	3	0.690
2030	2030	2	1	3.530
2030	2030	2	2	2.726
2030	2030	2	3	0.398
2030	2030	3	1	3.530
2030	2030	3	2	2.726
2030	2030	3	3	0.398
2030	2030	4	2	1.394
2030	2030	5	2	3.225
2031	2031	1	1	2.230
2031	2031	1	2	2.375
2031	2031	1	3	0.571
2031	2031	2	1	1.740
2031	2031	2	2	2.564
2031	2031	2	3	0.251
2031	2031	3	1	1.740
2031	2031	3	2	2.564
2031	2031	3	3	0.251

2031	2031	4	2	1.307
2031	2031	5	2	3.126
2032	2032	1	1	2.088
2032	2032	1	2	2.387
2032	2032	1	3	0.492
2032	2032	2	1	2.870
2032	2032	2	2	2.133
2032	2032	2	3	0.170
2032	2032	3	1	2.870
2032	2032	3	2	2.133
2032	2032	3	3	0.170
2032	2032	4	2	1.294
2032	2032	5	2	2.946
2033	2033	1	1	2.021
2033	2033	1	2	2.185
2033	2033	1	3	0.435
2033	2033	2	1	2.820
2033	2033	2	2	2.016
2033	2033	2	3	0.145
2033	2033	3	1	2.820
2033	2033	3	2	2.016
2033	2033	3	3	0.145
2033	2033	4	2	1.240
2033	2033	5	2	2.667
2034	2034	1	1	1.933
2034	2034	1	2	1.998
2034	2034	1	3	0.405
2034	2034	2	1	3.326
2034	2034	2	2	1.646
2034	2034	2	3	0.151
2034	2034	3	1	3.326
2034	2034	3	2	1.646
2034	2034	3	3	0.151
2034	2034	4	2	1.176
2034	2034	5	2	2.450
2035	2035	1	1	1.795
2035	2035	1	2	1.826
2035	2035	1	3	0.374
2035	2035	2	1	-0.177
2035	2035	2	2	1.517
2035	2035	2	3	0.162
2035	2035	3	1	-0.177
2035	2035	3	2	1.517
2035	2035	3	3	0.162

2035	2035	4	2	1.110
2035	2035	5	2	2.072
2036	2036	1	1	1.602
2036	2036	1	2	1.723
2036	2036	1	3	0.362
2036	2036	2	1	1.873
2036	2036	2	2	1.401
2036	2036	2	3	0.192
2036	2036	3	1	1.873
2036	2036	3	2	1.401
2036	2036	3	3	0.192
2036	2036	4	2	1.026
2036	2036	5	2	1.652
2037	2037	1	1	1.499
2037	2037	1	2	1.565
2037	2037	1	3	0.374
2037	2037	2	1	1.484
2037	2037	2	2	1.325
2037	2037	2	3	0.232
2037	2037	3	1	1.484
2037	2037	3	2	1.325
2037	2037	3	3	0.232
2037	2037	4	2	0.935
2037	2037	5	2	1.356
2038	2038	1	1	1.372
2038	2038	1	2	1.357
2038	2038	1	3	0.386
2038	2038	2	1	2.766
2038	2038	2	2	1.280
2038	2038	2	3	0.263
2038	2038	3	1	2.766
2038	2038	3	2	1.280
2038	2038	3	3	0.263
2038	2038	4	2	0.848
2038	2038	5	2	1.046
2039	2039	1	1	1.233
2039	2039	1	2	1.098
2039	2039	1	3	0.402
2039	2039	2	1	0.398
2039	2039	2	2	0.831
2039	2039	2	3	0.296
2039	2039	3	1	0.398
2039	2039	3	2	0.831
2039	2039	3	3	0.296

2039	2039	4	2	0.758
2039	2039	5	2	0.806
2040	2040	1	1	1.198
2040	2040	1	2	1.161
2040	2040	1	3	0.342
2040	2040	2	1	0.753
2040	2040	2	2	0.771
2040	2040	2	3	0.329
2040	2040	3	1	0.753
2040	2040	3	2	0.771
2040	2040	3	3	0.329
2040	2040	4	2	0.660
2040	2040	5	2	0.599
2041	2041	1	1	1.300
2041	2041	1	2	1.581
2041	2041	1	3	0.360
2041	2041	2	1	1.010
2041	2041	2	2	1.026
2041	2041	2	3	0.390
2041	2041	3	1	1.010
2041	2041	3	2	1.026
2041	2041	3	3	0.390
2041	2041	4	2	0.582
2041	2041	5	2	0.436
2042	2042	1	1	0.879
2042	2042	1	2	0.843
2042	2042	1	3	0.374
2042	2042	2	1	0.496
2042	2042	2	2	0.525
2042	2042	2	3	0.477
2042	2042	3	1	0.496
2042	2042	3	2	0.525
2042	2042	3	3	0.477
2042	2042	4	2	0.512
2042	2042	5	2	0.335
2043	2043	1	1	0.765
2043	2043	1	2	0.693
2043	2043	1	3	0.385
2043	2043	2	1	0.415
2043	2043	2	2	0.437
2043	2043	2	3	0.533
2043	2043	3	1	0.415
2043	2043	3	2	0.437
2043	2043	3	3	0.533

2043	2043	4	2	0.451
2043	2043	5	2	0.259
2044	2044	1	1	0.624
2044	2044	1	2	0.557
2044	2044	1	3	0.405
2044	2044	2	1	0.345
2044	2044	2	2	0.357
2044	2044	2	3	0.581
2044	2044	3	1	0.345
2044	2044	3	2	0.357
2044	2044	3	3	0.581
2044	2044	4	2	0.404
2044	2044	5	2	0.202
2045	2045	1	1	0.483
2045	2045	1	2	0.421
2045	2045	1	3	0.407
2045	2045	2	1	0.285
2045	2045	2	2	0.288
2045	2045	2	3	0.623
2045	2045	3	1	0.285
2045	2045	3	2	0.288
2045	2045	3	3	0.623
2045	2045	4	2	0.365
2045	2045	5	2	0.160
2046	2046	1	1	0.320
2046	2046	1	2	0.344
2046	2046	1	3	0.428
2046	2046	2	1	0.652
2046	2046	2	2	0.858
2046	2046	2	3	0.645
2046	2046	3	1	0.652
2046	2046	3	2	0.858
2046	2046	3	3	0.645
2046	2046	4	2	0.374
2046	2046	5	2	0.157
2047	2047	1	1	0.238
2047	2047	1	2	0.257
2047	2047	1	3	0.441
2047	2047	2	1	0.150
2047	2047	2	2	0.136
2047	2047	2	3	0.686
2047	2047	3	1	0.150
2047	2047	3	2	0.136
2047	2047	3	3	0.686

2047	2047	4	2	0.304
2047	2047	5	2	0.087
2048	2048	1	1	0.179
2048	2048	1	2	0.195
2048	2048	1	3	0.452
2048	2048	2	1	0.126
2048	2048	2	2	0.108
2048	2048	2	3	0.717
2048	2048	3	1	0.126
2048	2048	3	2	0.108
2048	2048	3	3	0.717
2048	2048	4	2	0.288
2048	2048	5	2	0.074
2049	2049	1	1	0.135
2049	2049	1	2	0.148
2049	2049	1	3	0.461
2049	2049	2	1	0.106
2049	2049	2	2	0.087
2049	2049	2	3	0.745
2049	2049	3	1	0.106
2049	2049	3	2	0.087
2049	2049	3	3	0.745
2049	2049	4	2	0.275
2049	2049	5	2	0.062
2050	2050	1	1	0.103
2050	2050	1	2	0.114
2050	2050	1	3	0.472
2050	2050	2	1	0.091
2050	2050	2	2	0.072
2050	2050	2	3	0.770
2050	2050	3	1	0.091
2050	2050	3	2	0.072
2050	2050	3	3	0.770
2050	2050	4	2	0.266
2050	2050	5	2	0.055
2051	2151	1	1	0.000
2051	2151	1	2	0.000
2051	2151	1	3	0.000
2051	2151	2	1	0.000
2051	2151	2	2	0.000
2051	2151	2	3	0.000
2051	2151	3	1	0.000
2051	2151	3	2	0.000
2051	2151	3	3	0.000

Road	2037	0	0	0	0	0	0	0	0
Road	2038	0	0	0	0	0	0	0	0
Road	2039	0	0	0	0	0	0	0	0
Road	2040	0	0	0	0	0	0	0	0
Road	2041	0	0	0	0	0	0	0	0
Road	2042	0	0	0	0	0	0	0	0
Road	2043	0	0	0	0	0	0	0	0
Road	2044	0	0	0	0	0	0	0	0
Road	2045	0	0	0	0	0	0	0	0
Road	2046	0	0	0	0	0	0	0	0
Road	2047	0	0	0	0	0	0	0	0
Road	2048	0	0	0	0	0	0	0	0
Road	2049	0	0	0	0	0	0	0	0
Road	2050	0	0	0	0	0	0	0	0
Road	2051	0	0	0	0	0	0	0	0
Road	2052	0	0	0	0	0	0	0	0
Road	2053	0	0	0	0	0	0	0	0
Road	2054	0	0	0	0	0	0	0	0
Road	2055	0	0	0	0	0	0	0	0
Road	2056	0	0	0	0	0	0	0	0
Road	2057	0	0	0	0	0	0	0	0
Road	2058	0	0	0	0	0	0	0	0
Road	2059	0	0	0	0	0	0	0	0
Road	2060	0	0	0	0	0	0	0	0
Road	2061	0	0	0	0	0	0	0	0
Road	2062	0	0	0	0	0	0	0	0
Road	2063	0	0	0	0	0	0	0	0
Road	2064	0	0	0	0	0	0	0	0
Road	2065	0	0	0	0	0	0	0	0
Road	2066	0	0	0	0	0	0	0	0
Road	2067	0	0	0	0	0	0	0	0
Road	2068	0	0	0	0	0	0	0	0
Road	2069	0	0	0	0	0	0	0	0
Road	2070	0	0	0	0	0	0	0	0
Road	2071	0	0	0	0	0	0	0	0
Road	2072	0	0	0	0	0	0	0	0
Road	2073	0	0	0	0	0	0	0	0
Road	2074	0	0	0	0	0	0	0	0
Road	2075	0	0	0	0	0	0	0	0
Road	2076	0	0	0	0	0	0	0	0
Road	2077	0	0	0	0	0	0	0	0
Road	2078	0	0	0	0	0	0	0	0
Road	2079	0	0	0	0	0	0	0	0
Road	2080	0	0	0	0	0	0	0	0

Road	2081	0	0	0	0	0	0	0	0
Road	2082	0	0	0	0	0	0	0	0

DS_SCHEME_COSTS

Do something scheme costs. Undiscounted £000s

Mode	Year	Prep.	Superv.	Constr.	Land	Maint.	Oper.	Grant/Sub.	Dev__Cont
Road	2023	353	0	191	333	0	0	0	213
Road	2024	367	22	3446	333	0	0	0	0
Road	2025	284	29	4536	0	0	0	0	0
Road	2026	213	22	3402	0	0	0	0	1108
Road	2027	0	0	0	0	3	0	0	0
Road	2028	0	0	0	0	3	0	0	0
Road	2029	0	0	0	0	3	0	0	0
Road	2030	0	0	0	0	35	0	0	0
Road	2031	0	0	0	0	3	0	0	0
Road	2032	0	0	0	0	3	0	0	0
Road	2033	0	0	0	0	3	0	0	0
Road	2034	0	0	0	0	3	0	0	0
Road	2035	0	0	0	0	49	0	0	0
Road	2036	0	0	0	0	3	0	0	0
Road	2037	0	0	0	0	3	0	0	0
Road	2038	0	0	0	0	3	0	0	0
Road	2039	0	0	0	0	3	0	0	0
Road	2040	0	0	0	0	35	0	0	0
Road	2041	0	0	0	0	3	0	0	0
Road	2042	0	0	0	0	3	0	0	0
Road	2043	0	0	0	0	3	0	0	0
Road	2044	0	0	0	0	3	0	0	0
Road	2045	0	0	0	0	191	0	0	0
Road	2046	0	0	0	0	3	0	0	0
Road	2047	0	0	0	0	3	0	0	0
Road	2048	0	0	0	0	3	0	0	0
Road	2049	0	0	0	0	3	0	0	0
Road	2050	0	0	0	0	51	0	0	0
Road	2051	0	0	0	0	3	0	0	0
Road	2052	0	0	0	0	3	0	0	0
Road	2053	0	0	0	0	3	0	0	0
Road	2054	0	0	0	0	3	0	0	0
Road	2055	0	0	0	0	49	0	0	0
Road	2056	0	0	0	0	3	0	0	0
Road	2057	0	0	0	0	3	0	0	0
Road	2058	0	0	0	0	3	0	0	0
Road	2059	0	0	0	0	3	0	0	0
Road	2060	0	0	0	0	35	0	0	0

Road	2061	0	0	0	0	3	0	0	0
Road	2062	0	0	0	0	3	0	0	0
Road	2063	0	0	0	0	3	0	0	0
Road	2064	0	0	0	0	3	0	0	0
Road	2065	0	0	0	0	275	0	0	0
Road	2066	0	0	0	0	3	0	0	0
Road	2067	0	0	0	0	3	0	0	0
Road	2068	0	0	0	0	3	0	0	0
Road	2069	0	0	0	0	3	0	0	0
Road	2070	0	0	0	0	34	0	0	0
Road	2071	0	0	0	0	3	0	0	0
Road	2072	0	0	0	0	3	0	0	0
Road	2073	0	0	0	0	3	0	0	0
Road	2074	0	0	0	0	3	0	0	0
Road	2075	0	0	0	0	80	0	0	0
Road	2076	0	0	0	0	3	0	0	0
Road	2077	0	0	0	0	3	0	0	0
Road	2078	0	0	0	0	3	0	0	0
Road	2079	0	0	0	0	3	0	0	0
Road	2080	0	0	0	0	35	0	0	0
Road	2081	0	0	0	0	3	0	0	0
Road	2082	0	0	0	0	7	0	0	0

PRESENT_VALUE_COSTS

Scheme investment and operating costs (i.e. excluding grant/subsidy, developer contributions and delays) and differences. E000s.

Mode	Year	DM_scheme_costs	DS_scheme_costs	Difference
Road	2023	0	561	561
Road	2024	0	2575	2575
Road	2025	0	2894	2894
Road	2026	0	2097	2097
Road	2027	0	2	2
Road	2028	0	2	2
Road	2029	0	2	2
Road	2030	0	17	17
Road	2031	0	2	2
Road	2032	0	2	2
Road	2033	0	2	2
Road	2034	0	1	1
Road	2035	0	21	21
Road	2036	0	1	1
Road	2037	0	1	1
Road	2038	0	1	1
Road	2039	0	1	1
Road	2040	0	12	12

Road	2041	0	1	1
Road	2042	0	1	1
Road	2043	0	1	1
Road	2044	0	1	1
Road	2045	0	57	57
Road	2046	0	1	1
Road	2047	0	1	1
Road	2048	0	1	1
Road	2049	0	1	1
Road	2050	0	13	13
Road	2051	0	1	1
Road	2052	0	1	1
Road	2053	0	1	1
Road	2054	0	1	1
Road	2055	0	11	11
Road	2056	0	1	1
Road	2057	0	1	1
Road	2058	0	1	1
Road	2059	0	1	1
Road	2060	0	6	6
Road	2061	0	1	1
Road	2062	0	1	1
Road	2063	0	1	1
Road	2064	0	1	1
Road	2065	0	44	44
Road	2066	0	1	1
Road	2067	0	1	1
Road	2068	0	0	0
Road	2069	0	0	0
Road	2070	0	5	5
Road	2071	0	0	0
Road	2072	0	0	0
Road	2073	0	0	0
Road	2074	0	0	0
Road	2075	0	9	9
Road	2076	0	0	0
Road	2077	0	0	0
Road	2078	0	0	0
Road	2079	0	0	0
Road	2080	0	4	4
Road	2081	0	0	0
Road	2082	0	1	1
Road	Total	0	8366	8366

TRIP_MATRIX_TOTALS

Annualised total trip numbers(thousands)

Submode	Year	Time period	DO MIN	DO SOM
Car	2023	AM peak	1633	1719
Car	2023	PM peak	1830	1985
Car	2023	Inter-peak	5466	5505
Car	2023	Off-peak	788	788
Car	2023	All	9717	9997
Car	2037	AM peak	1749	1835
Car	2037	PM peak	1947	2014
Car	2037	Inter-peak	5956	5996
Car	2037	Off-peak	901	901
Car	2037	All	10553	10745
LGV Personal	2023	AM peak	31	33
LGV Personal	2023	PM peak	28	31
LGV Personal	2023	Inter-peak	118	118
LGV Personal	2023	Off-peak	17	17
LGV Personal	2023	All	194	199
LGV Personal	2037	AM peak	33	35
LGV Personal	2037	PM peak	30	31
LGV Personal	2037	Inter-peak	128	129
LGV Personal	2037	Off-peak	19	19
LGV Personal	2037	All	211	215
LGV Freight	2023	AM peak	229	241
LGV Freight	2023	PM peak	208	226
LGV Freight	2023	Inter-peak	862	868
LGV Freight	2023	Off-peak	124	124
LGV Freight	2023	All	1424	1460
LGV Freight	2037	AM peak	245	257
LGV Freight	2037	PM peak	222	229
LGV Freight	2037	Inter-peak	940	946
LGV Freight	2037	Off-peak	142	142
LGV Freight	2037	All	1549	1575
OGV1	2023	AM peak	78	82
OGV1	2023	PM peak	34	37
OGV1	2023	Inter-peak	389	392
OGV1	2023	Off-peak	56	56
OGV1	2023	All	557	567
OGV1	2037	AM peak	83	87
OGV1	2037	PM peak	36	38
OGV1	2037	Inter-peak	424	427
OGV1	2037	Off-peak	64	64
OGV1	2037	All	608	616
OGV2	2023	AM peak	62	66

OGV2	2023 PM peak	40	44
OGV2	2023 Inter-peak	274	276
OGV2	2023 Off-peak	40	40
OGV2	2023 All	416	425
OGV2	2037 AM peak	67	70
OGV2	2037 PM peak	43	44
OGV2	2037 Inter-peak	299	301
OGV2	2037 Off-peak	45	45
OGV2	2037 All	454	461
All	2023 AM peak	2033	2140
All	2023 PM peak	2141	2323
All	2023 Inter-peak	7109	7160
All	2023 Off-peak	1025	1025
All	2023 All	12309	12648
All	2037 AM peak	2178	2285
All	2037 PM peak	2278	2357
All	2037 Inter-peak	7747	7798
All	2037 Off-peak	1172	1172
All	2037 All	13375	13611

DM&DS_USER_COSTS

Total value of user costs, DM and DS. E000s.

Mode	Year	DMtot_time	DMtot_charge	DMtot_fuel	DMtot_nonfuel	DStot_time	DStot_charge	DStot_fuel	DStot_nonfuel
Road	2023	377	0	1801	916	97	0	1869	929
Road	2037	550	0	806	622	85	0	816	619

FUEL_CONSUMPTION

Total fuel consumption, DM and DS. kilounits.

Submode	Year	Do minimum			Do something		
		Petrol	Diesel	Electric	Petrol	Diesel	Electric
Car	2023	738	579	290	769	606	299
Car	2037	498	186	2046	504	190	2084
LGV Personal	2023	1	36	1	1	38	1
LGV Personal	2037	0	26	25	0	27	26
LGV Freight	2023	5	266	9	5	278	10
LGV Freight	2037	3	190	185	3	195	188
OGV1	2023	0	187	0	0	190	0
OGV1	2037	0	175	0	0	175	0
OGV2	2023	0	226	0	0	229	0
OGV2	2037	0	185	0	0	182	0
All	2023	744	1294	301	776	1340	310
All	2037	502	762	2257	508	769	2297
Car	Total	27383	11397	118781	27875	11735	121015
LGV Personal	Total	20	1295	2288	21	1333	2327

LGV Freight	Total	150	9498	16783	152	9778	17065
OGV1	Total	0	10129	0	0	10164	0
OGV2	Total	0	11067	0	0	10918	0
All	Total	27554	43386	137853	28048	43929	140407

CO2_EMISSIONS_UNTRADED

Submode	Year	Emissions (tonnes)			cost (£000s, low)			cost (£000s, central)			cost (£000s, high)		
		DM	DS	Increase	DM	DS	Increase	DM	DS	Increase	DM	DS	Increase
Car	2023	3018	3152	134	197	206	9	394	412	18	591	618	26
Car	2037	1517	1541	24	76	77	1	151	154	2	227	231	4
LGV Personal	2023	93	97	4	6	6	0	12	13	1	18	19	1
LGV Personal	2037	66	68	2	3	3	0	7	7	0	10	10	0
LGV Freight	2023	683	713	29	45	47	2	89	93	4	134	140	6
LGV Freight	2037	483	496	13	24	25	1	48	49	1	72	74	2
OGV1	2023	471	479	8	31	31	1	62	63	1	92	94	2
OGV1	2037	438	439	1	22	22	0	44	44	0	66	66	0
OGV2	2023	569	577	7	37	38	0	74	75	1	112	113	1
OGV2	2037	465	457	-8	23	23	-0	46	46	-1	70	68	-1
All	2023	4834	5017	183	316	328	12	632	655	24	947	983	36
All	2024	4729	4898	169	303	314	11	606	628	22	909	942	32
All	2025	4591	4746	155	289	298	10	577	597	19	866	895	29
All	2026	4452	4592	141	274	283	9	549	566	17	823	849	26
All	2027	4306	4433	127	260	268	8	521	536	15	781	804	23
All	2028	4157	4271	114	247	253	7	493	507	14	740	760	20
All	2029	4009	4111	102	233	239	6	467	478	12	700	718	18
All	2030	3843	3933	90	219	224	5	439	449	10	658	673	15
All	2031	3685	3764	79	206	211	4	413	421	9	619	632	13
All	2032	3540	3609	70	194	198	4	389	396	8	583	595	11
All	2033	3404	3464	60	183	187	3	367	373	7	550	560	10
All	2034	3278	3330	52	173	176	3	346	352	5	520	528	8
All	2035	3164	3208	44	164	166	2	328	333	5	492	499	7
All	2036	3061	3098	37	156	157	2	311	315	4	467	472	6
All	2037	2970	3000	31	148	150	2	296	299	3	444	449	5
All	2038	2872	2901	29	140	142	1	281	284	3	421	426	4
All	2039	2793	2821	28	134	135	1	268	271	3	402	406	4
All	2040	2723	2749	27	128	129	1	256	259	2	384	388	4
All	2041	2662	2688	26	123	124	1	246	248	2	369	372	4
All	2042	2608	2633	25	118	119	1	236	238	2	354	357	3
All	2043	2562	2586	24	114	115	1	227	230	2	341	344	3
All	2044	2523	2546	23	110	111	1	220	222	2	329	332	3
All	2045	2489	2511	22	106	107	1	212	214	2	319	322	3
All	2046	2455	2477	22	103	104	1	206	207	2	308	311	3
All	2047	2429	2451	21	100	101	1	199	201	2	299	302	3
All	2048	2406	2427	21	97	98	1	194	195	2	291	293	3

All	2049	2385	2406	21	94	95	1	188	190	2	283	285	2
All	2050	2367	2387	20	92	92	1	183	185	2	275	277	2
All	2051	2367	2387	20	90	91	1	180	181	2	270	272	2
All	2052	2367	2387	20	88	89	1	176	178	2	264	267	2
All	2053	2367	2387	20	86	87	1	173	174	1	259	262	2
All	2054	2367	2387	20	85	86	1	170	172	1	256	258	2
All	2055	2367	2387	20	84	85	1	168	169	1	252	254	2
All	2056	2367	2387	20	83	83	1	165	167	1	248	250	2
All	2057	2367	2387	20	82	82	1	163	164	1	245	247	2
All	2058	2367	2387	20	80	81	1	161	162	1	241	243	2
All	2059	2367	2387	20	79	80	1	158	160	1	237	239	2
All	2060	2367	2387	20	78	79	1	156	157	1	234	236	2
All	2061	2367	2387	20	77	78	1	154	155	1	231	233	2
All	2062	2367	2387	20	76	76	1	151	153	1	227	229	2
All	2063	2367	2387	20	75	75	1	149	151	1	224	226	2
All	2064	2367	2387	20	74	74	1	147	148	1	221	223	2
All	2065	2367	2387	20	72	73	1	145	146	1	217	219	2
All	2066	2367	2387	20	71	72	1	143	144	1	214	216	2
All	2067	2367	2387	20	70	71	1	141	142	1	211	213	2
All	2068	2367	2387	20	69	70	1	139	140	1	208	210	2
All	2069	2367	2387	20	68	69	1	137	138	1	205	207	2
All	2070	2367	2387	20	67	68	1	135	136	1	202	204	2
All	2071	2367	2387	20	66	67	1	133	134	1	199	201	2
All	2072	2367	2387	20	65	66	1	131	132	1	196	198	2
All	2073	2367	2387	20	64	65	1	129	130	1	193	195	2
All	2074	2367	2387	20	64	64	1	127	128	1	191	192	2
All	2075	2367	2387	20	63	63	1	125	126	1	188	189	2
All	2076	2367	2387	20	62	62	1	123	124	1	185	187	2
All	2077	2367	2387	20	61	61	1	122	123	1	182	184	2
All	2078	2367	2387	20	60	60	1	120	121	1	180	181	2
All	2079	2367	2387	20	59	60	1	118	119	1	177	179	2
All	2080	2367	2387	20	58	59	0	116	117	1	175	176	1
All	2081	2367	2387	20	57	58	0	115	116	1	172	173	1
All	2082	2367	2387	20	56	57	0	113	114	1	169	171	1
Car	Total	86399	88286	1888	3765	3856	91	7529	7712	183	11294	11568	274
LGV Personal	Total	3294	3391	97	143	147	4	286	295	9	429	442	13
LGV Freight	Total	24158	24867	710	1048	1080	32	2096	2160	64	3144	3241	96
OGV1	Total	25422	25508	86	1028	1033	5	2056	2065	9	3084	3098	14
OGV2	Total	27776	27403	-373	1132	1119	-13	2264	2239	-26	3396	3358	-38
All	Total	167048	169455	2407	7116	7235	120	14231	14471	239	21347	21706	359

CO2_EMISSIONS_TRADED

Submode	Year	Emissions (tonnes)			cost (£000s, low)			cost (£000s, central)			cost (£000s, high)		
		DM	DS	Increase	DM	DS	Increase	DM	DS	Increase	DM	DS	Increase

Car	2023	74	76	2	5	5	0	10	10	0	15	15	0
Car	2037	60	61	1	3	3	0	6	6	0	9	9	0
LGV Personal	2023	0	0	0	0	0	0	0	0	0	0	0	0
LGV Personal	2037	1	1	0	0	0	0	0	0	0	0	0	0
LGV Freight	2023	2	2	0	0	0	0	0	0	0	0	0	0
LGV Freight	2037	5	6	0	0	0	0	1	1	0	1	1	0
OGV1	2023	0	0	0	0	0	0	0	0	0	0	0	0
OGV1	2037	0	0	0	0	0	0	0	0	0	0	0	0
OGV2	2023	0	0	0	0	0	0	0	0	0	0	0	0
OGV2	2037	0	0	0	0	0	0	0	0	0	0	0	0
All	2023	77	79	2	5	5	0	10	10	0	15	15	0
All	2024	102	105	3	7	7	0	13	13	0	20	20	1
All	2025	127	130	3	8	8	0	16	16	0	24	25	1
All	2026	148	152	4	9	9	0	18	19	0	27	28	1
All	2027	165	169	4	10	10	0	20	20	1	30	31	1
All	2028	176	181	4	10	11	0	21	21	1	31	32	1
All	2029	180	184	4	10	11	0	21	21	1	31	32	1
All	2030	175	179	4	10	10	0	20	20	0	30	31	1
All	2031	157	161	4	9	9	0	18	18	0	26	27	1
All	2032	140	143	3	8	8	0	15	16	0	23	23	0
All	2033	122	125	3	7	7	0	13	13	0	20	20	0
All	2034	106	109	2	6	6	0	11	11	0	17	17	0
All	2035	92	93	2	5	5	0	9	10	0	14	15	0
All	2036	78	80	1	4	4	0	8	8	0	12	12	0
All	2037	66	68	1	3	3	0	7	7	0	10	10	0
All	2038	56	57	1	3	3	0	5	6	0	8	8	0
All	2039	46	47	1	2	2	0	4	5	0	7	7	0
All	2040	38	39	1	2	2	0	4	4	0	5	5	0
All	2041	32	33	1	1	2	0	3	3	0	4	5	0
All	2042	31	32	1	1	1	0	3	3	0	4	4	0
All	2043	31	31	1	1	1	0	3	3	0	4	4	0
All	2044	29	30	1	1	1	0	3	3	0	4	4	0
All	2045	25	25	0	1	1	0	2	2	0	3	3	0
All	2046	23	23	0	1	1	0	2	2	0	3	3	0
All	2047	21	22	0	1	1	0	2	2	0	3	3	0
All	2048	20	21	0	1	1	0	2	2	0	2	2	0
All	2049	19	19	0	1	1	0	1	2	0	2	2	0
All	2050	19	19	0	1	1	0	1	1	0	2	2	0
All	2051	19	19	0	1	1	0	1	1	0	2	2	0
All	2052	19	19	0	1	1	0	1	1	0	2	2	0
All	2053	19	19	0	1	1	0	1	1	0	2	2	0
All	2054	19	19	0	1	1	0	1	1	0	2	2	0
All	2055	19	19	0	1	1	0	1	1	0	2	2	0
All	2056	19	19	0	1	1	0	1	1	0	2	2	0

All	2057	19	19	0	1	1	0	1	1	0	2	2	0
All	2058	19	19	0	1	1	0	1	1	0	2	2	0
All	2059	19	19	0	1	1	0	1	1	0	2	2	0
All	2060	19	19	0	1	1	0	1	1	0	2	2	0
All	2061	19	19	0	1	1	0	1	1	0	2	2	0
All	2062	19	19	0	1	1	0	1	1	0	2	2	0
All	2063	19	19	0	1	1	0	1	1	0	2	2	0
All	2064	19	19	0	1	1	0	1	1	0	2	2	0
All	2065	19	19	0	1	1	0	1	1	0	2	2	0
All	2066	19	19	0	1	1	0	1	1	0	2	2	0
All	2067	19	19	0	1	1	0	1	1	0	2	2	0
All	2068	19	19	0	1	1	0	1	1	0	2	2	0
All	2069	19	19	0	1	1	0	1	1	0	2	2	0
All	2070	19	19	0	1	1	0	1	1	0	2	2	0
All	2071	19	19	0	1	1	0	1	1	0	2	2	0
All	2072	19	19	0	1	1	0	1	1	0	2	2	0
All	2073	19	19	0	1	1	0	1	1	0	2	2	0
All	2074	19	19	0	0	1	0	1	1	0	1	2	0
All	2075	19	19	0	0	0	0	1	1	0	1	1	0
All	2076	19	19	0	0	0	0	1	1	0	1	1	0
All	2077	19	19	0	0	0	0	1	1	0	1	1	0
All	2078	19	19	0	0	0	0	1	1	0	1	1	0
All	2079	19	19	0	0	0	0	1	1	0	1	1	0
All	2080	19	19	0	0	0	0	1	1	0	1	1	0
All	2081	19	19	0	0	0	0	1	1	0	1	1	0
All	2082	19	19	0	0	0	0	1	1	0	1	1	0
Car	Total	2675	2734	59	136	139	3	273	279	6	409	418	9
LGV Personal	Total	26	27	0	1	1	0	2	2	0	3	3	0
LGV Freight	Total	192	196	3	8	8	0	16	17	0	24	25	0
OGV1	Total	0	0	0	0	0	0	0	0	0	0	0	0
OGV2	Total	0	0	0	0	0	0	0	0	0	0	0	0
All	Total	2894	2956	63	146	149	3	291	298	7	437	447	10

CO2_EMISSIONS_BY_TIME_PERIOD_UNTRADED

Submode	Year	Emissions (tonnes)			cost (£000s, low)			cost (£000s, central)			cost (£000s, high)		
		DM	DS	Increase	DM	DS	Increase	DM	DS	Increase	DM	DS	Increase
AM peak	2023	749	834	85	49	54	6	98	109	11	147	163	17
AM peak	2037	468	487	19	23	24	1	47	49	2	70	73	3
PM peak	2023	764	842	78	50	55	5	100	110	10	150	165	15
PM peak	2037	442	442	-0	22	22	-0	44	44	-0	66	66	-0
Inter-peak	2023	2902	2923	21	190	191	1	379	382	3	569	573	4
Inter-peak	2037	1789	1801	12	89	90	1	178	180	1	268	269	2
Off-peak	2023	419	419	0	27	27	0	55	55	0	82	82	0
Off-peak	2037	271	271	0	13	13	0	27	27	0	40	40	0

AM peak	Total	26217	27529	1312	1115	1179	63	2231	2358	127	3346	3536	190
PM peak	Total	24748	25169	420	1064	1091	27	2127	2182	55	3191	3273	82
Inter-peak	Total	100948	101622	675	4295	4324	29	8590	8648	58	12885	12972	87
Off-peak	Total	15135	15135	0	642	642	0	1283	1283	0	1925	1925	0

NOTE: The cost of any UK Allowances (UKAs) purchased to cover traded emissions (i.e. emissions from sectors covered by the UK Emissions Trading System) will be reflected in the purchase price of traded sector goods (such as electricity). Since the purchase price is used in the costs, considered in transport appraisal, the cost of the relevant UKAs will be included in the cost benefit analysis, "internalising" the costs of emissions from traded sectors.

The CO2 EMISSIONS BY TIME PERIOD TRADED reported in the table below are therefore provided for information purposes only - they are not included in the Economic Efficiency of the Transport System (TEE) table.

For further information, please refer to TAG Unit A-3 para. 4.1.5 and 4.2.9

CO2_EMISSIONS_BY_TIME_PERIOD_TRADED

Submode	Year	Emissions (tonnes)			cost (£000s, low)			cost (£000s, central)			cost (£000s, high)		
		DM	DS	Increase	DM	DS	Increase	DM	DS	Increase	DM	DS	Increase
AM peak	2023	13	14	1	1	1	0	2	2	0	3	3	0
AM peak	2037	11	11	1	1	1	0	1	1	0	2	2	0
PM peak	2023	14	16	1	1	1	0	2	2	0	3	3	0
PM peak	2037	12	12	0	1	1	0	1	1	0	2	2	0
Inter-peak	2023	43	44	0	3	3	0	6	6	0	8	9	0
Inter-peak	2037	38	38	0	2	2	0	4	4	0	6	6	0
Off-peak	2023	6	6	0	0	0	0	1	1	0	1	1	0
Off-peak	2037	6	6	0	0	0	0	1	1	0	1	1	0
AM peak	Total	480	504	24	24	25	1	48	51	2	73	76	4
PM peak	Total	528	556	27	27	28	1	53	56	3	80	85	4
Inter-peak	Total	1641	1652	11	82	83	1	165	166	1	247	249	2
Off-peak	Total	244	244	0	12	12	0	24	24	0	37	37	0

MODE

User benefits and changes in revenues by mode, all years. £000s.

Mode	Year	User	User_Charges	Vehicle_Operating_Cost	Operator_Rev	Indirect	
		Time	PT_fares_(pri)	Fuel	Non_fuel	PT_fares_(pri)	Taxes
Road	2023	283	0	-20	-5	0	28
Road	2024	301	0	-16	-3	0	25
Road	2025	318	0	-12	-2	0	22
Road	2026	334	0	-10	-0	0	20
Road	2027	349	0	-8	1	0	17
Road	2028	364	0	-6	2	0	15
Road	2029	378	0	-4	3	0	13
Road	2030	391	0	-2	4	0	11
Road	2031	404	0	-1	5	0	9
Road	2032	416	0	0	6	0	8
Road	2033	427	0	1	7	0	7
Road	2034	438	0	2	8	0	5

Road	2035	448	0	3	9	0	4
Road	2036	458	0	4	9	0	4
Road	2037	467	0	4	10	0	3
Road	2038	458	0	4	9	0	3
Road	2039	449	0	4	9	0	2
Road	2040	441	0	4	9	0	2
Road	2041	432	0	4	9	0	2
Road	2042	424	0	3	8	0	2
Road	2043	416	0	3	8	0	2
Road	2044	408	0	3	8	0	2
Road	2045	400	0	3	7	0	1
Road	2046	392	0	3	7	0	1
Road	2047	384	0	3	7	0	1
Road	2048	377	0	3	7	0	1
Road	2049	370	0	3	6	0	1
Road	2050	363	0	3	6	0	1
Road	2051	356	0	2	6	0	1
Road	2052	349	0	2	6	0	1
Road	2053	342	0	2	6	0	1
Road	2054	337	0	2	5	0	1
Road	2055	332	0	2	5	0	1
Road	2056	327	0	2	5	0	1
Road	2057	322	0	2	5	0	1
Road	2058	318	0	2	5	0	1
Road	2059	313	0	2	5	0	1
Road	2060	309	0	2	5	0	1
Road	2061	304	0	2	4	0	1
Road	2062	300	0	2	4	0	1
Road	2063	295	0	2	4	0	1
Road	2064	291	0	2	4	0	1
Road	2065	287	0	2	4	0	1
Road	2066	283	0	2	4	0	1
Road	2067	278	0	1	4	0	1
Road	2068	274	0	1	4	0	1
Road	2069	270	0	1	4	0	1
Road	2070	266	0	1	3	0	1
Road	2071	263	0	1	3	0	1
Road	2072	259	0	1	3	0	1
Road	2073	255	0	1	3	0	0
Road	2074	251	0	1	3	0	0
Road	2075	248	0	1	3	0	0
Road	2076	244	0	1	3	0	0
Road	2077	240	0	1	3	0	0
Road	2078	237	0	1	3	0	0

Road	2079	234	0	1	3	0	0
Road	2080	230	0	1	3	0	0
Road	2081	227	0	1	2	0	0
Road	2082	223	0	1	2	0	0
Road	Total	20156	0	27	282	0	234

SUBMODE

User benefits and changes in revenues by submode/vehicle type, modelled years and total. £000s.

Submode	Year	User	User_Charges	Vehicle_Operating_Cost		Operator_Rev	Indirect
		Time	PT_fares_(pri)	Fuel	Non_fuel	PT_fares_(pri)	Taxes
Car	2023	210	0	-17	-13	0	21
Car	2037	347	0	1	-1	0	2
LGV Personal	2023	3	0	-1	-1	0	1
LGV Personal	2037	5	0	-0	-0	0	0
LGV Freight	2023	46	0	-4	2	0	4
LGV Freight	2037	75	0	-1	2	0	1
OGV1	2023	14	0	0	3	0	1
OGV1	2037	22	0	1	3	0	0
OGV2	2023	11	0	1	4	0	1
OGV2	2037	18	0	3	6	0	-1
All	2023	283	0	-20	-5	0	28
All	2037	467	0	4	10	0	3
Car	Total	14980	0	-58	-118	0	178
LGV Personal	Total	196	0	-7	-10	0	8
LGV Freight	Total	3254	0	-48	76	0	56
OGV1	Total	935	0	34	127	0	9
OGV2	Total	792	0	106	208	0	-17
All	Total	20156	0	27	282	0	234

PERSON_TYPES

User benefits and changes in revenues by person type, modelled years and total. £000s.

Person_type	Year	User	User_Charges	Vehicle_Operating_Cost		Operator_Rev	Indirect
		Time	PT_fares_(pri)	Fuel	Non_fuel	PT_fares_(pri)	Taxes
All	2023	283	0	-20	-5	0	28
All	2037	467	0	4	10	0	3
All	Total	20156	0	27	282	0	234

PURPOSE

User benefits and changes in revenues by trip purpose, modelled years and total. £000s.

Purpose	Year	User	User_Charges	Vehicle_Operating_Cost		Operator_Rev	Indirect
		Time	PT_fares_(pri)	Fuel	Non_fuel	PT_fares_(pri)	Taxes
Business	2023	84	0	-4	11	0	8
Business	2037	137	0	3	14	0	1
Commuting	2023	82	0	-6	-5	0	7

Commuting	2037	140	0	0	-1	0	1
Other	2023	117	0	-10	-10	0	13
Other	2037	190	0	1	-3	0	1
Business	Total	5935	0	87	514	0	60
Commuting	Total	6003	0	-24	-73	0	58
Other	Total	8218	0	-36	-159	0	116

PERIOD

User benefits and changes in revenues by time period, modelled years and total. £000s.

Period	Year	User	User_Charges	Vehicle_Operating_Cost		Operator_Rev	Indirect
		Time	PT_fares_(pri	Fuel	Non_fuel	PT_fares_(pri	Taxes
AM peak	2023	135	0	-16	1	0	13
AM peak	2037	230	0	1	6	0	2
PM peak	2023	99	0	-4	-6	0	12
PM peak	2037	172	0	3	2	0	-0
Inter-peak	2023	48	0	0	0	0	3
Inter-peak	2037	64	0	0	2	0	1
Off-peak	2023	1	0	0	0	0	0
Off-peak	2037	1	0	0	0	0	0
AM peak	Total	9884	0	-54	189	0	123
PM peak	Total	7399	0	81	32	0	61
Inter-peak	Total	2815	0	0	59	0	49
Off-peak	Total	58	0	0	2	0	0

NON MONETISED TIME BENEFITS BY TIME SAVING

Time benefits (thousands of person hrs) by size of time saving

Vehicle type	Purpose	Year	< -5 mins	-5 to -2 mins	-2 to 0 mins	0 to 2 mins	2 to 5 mins	> 5 mins
Car	Business	2023	0	0	0	1	1	0
Car	Business	2037	0	0	0	1	3	1
Car	Business	Total	0	0	0	62	141	78
Car	Commuting	2023	0	0	0	4	8	0
Car	Commuting	2037	0	0	0	3	14	9
Car	Commuting	Total	0	0	0	177	782	494
Car	Other	2023	0	0	0	16	20	0
Car	Other	2037	0	0	0	18	30	28
Car	Other	Total	0	0	0	1050	1716	1482
LGV Personal	Business	2023	0	0	0	0	0	0
LGV Personal	Business	2037	0	0	0	0	0	0
LGV Personal	Business	Total	0	0	0	0	0	0
LGV Personal	Commuting	2023	0	0	0	0	0	0
LGV Personal	Commuting	2037	0	0	0	0	0	0
LGV Personal	Commuting	Total	0	0	0	0	0	0
LGV Personal	Other	2023	0	0	0	0	0	0
LGV Personal	Other	2037	0	0	0	0	1	1

LGV Personal Other	Total		0	0	0	23	50	30
LGV Freight Business	2023		0	0	0	2	3	0
LGV Freight Business	2037		0	0	0	2	5	3
LGV Freight Business	Total		0	0	0	140	303	182
LGV Freight Commuting	2023		0	0	0	0	0	0
LGV Freight Commuting	2037		0	0	0	0	0	0
LGV Freight Commuting	Total		0	0	0	0	0	0
LGV Freight Other	2023		0	0	0	0	0	0
LGV Freight Other	2037		0	0	0	0	0	0
LGV Freight Other	Total		0	0	0	0	0	0
OGV1 Business	2023		0	0	0	1	1	0
OGV1 Business	2037		0	0	0	1	2	0
OGV1 Business	Total		0	0	0	47	84	25
OGV1 Commuting	2023		0	0	0	0	0	0
OGV1 Commuting	2037		0	0	0	0	0	0
OGV1 Commuting	Total		0	0	0	0	0	0
OGV1 Other	2023		0	0	0	0	0	0
OGV1 Other	2037		0	0	0	0	0	0
OGV1 Other	Total		0	0	0	0	0	0
OGV2 Business	2023		0	0	0	1	1	0
OGV2 Business	2037		0	0	0	1	1	1
OGV2 Business	Total		0	0	0	35	68	29
OGV2 Commuting	2023		0	0	0	0	0	0
OGV2 Commuting	2037		0	0	0	0	0	0
OGV2 Commuting	Total		0	0	0	0	0	0
OGV2 Other	2023		0	0	0	0	0	0
OGV2 Other	2037		0	0	0	0	0	0
OGV2 Other	Total		0	0	0	0	0	0

MONETISED TIME BENEFITS BY TIME SAVING

Time benefits (£000s) by size of time saving

Vehicle type	Purpose	Year	< -5 mins	-5 to -2 mins	-2 to 0 mins	0 to 2 mins	2 to 5 mins	> 5 mins
Car	Business	2023	0	0	0	6	7	0
Car	Business	2037	0	0	0	5	11	7
Car	Business	Total	0	0	0	218	481	255
Car	Commuting	2023	0	0	0	29	53	0
Car	Commuting	2037	0	0	0	15	74	50
Car	Commuting	Total	0	0	0	782	3257	1965
Car	Other	2023	0	0	0	51	63	0
Car	Other	2037	0	0	0	43	73	69
Car	Other	Total	0	0	0	2043	3286	2693
LGV Personal Business	2023		0	0	0	0	0	0
LGV Personal Business	2037		0	0	0	0	0	0
LGV Personal Business	Total		0	0	0	0	0	0

LGV Personal	Commuting	2023	0	0	0	0	0	0
LGV Personal	Commuting	2037	0	0	0	0	0	0
LGV Personal	Commuting	Total	0	0	0	0	0	0
LGV Personal	Other	2023	0	0	0	1	2	0
LGV Personal	Other	2037	0	0	0	1	2	1
LGV Personal	Other	Total	0	0	0	46	96	55
LGV Freight	Business	2023	0	0	0	21	25	0
LGV Freight	Business	2037	0	0	0	16	36	23
LGV Freight	Business	Total	0	0	0	758	1587	909
LGV Freight	Commuting	2023	0	0	0	0	0	0
LGV Freight	Commuting	2037	0	0	0	0	0	0
LGV Freight	Commuting	Total	0	0	0	0	0	0
LGV Freight	Other	2023	0	0	0	0	0	0
LGV Freight	Other	2037	0	0	0	0	0	0
LGV Freight	Other	Total	0	0	0	0	0	0
OGV1	Business	2023	0	0	0	7	6	0
OGV1	Business	2037	0	0	0	6	12	4
OGV1	Business	Total	0	0	0	288	503	144
OGV1	Commuting	2023	0	0	0	0	0	0
OGV1	Commuting	2037	0	0	0	0	0	0
OGV1	Commuting	Total	0	0	0	0	0	0
OGV1	Other	2023	0	0	0	0	0	0
OGV1	Other	2037	0	0	0	0	0	0
OGV1	Other	Total	0	0	0	0	0	0
OGV2	Business	2023	0	0	0	6	6	0
OGV2	Business	2037	0	0	0	5	9	4
OGV2	Business	Total	0	0	0	214	409	169
OGV2	Commuting	2023	0	0	0	0	0	0
OGV2	Commuting	2037	0	0	0	0	0	0
OGV2	Commuting	Total	0	0	0	0	0	0
OGV2	Other	2023	0	0	0	0	0	0
OGV2	Other	2037	0	0	0	0	0	0
OGV2	Other	Total	0	0	0	0	0	0

TOTAL BENEFITS BY TIME SAVING

Total benefits (£000s) by size of time saving

Vehicle type	Purpose	Year	< -5 mins	-5 to -2 mins	-2 to 0 mins	0 to 2 mins	2 to 5 mins	> 5 mins
Car	Business	2023	0	0	0	6	8	0
Car	Business	2037	0	0	0	5	12	7
Car	Business	Total	0	0	0	240	529	284
Car	Commuting	2023	0	0	0	21	50	0
Car	Commuting	2037	0	0	0	14	74	51
Car	Commuting	Total	0	0	0	694	3230	1982
Car	Other	2023	0	0	0	37	57	0

Car	Other	2037	0	0	0	41	73	70
Car	Other	Total	0	0	0	1874	3245	2726
LGV Personal Business		2023	0	0	0	0	0	0
LGV Personal Business		2037	0	0	0	0	0	0
LGV Personal Business		Total	0	0	0	0	0	0
LGV Personal Commuting		2023	0	0	0	0	0	0
LGV Personal Commuting		2037	0	0	0	0	0	0
LGV Personal Commuting		Total	0	0	0	0	0	0
LGV Personal Other		2023	0	0	0	1	1	0
LGV Personal Other		2037	0	0	0	1	2	1
LGV Personal Other		Total	0	0	0	35	90	55
LGV Freight Business		2023	0	0	0	20	23	0
LGV Freight Business		2037	0	0	0	16	36	24
LGV Freight Business		Total	0	0	0	769	1581	932
LGV Freight Commuting		2023	0	0	0	0	0	0
LGV Freight Commuting		2037	0	0	0	0	0	0
LGV Freight Commuting		Total	0	0	0	0	0	0
LGV Freight Other		2023	0	0	0	0	0	0
LGV Freight Other		2037	0	0	0	0	0	0
LGV Freight Other		Total	0	0	0	0	0	0
OGV1 Business		2023	0	0	0	9	8	0
OGV1 Business		2037	0	0	0	7	14	5
OGV1 Business		Total	0	0	0	328	593	175
OGV1 Commuting		2023	0	0	0	0	0	0
OGV1 Commuting		2037	0	0	0	0	0	0
OGV1 Commuting		Total	0	0	0	0	0	0
OGV1 Other		2023	0	0	0	0	0	0
OGV1 Other		2037	0	0	0	0	0	0
OGV1 Other		Total	0	0	0	0	0	0
OGV2 Business		2023	0	0	0	8	9	0
OGV2 Business		2037	0	0	0	6	14	7
OGV2 Business		Total	0	0	0	272	586	247
OGV2 Commuting		2023	0	0	0	0	0	0
OGV2 Commuting		2037	0	0	0	0	0	0
OGV2 Commuting		Total	0	0	0	0	0	0
OGV2 Other		2023	0	0	0	0	0	0
OGV2 Other		2037	0	0	0	0	0	0
OGV2 Other		Total	0	0	0	0	0	0

NON MONETISED TIME BENEFITS BY DISTANCE

Time benefits (thousands of person hrs) by distance

Vehicle type	Purpose	Year	< 1 kms	1 to 5 kms	5 to 10 kms	10 to 25 kms	25 to 50 kms	50 to 100 kms	100 to 200 kms	>200 kms
Car	Business	2023	0	2	0	0	0	0	0	0
Car	Business	2037	0	5	0	0	0	0	0	0

OGV2	Business	2023	0	17	0	0	0	0	0	0
OGV2	Business	2037	0	27	0	0	0	0	0	0
OGV2	Business	Total	0	1106	0	0	0	0	0	0
OGV2	Commuting	2023	0	0	0	0	0	0	0	0
OGV2	Commuting	2037	0	0	0	0	0	0	0	0
OGV2	Commuting	Total	0	0	0	0	0	0	0	0
OGV2	Other	2023	0	0	0	0	0	0	0	0
OGV2	Other	2037	0	0	0	0	0	0	0	0
OGV2	Other	Total	0	0	0	0	0	0	0	0

SENSITIVITY

Total user benefits as a percentage of total DM user costs

Modelled Years		
Mode	2023	2037
Road	8.37%	24.32%

Economy:Economic Efficiency of the Transport System (TEE)

Consumer - Commuting user benefits	All Modes	Road
Travel Time	6003	6003
Vehicle operating costs	-98	-98
User charges	0	0
During Construction & Maintenance	0	0
NET CONSUMER - COMMUTING BENEFITS	5905	5905

Consumer - Other user benefits	All Modes	Road
Travel Time	8218	8218
Vehicle operating costs	-194	-194
User charges	0	0
During Construction & Maintenance	0	0
NET CONSUMER - OTHER BENEFITS	8024	8024

Business	All Modes	Road Personal	Road Freight
Travel Time	5935	954	4981
Vehicle operating costs	602	99	503
User charges	0	0	0
During Construction & Maintenance	0	0	0
Subtotal	6536	1053	5484

Private Sector Provider Impacts

Revenue	0	0
Operating costs	0	0
Investment costs	0	0
Grant/subsidy	0	0

Subtotal	0	0
----------	---	---

Other business Impacts

Developer contributions	-775	-775
NET BUSINESS IMPACT	5761	

TOTAL

Present Value of Transport Economic

Efficiency Benefits (TEE)	19690	
---------------------------	-------	--

Note: Benefits appear as positive numbers, while costs appear as negative numbers.

Note: All entries are present values discounted to 2010, in 2010 prices

Public Accounts

Local Government Funding	ALL MODES	Road
Revenue	0	0
Operating Costs	238	238
Investment Costs	2121	2121
Developer Contributions	-775	-775
Grant/Subsidy Payments	0	0
NET IMPACT	1584	1584

Central Government Funding: Transport	ALL MODES	Road
Revenue	0	0
Operating costs	0	0
Investment costs	6006	6006
Developer Contributions	0	0
Grant/Subsidy Payments	0	0
NET IMPACT	6006	6006

Central Government Funding: Non-Transport

Indirect Tax Revenues	-234	-234
-----------------------	------	------

TOTALS

Broad Transport Budget	7591	7591
Wider Public Finances	-234	-234

Note: Costs appear as positive numbers, while revenues and developer contributions appear as negative numbers.

Note: All entries are present values discounted to 2010, in 2010 prices

Analysis of Monetised Costs and Benefits

Greenhouse Gases	-239	
------------------	------	--

Economic Efficiency: Consumer Users (Commuting)	5905
Economic Efficiency: Consumer Users (Other)	8024
Economic Efficiency: Business Users and Providers	5761
Wider Public Finances (Indirect Taxation Revenues)	234
Present Value of Benefits (PVB)	19685

Broad Transport Budget	7591
Present Value of Costs (PVC)	7591

OVERALL IMPACTS

Net Present Value (NPV)	12094
Benefit to Cost Ratio (BCR)	2.593

Note: This table includes costs and benefits which are regularly or occasionally presented in monetised form in transport appraisals, together with some where monetisation is in prospect. There may also be other significant costs and benefits, some of which cannot be presented in monetised form. Where this is the case, the analysis presented above does NOT provide a good measure of value for money and should not be used as the sole basis for decisions.

TUBA Run Information

- calculations completed

File Summary

* Run Name : TUBA-1_Ollerton_FBC_QRA_V3

* Scheme File : L:\60625845_A614 MRN DfT responses\2023_Draft_FBC\TUBA\MasterFile - 1_Ollerton_V1_Draft_FBC_QRA_V3.txt

* Economic File : L:\60625845_A614 MRN DfT responses\2023_Draft_FBC\TUBA\Economics_TAG_db1_20_2.txt

* Output File : L:\60625845_A614 MRN DfT responses\2023_Draft_FBC\TUBA\Ollerton_FBC_QRA_V3.OUT

* Log File : L:\60625845_A614 MRN DfT responses\2023_Draft_FBC\TUBA\Ollerton_FBC_QRA_V3.log

* User ID : philip.g.jones

* Computer ID : UKDBYLFHQB1T3

Elapsed time : 0hrs 0mins 2secs

Appendix O White Post TUBA – QRA

SCHEME SPECIFIC PARAMETERS

PARAMETERS

TUBA_version 1.9.17
run_name TUBA-1_White_Post_Costs_FBC_QRA_V3
do_min_name DM
do_som_name DS

first_yr 2023
horizon_yr 2082
modelled_yrs 2023 2037
detail Yes
current_yr 2023
print_warn 20
P&R_car_speed 65.0
zones_as_sectors No

TIME_SLICES

*no.	duration(min)	annualisation	period	description
1	60	648	1	peak hour am 08:00-09:00
2	60	667	2	peak hour pm 17:00-18:00
3	60	2997	3	peak hour ip 10:00-16:00
4	60	4438	4	off peak hour

SCHEMES_DM

*Mode 1st Construction year Opening_yr Stage

DO_MIN_COSTS

*Type Mode Funding Cost Price RPI

DO_MIN_PROFILE

*Year Mode %Const %Land %Prep %Super %Maint %Op %Grant %Dev

DO_MIN_DELAY_COSTS

*Year Mode Business Commuting Other Freight

SCHEMES_DS

*Mode 1st Construction year Opening_yr Stage
1 2023 2025 SI

2056	1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2057	1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2058	1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2059	1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2060	1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2061	1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2062	1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2063	1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2064	1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2065	1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2066	1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2067	1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2068	1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2069	1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2070	1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2071	1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2072	1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2073	1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2074	1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2075	1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2076	1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2077	1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2078	1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2079	1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2080	1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2081	1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2082	1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

DO_SOM_DELAY_COSTS

*Year Mode Business Commuting Other Freight

BENEFIT_CHANGE

*% change p.a.

*Start_yr End_yr Submode ChangePer1 ChangePer2 ChangePer3 ChangePer4 ChangePer5

USER_CLASSES

*no.	Veh/submode	purpose	person_type
1	1	1	0
2	1	2	0
3	1	3	0
4	2	3	0
5	3	1	0

6	4	1	0
7	5	1	0

INPUT_MATRICES

*no.	userclasses	timeslice	type	format	scenario	year	factor	filename
1	1	1	V	1	0	2023	0.05903	L:\60625845_A614 MRN DFT responses\2023_Draft_FBC\TUBA\Cost_only_Warren_Hill_White_Post\Outputs_White_Post\V_A614_White_Post_Costs_AM_2023_DM.txt
2	2	1	V	1	0	2023	0.32523	L:\60625845_A614 MRN DFT responses\2023_Draft_FBC\TUBA\Cost_only_Warren_Hill_White_Post\Outputs_White_Post\V_A614_White_Post_Costs_AM_2023_DM.txt
3	3	1	V	1	0	2023	0.46486	L:\60625845_A614 MRN DFT responses\2023_Draft_FBC\TUBA\Cost_only_Warren_Hill_White_Post\Outputs_White_Post\V_A614_White_Post_Costs_AM_2023_DM.txt
4	4	1	V	1	0	2023	0.01535	L:\60625845_A614 MRN DFT responses\2023_Draft_FBC\TUBA\Cost_only_Warren_Hill_White_Post\Outputs_White_Post\V_A614_White_Post_Costs_AM_2023_DM.txt
5	5	1	V	1	0	2023	0.11257	L:\60625845_A614 MRN DFT responses\2023_Draft_FBC\TUBA\Cost_only_Warren_Hill_White_Post\Outputs_White_Post\V_A614_White_Post_Costs_AM_2023_DM.txt
6	6	1	V	1	0	2023	0.00845	L:\60625845_A614 MRN DFT responses\2023_Draft_FBC\TUBA\Cost_only_Warren_Hill_White_Post\Outputs_White_Post\V_A614_White_Post_Costs_AM_2023_DM.txt
7	7	1	V	1	0	2023	0.01451	L:\60625845_A614 MRN DFT responses\2023_Draft_FBC\TUBA\Cost_only_Warren_Hill_White_Post\Outputs_White_Post\V_A614_White_Post_Costs_AM_2023_DM.txt
8	1	3	V	1	0	2023	0.05864	L:\60625845_A614 MRN DFT responses\2023_Draft_FBC\TUBA\Cost_only_Warren_Hill_White_Post\Outputs_White_Post\V_A614_White_Post_Costs_IP_2023_DM.txt
9	2	3	V	1	0	2023	0.09201	L:\60625845_A614 MRN DFT responses\2023_Draft_FBC\TUBA\Cost_only_Warren_Hill_White_Post\Outputs_White_Post\V_A614_White_Post_Costs_IP_2023_DM.txt
10	3	3	V	1	0	2023	0.66493	L:\60625845_A614 MRN DFT responses\2023_Draft_FBC\TUBA\Cost_only_Warren_Hill_White_Post\Outputs_White_Post\V_A614_White_Post_Costs_IP_2023_DM.txt
11	4	3	V	1	0	2023	0.01626	L:\60625845_A614 MRN DFT responses\2023_Draft_FBC\TUBA\Cost_only_Warren_Hill_White_Post\Outputs_White_Post\V_A614_White_Post_Costs_IP_2023_DM.txt
12	5	3	V	1	0	2023	0.11925	L:\60625845_A614 MRN DFT responses\2023_Draft_FBC\TUBA\Cost_only_Warren_Hill_White_Post\Outputs_White_Post\V_A614_White_Post_Costs_IP_2023_DM.txt
13	6	3	V	1	0	2023	0.01568	L:\60625845_A614 MRN DFT responses\2023_Draft_FBC\TUBA\Cost_only_Warren_Hill_White_Post\Outputs_White_Post\V_A614_White_Post_Costs_IP_2023_DM.txt
14	7	3	V	1	0	2023	0.03323	L:\60625845_A614 MRN DFT responses\2023_Draft_FBC\TUBA\Cost_only_Warren_Hill_White_Post\Outputs_White_Post\V_A614_White_Post_Costs_IP_2023_DM.txt
15	1	2	V	1	0	2023	0.04428	L:\60625845_A614 MRN DFT responses\2023_Draft_FBC\TUBA\Cost_only_Warren_Hill_White_Post\Outputs_White_Post\V_A614_White_Post_Costs_PM_2023_DM.txt
16	2	2	V	1	0	2023	0.28208	L:\60625845_A614 MRN DFT responses\2023_Draft_FBC\TUBA\Cost_only_Warren_Hill_White_Post\Outputs_White_Post\V_A614_White_Post_Costs_PM_2023_DM.txt
17	3	2	V	1	0	2023	0.53951	L:\60625845_A614 MRN DFT responses\2023_Draft_FBC\TUBA\Cost_only_Warren_Hill_White_Post\Outputs_White_Post\V_A614_White_Post_Costs_PM_2023_DM.txt
18	4	2	V	1	0	2023	0.01265	L:\60625845_A614 MRN DFT responses\2023_Draft_FBC\TUBA\Cost_only_Warren_Hill_White_Post\Outputs_White_Post\V_A614_White_Post_Costs_PM_2023_DM.txt
19	5	2	V	1	0	2023	0.09275	L:\60625845_A614 MRN DFT responses\2023_Draft_FBC\TUBA\Cost_only_Warren_Hill_White_Post\Outputs_White_Post\V_A614_White_Post_Costs_PM_2023_DM.txt
20	6	2	V	1	0	2023	0.00652	L:\60625845_A614 MRN DFT responses\2023_Draft_FBC\TUBA\Cost_only_Warren_Hill_White_Post\Outputs_White_Post\V_A614_White_Post_Costs_PM_2023_DM.txt
21	7	2	V	1	0	2023	0.02221	L:\60625845_A614 MRN DFT responses\2023_Draft_FBC\TUBA\Cost_only_Warren_Hill_White_Post\Outputs_White_Post\V_A614_White_Post_Costs_PM_2023_DM.txt
22	1	4	V	1	0	2023	0.03710	L:\60625845_A614 MRN DFT responses\2023_Draft_FBC\TUBA\Cost_only_Warren_Hill_White_Post\Outputs_White_Post\V_A614_White_Post_Costs_OP_2023_DM.txt
23	2	4	V	1	0	2023	0.24762	L:\60625845_A614 MRN DFT responses\2023_Draft_FBC\TUBA\Cost_only_Warren_Hill_White_Post\Outputs_White_Post\V_A614_White_Post_Costs_OP_2023_DM.txt
24	3	4	V	1	0	2023	0.57640	L:\60625845_A614 MRN DFT responses\2023_Draft_FBC\TUBA\Cost_only_Warren_Hill_White_Post\Outputs_White_Post\V_A614_White_Post_Costs_OP_2023_DM.txt
25	4	4	V	1	0	2023	0.00656	L:\60625845_A614 MRN DFT responses\2023_Draft_FBC\TUBA\Cost_only_Warren_Hill_White_Post\Outputs_White_Post\V_A614_White_Post_Costs_OP_2023_DM.txt
26	5	4	V	1	0	2023	0.04811	L:\60625845_A614 MRN DFT responses\2023_Draft_FBC\TUBA\Cost_only_Warren_Hill_White_Post\Outputs_White_Post\V_A614_White_Post_Costs_OP_2023_DM.txt

Transport User Benefit Appraisal TUBA (1.9.17.2 64-bit)

Program run on Thu Mar 30, 2023 at 09:39:02

ERRORS AND WARNINGS

Warning: Scheme parameter zones_as_sectors set to no: Possibility that small aggregation errors may occur in the TEE table for some appraisals. Recommend undertaking a sensitivity test using a sector system (and some sectors) to check.

2 Warnings found in total (including any above)

TUBA ECONOMICS FILE DIFFERENCES

PARAMETERS - (used)

TUBA_version 1.9.17

base_year 2010

pres_val_year 2010

GDP_base 100.00 0.00 0.00

av_ind_tax 19.00 0.00 0.00

nt_carbdxvalues 83.64 250.92 167.28

t_carbdxvalues 83.64250.92167.28

PARAMETERS - (std)

TUBA_version 1.9.17

base_year 2010

pres_val_year 2010

GDP_base 100.00 0.00 0.00

av_ind_tax 19.00 0.00 0.00

nt_carbdxvalues 82.97 248.92 165.94

t_carbdxvalues 82.97248.92165.94

GDP_PER_CAPITA_GROWTH - (used)

*% change p.a.

*Start_yr End_yr VOT_Gr_purpose1 VOT_Gr_purpose2 VOT_Gr_purpose3 ..

2011 2011 0.615 0.615 0.615

2012 2012 0.801 0.801 0.801

2013 2013 1.253 1.253 1.253

2014 2014 2.208 2.208 2.208

2015 2015 1.814 1.814 1.814

2016 2016 1.425 1.425 1.425

2017 2017 1.528 1.528 1.528

2018 2018 1.046 1.046 1.046

2019 2019 1.122 1.122 1.122

2020 2020 0.099 0.099 0.099

2021 2021 0.100 0.100 0.100

2022	2022	0.099	0.099	0.099
2023	2023	-1.769	-1.769	-1.769
2024	2024	0.956	0.956	0.956
2025	2025	2.307	2.307	2.307
2026	2026	2.347	2.347	2.347
2027	2027	1.954	1.954	1.954
2028	2028	1.687	1.687	1.687
2029	2029	1.657	1.657	1.657
2030	2030	1.621	1.621	1.621
2031	2031	1.570	1.570	1.570
2032	2032	1.552	1.552	1.552
2033	2033	1.539	1.539	1.539
2034	2034	1.518	1.518	1.518
2035	2035	1.505	1.505	1.505
2036	2036	1.638	1.638	1.638
2037	2037	1.611	1.611	1.611
2038	2038	1.578	1.578	1.578
2039	2039	1.546	1.546	1.546
2040	2040	1.506	1.506	1.506
2041	2041	1.476	1.476	1.476
2042	2042	1.439	1.439	1.439
2043	2043	1.401	1.401	1.401
2044	2044	1.369	1.369	1.369
2045	2045	1.350	1.350	1.350
2046	2046	1.342	1.342	1.342
2047	2047	1.321	1.321	1.321
2048	2048	1.302	1.302	1.302
2049	2049	1.282	1.282	1.282
2050	2050	1.277	1.277	1.277
2051	2051	1.278	1.278	1.278
2052	2052	1.281	1.281	1.281
2053	2053	1.286	1.286	1.286
2054	2054	1.294	1.294	1.294
2055	2055	1.312	1.312	1.312
2056	2056	1.325	1.325	1.325
2057	2057	1.339	1.339	1.339
2058	2058	1.349	1.349	1.349
2059	2059	1.359	1.359	1.359
2060	2060	1.370	1.370	1.370
2061	2061	1.379	1.379	1.379
2062	2062	1.387	1.387	1.387
2063	2063	1.399	1.399	1.399
2064	2064	1.406	1.406	1.406
2065	2065	1.413	1.413	1.413

2066	2066	1.418	1.418	1.418
2067	2067	1.420	1.420	1.420
2068	2068	1.421	1.421	1.421
2069	2069	1.428	1.428	1.428
2070	2070	1.468	1.468	1.468
2071	2071	1.534	1.534	1.534
2072	2072	1.592	1.592	1.592
2073	2073	1.548	1.548	1.548
2074	2074	1.472	1.472	1.472
2075	2075	1.426	1.426	1.426
2076	2076	1.358	1.358	1.358
2077	2077	1.363	1.363	1.363
2078	2078	1.337	1.337	1.337
2079	2079	1.299	1.299	1.299
2080	2080	1.269	1.269	1.269
2081	2081	1.321	1.321	1.321
2082	2082	1.359	1.359	1.359
2083	2083	1.372	1.372	1.372
2084	2084	1.369	1.369	1.369
2085	2085	1.420	1.420	1.420
2086	2086	1.469	1.469	1.469
2087	2087	1.528	1.528	1.528
2088	2088	1.589	1.589	1.589
2089	2089	1.666	1.666	1.666
2090	2090	1.690	1.690	1.690
2091	2091	1.703	1.703	1.703
2092	2092	1.699	1.699	1.699
2093	2093	1.700	1.700	1.700
2094	2094	1.705	1.705	1.705
2095	2095	1.709	1.709	1.709
2096	2096	1.712	1.712	1.712
2097	2097	1.712	1.712	1.712
2098	2098	1.711	1.711	1.711
2099	2099	1.708	1.708	1.708
2100	2100	1.702	1.702	1.702
2101	2101	1.702	1.702	1.702
2102	2102	1.702	1.702	1.702
2103	2103	1.702	1.702	1.702
2104	2104	1.702	1.702	1.702
2105	2105	1.702	1.702	1.702
2106	2106	1.702	1.702	1.702
2107	2107	1.702	1.702	1.702
2108	2108	1.702	1.702	1.702
2109	2109	1.702	1.702	1.702

2110	2110	1.702	1.702	1.702
2111	2111	1.702	1.702	1.702
2112	2112	1.702	1.702	1.702
2113	2113	1.702	1.702	1.702
2114	2114	1.702	1.702	1.702
2115	2115	1.702	1.702	1.702
2116	2116	1.702	1.702	1.702
2117	2117	1.702	1.702	1.702
2118	2118	1.702	1.702	1.702
2119	2119	1.702	1.702	1.702
2120	2120	1.702	1.702	1.702
2121	2121	1.702	1.702	1.702
2122	2122	1.702	1.702	1.702
2123	2123	1.702	1.702	1.702
2124	2124	1.702	1.702	1.702
2125	2125	1.702	1.702	1.702
2126	2126	1.702	1.702	1.702
2127	2127	1.702	1.702	1.702
2128	2128	1.702	1.702	1.702
2129	2129	1.702	1.702	1.702
2130	2130	1.702	1.702	1.702
2131	2131	1.702	1.702	1.702
2132	2132	1.702	1.702	1.702
2133	2133	1.702	1.702	1.702
2134	2134	1.702	1.702	1.702
2135	2135	1.702	1.702	1.702
2136	2136	1.702	1.702	1.702
2137	2137	1.702	1.702	1.702
2138	2138	1.702	1.702	1.702
2139	2139	1.702	1.702	1.702
2140	2140	1.702	1.702	1.702
2141	2141	1.702	1.702	1.702
2142	2142	1.702	1.702	1.702
2143	2143	1.702	1.702	1.702
2144	2144	1.702	1.702	1.702
2145	2145	1.702	1.702	1.702
2146	2146	1.702	1.702	1.702
2147	2147	1.702	1.702	1.702
2148	2148	1.702	1.702	1.702
2149	2149	1.702	1.702	1.702
2150	2150	1.702	1.702	1.702
2151	2151	1.702	1.702	1.702

GDP_PER_CAPITA_GROWTH - (std)

*% change p.a.

*Start_yr	End_yr	VOT_Gr_purpose1	VOT_Gr_purpose2	VOT_Gr_purpose3 ..
2011	2011	0.435	0.435	0.435
2012	2012	0.762	0.762	0.762
2013	2013	1.548	1.548	1.548
2014	2014	2.080	2.080	2.080
2015	2015	1.556	1.556	1.556
2016	2016	0.888	0.888	0.888
2017	2017	1.137	1.137	1.137
2018	2018	0.650	0.650	0.650
2019	2019	0.885	0.885	0.885
2020	2020	0.269	0.269	0.269
2021	2021	0.267	0.267	0.267
2022	2022	0.267	0.267	0.267
2023	2023	1.654	1.654	1.654
2024	2024	0.975	0.975	0.975
2025	2025	1.311	1.311	1.311
2026	2026	1.412	1.412	1.412
2027	2027	1.480	1.480	1.480
2028	2028	1.480	1.480	1.480
2029	2029	1.463	1.463	1.463
2030	2030	1.440	1.440	1.440
2031	2031	1.413	1.413	1.413
2032	2032	1.389	1.389	1.389
2033	2033	1.387	1.387	1.387
2034	2034	1.372	1.372	1.372
2035	2035	1.345	1.345	1.345
2036	2036	1.477	1.477	1.477
2037	2037	1.475	1.475	1.475
2038	2038	1.467	1.467	1.467
2039	2039	1.443	1.443	1.443
2040	2040	1.416	1.416	1.416
2041	2041	1.397	1.397	1.397
2042	2042	1.375	1.375	1.375
2043	2043	1.351	1.351	1.351
2044	2044	1.332	1.332	1.332
2045	2045	1.320	1.320	1.320
2046	2046	1.309	1.309	1.309
2047	2047	1.292	1.292	1.292
2048	2048	1.282	1.282	1.282
2049	2049	1.281	1.281	1.281
2050	2050	1.291	1.291	1.291
2051	2051	1.307	1.307	1.307
2052	2052	1.320	1.320	1.320

2053	2053	1.332	1.332	1.332
2054	2054	1.338	1.338	1.338
2055	2055	1.358	1.358	1.358
2056	2056	1.370	1.370	1.370
2057	2057	1.385	1.385	1.385
2058	2058	1.398	1.398	1.398
2059	2059	1.406	1.406	1.406
2060	2060	1.417	1.417	1.417
2061	2061	1.437	1.437	1.437
2062	2062	1.444	1.444	1.444
2063	2063	1.456	1.456	1.456
2064	2064	1.466	1.466	1.466
2065	2065	1.482	1.482	1.482
2066	2066	1.540	1.540	1.540
2067	2067	1.607	1.607	1.607
2068	2068	1.531	1.531	1.531
2069	2069	1.521	1.521	1.521
2070	2070	1.493	1.493	1.493
2071	2071	1.518	1.518	1.518
2072	2072	1.463	1.463	1.463
2073	2073	1.426	1.426	1.426
2074	2074	1.355	1.355	1.355
2075	2075	1.317	1.317	1.317
2076	2076	1.256	1.256	1.256
2077	2077	1.271	1.271	1.271
2078	2078	1.253	1.253	1.253
2079	2079	1.219	1.219	1.219
2080	2080	1.193	1.193	1.193
2081	2081	1.251	1.251	1.251
2082	2082	1.293	1.293	1.293
2083	2083	1.309	1.309	1.309
2084	2084	1.310	1.310	1.310
2085	2085	1.364	1.364	1.364
2086	2086	1.422	1.422	1.422
2087	2087	1.488	1.488	1.488
2088	2088	1.487	1.487	1.487
2089	2089	1.498	1.498	1.498
2090	2090	1.508	1.508	1.508
2091	2091	1.513	1.513	1.513
2092	2092	1.511	1.511	1.511
2093	2093	1.508	1.508	1.508
2094	2094	1.505	1.505	1.505
2095	2095	1.501	1.501	1.501
2096	2096	1.497	1.497	1.497

2097	2097	1.491	1.491	1.491
2098	2098	1.484	1.484	1.484
2099	2099	1.476	1.476	1.476
2100	2100	1.467	1.467	1.467
2101	2101	1.467	1.467	1.467
2102	2102	1.467	1.467	1.467
2103	2103	1.467	1.467	1.467
2104	2104	1.467	1.467	1.467
2105	2105	1.467	1.467	1.467
2106	2106	1.467	1.467	1.467
2107	2107	1.467	1.467	1.467
2108	2108	1.467	1.467	1.467
2109	2109	1.467	1.467	1.467
2110	2110	1.467	1.467	1.467
2111	2111	1.467	1.467	1.467
2112	2112	1.467	1.467	1.467
2113	2113	1.467	1.467	1.467
2114	2114	1.467	1.467	1.467
2115	2115	1.467	1.467	1.467
2116	2116	1.467	1.467	1.467
2117	2117	1.467	1.467	1.467
2118	2118	1.467	1.467	1.467
2119	2119	1.467	1.467	1.467
2120	2120	1.467	1.467	1.467
2121	2121	1.467	1.467	1.467
2122	2122	1.467	1.467	1.467
2123	2123	1.467	1.467	1.467
2124	2124	1.467	1.467	1.467
2125	2125	1.467	1.467	1.467
2126	2126	1.467	1.467	1.467
2127	2127	1.467	1.467	1.467
2128	2128	1.467	1.467	1.467
2129	2129	1.467	1.467	1.467
2130	2130	1.467	1.467	1.467
2131	2131	1.467	1.467	1.467
2132	2132	1.467	1.467	1.467
2133	2133	1.467	1.467	1.467
2134	2134	1.467	1.467	1.467
2135	2135	1.467	1.467	1.467
2136	2136	1.467	1.467	1.467
2137	2137	1.467	1.467	1.467
2138	2138	1.467	1.467	1.467
2139	2139	1.467	1.467	1.467
2140	2140	1.467	1.467	1.467

2141	2141	1.467	1.467	1.467
2142	2142	1.467	1.467	1.467
2143	2143	1.467	1.467	1.467
2144	2144	1.467	1.467	1.467
2145	2145	1.467	1.467	1.467
2146	2146	1.467	1.467	1.467
2147	2147	1.467	1.467	1.467
2148	2148	1.467	1.467	1.467
2149	2149	1.467	1.467	1.467
2150	2150	1.467	1.467	1.467
2151	2151	1.467	1.467	1.467

FUEL_COST - (used)

*type resource(p/unit) duty(p/unit) VAT(%) CO2_grammes/unit (unit=litre for fuel types 1 & 2; unit=KWH for electric)

1	42.6	57.2	17.5	2230.00
2	44.3	57.2	17.5	2562.00
3	11.8	0.0	5.0	389.00

FUEL_COST - (std)

*type resource(p/unit) duty(p/unit) VAT(%) CO2_grammes/unit (unit=litre for fuel types 1 & 2; unit=KWH for electric)

1	42.6	57.2	17.5	2230.00
2	44.3	57.2	17.5	2562.00
3	11.9	0.0	5.0	389.00

FUEL_COST_CHANGES - (used)

%% change p.a.

*Start_yr End_yr fuel_type resource duty VAT CO2_Den_change

2011	2011	1	22.306	-0.354	14.286	1.171
2012	2012	1	1.986	-2.001	0.000	-1.031
2013	2013	1	-3.443	-1.746	0.000	-0.302
2014	2014	1	-11.771	-1.707	0.000	0.153
2015	2015	1	-28.520	-0.562	0.000	-0.016
2016	2016	1	-7.312	-1.719	0.000	-0.027
2017	2017	1	19.734	-1.752	0.000	-0.106
2018	2018	1	13.204	-2.472	0.000	0.128
2019	2019	1	-2.520	-2.412	0.000	0.010
2020	2020	1	-23.823	-6.920	0.000	0.015
2021	2021	1	37.033	0.586	0.000	-0.106
2022	2022	1	63.199	-5.002	0.000	-5.260
2023	2023	1	-5.410	5.535	0.000	0.000
2024	2024	1	-12.463	2.683	0.000	0.000
2025	2025	1	-3.454	0.465	0.000	0.000
2026	2026	1	-4.677	0.417	0.000	0.000
2027	2027	1	2.609	0.740	0.000	0.000

2028	2028	1	2.785	0.731	0.000	0.000
2029	2029	1	1.806	0.723	0.000	0.000
2030	2030	1	2.661	-0.293	0.000	0.000
2031	2031	1	1.728	-0.293	0.000	0.000
2032	2032	1	1.699	-0.293	0.000	0.000
2033	2033	1	2.506	-0.293	0.000	0.000
2034	2034	1	2.444	-0.293	0.000	0.000
2035	2035	1	1.591	-0.293	0.000	0.000
2036	2036	1	0.000	-0.293	0.000	0.000
2037	2037	1	0.000	-0.293	0.000	0.000
2038	2038	1	0.000	-0.293	0.000	0.000
2039	2039	1	0.000	-0.293	0.000	0.000
2040	2040	1	0.000	-0.293	0.000	0.000
2041	2041	1	0.000	-0.293	0.000	0.000
2042	2042	1	0.000	-0.293	0.000	0.000
2043	2043	1	0.000	-0.293	0.000	0.000
2044	2044	1	0.000	-0.293	0.000	0.000
2045	2045	1	0.000	-0.293	0.000	0.000
2046	2046	1	0.000	-0.293	0.000	0.000
2047	2047	1	0.000	-0.293	0.000	0.000
2048	2048	1	0.000	-0.293	0.000	0.000
2049	2049	1	0.000	-0.293	0.000	0.000
2050	2050	1	0.000	-0.293	0.000	0.000
2051	2051	1	0.000	-0.293	0.000	0.000
2052	2052	1	0.000	-0.293	0.000	0.000
2053	2053	1	0.000	-0.293	0.000	0.000
2054	2054	1	0.000	-0.293	0.000	0.000
2055	2055	1	0.000	-0.293	0.000	0.000
2056	2056	1	0.000	-0.293	0.000	0.000
2057	2057	1	0.000	-0.293	0.000	0.000
2058	2058	1	0.000	-0.293	0.000	0.000
2059	2059	1	0.000	-0.293	0.000	0.000
2060	2060	1	0.000	-0.293	0.000	0.000
2061	2061	1	0.000	-0.293	0.000	0.000
2062	2062	1	0.000	-0.293	0.000	0.000
2063	2063	1	0.000	-0.293	0.000	0.000
2064	2064	1	0.000	-0.293	0.000	0.000
2065	2065	1	0.000	-0.293	0.000	0.000
2066	2066	1	0.000	-0.293	0.000	0.000
2067	2067	1	0.000	-0.293	0.000	0.000
2068	2068	1	0.000	-0.293	0.000	0.000
2069	2069	1	0.000	-0.293	0.000	0.000
2070	2070	1	0.000	-0.293	0.000	0.000
2071	2071	1	0.000	-0.293	0.000	0.000

2072	2072	1	0.000	-0.293	0.000	0.000
2073	2073	1	0.000	-0.293	0.000	0.000
2074	2074	1	0.000	-0.293	0.000	0.000
2075	2075	1	0.000	-0.293	0.000	0.000
2076	2076	1	0.000	-0.293	0.000	0.000
2077	2077	1	0.000	-0.293	0.000	0.000
2078	2078	1	0.000	-0.293	0.000	0.000
2079	2079	1	0.000	-0.293	0.000	0.000
2080	2080	1	0.000	-0.293	0.000	0.000
2081	2081	1	0.000	-0.293	0.000	0.000
2082	2082	1	0.000	-0.293	0.000	0.000
2083	2083	1	0.000	-0.293	0.000	0.000
2084	2084	1	0.000	-0.293	0.000	0.000
2085	2085	1	0.000	-0.293	0.000	0.000
2086	2086	1	0.000	-0.293	0.000	0.000
2087	2087	1	0.000	-0.293	0.000	0.000
2088	2088	1	0.000	-0.293	0.000	0.000
2089	2089	1	0.000	-0.293	0.000	0.000
2090	2090	1	0.000	-0.293	0.000	0.000
2091	2091	1	0.000	-0.293	0.000	0.000
2092	2092	1	0.000	-0.293	0.000	0.000
2093	2093	1	0.000	-0.293	0.000	0.000
2094	2094	1	0.000	-0.293	0.000	0.000
2095	2095	1	0.000	-0.293	0.000	0.000
2096	2096	1	0.000	-0.293	0.000	0.000
2097	2097	1	0.000	-0.293	0.000	0.000
2098	2098	1	0.000	-0.293	0.000	0.000
2099	2099	1	0.000	-0.293	0.000	0.000
2100	2100	1	0.000	-0.293	0.000	0.000
2101	2101	1	0.000	-0.293	0.000	0.000
2102	2102	1	0.000	-0.293	0.000	0.000
2103	2103	1	0.000	-0.293	0.000	0.000
2104	2104	1	0.000	-0.293	0.000	0.000
2105	2105	1	0.000	-0.293	0.000	0.000
2106	2106	1	0.000	-0.293	0.000	0.000
2107	2107	1	0.000	-0.293	0.000	0.000
2108	2108	1	0.000	-0.293	0.000	0.000
2109	2109	1	0.000	-0.293	0.000	0.000
2110	2110	1	0.000	-0.293	0.000	0.000
2111	2111	1	0.000	-0.293	0.000	0.000
2112	2112	1	0.000	-0.293	0.000	0.000
2113	2113	1	0.000	-0.293	0.000	0.000
2114	2114	1	0.000	-0.293	0.000	0.000
2115	2115	1	0.000	-0.293	0.000	0.000

2116	2116	1	0.000	-0.293	0.000	0.000
2117	2117	1	0.000	-0.293	0.000	0.000
2118	2118	1	0.000	-0.293	0.000	0.000
2119	2119	1	0.000	-0.293	0.000	0.000
2120	2120	1	0.000	-0.293	0.000	0.000
2121	2121	1	0.000	-0.293	0.000	0.000
2122	2122	1	0.000	-0.293	0.000	0.000
2123	2123	1	0.000	-0.293	0.000	0.000
2124	2124	1	0.000	-0.293	0.000	0.000
2125	2125	1	0.000	-0.293	0.000	0.000
2126	2126	1	0.000	-0.293	0.000	0.000
2127	2127	1	0.000	-0.293	0.000	0.000
2128	2128	1	0.000	-0.293	0.000	0.000
2129	2129	1	0.000	-0.293	0.000	0.000
2130	2130	1	0.000	-0.293	0.000	0.000
2131	2131	1	0.000	-0.293	0.000	0.000
2132	2132	1	0.000	-0.293	0.000	0.000
2133	2133	1	0.000	-0.293	0.000	0.000
2134	2134	1	0.000	-0.293	0.000	0.000
2135	2135	1	0.000	-0.293	0.000	0.000
2136	2136	1	0.000	-0.293	0.000	0.000
2137	2137	1	0.000	-0.293	0.000	0.000
2138	2138	1	0.000	-0.293	0.000	0.000
2139	2139	1	0.000	-0.293	0.000	0.000
2140	2140	1	0.000	-0.293	0.000	0.000
2141	2141	1	0.000	-0.293	0.000	0.000
2142	2142	1	0.000	-0.293	0.000	0.000
2143	2143	1	0.000	-0.293	0.000	0.000
2144	2144	1	0.000	-0.293	0.000	0.000
2145	2145	1	0.000	-0.293	0.000	0.000
2146	2146	1	0.000	-0.293	0.000	0.000
2147	2147	1	0.000	-0.293	0.000	0.000
2148	2148	1	0.000	-0.293	0.000	0.000
2149	2149	1	0.000	-0.293	0.000	0.000
2150	2150	1	0.000	-0.293	0.000	0.000
2151	2151	1	0.000	-0.293	0.000	0.000
2011	2011	2	26.996	-0.354	14.286	1.917
2012	2012	2	3.197	-2.001	0.000	-1.071
2013	2013	2	-3.680	-1.746	0.000	4.731
2014	2014	2	-11.343	-1.707	0.000	-0.016
2015	2015	2	-29.504	-0.562	0.000	-0.020
2016	2016	2	-12.397	-1.719	0.000	0.004
2017	2017	2	22.316	-1.752	0.000	0.021
2018	2018	2	16.802	-2.472	0.000	-0.267

2019	2019	2	0.348	-2.412	0.000	-1.513
2020	2020	2	-24.318	-6.920	0.000	-4.516
2021	2021	2	30.464	0.586	0.000	-0.553
2022	2022	2	60.563	-5.002	0.000	0.295
2023	2023	2	-5.550	5.535	0.000	-0.288
2024	2024	2	-13.119	2.683	0.000	-0.174
2025	2025	2	-3.997	0.465	0.000	-0.148
2026	2026	2	-5.278	0.417	0.000	-0.034
2027	2027	2	2.671	0.740	0.000	-0.046
2028	2028	2	2.847	0.731	0.000	-0.036
2029	2029	2	1.845	0.723	0.000	-0.036
2030	2030	2	2.718	-0.293	0.000	-0.040
2031	2031	2	1.764	-0.293	0.000	-0.027
2032	2032	2	1.733	-0.293	0.000	-0.027
2033	2033	2	2.556	-0.293	0.000	0.000
2034	2034	2	2.492	-0.293	0.000	0.000
2035	2035	2	1.621	-0.293	0.000	0.000
2036	2036	2	0.000	-0.293	0.000	0.000
2037	2037	2	0.000	-0.293	0.000	0.000
2038	2038	2	0.000	-0.293	0.000	0.000
2039	2039	2	0.000	-0.293	0.000	0.000
2040	2040	2	0.000	-0.293	0.000	0.000
2041	2041	2	0.000	-0.293	0.000	0.000
2042	2042	2	0.000	-0.293	0.000	0.000
2043	2043	2	0.000	-0.293	0.000	0.000
2044	2044	2	0.000	-0.293	0.000	0.000
2045	2045	2	0.000	-0.293	0.000	0.000
2046	2046	2	0.000	-0.293	0.000	0.000
2047	2047	2	0.000	-0.293	0.000	0.000
2048	2048	2	0.000	-0.293	0.000	0.000
2049	2049	2	0.000	-0.293	0.000	0.000
2050	2050	2	0.000	-0.293	0.000	0.000
2051	2051	2	0.000	-0.293	0.000	0.000
2052	2052	2	0.000	-0.293	0.000	0.000
2053	2053	2	0.000	-0.293	0.000	0.000
2054	2054	2	0.000	-0.293	0.000	0.000
2055	2055	2	0.000	-0.293	0.000	0.000
2056	2056	2	0.000	-0.293	0.000	0.000
2057	2057	2	0.000	-0.293	0.000	0.000
2058	2058	2	0.000	-0.293	0.000	0.000
2059	2059	2	0.000	-0.293	0.000	0.000
2060	2060	2	0.000	-0.293	0.000	0.000
2061	2061	2	0.000	-0.293	0.000	0.000
2062	2062	2	0.000	-0.293	0.000	0.000

2063	2063	2	0.000	-0.293	0.000	0.000
2064	2064	2	0.000	-0.293	0.000	0.000
2065	2065	2	0.000	-0.293	0.000	0.000
2066	2066	2	0.000	-0.293	0.000	0.000
2067	2067	2	0.000	-0.293	0.000	0.000
2068	2068	2	0.000	-0.293	0.000	0.000
2069	2069	2	0.000	-0.293	0.000	0.000
2070	2070	2	0.000	-0.293	0.000	0.000
2071	2071	2	0.000	-0.293	0.000	0.000
2072	2072	2	0.000	-0.293	0.000	0.000
2073	2073	2	0.000	-0.293	0.000	0.000
2074	2074	2	0.000	-0.293	0.000	0.000
2075	2075	2	0.000	-0.293	0.000	0.000
2076	2076	2	0.000	-0.293	0.000	0.000
2077	2077	2	0.000	-0.293	0.000	0.000
2078	2078	2	0.000	-0.293	0.000	0.000
2079	2079	2	0.000	-0.293	0.000	0.000
2080	2080	2	0.000	-0.293	0.000	0.000
2081	2081	2	0.000	-0.293	0.000	0.000
2082	2082	2	0.000	-0.293	0.000	0.000
2083	2083	2	0.000	-0.293	0.000	0.000
2084	2084	2	0.000	-0.293	0.000	0.000
2085	2085	2	0.000	-0.293	0.000	0.000
2086	2086	2	0.000	-0.293	0.000	0.000
2087	2087	2	0.000	-0.293	0.000	0.000
2088	2088	2	0.000	-0.293	0.000	0.000
2089	2089	2	0.000	-0.293	0.000	0.000
2090	2090	2	0.000	-0.293	0.000	0.000
2091	2091	2	0.000	-0.293	0.000	0.000
2092	2092	2	0.000	-0.293	0.000	0.000
2093	2093	2	0.000	-0.293	0.000	0.000
2094	2094	2	0.000	-0.293	0.000	0.000
2095	2095	2	0.000	-0.293	0.000	0.000
2096	2096	2	0.000	-0.293	0.000	0.000
2097	2097	2	0.000	-0.293	0.000	0.000
2098	2098	2	0.000	-0.293	0.000	0.000
2099	2099	2	0.000	-0.293	0.000	0.000
2100	2100	2	0.000	-0.293	0.000	0.000
2101	2101	2	0.000	-0.293	0.000	0.000
2102	2102	2	0.000	-0.293	0.000	0.000
2103	2103	2	0.000	-0.293	0.000	0.000
2104	2104	2	0.000	-0.293	0.000	0.000
2105	2105	2	0.000	-0.293	0.000	0.000
2106	2106	2	0.000	-0.293	0.000	0.000

2107	2107	2	0.000	-0.293	0.000	0.000
2108	2108	2	0.000	-0.293	0.000	0.000
2109	2109	2	0.000	-0.293	0.000	0.000
2110	2110	2	0.000	-0.293	0.000	0.000
2111	2111	2	0.000	-0.293	0.000	0.000
2112	2112	2	0.000	-0.293	0.000	0.000
2113	2113	2	0.000	-0.293	0.000	0.000
2114	2114	2	0.000	-0.293	0.000	0.000
2115	2115	2	0.000	-0.293	0.000	0.000
2116	2116	2	0.000	-0.293	0.000	0.000
2117	2117	2	0.000	-0.293	0.000	0.000
2118	2118	2	0.000	-0.293	0.000	0.000
2119	2119	2	0.000	-0.293	0.000	0.000
2120	2120	2	0.000	-0.293	0.000	0.000
2121	2121	2	0.000	-0.293	0.000	0.000
2122	2122	2	0.000	-0.293	0.000	0.000
2123	2123	2	0.000	-0.293	0.000	0.000
2124	2124	2	0.000	-0.293	0.000	0.000
2125	2125	2	0.000	-0.293	0.000	0.000
2126	2126	2	0.000	-0.293	0.000	0.000
2127	2127	2	0.000	-0.293	0.000	0.000
2128	2128	2	0.000	-0.293	0.000	0.000
2129	2129	2	0.000	-0.293	0.000	0.000
2130	2130	2	0.000	-0.293	0.000	0.000
2131	2131	2	0.000	-0.293	0.000	0.000
2132	2132	2	0.000	-0.293	0.000	0.000
2133	2133	2	0.000	-0.293	0.000	0.000
2134	2134	2	0.000	-0.293	0.000	0.000
2135	2135	2	0.000	-0.293	0.000	0.000
2136	2136	2	0.000	-0.293	0.000	0.000
2137	2137	2	0.000	-0.293	0.000	0.000
2138	2138	2	0.000	-0.293	0.000	0.000
2139	2139	2	0.000	-0.293	0.000	0.000
2140	2140	2	0.000	-0.293	0.000	0.000
2141	2141	2	0.000	-0.293	0.000	0.000
2142	2142	2	0.000	-0.293	0.000	0.000
2143	2143	2	0.000	-0.293	0.000	0.000
2144	2144	2	0.000	-0.293	0.000	0.000
2145	2145	2	0.000	-0.293	0.000	0.000
2146	2146	2	0.000	-0.293	0.000	0.000
2147	2147	2	0.000	-0.293	0.000	0.000
2148	2148	2	0.000	-0.293	0.000	0.000
2149	2149	2	0.000	-0.293	0.000	0.000
2150	2150	2	0.000	-0.293	0.000	0.000

2151	2151	2	0.000	-0.293	0.000	0.000
2011	2011	3	6.623	0.000	0.000	-1.438
2012	2012	3	3.751	0.000	0.000	-1.878
2013	2013	3	4.428	0.000	0.000	-2.438
2014	2014	3	3.495	0.000	0.000	-1.891
2015	2015	3	-1.703	0.000	0.000	-2.837
2016	2016	3	-3.286	0.000	0.000	-3.035
2017	2017	3	4.940	0.000	0.000	-2.830
2018	2018	3	6.255	0.000	0.000	-3.251
2019	2019	3	7.007	0.000	0.000	-3.618
2020	2020	3	-4.724	0.000	0.000	-3.931
2021	2021	3	8.209	0.000	0.000	-4.324
2022	2022	3	44.098	0.000	0.000	-4.776
2023	2023	3	35.732	0.000	0.000	-5.300
2024	2024	3	-3.272	0.000	0.000	-5.915
2025	2025	3	-13.652	0.000	0.000	-6.643
2026	2026	3	-35.980	0.000	0.000	-7.520
2027	2027	3	-4.450	0.000	0.000	-8.594
2028	2028	3	-2.634	0.000	0.000	-9.934
2029	2029	3	-0.114	0.000	0.000	-11.657
2030	2030	3	-0.506	0.000	0.000	-13.944
2031	2031	3	-4.229	0.000	0.000	-19.089
2032	2032	3	0.441	0.000	0.000	-19.090
2033	2033	3	1.228	0.000	0.000	-19.088
2034	2034	3	1.712	0.000	0.000	-19.090
2035	2035	3	-0.946	0.000	0.000	-19.089
2036	2036	3	-0.271	0.000	0.000	-19.089
2037	2037	3	-2.629	0.000	0.000	-19.088
2038	2038	3	1.153	0.000	0.000	-19.090
2039	2039	3	-0.823	0.000	0.000	-19.092
2040	2040	3	2.635	0.000	0.000	-19.088
2041	2041	3	-1.504	0.000	0.000	-16.984
2042	2042	3	-0.001	0.000	0.000	-5.099
2043	2043	3	-0.216	0.000	0.000	-2.043
2044	2044	3	1.039	0.000	0.000	-6.009
2045	2045	3	-2.180	0.000	0.000	-15.076
2046	2046	3	1.866	0.000	0.000	-9.204
2047	2047	3	-1.602	0.000	0.000	-7.798
2048	2048	3	-2.514	0.000	0.000	-5.087
2049	2049	3	1.769	0.000	0.000	-6.945
2050	2050	3	-1.947	0.000	0.000	-1.718
2051	2051	3	0.000	0.000	0.000	0.000
2052	2052	3	0.000	0.000	0.000	0.000
2053	2053	3	0.000	0.000	0.000	0.000

2054	2054	3	0.000	0.000	0.000	0.000
2055	2055	3	0.000	0.000	0.000	0.000
2056	2056	3	0.000	0.000	0.000	0.000
2057	2057	3	0.000	0.000	0.000	0.000
2058	2058	3	0.000	0.000	0.000	0.000
2059	2059	3	0.000	0.000	0.000	0.000
2060	2060	3	0.000	0.000	0.000	0.000
2061	2061	3	0.000	0.000	0.000	0.000
2062	2062	3	0.000	0.000	0.000	0.000
2063	2063	3	0.000	0.000	0.000	0.000
2064	2064	3	0.000	0.000	0.000	0.000
2065	2065	3	0.000	0.000	0.000	0.000
2066	2066	3	0.000	0.000	0.000	0.000
2067	2067	3	0.000	0.000	0.000	0.000
2068	2068	3	0.000	0.000	0.000	0.000
2069	2069	3	0.000	0.000	0.000	0.000
2070	2070	3	0.000	0.000	0.000	0.000
2071	2071	3	0.000	0.000	0.000	0.000
2072	2072	3	0.000	0.000	0.000	0.000
2073	2073	3	0.000	0.000	0.000	0.000
2074	2074	3	0.000	0.000	0.000	0.000
2075	2075	3	0.000	0.000	0.000	0.000
2076	2076	3	0.000	0.000	0.000	0.000
2077	2077	3	0.000	0.000	0.000	0.000
2078	2078	3	0.000	0.000	0.000	0.000
2079	2079	3	0.000	0.000	0.000	0.000
2080	2080	3	0.000	0.000	0.000	0.000
2081	2081	3	0.000	0.000	0.000	0.000
2082	2082	3	0.000	0.000	0.000	0.000
2083	2083	3	0.000	0.000	0.000	0.000
2084	2084	3	0.000	0.000	0.000	0.000
2085	2085	3	0.000	0.000	0.000	0.000
2086	2086	3	0.000	0.000	0.000	0.000
2087	2087	3	0.000	0.000	0.000	0.000
2088	2088	3	0.000	0.000	0.000	0.000
2089	2089	3	0.000	0.000	0.000	0.000
2090	2090	3	0.000	0.000	0.000	0.000
2091	2091	3	0.000	0.000	0.000	0.000
2092	2092	3	0.000	0.000	0.000	0.000
2093	2093	3	0.000	0.000	0.000	0.000
2094	2094	3	0.000	0.000	0.000	0.000
2095	2095	3	0.000	0.000	0.000	0.000
2096	2096	3	0.000	0.000	0.000	0.000
2097	2097	3	0.000	0.000	0.000	0.000

2098	2098	3	0.000	0.000	0.000	0.000
2099	2099	3	0.000	0.000	0.000	0.000
2100	2100	3	0.000	0.000	0.000	0.000
2101	2101	3	0.000	0.000	0.000	0.000
2102	2102	3	0.000	0.000	0.000	0.000
2103	2103	3	0.000	0.000	0.000	0.000
2104	2104	3	0.000	0.000	0.000	0.000
2105	2105	3	0.000	0.000	0.000	0.000
2106	2106	3	0.000	0.000	0.000	0.000
2107	2107	3	0.000	0.000	0.000	0.000
2108	2108	3	0.000	0.000	0.000	0.000
2109	2109	3	0.000	0.000	0.000	0.000
2110	2110	3	0.000	0.000	0.000	0.000
2111	2111	3	0.000	0.000	0.000	0.000
2112	2112	3	0.000	0.000	0.000	0.000
2113	2113	3	0.000	0.000	0.000	0.000
2114	2114	3	0.000	0.000	0.000	0.000
2115	2115	3	0.000	0.000	0.000	0.000
2116	2116	3	0.000	0.000	0.000	0.000
2117	2117	3	0.000	0.000	0.000	0.000
2118	2118	3	0.000	0.000	0.000	0.000
2119	2119	3	0.000	0.000	0.000	0.000
2120	2120	3	0.000	0.000	0.000	0.000
2121	2121	3	0.000	0.000	0.000	0.000
2122	2122	3	0.000	0.000	0.000	0.000
2123	2123	3	0.000	0.000	0.000	0.000
2124	2124	3	0.000	0.000	0.000	0.000
2125	2125	3	0.000	0.000	0.000	0.000
2126	2126	3	0.000	0.000	0.000	0.000
2127	2127	3	0.000	0.000	0.000	0.000
2128	2128	3	0.000	0.000	0.000	0.000
2129	2129	3	0.000	0.000	0.000	0.000
2130	2130	3	0.000	0.000	0.000	0.000
2131	2131	3	0.000	0.000	0.000	0.000
2132	2132	3	0.000	0.000	0.000	0.000
2133	2133	3	0.000	0.000	0.000	0.000
2134	2134	3	0.000	0.000	0.000	0.000
2135	2135	3	0.000	0.000	0.000	0.000
2136	2136	3	0.000	0.000	0.000	0.000
2137	2137	3	0.000	0.000	0.000	0.000
2138	2138	3	0.000	0.000	0.000	0.000
2139	2139	3	0.000	0.000	0.000	0.000
2140	2140	3	0.000	0.000	0.000	0.000
2141	2141	3	0.000	0.000	0.000	0.000

2142	2142	3	0.000	0.000	0.000	0.000
2143	2143	3	0.000	0.000	0.000	0.000
2144	2144	3	0.000	0.000	0.000	0.000
2145	2145	3	0.000	0.000	0.000	0.000
2146	2146	3	0.000	0.000	0.000	0.000
2147	2147	3	0.000	0.000	0.000	0.000
2148	2148	3	0.000	0.000	0.000	0.000
2149	2149	3	0.000	0.000	0.000	0.000
2150	2150	3	0.000	0.000	0.000	0.000
2151	2151	3	0.000	0.000	0.000	0.000

FUEL_COST_CHANGES - (std)

*% change p.a.

*Start_yr	End_yr	fuel_type	resource	duty	VAT	CO2_Den_change
2011	2011	1	22.226	-0.297	14.286	-0.844
2012	2012	1	2.040	-2.049	0.000	-0.023
2013	2013	1	-3.443	-1.746	0.000	-0.438
2014	2014	1	-11.771	-1.707	0.000	-0.537
2015	2015	1	-28.520	-0.661	0.000	0.000
2016	2016	1	-7.312	-2.068	0.000	0.000
2017	2017	1	19.734	-1.912	0.000	-1.352
2018	2018	1	13.204	-2.203	0.000	-1.370
2019	2019	1	-10.631	-2.442	0.000	-1.389
2020	2020	1	-11.341	-4.832	0.000	-1.409
2021	2021	1	3.590	1.236	0.000	0.000
2022	2022	1	5.005	3.364	0.000	0.000
2023	2023	1	1.744	0.601	0.000	0.000
2024	2024	1	1.726	0.550	0.000	0.000
2025	2025	1	1.765	0.745	0.000	0.000
2026	2026	1	2.597	0.658	0.000	0.000
2027	2027	1	1.476	0.681	0.000	0.000
2028	2028	1	1.433	0.674	0.000	0.000
2029	2029	1	1.391	0.663	0.000	0.000
2030	2030	1	1.352	0.653	0.000	0.000
2031	2031	1	2.246	0.653	0.000	0.000
2032	2032	1	1.259	0.650	0.000	0.000
2033	2033	1	1.225	0.644	0.000	0.000
2034	2034	1	1.193	0.637	0.000	0.000
2035	2035	1	1.162	0.645	0.000	0.000
2036	2036	1	0.000	0.640	0.000	0.000
2037	2037	1	0.000	0.635	0.000	0.000
2038	2038	1	0.000	0.630	0.000	0.000
2039	2039	1	0.000	0.649	0.000	0.000
2040	2040	1	0.000	0.681	0.000	0.000

2041	2041	1	0.000	0.629	0.000	0.000
2042	2042	1	0.000	0.592	0.000	0.000
2043	2043	1	0.000	0.587	0.000	0.000
2044	2044	1	0.000	0.587	0.000	0.000
2045	2045	1	0.000	0.586	0.000	0.000
2046	2046	1	0.000	0.587	0.000	0.000
2047	2047	1	0.000	0.587	0.000	0.000
2048	2048	1	0.000	0.587	0.000	0.000
2049	2049	1	0.000	0.586	0.000	0.000
2050	2050	1	0.000	0.587	0.000	0.000
2051	2051	1	0.000	0.587	0.000	0.000
2052	2052	1	0.000	0.587	0.000	0.000
2053	2053	1	0.000	0.587	0.000	0.000
2054	2054	1	0.000	0.587	0.000	0.000
2055	2055	1	0.000	0.587	0.000	0.000
2056	2056	1	0.000	0.587	0.000	0.000
2057	2057	1	0.000	0.587	0.000	0.000
2058	2058	1	0.000	0.586	0.000	0.000
2059	2059	1	0.000	0.587	0.000	0.000
2060	2060	1	0.000	0.587	0.000	0.000
2061	2061	1	0.000	0.587	0.000	0.000
2062	2062	1	0.000	0.587	0.000	0.000
2063	2063	1	0.000	0.587	0.000	0.000
2064	2064	1	0.000	0.587	0.000	0.000
2065	2065	1	0.000	0.587	0.000	0.000
2066	2066	1	0.000	0.587	0.000	0.000
2067	2067	1	0.000	0.587	0.000	0.000
2068	2068	1	0.000	0.587	0.000	0.000
2069	2069	1	-1.686	0.587	0.000	0.000
2070	2070	1	0.000	0.587	0.000	0.000
2071	2071	1	0.000	0.587	0.000	0.000
2072	2072	1	0.000	0.587	0.000	0.000
2073	2073	1	0.000	0.587	0.000	0.000
2074	2074	1	0.000	0.586	0.000	0.000
2075	2075	1	0.000	0.587	0.000	0.000
2076	2076	1	0.000	0.587	0.000	0.000
2077	2077	1	0.000	0.586	0.000	0.000
2078	2078	1	0.000	0.587	0.000	0.000
2079	2079	1	0.000	0.587	0.000	0.000
2080	2080	1	0.000	0.587	0.000	0.000
2081	2081	1	0.000	0.587	0.000	0.000
2082	2082	1	0.000	0.587	0.000	0.000
2083	2083	1	0.000	0.587	0.000	0.000
2084	2084	1	0.000	0.587	0.000	0.000

2085	2085	1	0.000	0.587	0.000	0.000
2086	2086	1	0.000	0.587	0.000	0.000
2087	2087	1	0.000	0.587	0.000	0.000
2088	2088	1	0.000	0.587	0.000	0.000
2089	2089	1	0.000	0.587	0.000	0.000
2090	2090	1	0.000	0.587	0.000	0.000
2091	2091	1	0.000	0.587	0.000	0.000
2092	2092	1	0.000	0.587	0.000	0.000
2093	2093	1	0.000	0.587	0.000	0.000
2094	2094	1	0.000	0.587	0.000	0.000
2095	2095	1	0.000	0.587	0.000	0.000
2096	2096	1	0.000	0.587	0.000	0.000
2097	2097	1	0.000	0.587	0.000	0.000
2098	2098	1	0.000	0.587	0.000	0.000
2099	2099	1	0.000	0.587	0.000	0.000
2100	2100	1	0.000	0.587	0.000	0.000
2101	2101	1	0.000	0.587	0.000	0.000
2102	2102	1	0.000	0.587	0.000	0.000
2103	2103	1	0.000	0.587	0.000	0.000
2104	2104	1	0.000	0.587	0.000	0.000
2105	2105	1	0.000	0.587	0.000	0.000
2106	2106	1	0.000	0.587	0.000	0.000
2107	2107	1	0.000	0.587	0.000	0.000
2108	2108	1	0.000	0.587	0.000	0.000
2109	2109	1	0.000	0.587	0.000	0.000
2110	2110	1	0.000	0.587	0.000	0.000
2111	2111	1	0.000	0.587	0.000	0.000
2112	2112	1	0.000	0.587	0.000	0.000
2113	2113	1	0.000	0.587	0.000	0.000
2114	2114	1	0.000	0.587	0.000	0.000
2115	2115	1	0.000	0.587	0.000	0.000
2116	2116	1	0.000	0.587	0.000	0.000
2117	2117	1	0.000	0.587	0.000	0.000
2118	2118	1	0.000	0.587	0.000	0.000
2119	2119	1	0.000	0.587	0.000	0.000
2120	2120	1	0.000	0.587	0.000	0.000
2121	2121	1	0.000	0.587	0.000	0.000
2122	2122	1	0.000	0.587	0.000	0.000
2123	2123	1	0.000	0.587	0.000	0.000
2124	2124	1	0.000	0.587	0.000	0.000
2125	2125	1	0.000	0.587	0.000	0.000
2126	2126	1	0.000	0.587	0.000	0.000
2127	2127	1	0.000	0.587	0.000	0.000
2128	2128	1	0.000	0.587	0.000	0.000

2129	2129	1	0.000	0.587	0.000	0.000
2130	2130	1	0.000	0.587	0.000	0.000
2131	2131	1	0.000	0.587	0.000	0.000
2132	2132	1	0.000	0.587	0.000	0.000
2133	2133	1	0.000	0.587	0.000	0.000
2134	2134	1	0.000	0.587	0.000	0.000
2135	2135	1	0.000	0.587	0.000	0.000
2136	2136	1	0.000	0.587	0.000	0.000
2137	2137	1	0.000	0.587	0.000	0.000
2138	2138	1	0.000	0.587	0.000	0.000
2139	2139	1	0.000	0.587	0.000	0.000
2140	2140	1	0.000	0.587	0.000	0.000
2141	2141	1	0.000	0.587	0.000	0.000
2142	2142	1	0.000	0.587	0.000	0.000
2143	2143	1	0.000	0.587	0.000	0.000
2144	2144	1	0.000	0.587	0.000	0.000
2145	2145	1	0.000	0.587	0.000	0.000
2146	2146	1	0.000	0.587	0.000	0.000
2147	2147	1	0.000	0.587	0.000	0.000
2148	2148	1	0.000	0.587	0.000	0.000
2149	2149	1	0.000	0.587	0.000	0.000
2150	2150	1	0.000	0.587	0.000	0.000
2151	2151	1	0.000	0.587	0.000	0.000
2011	2011	2	26.919	-0.297	14,286	0.188
2012	2012	2	3.247	-2.049	0.000	1.643
2013	2013	2	-3.680	-1.746	0.000	-0.436
2014	2014	2	-11.343	-1.707	0.000	0.153
2015	2015	2	-29.504	-0.661	0.000	0.004
2016	2016	2	-12.397	-2.068	0.000	0.003
2017	2017	2	22.316	-1.912	0.000	-1.744
2018	2018	2	16.802	-2.203	0.000	-1.775
2019	2019	2	-11.392	-2.442	0.000	-1.807
2020	2020	2	-11.913	-4.832	0.000	-1.841
2021	2021	2	3.816	1.236	0.000	0.000
2022	2022	2	5.133	3.364	0.000	0.000
2023	2023	2	1.862	0.601	0.000	0.000
2024	2024	2	1.853	0.550	0.000	0.000
2025	2025	2	1.886	0.745	0.000	0.000
2026	2026	2	2.790	0.658	0.000	0.000
2027	2027	2	1.583	0.681	0.000	0.000
2028	2028	2	1.535	0.674	0.000	0.000
2029	2029	2	1.489	0.663	0.000	0.000
2030	2030	2	1.445	0.653	0.000	0.000
2031	2031	2	2.399	0.653	0.000	0.000

2032	2032	2	1.343	0.650	0.000	0.000
2033	2033	2	1.306	0.644	0.000	0.000
2034	2034	2	1.270	0.637	0.000	0.000
2035	2035	2	1.236	0.645	0.000	0.000
2036	2036	2	0.000	0.640	0.000	0.000
2037	2037	2	0.000	0.635	0.000	0.000
2038	2038	2	0.000	0.630	0.000	0.000
2039	2039	2	0.000	0.649	0.000	0.000
2040	2040	2	0.000	0.681	0.000	0.000
2041	2041	2	0.000	0.629	0.000	0.000
2042	2042	2	0.000	0.592	0.000	0.000
2043	2043	2	0.000	0.587	0.000	0.000
2044	2044	2	0.000	0.587	0.000	0.000
2045	2045	2	0.000	0.586	0.000	0.000
2046	2046	2	0.000	0.587	0.000	0.000
2047	2047	2	0.000	0.587	0.000	0.000
2048	2048	2	0.000	0.587	0.000	0.000
2049	2049	2	0.000	0.586	0.000	0.000
2050	2050	2	0.000	0.587	0.000	0.000
2051	2051	2	0.000	0.587	0.000	0.000
2052	2052	2	0.000	0.587	0.000	0.000
2053	2053	2	0.000	0.587	0.000	0.000
2054	2054	2	0.000	0.587	0.000	0.000
2055	2055	2	0.000	0.587	0.000	0.000
2056	2056	2	0.000	0.587	0.000	0.000
2057	2057	2	0.000	0.587	0.000	0.000
2058	2058	2	0.000	0.586	0.000	0.000
2059	2059	2	0.000	0.587	0.000	0.000
2060	2060	2	0.000	0.587	0.000	0.000
2061	2061	2	0.000	0.587	0.000	0.000
2062	2062	2	0.000	0.587	0.000	0.000
2063	2063	2	0.000	0.587	0.000	0.000
2064	2064	2	0.000	0.587	0.000	0.000
2065	2065	2	0.000	0.587	0.000	0.000
2066	2066	2	0.000	0.587	0.000	0.000
2067	2067	2	0.000	0.587	0.000	0.000
2068	2068	2	0.000	0.587	0.000	0.000
2069	2069	2	-1.686	0.587	0.000	0.000
2070	2070	2	0.000	0.587	0.000	0.000
2071	2071	2	0.000	0.587	0.000	0.000
2072	2072	2	0.000	0.587	0.000	0.000
2073	2073	2	0.000	0.587	0.000	0.000
2074	2074	2	0.000	0.586	0.000	0.000
2075	2075	2	0.000	0.587	0.000	0.000

2076	2076	2	0.000	0.587	0.000	0.000
2077	2077	2	0.000	0.586	0.000	0.000
2078	2078	2	0.000	0.587	0.000	0.000
2079	2079	2	0.000	0.587	0.000	0.000
2080	2080	2	0.000	0.587	0.000	0.000
2081	2081	2	0.000	0.587	0.000	0.000
2082	2082	2	0.000	0.587	0.000	0.000
2083	2083	2	0.000	0.587	0.000	0.000
2084	2084	2	0.000	0.587	0.000	0.000
2085	2085	2	0.000	0.587	0.000	0.000
2086	2086	2	0.000	0.587	0.000	0.000
2087	2087	2	0.000	0.587	0.000	0.000
2088	2088	2	0.000	0.587	0.000	0.000
2089	2089	2	0.000	0.587	0.000	0.000
2090	2090	2	0.000	0.587	0.000	0.000
2091	2091	2	0.000	0.587	0.000	0.000
2092	2092	2	0.000	0.587	0.000	0.000
2093	2093	2	0.000	0.587	0.000	0.000
2094	2094	2	0.000	0.587	0.000	0.000
2095	2095	2	0.000	0.587	0.000	0.000
2096	2096	2	0.000	0.587	0.000	0.000
2097	2097	2	0.000	0.587	0.000	0.000
2098	2098	2	0.000	0.587	0.000	0.000
2099	2099	2	0.000	0.587	0.000	0.000
2100	2100	2	0.000	0.587	0.000	0.000
2101	2101	2	0.000	0.587	0.000	0.000
2102	2102	2	0.000	0.587	0.000	0.000
2103	2103	2	0.000	0.587	0.000	0.000
2104	2104	2	0.000	0.587	0.000	0.000
2105	2105	2	0.000	0.587	0.000	0.000
2106	2106	2	0.000	0.587	0.000	0.000
2107	2107	2	0.000	0.587	0.000	0.000
2108	2108	2	0.000	0.587	0.000	0.000
2109	2109	2	0.000	0.587	0.000	0.000
2110	2110	2	0.000	0.587	0.000	0.000
2111	2111	2	0.000	0.587	0.000	0.000
2112	2112	2	0.000	0.587	0.000	0.000
2113	2113	2	0.000	0.587	0.000	0.000
2114	2114	2	0.000	0.587	0.000	0.000
2115	2115	2	0.000	0.587	0.000	0.000
2116	2116	2	0.000	0.587	0.000	0.000
2117	2117	2	0.000	0.587	0.000	0.000
2118	2118	2	0.000	0.587	0.000	0.000
2119	2119	2	0.000	0.587	0.000	0.000

2120	2120	2	0.000	0.587	0.000	0.000
2121	2121	2	0.000	0.587	0.000	0.000
2122	2122	2	0.000	0.587	0.000	0.000
2123	2123	2	0.000	0.587	0.000	0.000
2124	2124	2	0.000	0.587	0.000	0.000
2125	2125	2	0.000	0.587	0.000	0.000
2126	2126	2	0.000	0.587	0.000	0.000
2127	2127	2	0.000	0.587	0.000	0.000
2128	2128	2	0.000	0.587	0.000	0.000
2129	2129	2	0.000	0.587	0.000	0.000
2130	2130	2	0.000	0.587	0.000	0.000
2131	2131	2	0.000	0.587	0.000	0.000
2132	2132	2	0.000	0.587	0.000	0.000
2133	2133	2	0.000	0.587	0.000	0.000
2134	2134	2	0.000	0.587	0.000	0.000
2135	2135	2	0.000	0.587	0.000	0.000
2136	2136	2	0.000	0.587	0.000	0.000
2137	2137	2	0.000	0.587	0.000	0.000
2138	2138	2	0.000	0.587	0.000	0.000
2139	2139	2	0.000	0.587	0.000	0.000
2140	2140	2	0.000	0.587	0.000	0.000
2141	2141	2	0.000	0.587	0.000	0.000
2142	2142	2	0.000	0.587	0.000	0.000
2143	2143	2	0.000	0.587	0.000	0.000
2144	2144	2	0.000	0.587	0.000	0.000
2145	2145	2	0.000	0.587	0.000	0.000
2146	2146	2	0.000	0.587	0.000	0.000
2147	2147	2	0.000	0.587	0.000	0.000
2148	2148	2	0.000	0.587	0.000	0.000
2149	2149	2	0.000	0.587	0.000	0.000
2150	2150	2	0.000	0.587	0.000	0.000
2151	2151	2	0.000	0.587	0.000	0.000
2011	2011	3	6.000	0.000	0.000	-1.438
2012	2012	3	3.963	0.000	0.000	-1.878
2013	2013	3	4.453	0.000	0.000	-2.438
2014	2014	3	0.807	0.000	0.000	-1.891
2015	2015	3	-2.124	0.000	0.000	-2.837
2016	2016	3	-1.596	0.000	0.000	-3.035
2017	2017	3	3.662	0.000	0.000	-2.830
2018	2018	3	6.268	0.000	0.000	-3.251
2019	2019	3	4.006	0.000	0.000	-3.618
2020	2020	3	-3.240	0.000	0.000	-3.931
2021	2021	3	9.768	0.000	0.000	-4.324
2022	2022	3	1.799	0.000	0.000	-4.776

2023	2023	3	-0.216	0.000	0.000	-5.300
2024	2024	3	-1.595	0.000	0.000	-5.915
2025	2025	3	1.049	0.000	0.000	-6.643
2026	2026	3	0.894	0.000	0.000	-7.520
2027	2027	3	-1.865	0.000	0.000	-8.594
2028	2028	3	-0.274	0.000	0.000	-9.934
2029	2029	3	-0.789	0.000	0.000	-11.657
2030	2030	3	1.876	0.000	0.000	-13.944
2031	2031	3	-0.287	0.000	0.000	-19.089
2032	2032	3	-2.211	0.000	0.000	-19.090
2033	2033	3	-2.565	0.000	0.000	-19.088
2034	2034	3	-1.399	0.000	0.000	-19.090
2035	2035	3	-1.444	0.000	0.000	-19.089
2036	2036	3	-0.695	0.000	0.000	-19.089
2037	2037	3	-0.258	0.000	0.000	-19.088
2038	2038	3	-0.856	0.000	0.000	-19.090
2039	2039	3	1.452	0.000	0.000	-19.092
2040	2040	3	-1.512	0.000	0.000	-19.088
2041	2041	3	0.000	0.000	0.000	-16.984
2042	2042	3	0.000	0.000	0.000	-5.099
2043	2043	3	0.000	0.000	0.000	-2.043
2044	2044	3	0.000	0.000	0.000	-6.009
2045	2045	3	0.000	0.000	0.000	-15.076
2046	2046	3	0.000	0.000	0.000	-9.204
2047	2047	3	0.000	0.000	0.000	-7.798
2048	2048	3	0.000	0.000	0.000	-5.087
2049	2049	3	0.000	0.000	0.000	-6.945
2050	2050	3	0.000	0.000	0.000	-1.718
2051	2051	3	0.000	0.000	0.000	0.000
2052	2052	3	0.000	0.000	0.000	0.000
2053	2053	3	0.000	0.000	0.000	0.000
2054	2054	3	0.000	0.000	0.000	0.000
2055	2055	3	0.000	0.000	0.000	0.000
2056	2056	3	0.000	0.000	0.000	0.000
2057	2057	3	0.000	0.000	0.000	0.000
2058	2058	3	0.000	0.000	0.000	0.000
2059	2059	3	0.000	0.000	0.000	0.000
2060	2060	3	0.000	0.000	0.000	0.000
2061	2061	3	0.000	0.000	0.000	0.000
2062	2062	3	0.000	0.000	0.000	0.000
2063	2063	3	0.000	0.000	0.000	0.000
2064	2064	3	0.000	0.000	0.000	0.000
2065	2065	3	0.000	0.000	0.000	0.000
2066	2066	3	0.000	0.000	0.000	0.000

2067	2067	3	0.000	0.000	0.000	0.000
2068	2068	3	0.000	0.000	0.000	0.000
2069	2069	3	0.000	0.000	0.000	0.000
2070	2070	3	0.000	0.000	0.000	0.000
2071	2071	3	0.000	0.000	0.000	0.000
2072	2072	3	0.000	0.000	0.000	0.000
2073	2073	3	0.000	0.000	0.000	0.000
2074	2074	3	0.000	0.000	0.000	0.000
2075	2075	3	0.000	0.000	0.000	0.000
2076	2076	3	0.000	0.000	0.000	0.000
2077	2077	3	0.000	0.000	0.000	0.000
2078	2078	3	0.000	0.000	0.000	0.000
2079	2079	3	0.000	0.000	0.000	0.000
2080	2080	3	0.000	0.000	0.000	0.000
2081	2081	3	0.000	0.000	0.000	0.000
2082	2082	3	0.000	0.000	0.000	0.000
2083	2083	3	0.000	0.000	0.000	0.000
2084	2084	3	0.000	0.000	0.000	0.000
2085	2085	3	0.000	0.000	0.000	0.000
2086	2086	3	0.000	0.000	0.000	0.000
2087	2087	3	0.000	0.000	0.000	0.000
2088	2088	3	0.000	0.000	0.000	0.000
2089	2089	3	0.000	0.000	0.000	0.000
2090	2090	3	0.000	0.000	0.000	0.000
2091	2091	3	0.000	0.000	0.000	0.000
2092	2092	3	0.000	0.000	0.000	0.000
2093	2093	3	0.000	0.000	0.000	0.000
2094	2094	3	0.000	0.000	0.000	0.000
2095	2095	3	0.000	0.000	0.000	0.000
2096	2096	3	0.000	0.000	0.000	0.000
2097	2097	3	0.000	0.000	0.000	0.000
2098	2098	3	0.000	0.000	0.000	0.000
2099	2099	3	0.000	0.000	0.000	0.000
2100	2100	3	0.000	0.000	0.000	0.000
2101	2101	3	0.000	0.000	0.000	0.000
2102	2102	3	0.000	0.000	0.000	0.000
2103	2103	3	0.000	0.000	0.000	0.000
2104	2104	3	0.000	0.000	0.000	0.000
2105	2105	3	0.000	0.000	0.000	0.000
2106	2106	3	0.000	0.000	0.000	0.000
2107	2107	3	0.000	0.000	0.000	0.000
2108	2108	3	0.000	0.000	0.000	0.000
2109	2109	3	0.000	0.000	0.000	0.000
2110	2110	3	0.000	0.000	0.000	0.000

2111	2111	3	0.000	0.000	0.000	0.000
2112	2112	3	0.000	0.000	0.000	0.000
2113	2113	3	0.000	0.000	0.000	0.000
2114	2114	3	0.000	0.000	0.000	0.000
2115	2115	3	0.000	0.000	0.000	0.000
2116	2116	3	0.000	0.000	0.000	0.000
2117	2117	3	0.000	0.000	0.000	0.000
2118	2118	3	0.000	0.000	0.000	0.000
2119	2119	3	0.000	0.000	0.000	0.000
2120	2120	3	0.000	0.000	0.000	0.000
2121	2121	3	0.000	0.000	0.000	0.000
2122	2122	3	0.000	0.000	0.000	0.000
2123	2123	3	0.000	0.000	0.000	0.000
2124	2124	3	0.000	0.000	0.000	0.000
2125	2125	3	0.000	0.000	0.000	0.000
2126	2126	3	0.000	0.000	0.000	0.000
2127	2127	3	0.000	0.000	0.000	0.000
2128	2128	3	0.000	0.000	0.000	0.000
2129	2129	3	0.000	0.000	0.000	0.000
2130	2130	3	0.000	0.000	0.000	0.000
2131	2131	3	0.000	0.000	0.000	0.000
2132	2132	3	0.000	0.000	0.000	0.000
2133	2133	3	0.000	0.000	0.000	0.000
2134	2134	3	0.000	0.000	0.000	0.000
2135	2135	3	0.000	0.000	0.000	0.000
2136	2136	3	0.000	0.000	0.000	0.000
2137	2137	3	0.000	0.000	0.000	0.000
2138	2138	3	0.000	0.000	0.000	0.000
2139	2139	3	0.000	0.000	0.000	0.000
2140	2140	3	0.000	0.000	0.000	0.000
2141	2141	3	0.000	0.000	0.000	0.000
2142	2142	3	0.000	0.000	0.000	0.000
2143	2143	3	0.000	0.000	0.000	0.000
2144	2144	3	0.000	0.000	0.000	0.000
2145	2145	3	0.000	0.000	0.000	0.000
2146	2146	3	0.000	0.000	0.000	0.000
2147	2147	3	0.000	0.000	0.000	0.000
2148	2148	3	0.000	0.000	0.000	0.000
2149	2149	3	0.000	0.000	0.000	0.000
2150	2150	3	0.000	0.000	0.000	0.000
2151	2151	3	0.000	0.000	0.000	0.000

FLEET - (used)

*veh_type %Petrol %Diesel %Electric

1	59.8962	40.0961	0.0077
2	3.4548	96.4566	0.0886
3	3.4548	96.4566	0.0886
4	0.0000	100.0000	0.0000
5	0.0000	100.0000	0.0000
6	0.0000	99.9221	0.0779
7	0.0000	100.0000	0.0000
8	0.0000	100.0000	0.0000

FLEET - (std)

*veh_type	%Petrol	%Diesel	%Electric
1	59.6299	40.3625	0.0076
2	3.4505	96.4583	0.0912
3	3.4505	96.4583	0.0912
4	0.0000	100.0000	0.0000
5	0.0000	100.0000	0.0000
6	0.0000	100.0000	0.0000
7	0.0000	100.0000	0.0000
8	0.0000	100.0000	0.0000

FLEET_CHANGES - (used)

*% p.a.

*Start_yr	End_yr	Veh_type	%Change_Petrol	%Change_Diesel	%Change_Electric
2011	2011	1	-3.5334	5.2644	72.7273
2012	2012	1	-3.5938	4.8952	77.4436
2013	2013	1	-3.6635	4.5816	52.5424
2014	2014	1	-3.5106	3.9580	142.2222
2015	2015	1	-3.2761	3.3338	105.1606
2016	2016	1	-2.7303	2.5141	65.3438
2017	2017	1	-0.9381	0.6152	48.4449
2018	2018	1	1.1306	-1.3993	39.2394
2019	2019	1	2.3623	-2.7214	36.5882
2020	2020	1	1.9473	-3.2533	75.2245
2021	2021	1	1.5292	-4.3172	87.2343
2022	2022	1	0.2404	-4.6395	72.5965
2023	2023	1	-0.8037	-5.4000	58.4144
2024	2024	1	-1.4484	-6.2086	43.9989
2025	2025	1	-2.0998	-7.3022	35.9550
2026	2026	1	-2.4509	-7.9695	27.7036
2027	2027	1	-2.9226	-8.6666	22.7674
2028	2028	1	-3.3225	-9.3402	18.9875
2029	2029	1	-3.6571	-9.8518	15.8753
2030	2030	1	-3.9691	-10.1168	13.3105
2031	2031	1	-4.0715	-10.1036	10.9677

2032	2032	1	-4.0434	-9.9044	9.0164
2033	2033	1	-4.1522	-9.4536	7.5826
2034	2034	1	-4.2021	-8.8854	6.4073
2035	2035	1	-4.0578	-8.4250	5.3933
2036	2036	1	-3.8855	-7.8288	4.5411
2037	2037	1	-3.8221	-7.0415	3.8820
2038	2038	1	-3.5816	-6.0722	3.2150
2039	2039	1	-3.3132	-5.1005	2.6551
2040	2040	1	-2.9987	-4.3872	2.2093
2041	2041	1	-2.5436	-3.6258	1.7546
2042	2042	1	-2.2945	-3.1222	1.4878
2043	2043	1	-1.9852	-2.7371	1.2411
2044	2044	1	-1.6650	-2.2924	1.0049
2045	2045	1	-1.4495	-1.9597	0.8450
2046	2046	1	-1.2558	-1.6572	0.7092
2047	2047	1	-1.0944	-1.4064	0.6005
2048	2048	1	-0.9945	-1.2353	0.5303
2049	2049	1	-0.8969	-1.0790	0.4665
2050	2050	1	-0.7964	-0.9332	0.4054
2011	2011	2	-9.9745	0.3593	-2.2573
2012	2012	2	-8.1699	0.2539	9.5843
2013	2013	2	-8.1580	0.2422	-2.1075
2014	2014	2	-8.2993	0.2019	22.8202
2015	2015	2	-7.8448	0.1740	16.8273
2016	2016	2	-8.3367	0.1676	15.7539
2017	2017	2	-1.9981	0.0132	17.9520
2018	2018	2	3.9723	-0.1194	20.7143
2019	2019	2	2.8159	-0.1663	47.4283
2020	2020	2	0.6107	-0.2061	58.0426
2021	2021	2	-7.3773	-0.2553	79.4296
2022	2022	2	-1.0385	-0.1683	20.0218
2023	2023	2	-1.0646	-0.1605	16.0196
2024	2024	2	-0.8959	-0.1530	12.9320
2025	2025	2	-0.8468	-0.2198	15.8266
2026	2026	2	-0.8017	-0.2901	17.6330
2027	2027	2	-0.8082	-0.3992	20.2846
2028	2028	2	-0.9106	-0.5771	24.0664
2029	2029	2	-1.0264	-0.7144	23.8074
2030	2030	2	-1.3629	-1.0477	27.9255
2031	2031	2	-1.8716	-1.4764	30.4203
2032	2032	2	-2.3561	-1.9387	30.1393
2033	2033	2	-2.9243	-2.4870	29.1112
2034	2034	2	-3.4326	-2.9768	26.3028
2035	2035	2	-3.8181	-3.3308	22.6024

2036	2036	2	-4.0270	-3.5179	18.8201
2037	2037	2	-4.0964	-3.5581	15.4568
2038	2038	2	-4.1052	-3.5435	12.8578
2039	2039	2	-3.7973	-3.2205	9.9910
2040	2040	2	-3.7896	-3.2207	8.7892
2041	2041	2	-3.3695	-2.8372	6.8894
2042	2042	2	-3.3659	-2.8357	6.2576
2043	2043	2	-3.3161	-2.7852	5.6196
2044	2044	2	-3.2138	-2.6951	5.0050
2045	2045	2	-3.0706	-2.5788	4.4374
2046	2046	2	-2.8271	-2.3669	3.7986
2047	2047	2	-2.6535	-2.2117	3.3391
2048	2048	2	-2.4825	-2.0531	2.9326
2049	2049	2	-2.2761	-1.8776	2.5526
2050	2050	2	-2.0738	-1.6824	2.1886
2011	2011	3	-9.9745	0.3593	-2.2573
2012	2012	3	-8.1699	0.2539	9.5843
2013	2013	3	-8.1580	0.2422	-2.1075
2014	2014	3	-8.2993	0.2019	22.8202
2015	2015	3	-7.8448	0.1740	16.8273
2016	2016	3	-8.3367	0.1676	15.7539
2017	2017	3	-1.9981	0.0132	17.9520
2018	2018	3	3.9723	-0.1194	20.7143
2019	2019	3	2.8159	-0.1663	47.4283
2020	2020	3	0.6107	-0.2061	58.0426
2021	2021	3	-7.3773	-0.2553	79.4296
2022	2022	3	-1.0385	-0.1683	20.0218
2023	2023	3	-1.0646	-0.1605	16.0196
2024	2024	3	-0.8959	-0.1530	12.9320
2025	2025	3	-0.8468	-0.2198	15.8266
2026	2026	3	-0.8017	-0.2901	17.6330
2027	2027	3	-0.8082	-0.3992	20.2846
2028	2028	3	-0.9106	-0.5771	24.0664
2029	2029	3	-1.0264	-0.7144	23.8074
2030	2030	3	-1.3629	-1.0477	27.9255
2031	2031	3	-1.8716	-1.4764	30.4203
2032	2032	3	-2.3561	-1.9387	30.1393
2033	2033	3	-2.9243	-2.4870	29.1112
2034	2034	3	-3.4326	-2.9768	26.3028
2035	2035	3	-3.8181	-3.3308	22.6024
2036	2036	3	-4.0270	-3.5179	18.8201
2037	2037	3	-4.0964	-3.5581	15.4568
2038	2038	3	-4.1052	-3.5435	12.8578
2039	2039	3	-3.7973	-3.2205	9.9910

2040	2040	3	-3.7896	-3.2207	8.7892
2041	2041	3	-3.3695	-2.8372	6.8894
2042	2042	3	-3.3659	-2.8357	6.2576
2043	2043	3	-3.3161	-2.7852	5.6196
2044	2044	3	-3.2138	-2.6951	5.0050
2045	2045	3	-3.0706	-2.5788	4.4374
2046	2046	3	-2.8271	-2.3669	3.7986
2047	2047	3	-2.6535	-2.2117	3.3391
2048	2048	3	-2.4825	-2.0531	2.9326
2049	2049	3	-2.2761	-1.8776	2.5526
2050	2050	3	-2.0738	-1.6824	2.1886
2011	2011	6	0.0000	-0.0011	1.4121
2012	2012	6	0.0000	-0.0202	25.5696
2013	2013	6	0.0000	-0.0327	32.9637
2014	2014	6	0.0000	-0.0723	54.7384
2015	2015	6	0.0000	-0.0313	15.2866
2016	2016	6	0.0000	-0.0935	39.6515
2017	2017	6	0.0000	-0.0617	18.7158
2018	2018	6	0.0000	-0.1298	33.1453
2019	2019	6	0.0000	-0.3121	59.7805
2020	2020	6	0.0000	-0.2987	35.6910
2021	2021	6	0.0000	-0.7068	62.0549
2022	2022	6	0.0000	-4.7142	253.6139
2023	2023	6	0.0000	-4.4616	64.6774
2024	2024	6	0.0000	-2.5792	21.6914
2025	2025	6	0.0000	-3.3217	22.3641
2026	2026	6	0.0000	-2.9956	15.9353
2027	2027	6	0.0000	-3.3685	14.9927
2028	2028	6	0.0000	-3.8909	14.5529
2029	2029	6	0.0000	-3.5896	11.2641
2030	2030	6	0.0000	-1.2289	3.3416
2031	2031	6	0.0000	-1.0185	2.6469
2032	2032	6	0.0000	-0.7730	1.9371
2033	2033	6	0.0000	-0.6043	1.4741
2034	2034	6	0.0000	-0.4783	1.1429
2035	2035	6	0.0000	-0.3495	0.8217
2036	2036	6	0.0000	-0.2085	0.4846
2037	2037	6	0.0000	-0.0851	0.1965
2038	2038	6	0.0000	0.0268	-0.0617
2039	2039	6	0.0000	0.0965	-0.2223
2040	2040	6	0.0000	-0.6920	1.5991
2041	2041	6	0.0000	-0.5875	1.3269
2042	2042	6	0.0000	-0.5265	1.1667
2043	2043	6	0.0000	-0.4615	1.0055

2044	2044	6	0.0000	-0.3947	0.8475
2045	2045	6	0.0000	-0.3467	0.7352
2046	2046	6	0.0000	-0.3361	0.7051
2047	2047	6	0.0000	-0.3365	0.6986
2048	2048	6	0.0000	-0.3394	0.6974
2049	2049	6	0.0000	-0.3277	0.6665
2050	2050	6	0.0000	-0.3043	0.6127
2051	2151	1	0.0000	0.0000	0.0000
2051	2151	2	0.0000	0.0000	0.0000
2051	2151	3	0.0000	0.0000	0.0000
2011	2151	4	0.0000	0.0000	0.0000
2011	2151	5	0.0000	0.0000	0.0000
2051	2151	6	0.0000	0.0000	0.0000

FLEET_CHANGES - (std)

*% p.a.

*Start_yr	End_yr	Veh_type	%Change_Petrol	%Change_Diesel	%Change_Electric
2011	2011	1	-3.5474	5.2271	72.3684
2012	2012	1	-3.6255	4.8862	75.5725
2013	2013	1	-3.7045	4.5823	52.6087
2014	2014	1	-3.5372	3.9494	137.0370
2015	2015	1	-3.3037	3.3379	101.4423
2016	2016	1	-2.7361	2.5097	63.3652
2017	2017	1	-0.8923	0.5861	47.9912
2018	2018	1	1.1991	-1.4201	38.8203
2019	2019	1	1.7017	-1.9941	33.4222
2020	2020	1	1.8536	-2.2461	27.1952
2021	2021	1	1.6150	-2.5074	42.8975
2022	2022	1	1.4618	-2.7336	40.4296
2023	2023	1	1.3175	-3.0441	37.7636
2024	2024	1	0.9803	-3.5199	40.2425
2025	2025	1	0.2872	-4.2813	45.8903
2026	2026	1	-0.0235	-4.6731	36.0447
2027	2027	1	-0.1975	-4.8289	27.3620
2028	2028	1	-0.3930	-4.9178	21.9646
2029	2029	1	-0.6139	-4.9385	18.2947
2030	2030	1	-0.9186	-4.8594	15.7936
2031	2031	1	-1.1396	-4.5854	13.2690
2032	2032	1	-1.3598	-4.2639	11.3740
2033	2033	1	-1.5543	-3.9092	9.8508
2034	2034	1	-1.7099	-3.6116	8.6724
2035	2035	1	-1.8177	-3.2999	7.6247
2036	2036	1	-1.8688	-3.0327	6.7218
2037	2037	1	-1.8936	-2.8160	5.9844

2038	2038	1	-1.8686	-2.5621	5.2552
2039	2039	1	-1.8261	-2.3161	4.6228
2040	2040	1	-2.0337	-2.4757	4.7437
2041	2041	1	-1.9404	-2.3503	4.2169
2042	2042	1	-1.8614	-2.2344	3.7873
2043	2043	1	-1.7986	-2.0982	3.4172
2044	2044	1	-1.8062	-2.0617	3.2286
2045	2045	1	-1.7138	-1.9060	2.8834
2046	2046	1	-1.6902	-1.8698	2.7094
2047	2047	1	-1.6879	-1.8470	2.5779
2048	2048	1	-1.6589	-1.8011	2.4200
2049	2049	1	-1.6009	-1.7231	2.2342
2050	2050	1	-1.5935	-1.7035	2.1344
2011	2011	2	-9.9551	0.3589	-2.9605
2012	2012	2	-8.0850	0.2503	10.1695
2013	2013	2	-8.1413	0.2417	-2.2564
2014	2014	2	-8.3635	0.2034	22.5603
2015	2015	2	-7.9288	0.1755	16.6952
2016	2016	2	-8.3676	0.1677	15.7007
2017	2017	2	-1.9723	0.0123	17.7552
2018	2018	2	4.0994	-0.1225	20.6247
2019	2019	2	-1.5414	-0.0689	44.2857
2020	2020	2	-1.2465	0.0340	-2.4134
2021	2021	2	-0.1690	-0.0505	16.7089
2022	2022	2	0.1344	-0.0690	17.5767
2023	2023	2	0.9644	-0.1262	23.9603
2024	2024	2	2.0384	-0.2103	30.4753
2025	2025	2	4.5262	-0.4417	47.9714
2026	2026	2	3.4807	-0.4261	32.5352
2027	2027	2	3.9436	-0.5348	31.1116
2028	2028	2	4.5536	-0.6795	30.2961
2029	2029	2	4.8684	-0.7989	27.3836
2030	2030	2	4.9673	-0.9096	24.5096
2031	2031	2	5.0865	-0.9474	20.1742
2032	2032	2	4.8793	-1.0056	17.7808
2033	2033	2	4.6320	-1.0543	15.7803
2034	2034	2	4.3655	-1.0969	14.1249
2035	2035	2	4.0807	-1.1390	12.8123
2036	2036	2	3.8076	-1.1648	11.5496
2037	2037	2	3.5417	-1.1887	10.5057
2038	2038	2	3.2793	-1.2049	9.5762
2039	2039	2	3.0357	-1.2185	8.7799
2040	2040	2	2.8032	-1.2286	8.0825
2041	2041	2	2.5647	-1.2034	7.2582

2042	2042	2	2.4018	-1.2091	6.7416
2043	2043	2	2.2033	-1.2237	6.3558
2044	2044	2	2.0402	-1.2164	5.8890
2045	2045	2	1.8815	-1.2057	5.4663
2046	2046	2	1.6834	-1.1668	4.9758
2047	2047	2	1.5551	-1.1570	4.6635
2048	2048	2	1.4237	-1.1416	4.3618
2049	2049	2	1.2542	-1.1392	4.1548
2050	2050	2	1.1467	-1.1150	3.8719
2011	2011	3	-9.9551	0.3589	-2.9605
2012	2012	3	-8.0850	0.2503	10.1695
2013	2013	3	-8.1413	0.2417	-2.2564
2014	2014	3	-8.3635	0.2034	22.5603
2015	2015	3	-7.9288	0.1755	16.6952
2016	2016	3	-8.3676	0.1677	15.7007
2017	2017	3	-1.9723	0.0123	17.7552
2018	2018	3	4.0994	-0.1225	20.6247
2019	2019	3	-1.5414	-0.0689	44.2857
2020	2020	3	-1.2465	0.0340	-2.4134
2021	2021	3	-0.1690	-0.0505	16.7089
2022	2022	3	0.1344	-0.0690	17.5767
2023	2023	3	0.9644	-0.1262	23.9603
2024	2024	3	2.0384	-0.2103	30.4753
2025	2025	3	4.5262	-0.4417	47.9714
2026	2026	3	3.4807	-0.4261	32.5352
2027	2027	3	3.9436	-0.5348	31.1116
2028	2028	3	4.5536	-0.6795	30.2961
2029	2029	3	4.8684	-0.7989	27.3836
2030	2030	3	4.9673	-0.9096	24.5096
2031	2031	3	5.0865	-0.9474	20.1742
2032	2032	3	4.8793	-1.0056	17.7808
2033	2033	3	4.6320	-1.0543	15.7803
2034	2034	3	4.3655	-1.0969	14.1249
2035	2035	3	4.0807	-1.1390	12.8123
2036	2036	3	3.8076	-1.1648	11.5496
2037	2037	3	3.5417	-1.1887	10.5057
2038	2038	3	3.2793	-1.2049	9.5762
2039	2039	3	3.0357	-1.2185	8.7799
2040	2040	3	2.8032	-1.2286	8.0825
2041	2041	3	2.5647	-1.2034	7.2582
2042	2042	3	2.4018	-1.2091	6.7416
2043	2043	3	2.2033	-1.2237	6.3558
2044	2044	3	2.0402	-1.2164	5.8890
2045	2045	3	1.8815	-1.2057	5.4663

2046	2046	3	1.6834	-1.1668	4.9758
2047	2047	3	1.5551	-1.1570	4.6635
2048	2048	3	1.4237	-1.1416	4.3618
2049	2049	3	1.2542	-1.1392	4.1548
2050	2050	3	1.1467	-1.1150	3.8719
2051	2151	1	0.0000	0.0000	0.0000
2051	2151	2	0.0000	0.0000	0.0000
2051	2151	3	0.0000	0.0000	0.0000
2011	2151	4	0.0000	0.0000	0.0000
2011	2151	5	0.0000	0.0000	0.0000
2011	2151	6	0.0000	0.0000	0.0000

FUEL_CONSUMPTION - (used)

*veh_type	fuel_type	a_fuel	b_fuel	c_fuel	d_fuel	cut-off_speeds(km/h)	
		max		min			
1	1	0.4666	0.09917	-0.11296E-02	0.74815E-05	130	10
1	2	0.5050	0.07241	-0.69660E-03	0.54893E-05	130	10
1	3	0.0000	0.22466	0.00000E+00	0.00000E+00	120	10
2	1	0.3518	0.19727	-0.30966E-02	0.19998E-04	120	10
2	2	0.4682	0.11444	-0.16510E-02	0.13977E-04	110	10
2	3	0.0000	0.25706	0.00000E+00	0.00000E+00	120	10
3	1	0.3518	0.19727	-0.30966E-02	0.19998E-04	120	10
3	2	0.4682	0.11444	-0.16510E-02	0.13977E-04	110	10
3	3	0.0000	0.25706	0.00000E+00	0.00000E+00	120	10
4	2	2.6039	0.13816	-0.99860E-03	0.10906E-04	85	12
5	2	5.7277	0.29745	-0.19708E-02	0.11746E-04	85	12
6	2	3.3350	0.29304	-0.31851E-02	0.23364E-04	85	12
6	3	0.0000	1.17983	0.00000E+00	0.00000E+00	85	12

FUEL_CONSUMPTION - (std)

*veh_type	fuel_type	a_fuel	b_fuel	c_fuel	d_fuel	cut-off_speeds(km/h)	
		max		min			
1	1	0.4707	0.10003	-0.11394E-02	0.75462E-05	130	10
1	2	0.5069	0.07268	-0.69920E-03	0.55097E-05	130	10
1	3	0.0000	0.21366	0.00000E+00	0.00000E+00	120	10
2	1	0.3487	0.19552	-0.30690E-02	0.19819E-04	120	10
2	2	0.4688	0.11457	-0.16529E-02	0.13993E-04	110	10
2	3	0.0000	0.23232	0.00000E+00	0.00000E+00	120	10
3	1	0.3487	0.19552	-0.30690E-02	0.19819E-04	120	10
3	2	0.4688	0.11457	-0.16529E-02	0.13993E-04	110	10
3	3	0.0000	0.23232	0.00000E+00	0.00000E+00	120	10
4	2	2.6115	0.13856	-0.10015E-02	0.10938E-04	85	12
5	2	5.7221	0.29716	-0.19688E-02	0.11735E-04	85	12
6	2	3.3602	0.29525	-0.32091E-02	0.23540E-04	85	12

FUEL_EFFICIENCY - (used)

*% p.a.

*Start_yr	End_yr	veh_type	fuel_type	change
2011	2011	1	1	0.662
2011	2011	1	2	0.817
2011	2011	1	3	-0.025
2011	2011	2	1	-0.095
2011	2011	2	2	0.139
2011	2011	2	3	0.000
2011	2011	3	1	-0.095
2011	2011	3	2	0.139
2011	2011	3	3	0.000
2011	2011	4	2	-0.217
2011	2011	4	3	0.000
2011	2011	5	2	-0.047
2011	2011	5	3	0.000
2011	2011	6	2	-0.140
2011	2011	6	3	0.000
2012	2012	1	1	0.824
2012	2012	1	2	0.877
2012	2012	1	3	0.491
2012	2012	2	1	-0.074
2012	2012	2	2	0.386
2012	2012	2	3	0.000
2012	2012	3	1	-0.074
2012	2012	3	2	0.386
2012	2012	3	3	0.000
2012	2012	4	2	-3.140
2012	2012	4	3	0.000
2012	2012	5	2	0.414
2012	2012	5	3	0.000
2012	2012	6	2	-0.258
2012	2012	6	3	0.000
2013	2013	1	1	1.035
2013	2013	1	2	0.939
2013	2013	1	3	0.025
2013	2013	2	1	0.178
2013	2013	2	2	0.142
2013	2013	2	3	0.000
2013	2013	3	1	0.178
2013	2013	3	2	0.142
2013	2013	3	3	0.000
2013	2013	4	2	0.524

2013	2013	4	3	0.000
2013	2013	5	2	0.199
2013	2013	5	3	0.000
2013	2013	6	2	-0.069
2013	2013	6	3	0.000
2014	2014	1	1	-0.594
2014	2014	1	2	0.712
2014	2014	1	3	0.709
2014	2014	2	1	-0.410
2014	2014	2	2	0.114
2014	2014	2	3	-0.064
2014	2014	3	1	-0.410
2014	2014	3	2	0.114
2014	2014	3	3	-0.064
2014	2014	4	2	-1.002
2014	2014	4	3	0.000
2014	2014	5	2	0.195
2014	2014	5	3	0.000
2014	2014	6	2	-0.064
2014	2014	6	3	0.000
2015	2015	1	1	1.252
2015	2015	1	2	1.319
2015	2015	1	3	0.591
2015	2015	2	1	2.511
2015	2015	2	2	0.235
2015	2015	2	3	-0.700
2015	2015	3	1	2.511
2015	2015	3	2	0.235
2015	2015	3	3	-0.700
2015	2015	4	2	0.295
2015	2015	4	3	0.000
2015	2015	5	2	0.327
2015	2015	5	3	0.000
2015	2015	6	2	-0.221
2015	2015	6	3	0.000
2016	2016	1	1	1.373
2016	2016	1	2	1.203
2016	2016	1	3	0.418
2016	2016	2	1	-0.117
2016	2016	2	2	0.703
2016	2016	2	3	-0.216
2016	2016	3	1	-0.117
2016	2016	3	2	0.703
2016	2016	3	3	-0.216

2016	2016	4	2	0.922
2016	2016	4	3	0.000
2016	2016	5	2	0.233
2016	2016	5	3	0.000
2016	2016	6	2	-0.060
2016	2016	6	3	-0.097
2017	2017	1	1	1.236
2017	2017	1	2	0.778
2017	2017	1	3	0.132
2017	2017	2	1	1.631
2017	2017	2	2	1.238
2017	2017	2	3	-0.009
2017	2017	3	1	1.631
2017	2017	3	2	1.238
2017	2017	3	3	-0.009
2017	2017	4	2	-0.773
2017	2017	4	3	0.000
2017	2017	5	2	0.317
2017	2017	5	3	0.000
2017	2017	6	2	-0.036
2017	2017	6	3	-0.080
2018	2018	1	1	0.987
2018	2018	1	2	0.058
2018	2018	1	3	0.092
2018	2018	2	1	3.066
2018	2018	2	2	0.884
2018	2018	2	3	-0.418
2018	2018	3	1	3.066
2018	2018	3	2	0.884
2018	2018	3	3	-0.418
2018	2018	4	2	0.421
2018	2018	4	3	0.000
2018	2018	5	2	0.544
2018	2018	5	3	0.000
2018	2018	6	2	-0.161
2018	2018	6	3	-0.191
2019	2019	1	1	0.626
2019	2019	1	2	-0.319
2019	2019	1	3	-0.347
2019	2019	2	1	1.138
2019	2019	2	2	0.740
2019	2019	2	3	0.088
2019	2019	3	1	1.138
2019	2019	3	2	0.740

2019	2019	3	3	0.088
2019	2019	4	2	-0.944
2019	2019	4	3	0.000
2019	2019	5	2	0.546
2019	2019	5	3	0.000
2019	2019	6	2	-0.168
2019	2019	6	3	-0.223
2020	2020	1	1	0.927
2020	2020	1	2	-0.092
2020	2020	1	3	-0.578
2020	2020	2	1	1.902
2020	2020	2	2	0.372
2020	2020	2	3	-0.341
2020	2020	3	1	1.902
2020	2020	3	2	0.372
2020	2020	3	3	-0.341
2020	2020	4	2	-0.700
2020	2020	4	3	0.000
2020	2020	5	2	0.352
2020	2020	5	3	0.000
2020	2020	6	2	-0.118
2020	2020	6	3	-0.337
2021	2021	1	1	1.169
2021	2021	1	2	-0.014
2021	2021	1	3	3.385
2021	2021	2	1	2.499
2021	2021	2	2	1.189
2021	2021	2	3	0.466
2021	2021	3	1	2.499
2021	2021	3	2	1.189
2021	2021	3	3	0.466
2021	2021	4	2	0.532
2021	2021	4	3	0.000
2021	2021	5	2	0.644
2021	2021	5	3	0.000
2021	2021	6	2	-0.093
2021	2021	6	3	0.885
2022	2022	1	1	-0.836
2022	2022	1	2	0.006
2022	2022	1	3	3.869
2022	2022	2	1	4.304
2022	2022	2	2	0.815
2022	2022	2	3	-0.062
2022	2022	3	1	4.304

2022	2022	3	2	0.815
2022	2022	3	3	-0.062
2022	2022	4	2	0.589
2022	2022	4	3	0.000
2022	2022	5	2	0.547
2022	2022	5	3	0.000
2022	2022	6	2	-0.120
2022	2022	6	3	3.311
2023	2023	1	1	0.823
2023	2023	1	2	-0.026
2023	2023	1	3	2.928
2023	2023	2	1	2.131
2023	2023	2	2	0.721
2023	2023	2	3	0.297
2023	2023	3	1	2.131
2023	2023	3	2	0.721
2023	2023	3	3	0.297
2023	2023	4	2	0.577
2023	2023	4	3	0.000
2023	2023	5	2	0.560
2023	2023	5	3	0.000
2023	2023	6	2	-0.095
2023	2023	6	3	1.901
2024	2024	1	1	0.593
2024	2024	1	2	-0.057
2024	2024	1	3	2.092
2024	2024	2	1	2.062
2024	2024	2	2	0.675
2024	2024	2	3	0.341
2024	2024	3	1	2.062
2024	2024	3	2	0.675
2024	2024	3	3	0.341
2024	2024	4	2	0.567
2024	2024	4	3	0.000
2024	2024	5	2	0.586
2024	2024	5	3	0.000
2024	2024	6	2	0.011
2024	2024	6	3	1.362
2025	2025	1	1	0.334
2025	2025	1	2	-0.072
2025	2025	1	3	1.828
2025	2025	2	1	2.658
2025	2025	2	2	1.643
2025	2025	2	3	0.472

2025	2025	3	1	2.658
2025	2025	3	2	1.643
2025	2025	3	3	0.472
2025	2025	4	2	1.078
2025	2025	4	3	0.000
2025	2025	5	2	1.849
2025	2025	5	3	0.000
2025	2025	6	2	0.031
2025	2025	6	3	1.886
2026	2026	1	1	0.238
2026	2026	1	2	-0.115
2026	2026	1	3	1.458
2026	2026	2	1	2.532
2026	2026	2	2	1.489
2026	2026	2	3	0.578
2026	2026	3	1	2.532
2026	2026	3	2	1.489
2026	2026	3	3	0.578
2026	2026	4	2	1.050
2026	2026	4	3	0.000
2026	2026	5	2	1.888
2026	2026	5	3	0.000
2026	2026	6	2	0.052
2026	2026	6	3	1.530
2027	2027	1	1	0.159
2027	2027	1	2	-0.159
2027	2027	1	3	1.326
2027	2027	2	1	4.516
2027	2027	2	2	1.360
2027	2027	2	3	0.506
2027	2027	3	1	4.516
2027	2027	3	2	1.360
2027	2027	3	3	0.506
2027	2027	4	2	1.010
2027	2027	4	3	0.000
2027	2027	5	2	1.827
2027	2027	5	3	0.000
2027	2027	6	2	0.127
2027	2027	6	3	1.497
2028	2028	1	1	0.087
2028	2028	1	2	-0.216
2028	2028	1	3	1.215
2028	2028	2	1	2.106
2028	2028	2	2	1.237

2028	2028	2	3	0.556
2028	2028	3	1	2.106
2028	2028	3	2	1.237
2028	2028	3	3	0.556
2028	2028	4	2	0.976
2028	2028	4	3	0.000
2028	2028	5	2	1.778
2028	2028	5	3	0.000
2028	2028	6	2	0.136
2028	2028	6	3	1.429
2029	2029	1	1	0.024
2029	2029	1	2	-0.284
2029	2029	1	3	1.180
2029	2029	2	1	1.991
2029	2029	2	2	1.142
2029	2029	2	3	0.357
2029	2029	3	1	1.991
2029	2029	3	2	1.142
2029	2029	3	3	0.357
2029	2029	4	2	0.948
2029	2029	4	3	0.000
2029	2029	5	2	1.702
2029	2029	5	3	0.000
2029	2029	6	2	0.148
2029	2029	6	3	1.250
2030	2030	1	1	0.021
2030	2030	1	2	-0.366
2030	2030	1	3	1.123
2030	2030	2	1	2.720
2030	2030	2	2	2.177
2030	2030	2	3	-0.469
2030	2030	3	1	2.720
2030	2030	3	2	2.177
2030	2030	3	3	-0.469
2030	2030	4	2	1.599
2030	2030	4	3	0.000
2030	2030	5	2	3.302
2030	2030	5	3	0.000
2030	2030	6	2	0.190
2030	2030	6	3	0.841
2031	2031	1	1	-0.068
2031	2031	1	2	-0.361
2031	2031	1	3	0.961
2031	2031	2	1	0.062

2031	2031	2	2	2.084
2031	2031	2	3	-1.235
2031	2031	3	1	0.062
2031	2031	3	2	2.084
2031	2031	3	3	-1.235
2031	2031	4	2	1.522
2031	2031	4	3	0.000
2031	2031	5	2	3.277
2031	2031	5	3	0.000
2031	2031	6	2	0.192
2031	2031	6	3	0.787
2032	2032	1	1	-0.106
2032	2032	1	2	-0.381
2032	2032	1	3	0.857
2032	2032	2	1	2.503
2032	2032	2	2	1.668
2032	2032	2	3	-1.684
2032	2032	3	1	2.503
2032	2032	3	2	1.668
2032	2032	3	3	-1.684
2032	2032	4	2	1.484
2032	2032	4	3	0.000
2032	2032	5	2	3.008
2032	2032	5	3	0.000
2032	2032	6	2	0.084
2032	2032	6	3	0.750
2033	2033	1	1	-0.116
2033	2033	1	2	-0.386
2033	2033	1	3	0.790
2033	2033	2	1	2.964
2033	2033	2	2	1.626
2033	2033	2	3	-1.777
2033	2033	3	1	2.964
2033	2033	3	2	1.626
2033	2033	3	3	-1.777
2033	2033	4	2	1.404
2033	2033	4	3	0.000
2033	2033	5	2	2.748
2033	2033	5	3	0.000
2033	2033	6	2	0.145
2033	2033	6	3	0.721
2034	2034	1	1	-0.126
2034	2034	1	2	-0.393
2034	2034	1	3	0.748

2034	2034	2	1	4.667
2034	2034	2	2	1.264
2034	2034	2	3	-1.521
2034	2034	3	1	4.667
2034	2034	3	2	1.264
2034	2034	3	3	-1.521
2034	2034	4	2	1.321
2034	2034	4	3	0.000
2034	2034	5	2	2.559
2034	2034	5	3	0.000
2034	2034	6	2	0.401
2034	2034	6	3	0.724
2035	2035	1	1	-0.173
2035	2035	1	2	-0.358
2035	2035	1	3	0.722
2035	2035	2	1	-2.719
2035	2035	2	2	1.183
2035	2035	2	3	-1.133
2035	2035	3	1	-2.719
2035	2035	3	2	1.183
2035	2035	3	3	-1.133
2035	2035	4	2	1.229
2035	2035	4	3	0.000
2035	2035	5	2	2.323
2035	2035	5	3	0.000
2035	2035	6	2	0.252
2035	2035	6	3	0.748
2036	2036	1	1	-0.188
2036	2036	1	2	-0.251
2036	2036	1	3	0.712
2036	2036	2	1	2.305
2036	2036	2	2	1.146
2036	2036	2	3	-0.751
2036	2036	3	1	2.305
2036	2036	3	2	1.146
2036	2036	3	3	-0.751
2036	2036	4	2	1.142
2036	2036	4	3	0.000
2036	2036	5	2	2.020
2036	2036	5	3	0.000
2036	2036	6	2	0.188
2036	2036	6	3	0.761
2037	2037	1	1	-0.232
2037	2037	1	2	-0.323

2037	2037	1	3	0.717
2037	2037	2	1	1.801
2037	2037	2	2	1.152
2037	2037	2	3	-0.441
2037	2037	3	1	1.801
2037	2037	3	2	1.152
2037	2037	3	3	-0.441
2037	2037	4	2	1.035
2037	2037	4	3	0.000
2037	2037	5	2	1.558
2037	2037	5	3	0.000
2037	2037	6	2	0.354
2037	2037	6	3	0.782
2038	2038	1	1	-0.236
2038	2038	1	2	-0.424
2038	2038	1	3	0.717
2038	2038	2	1	5.995
2038	2038	2	2	1.204
2038	2038	2	3	-0.217
2038	2038	3	1	5.995
2038	2038	3	2	1.204
2038	2038	3	3	-0.217
2038	2038	4	2	0.915
2038	2038	4	3	0.000
2038	2038	5	2	1.195
2038	2038	5	3	0.000
2038	2038	6	2	0.272
2038	2038	6	3	0.805
2039	2039	1	1	-0.233
2039	2039	1	2	-0.611
2039	2039	1	3	0.713
2039	2039	2	1	-0.357
2039	2039	2	2	0.702
2039	2039	2	3	0.021
2039	2039	3	1	-0.357
2039	2039	3	2	0.702
2039	2039	3	3	0.021
2039	2039	4	2	0.794
2039	2039	4	3	0.000
2039	2039	5	2	0.889
2039	2039	5	3	0.000
2039	2039	6	2	0.201
2039	2039	6	3	0.822
2040	2040	1	1	-0.203

2040	2040	1	2	-0.411
2040	2040	1	3	0.720
2040	2040	2	1	1.080
2040	2040	2	2	0.723
2040	2040	2	3	0.104
2040	2040	3	1	1.080
2040	2040	3	2	0.723
2040	2040	3	3	0.104
2040	2040	4	2	0.689
2040	2040	4	3	0.000
2040	2040	5	2	0.664
2040	2040	5	3	0.000
2040	2040	6	2	0.256
2040	2040	6	3	0.928
2041	2041	1	1	0.027
2041	2041	1	2	0.054
2041	2041	1	3	0.701
2041	2041	2	1	4.247
2041	2041	2	2	0.511
2041	2041	2	3	0.157
2041	2041	3	1	4.247
2041	2041	3	2	0.511
2041	2041	3	3	0.157
2041	2041	4	2	0.607
2041	2041	4	3	0.000
2041	2041	5	2	0.494
2041	2041	5	3	0.000
2041	2041	6	2	0.423
2041	2041	6	3	0.866
2042	2042	1	1	-0.082
2042	2042	1	2	-0.073
2042	2042	1	3	0.685
2042	2042	2	1	2.107
2042	2042	2	2	0.932
2042	2042	2	3	0.161
2042	2042	3	1	2.107
2042	2042	3	2	0.932
2042	2042	3	3	0.161
2042	2042	4	2	0.538
2042	2042	4	3	0.000
2042	2042	5	2	0.370
2042	2042	5	3	0.000
2042	2042	6	2	0.288
2042	2042	6	3	0.802

2043	2043	1	1	-0.107
2043	2043	1	2	-0.009
2043	2043	1	3	0.662
2043	2043	2	1	0.816
2043	2043	2	2	0.626
2043	2043	2	3	0.170
2043	2043	3	1	0.816
2043	2043	3	2	0.626
2043	2043	3	3	0.170
2043	2043	4	2	0.485
2043	2043	4	3	0.000
2043	2043	5	2	0.292
2043	2043	5	3	0.000
2043	2043	6	2	0.262
2043	2043	6	3	0.744
2044	2044	1	1	-0.075
2044	2044	1	2	-0.004
2044	2044	1	3	0.639
2044	2044	2	1	0.451
2044	2044	2	2	0.395
2044	2044	2	3	0.197
2044	2044	3	1	0.451
2044	2044	3	2	0.395
2044	2044	3	3	0.197
2044	2044	4	2	0.446
2044	2044	4	3	0.000
2044	2044	5	2	0.234
2044	2044	5	3	0.000
2044	2044	6	2	0.256
2044	2044	6	3	0.710
2045	2045	1	1	-0.046
2045	2045	1	2	-0.001
2045	2045	1	3	0.620
2045	2045	2	1	0.400
2045	2045	2	2	0.339
2045	2045	2	3	0.217
2045	2045	3	1	0.400
2045	2045	3	2	0.339
2045	2045	3	3	0.217
2045	2045	4	2	0.415
2045	2045	4	3	0.000
2045	2045	5	2	0.199
2045	2045	5	3	0.000
2045	2045	6	2	0.255

2045	2045	6	3	0.674
2046	2046	1	1	-0.022
2046	2046	1	2	0.000
2046	2046	1	3	0.603
2046	2046	2	1	1.958
2046	2046	2	2	1.266
2046	2046	2	3	0.233
2046	2046	3	1	1.958
2046	2046	3	2	1.266
2046	2046	3	3	0.233
2046	2046	4	2	0.425
2046	2046	4	3	0.000
2046	2046	5	2	0.214
2046	2046	5	3	0.000
2046	2046	6	2	0.248
2046	2046	6	3	0.634
2047	2047	1	1	-0.009
2047	2047	1	2	0.002
2047	2047	1	3	0.581
2047	2047	2	1	0.207
2047	2047	2	2	0.178
2047	2047	2	3	0.264
2047	2047	3	1	0.207
2047	2047	3	2	0.178
2047	2047	3	3	0.264
2047	2047	4	2	0.362
2047	2047	4	3	0.000
2047	2047	5	2	0.138
2047	2047	5	3	0.000
2047	2047	6	2	0.247
2047	2047	6	3	0.577
2048	2048	1	1	0.004
2048	2048	1	2	0.003
2048	2048	1	3	0.565
2048	2048	2	1	0.179
2048	2048	2	2	0.147
2048	2048	2	3	0.285
2048	2048	3	1	0.179
2048	2048	3	2	0.147
2048	2048	3	3	0.285
2048	2048	4	2	0.349
2048	2048	4	3	0.000
2048	2048	5	2	0.124
2048	2048	5	3	0.000

2048	2048	6	2	0.252
2048	2048	6	3	0.549
2049	2049	1	1	0.013
2049	2049	1	2	0.004
2049	2049	1	3	0.545
2049	2049	2	1	0.156
2049	2049	2	2	0.124
2049	2049	2	3	0.310
2049	2049	3	1	0.156
2049	2049	3	2	0.124
2049	2049	3	3	0.310
2049	2049	4	2	0.340
2049	2049	4	3	0.000
2049	2049	5	2	0.116
2049	2049	5	3	0.000
2049	2049	6	2	0.241
2049	2049	6	3	0.528
2050	2050	1	1	0.019
2050	2050	1	2	0.004
2050	2050	1	3	0.529
2050	2050	2	1	0.139
2050	2050	2	2	0.106
2050	2050	2	3	0.332
2050	2050	3	1	0.139
2050	2050	3	2	0.106
2050	2050	3	3	0.332
2050	2050	4	2	0.333
2050	2050	4	3	0.000
2050	2050	5	2	0.109
2050	2050	5	3	0.000
2050	2050	6	2	0.270
2050	2050	6	3	0.512
2051	2151	1	1	0.000
2051	2151	1	2	0.000
2051	2151	1	3	0.000
2051	2151	2	1	0.000
2051	2151	2	2	0.000
2051	2151	2	3	0.000
2051	2151	3	1	0.000
2051	2151	3	2	0.000
2051	2151	3	3	0.000
2051	2151	4	2	0.000
2051	2151	4	3	0.000
2051	2151	5	2	0.000

2051	2151	5	3	0.000
2051	2151	6	2	0.000
2051	2151	6	3	0.000

FUEL_EFFICIENCY - (std)

*% p.a.

*Start_yr	End_yr	veh_type	fuel_type	change
2011	2011	1	1	0.604
2011	2011	1	2	0.874
2011	2011	1	3	0.032
2011	2011	2	1	-0.168
2011	2011	2	2	0.177
2011	2011	2	3	0.000
2011	2011	3	1	-0.168
2011	2011	3	2	0.177
2011	2011	3	3	0.000
2011	2011	4	2	-0.113
2011	2011	5	2	0.011
2012	2012	1	1	0.285
2012	2012	1	2	0.975
2012	2012	1	3	-0.707
2012	2012	2	1	-0.630
2012	2012	2	2	0.468
2012	2012	2	3	0.000
2012	2012	3	1	-0.630
2012	2012	3	2	0.468
2012	2012	3	3	0.000
2012	2012	4	2	-2.932
2012	2012	5	2	0.288
2013	2013	1	1	0.891
2013	2013	1	2	0.920
2013	2013	1	3	0.085
2013	2013	2	1	0.031
2013	2013	2	2	0.107
2013	2013	2	3	0.000
2013	2013	3	1	0.031
2013	2013	3	2	0.107
2013	2013	3	3	0.000
2013	2013	4	2	0.475
2013	2013	5	2	0.068
2014	2014	1	1	0.979
2014	2014	1	2	0.945
2014	2014	1	3	-1.015
2014	2014	2	1	-0.518

2014	2014	2	2	0.057
2014	2014	2	3	-0.042
2014	2014	3	1	-0.518
2014	2014	3	2	0.057
2014	2014	3	3	-0.042
2014	2014	4	2	-1.038
2014	2014	5	2	0.144
2015	2015	1	1	1.281
2015	2015	1	2	1.319
2015	2015	1	3	-0.927
2015	2015	2	1	2.498
2015	2015	2	2	0.323
2015	2015	2	3	-0.454
2015	2015	3	1	2.498
2015	2015	3	2	0.323
2015	2015	3	3	-0.454
2015	2015	4	2	0.361
2015	2015	5	2	0.480
2016	2016	1	1	1.406
2016	2016	1	2	1.207
2016	2016	1	3	1.034
2016	2016	2	1	-0.062
2016	2016	2	2	0.705
2016	2016	2	3	0.340
2016	2016	3	1	-0.062
2016	2016	3	2	0.705
2016	2016	3	3	0.340
2016	2016	4	2	0.747
2016	2016	5	2	0.239
2017	2017	1	1	1.270
2017	2017	1	2	0.783
2017	2017	1	3	1.188
2017	2017	2	1	1.646
2017	2017	2	2	1.249
2017	2017	2	3	0.804
2017	2017	3	1	1.646
2017	2017	3	2	1.249
2017	2017	3	3	0.804
2017	2017	4	2	-0.771
2017	2017	5	2	0.316
2018	2018	1	1	1.029
2018	2018	1	2	0.063
2018	2018	1	3	1.035
2018	2018	2	1	3.029

2018	2018	2	2	0.770
2018	2018	2	3	0.708
2018	2018	3	1	3.029
2018	2018	3	2	0.770
2018	2018	3	3	0.708
2018	2018	4	2	-0.058
2018	2018	5	2	0.407
2019	2019	1	1	0.990
2019	2019	1	2	-0.041
2019	2019	1	3	2.359
2019	2019	2	1	1.141
2019	2019	2	2	0.522
2019	2019	2	3	2.118
2019	2019	3	1	1.141
2019	2019	3	2	0.522
2019	2019	3	3	2.118
2019	2019	4	2	0.247
2019	2019	5	2	0.388
2020	2020	1	1	2.680
2020	2020	1	2	1.323
2020	2020	1	3	2.699
2020	2020	2	1	1.842
2020	2020	2	2	1.432
2020	2020	2	3	-2.324
2020	2020	3	1	1.842
2020	2020	3	2	1.432
2020	2020	3	3	-2.324
2020	2020	4	2	0.341
2020	2020	5	2	0.470
2021	2021	1	1	2.289
2021	2021	1	2	1.469
2021	2021	1	3	5.660
2021	2021	2	1	1.283
2021	2021	2	2	1.165
2021	2021	2	3	-0.804
2021	2021	3	1	1.283
2021	2021	3	2	1.165
2021	2021	3	3	-0.804
2021	2021	4	2	0.484
2021	2021	5	2	0.523
2022	2022	1	1	2.080
2022	2022	1	2	1.497
2022	2022	1	3	3.960
2022	2022	2	1	2.960

2022	2022	2	2	1.102
2022	2022	2	3	-0.880
2022	2022	3	1	2.960
2022	2022	3	2	1.102
2022	2022	3	3	-0.880
2022	2022	4	2	0.491
2022	2022	5	2	0.531
2023	2023	1	1	1.895
2023	2023	1	2	1.393
2023	2023	1	3	2.637
2023	2023	2	1	1.045
2023	2023	2	2	0.925
2023	2023	2	3	-1.450
2023	2023	3	1	1.045
2023	2023	3	2	0.925
2023	2023	3	3	-1.450
2023	2023	4	2	0.500
2023	2023	5	2	0.548
2024	2024	1	1	1.891
2024	2024	1	2	1.258
2024	2024	1	3	2.035
2024	2024	2	1	1.277
2024	2024	2	2	0.822
2024	2024	2	3	-1.389
2024	2024	3	1	1.277
2024	2024	3	2	0.822
2024	2024	3	3	-1.389
2024	2024	4	2	0.490
2024	2024	5	2	0.544
2025	2025	1	1	1.650
2025	2025	1	2	1.164
2025	2025	1	3	1.843
2025	2025	2	1	2.913
2025	2025	2	2	1.999
2025	2025	2	3	-1.541
2025	2025	3	1	2.913
2025	2025	3	2	1.999
2025	2025	3	3	-1.541
2025	2025	4	2	0.918
2025	2025	5	2	1.864
2026	2026	1	1	1.468
2026	2026	1	2	1.107
2026	2026	1	3	1.211
2026	2026	2	1	2.351

2026	2026	2	2	1.780
2026	2026	2	3	-0.553
2026	2026	3	1	2.351
2026	2026	3	2	1.780
2026	2026	3	3	-0.553
2026	2026	4	2	0.900
2026	2026	5	2	1.854
2027	2027	1	1	1.372
2027	2027	1	2	1.130
2027	2027	1	3	0.922
2027	2027	2	1	3.660
2027	2027	2	2	1.600
2027	2027	2	3	-0.253
2027	2027	3	1	3.660
2027	2027	3	2	1.600
2027	2027	3	3	-0.253
2027	2027	4	2	0.874
2027	2027	5	2	1.767
2028	2028	1	1	1.234
2028	2028	1	2	1.148
2028	2028	1	3	0.747
2028	2028	2	1	1.853
2028	2028	2	2	1.433
2028	2028	2	3	0.019
2028	2028	3	1	1.853
2028	2028	3	2	1.433
2028	2028	3	3	0.019
2028	2028	4	2	0.846
2028	2028	5	2	1.644
2029	2029	1	1	1.110
2029	2029	1	2	1.140
2029	2029	1	3	0.694
2029	2029	2	1	1.699
2029	2029	2	2	1.299
2029	2029	2	3	0.258
2029	2029	3	1	1.699
2029	2029	3	2	1.299
2029	2029	3	3	0.258
2029	2029	4	2	0.808
2029	2029	5	2	1.531
2030	2030	1	1	2.306
2030	2030	1	2	2.305
2030	2030	1	3	0.690
2030	2030	2	1	3.530

2030	2030	2	2	2.726
2030	2030	2	3	0.398
2030	2030	3	1	3.530
2030	2030	3	2	2.726
2030	2030	3	3	0.398
2030	2030	4	2	1.394
2030	2030	5	2	3.225
2031	2031	1	1	2.230
2031	2031	1	2	2.375
2031	2031	1	3	0.571
2031	2031	2	1	1.740
2031	2031	2	2	2.564
2031	2031	2	3	0.251
2031	2031	3	1	1.740
2031	2031	3	2	2.564
2031	2031	3	3	0.251
2031	2031	4	2	1.307
2031	2031	5	2	3.126
2032	2032	1	1	2.088
2032	2032	1	2	2.387
2032	2032	1	3	0.492
2032	2032	2	1	2.870
2032	2032	2	2	2.133
2032	2032	2	3	0.170
2032	2032	3	1	2.870
2032	2032	3	2	2.133
2032	2032	3	3	0.170
2032	2032	4	2	1.294
2032	2032	5	2	2.946
2033	2033	1	1	2.021
2033	2033	1	2	2.185
2033	2033	1	3	0.435
2033	2033	2	1	2.820
2033	2033	2	2	2.016
2033	2033	2	3	0.145
2033	2033	3	1	2.820
2033	2033	3	2	2.016
2033	2033	3	3	0.145
2033	2033	4	2	1.240
2033	2033	5	2	2.667
2034	2034	1	1	1.933
2034	2034	1	2	1.998
2034	2034	1	3	0.405
2034	2034	2	1	3.326

2034	2034	2	2	1.646
2034	2034	2	3	0.151
2034	2034	3	1	3.326
2034	2034	3	2	1.646
2034	2034	3	3	0.151
2034	2034	4	2	1.176
2034	2034	5	2	2.450
2035	2035	1	1	1.795
2035	2035	1	2	1.826
2035	2035	1	3	0.374
2035	2035	2	1	-0.177
2035	2035	2	2	1.517
2035	2035	2	3	0.162
2035	2035	3	1	-0.177
2035	2035	3	2	1.517
2035	2035	3	3	0.162
2035	2035	4	2	1.110
2035	2035	5	2	2.072
2036	2036	1	1	1.602
2036	2036	1	2	1.723
2036	2036	1	3	0.362
2036	2036	2	1	1.873
2036	2036	2	2	1.401
2036	2036	2	3	0.192
2036	2036	3	1	1.873
2036	2036	3	2	1.401
2036	2036	3	3	0.192
2036	2036	4	2	1.026
2036	2036	5	2	1.652
2037	2037	1	1	1.499
2037	2037	1	2	1.565
2037	2037	1	3	0.374
2037	2037	2	1	1.484
2037	2037	2	2	1.325
2037	2037	2	3	0.232
2037	2037	3	1	1.484
2037	2037	3	2	1.325
2037	2037	3	3	0.232
2037	2037	4	2	0.935
2037	2037	5	2	1.356
2038	2038	1	1	1.372
2038	2038	1	2	1.357
2038	2038	1	3	0.386
2038	2038	2	1	2.766

2038	2038	2	2	1.280
2038	2038	2	3	0.263
2038	2038	3	1	2.766
2038	2038	3	2	1.280
2038	2038	3	3	0.263
2038	2038	4	2	0.848
2038	2038	5	2	1.046
2039	2039	1	1	1.233
2039	2039	1	2	1.098
2039	2039	1	3	0.402
2039	2039	2	1	0.398
2039	2039	2	2	0.831
2039	2039	2	3	0.296
2039	2039	3	1	0.398
2039	2039	3	2	0.831
2039	2039	3	3	0.296
2039	2039	4	2	0.758
2039	2039	5	2	0.806
2040	2040	1	1	1.198
2040	2040	1	2	1.161
2040	2040	1	3	0.342
2040	2040	2	1	0.753
2040	2040	2	2	0.771
2040	2040	2	3	0.329
2040	2040	3	1	0.753
2040	2040	3	2	0.771
2040	2040	3	3	0.329
2040	2040	4	2	0.660
2040	2040	5	2	0.599
2041	2041	1	1	1.300
2041	2041	1	2	1.581
2041	2041	1	3	0.360
2041	2041	2	1	1.010
2041	2041	2	2	1.026
2041	2041	2	3	0.390
2041	2041	3	1	1.010
2041	2041	3	2	1.026
2041	2041	3	3	0.390
2041	2041	4	2	0.582
2041	2041	5	2	0.436
2042	2042	1	1	0.879
2042	2042	1	2	0.843
2042	2042	1	3	0.374
2042	2042	2	1	0.496

2042	2042	2	2	0.525
2042	2042	2	3	0.477
2042	2042	3	1	0.496
2042	2042	3	2	0.525
2042	2042	3	3	0.477
2042	2042	4	2	0.512
2042	2042	5	2	0.335
2043	2043	1	1	0.765
2043	2043	1	2	0.693
2043	2043	1	3	0.385
2043	2043	2	1	0.415
2043	2043	2	2	0.437
2043	2043	2	3	0.533
2043	2043	3	1	0.415
2043	2043	3	2	0.437
2043	2043	3	3	0.533
2043	2043	4	2	0.451
2043	2043	5	2	0.259
2044	2044	1	1	0.624
2044	2044	1	2	0.557
2044	2044	1	3	0.405
2044	2044	2	1	0.345
2044	2044	2	2	0.357
2044	2044	2	3	0.581
2044	2044	3	1	0.345
2044	2044	3	2	0.357
2044	2044	3	3	0.581
2044	2044	4	2	0.404
2044	2044	5	2	0.202
2045	2045	1	1	0.483
2045	2045	1	2	0.421
2045	2045	1	3	0.407
2045	2045	2	1	0.285
2045	2045	2	2	0.288
2045	2045	2	3	0.623
2045	2045	3	1	0.285
2045	2045	3	2	0.288
2045	2045	3	3	0.623
2045	2045	4	2	0.365
2045	2045	5	2	0.160
2046	2046	1	1	0.320
2046	2046	1	2	0.344
2046	2046	1	3	0.428
2046	2046	2	1	0.652

2046	2046	2	2	0.858
2046	2046	2	3	0.645
2046	2046	3	1	0.652
2046	2046	3	2	0.858
2046	2046	3	3	0.645
2046	2046	4	2	0.374
2046	2046	5	2	0.157
2047	2047	1	1	0.238
2047	2047	1	2	0.257
2047	2047	1	3	0.441
2047	2047	2	1	0.150
2047	2047	2	2	0.136
2047	2047	2	3	0.686
2047	2047	3	1	0.150
2047	2047	3	2	0.136
2047	2047	3	3	0.686
2047	2047	4	2	0.304
2047	2047	5	2	0.087
2048	2048	1	1	0.179
2048	2048	1	2	0.195
2048	2048	1	3	0.452
2048	2048	2	1	0.126
2048	2048	2	2	0.108
2048	2048	2	3	0.717
2048	2048	3	1	0.126
2048	2048	3	2	0.108
2048	2048	3	3	0.717
2048	2048	4	2	0.288
2048	2048	5	2	0.074
2049	2049	1	1	0.135
2049	2049	1	2	0.148
2049	2049	1	3	0.461
2049	2049	2	1	0.106
2049	2049	2	2	0.087
2049	2049	2	3	0.745
2049	2049	3	1	0.106
2049	2049	3	2	0.087
2049	2049	3	3	0.745
2049	2049	4	2	0.275
2049	2049	5	2	0.062
2050	2050	1	1	0.103
2050	2050	1	2	0.114
2050	2050	1	3	0.472
2050	2050	2	1	0.091

2050	2050	2	2	0.072
2050	2050	2	3	0.770
2050	2050	3	1	0.091
2050	2050	3	2	0.072
2050	2050	3	3	0.770
2050	2050	4	2	0.266
2050	2050	5	2	0.055
2051	2151	1	1	0.000
2051	2151	1	2	0.000
2051	2151	1	3	0.000
2051	2151	2	1	0.000
2051	2151	2	2	0.000
2051	2151	2	3	0.000
2051	2151	3	1	0.000
2051	2151	3	2	0.000
2051	2151	3	3	0.000
2051	2151	4	2	0.000
2051	2151	5	2	0.000
2011	2151	6	2	0.000

INPUT_SUMMARY

Run name TUBA-1_White_Post_Costs_FBC_QRA_V3
DM scheme DM
DS scheme DS

Economic parameter file L:\60625845_A614 MRN DFT responses\2023_Draft_FBC\TUBA\Economics_TAG_db1_20_2.txt

Scheme parameter file L:\60625845_A614 MRN DFT responses\2023_Draft_FBC\TUBA\MasterFile -White_Post_cost_only_Draft_FBC_QRA_V3.txt

First year of scheme costs 2023

First Appraisal Year 2023

Last Appraisal Year 2082

Modelled years 2023 2037

Time period	Total hours
AM peak	648
PM peak	667
Inter-peak	2997
Off-peak	4438
Total	8750

Note: All monetary values are in 2010 market prices. All monetary values discounted to 2010 unless otherwise stated.

DM_SCHEME_COSTS

Road	2045	0	0	0	0	0	0	0	0
Road	2046	0	0	0	0	0	0	0	0
Road	2047	0	0	0	0	0	0	0	0
Road	2048	0	0	0	0	0	0	0	0
Road	2049	0	0	0	0	0	0	0	0
Road	2050	0	0	0	0	0	0	0	0
Road	2051	0	0	0	0	0	0	0	0
Road	2052	0	0	0	0	0	0	0	0
Road	2053	0	0	0	0	0	0	0	0
Road	2054	0	0	0	0	0	0	0	0
Road	2055	0	0	0	0	0	0	0	0
Road	2056	0	0	0	0	0	0	0	0
Road	2057	0	0	0	0	0	0	0	0
Road	2058	0	0	0	0	0	0	0	0
Road	2059	0	0	0	0	0	0	0	0
Road	2060	0	0	0	0	0	0	0	0
Road	2061	0	0	0	0	0	0	0	0
Road	2062	0	0	0	0	0	0	0	0
Road	2063	0	0	0	0	0	0	0	0
Road	2064	0	0	0	0	0	0	0	0
Road	2065	0	0	0	0	0	0	0	0
Road	2066	0	0	0	0	0	0	0	0
Road	2067	0	0	0	0	0	0	0	0
Road	2068	0	0	0	0	0	0	0	0
Road	2069	0	0	0	0	0	0	0	0
Road	2070	0	0	0	0	0	0	0	0
Road	2071	0	0	0	0	0	0	0	0
Road	2072	0	0	0	0	0	0	0	0
Road	2073	0	0	0	0	0	0	0	0
Road	2074	0	0	0	0	0	0	0	0
Road	2075	0	0	0	0	0	0	0	0
Road	2076	0	0	0	0	0	0	0	0
Road	2077	0	0	0	0	0	0	0	0
Road	2078	0	0	0	0	0	0	0	0
Road	2079	0	0	0	0	0	0	0	0
Road	2080	0	0	0	0	0	0	0	0
Road	2081	0	0	0	0	0	0	0	0
Road	2082	0	0	0	0	0	0	0	0

PRESENT_VALUE_COSTS

Scheme investment and operating costs (i.e. excluding grant/subsidy, developer contributions and delays) and differences. £000s.

Mode	Year	DM_scheme_costs	DS_scheme_costs	Difference
Road	2023	0	7	7
Road	2024	0	123	123

Road	2025	0	0	0
Road	2026	0	0	0
Road	2027	0	0	0
Road	2028	0	0	0
Road	2029	0	0	0
Road	2030	0	0	0
Road	2031	0	0	0
Road	2032	0	0	0
Road	2033	0	0	0
Road	2034	0	0	0
Road	2035	0	0	0
Road	2036	0	0	0
Road	2037	0	0	0
Road	2038	0	0	0
Road	2039	0	0	0
Road	2040	0	0	0
Road	2041	0	0	0
Road	2042	0	0	0
Road	2043	0	0	0
Road	2044	0	0	0
Road	2045	0	0	0
Road	2046	0	0	0
Road	2047	0	0	0
Road	2048	0	0	0
Road	2049	0	0	0
Road	2050	0	0	0
Road	2051	0	0	0
Road	2052	0	0	0
Road	2053	0	0	0
Road	2054	0	0	0
Road	2055	0	0	0
Road	2056	0	0	0
Road	2057	0	0	0
Road	2058	0	0	0
Road	2059	0	0	0
Road	2060	0	0	0
Road	2061	0	0	0
Road	2062	0	0	0
Road	2063	0	0	0
Road	2064	0	0	0
Road	2065	0	0	0
Road	2066	0	0	0
Road	2067	0	0	0
Road	2068	0	0	0

Road	2069	0	0	0
Road	2070	0	0	0
Road	2071	0	0	0
Road	2072	0	0	0
Road	2073	0	0	0
Road	2074	0	0	0
Road	2075	0	0	0
Road	2076	0	0	0
Road	2077	0	0	0
Road	2078	0	0	0
Road	2079	0	0	0
Road	2080	0	0	0
Road	2081	0	0	0
Road	2082	0	0	0
Road	Total	0	130	130

TRIP_MATRIX_TOTALS

Annualised total trip numbers(thousands)

Submode	Year	Time period	DO MIN	DO SOM
Car	2023	AM peak	0	0
Car	2023	PM peak	0	0
Car	2023	Inter-peak	0	0
Car	2023	Off-peak	0	0
Car	2023	All	0	0
Car	2037	AM peak	0	0
Car	2037	PM peak	0	0
Car	2037	Inter-peak	0	0
Car	2037	Off-peak	0	0
Car	2037	All	0	0
LGV Personal	2023	AM peak	0	0
LGV Personal	2023	PM peak	0	0
LGV Personal	2023	Inter-peak	0	0
LGV Personal	2023	Off-peak	0	0
LGV Personal	2023	All	0	0
LGV Personal	2037	AM peak	0	0
LGV Personal	2037	PM peak	0	0
LGV Personal	2037	Inter-peak	0	0
LGV Personal	2037	Off-peak	0	0
LGV Personal	2037	All	0	0
LGV Freight	2023	AM peak	0	0
LGV Freight	2023	PM peak	0	0
LGV Freight	2023	Inter-peak	0	0
LGV Freight	2023	Off-peak	0	0
LGV Freight	2023	All	0	0

LGV Freight	2037 AM peak	0	0
LGV Freight	2037 PM peak	0	0
LGV Freight	2037 Inter-peak	0	0
LGV Freight	2037 Off-peak	0	0
LGV Freight	2037 All	0	0
OGV1	2023 AM peak	0	0
OGV1	2023 PM peak	0	0
OGV1	2023 Inter-peak	0	0
OGV1	2023 Off-peak	0	0
OGV1	2023 All	0	0
OGV1	2037 AM peak	0	0
OGV1	2037 PM peak	0	0
OGV1	2037 Inter-peak	0	0
OGV1	2037 Off-peak	0	0
OGV1	2037 All	0	0
OGV2	2023 AM peak	0	0
OGV2	2023 PM peak	0	0
OGV2	2023 Inter-peak	0	0
OGV2	2023 Off-peak	0	0
OGV2	2023 All	0	0
OGV2	2037 AM peak	0	0
OGV2	2037 PM peak	0	0
OGV2	2037 Inter-peak	0	0
OGV2	2037 Off-peak	0	0
OGV2	2037 All	0	0
All	2023 AM peak	0	0
All	2023 PM peak	0	0
All	2023 Inter-peak	0	0
All	2023 Off-peak	0	0
All	2023 All	0	0
All	2037 AM peak	0	0
All	2037 PM peak	0	0
All	2037 Inter-peak	0	0
All	2037 Off-peak	0	0
All	2037 All	0	0

DM&DS_USER_COSTS

Total value of user costs, DM and DS. £000s.

Mode	Year	DMtot_time	DMtot_charge	DMtot_fuel	DMtot_nonfuel	DStot_time	DStot_charge	DStot_fuel	DStot_nonfuel
Road	2023	0	0	0	0	0	0	0	0
Road	2037	0	0	0	0	0	0	0	0

FUEL_CONSUMPTION

Total fuel consumption, DM and DS. kilounits.

MODE

User benefits and changes in revenues by mode, all years. £000s.

Mode	Year	User	User_Charges	Vehicle_Operating_Cost		Operator_Rev	Indirect
		Time	PT_fares_(pri)	Fuel	Non_fuel	PT_fares_(pri)	
Road	2023	0	0	0	0	0	0
Road	2024	0	0	0	0	0	0
Road	2025	0	0	0	0	0	0
Road	2026	0	0	0	0	0	0
Road	2027	0	0	0	0	0	0
Road	2028	0	0	0	0	0	0
Road	2029	0	0	0	0	0	0
Road	2030	0	0	0	0	0	0
Road	2031	0	0	0	0	0	0
Road	2032	0	0	0	0	0	0
Road	2033	0	0	0	0	0	0
Road	2034	0	0	0	0	0	0
Road	2035	0	0	0	0	0	0
Road	2036	0	0	0	0	0	0
Road	2037	0	0	0	0	0	0
Road	2038	0	0	0	0	0	0
Road	2039	0	0	0	0	0	0
Road	2040	0	0	0	0	0	0
Road	2041	0	0	0	0	0	0
Road	2042	0	0	0	0	0	0
Road	2043	0	0	0	0	0	0
Road	2044	0	0	0	0	0	0
Road	2045	0	0	0	0	0	0
Road	2046	0	0	0	0	0	0
Road	2047	0	0	0	0	0	0
Road	2048	0	0	0	0	0	0
Road	2049	0	0	0	0	0	0
Road	2050	0	0	0	0	0	0
Road	2051	0	0	0	0	0	0
Road	2052	0	0	0	0	0	0
Road	2053	0	0	0	0	0	0
Road	2054	0	0	0	0	0	0
Road	2055	0	0	0	0	0	0
Road	2056	0	0	0	0	0	0
Road	2057	0	0	0	0	0	0
Road	2058	0	0	0	0	0	0
Road	2059	0	0	0	0	0	0
Road	2060	0	0	0	0	0	0
Road	2061	0	0	0	0	0	0
Road	2062	0	0	0	0	0	0

Road	2063	0	0	0	0	0	0
Road	2064	0	0	0	0	0	0
Road	2065	0	0	0	0	0	0
Road	2066	0	0	0	0	0	0
Road	2067	0	0	0	0	0	0
Road	2068	0	0	0	0	0	0
Road	2069	0	0	0	0	0	0
Road	2070	0	0	0	0	0	0
Road	2071	0	0	0	0	0	0
Road	2072	0	0	0	0	0	0
Road	2073	0	0	0	0	0	0
Road	2074	0	0	0	0	0	0
Road	2075	0	0	0	0	0	0
Road	2076	0	0	0	0	0	0
Road	2077	0	0	0	0	0	0
Road	2078	0	0	0	0	0	0
Road	2079	0	0	0	0	0	0
Road	2080	0	0	0	0	0	0
Road	2081	0	0	0	0	0	0
Road	2082	0	0	0	0	0	0
Road	Total	0	0	0	0	0	0

SUBMODE

User benefits and changes in revenues by submode/vehicle type, modelled years and total. £000s.

Submode	Year	User	User_Charges	Vehicle_Operating_Cost		Operator_Rev	Indirect
		Time	PT_fares_(pri)	Fuel	Non_fuel	PT_fares_(pri)	
Car	2023	0	0	0	0	0	0
Car	2037	0	0	0	0	0	0
LGV Personal	2023	0	0	0	0	0	0
LGV Personal	2037	0	0	0	0	0	0
LGV Freight	2023	0	0	0	0	0	0
LGV Freight	2037	0	0	0	0	0	0
OGV1	2023	0	0	0	0	0	0
OGV1	2037	0	0	0	0	0	0
OGV2	2023	0	0	0	0	0	0
OGV2	2037	0	0	0	0	0	0
All	2023	0	0	0	0	0	0
All	2037	0	0	0	0	0	0
Car	Total	0	0	0	0	0	0
LGV Personal	Total	0	0	0	0	0	0
LGV Freight	Total	0	0	0	0	0	0
OGV1	Total	0	0	0	0	0	0
OGV2	Total	0	0	0	0	0	0
All	Total	0	0	0	0	0	0

PERSON_TYPES

User benefits and changes in revenues by person type, modelled years and total. £000s.

Person_type	Year	User	User_Charges	Vehicle_Operating_Cost		Operator_Rev	Indirect
		Time	PT_fares_(pri)	Fuel	Non_fuel	PT_fares_(pri)	
All	2023	0	0	0	0	0	0
All	2037	0	0	0	0	0	0
All	Total	0	0	0	0	0	0

PURPOSE

User benefits and changes in revenues by trip purpose, modelled years and total. £000s.

Purpose	Year	User	User_Charges	Vehicle_Operating_Cost		Operator_Rev	Indirect
		Time	PT_fares_(pri)	Fuel	Non_fuel	PT_fares_(pri)	
Business	2023	0	0	0	0	0	0
Business	2037	0	0	0	0	0	0
Commuting	2023	0	0	0	0	0	0
Commuting	2037	0	0	0	0	0	0
Other	2023	0	0	0	0	0	0
Other	2037	0	0	0	0	0	0
Business	Total	0	0	0	0	0	0
Commuting	Total	0	0	0	0	0	0
Other	Total	0	0	0	0	0	0

PERIOD

User benefits and changes in revenues by time period, modelled years and total. £000s.

Period	Year	User	User_Charges	Vehicle_Operating_Cost		Operator_Rev	Indirect
		Time	PT_fares_(pri)	Fuel	Non_fuel	PT_fares_(pri)	
AM peak	2023	0	0	0	0	0	0
AM peak	2037	0	0	0	0	0	0
PM peak	2023	0	0	0	0	0	0
PM peak	2037	0	0	0	0	0	0
Inter-peak	2023	0	0	0	0	0	0
Inter-peak	2037	0	0	0	0	0	0
Off-peak	2023	0	0	0	0	0	0
Off-peak	2037	0	0	0	0	0	0
AM peak	Total	0	0	0	0	0	0
PM peak	Total	0	0	0	0	0	0
Inter-peak	Total	0	0	0	0	0	0
Off-peak	Total	0	0	0	0	0	0

NON MONETISED TIME BENEFITS BY TIME SAVING

Time benefits (thousands of person hrs) by size of time saving

Vehicle type	Purpose	Year	< -5 mins	-5 to -2 mins	-2 to 0 mins	0 to 2 mins	2 to 5 mins	> 5 mins
Car	Business	2023	0	0	0	0	0	0

Car	Business	2037	0	0	0	0	0	0
Car	Business	Total	0	0	0	0	0	0
Car	Commuting	2023	0	0	0	0	0	0
Car	Commuting	2037	0	0	0	0	0	0
Car	Commuting	Total	0	0	0	0	0	0
Car	Other	2023	0	0	0	0	0	0
Car	Other	2037	0	0	0	0	0	0
Car	Other	Total	0	0	0	0	0	0
LGV Personal	Business	2023	0	0	0	0	0	0
LGV Personal	Business	2037	0	0	0	0	0	0
LGV Personal	Business	Total	0	0	0	0	0	0
LGV Personal	Commuting	2023	0	0	0	0	0	0
LGV Personal	Commuting	2037	0	0	0	0	0	0
LGV Personal	Commuting	Total	0	0	0	0	0	0
LGV Personal	Other	2023	0	0	0	0	0	0
LGV Personal	Other	2037	0	0	0	0	0	0
LGV Personal	Other	Total	0	0	0	0	0	0
LGV Freight	Business	2023	0	0	0	0	0	0
LGV Freight	Business	2037	0	0	0	0	0	0
LGV Freight	Business	Total	0	0	0	0	0	0
LGV Freight	Commuting	2023	0	0	0	0	0	0
LGV Freight	Commuting	2037	0	0	0	0	0	0
LGV Freight	Commuting	Total	0	0	0	0	0	0
LGV Freight	Other	2023	0	0	0	0	0	0
LGV Freight	Other	2037	0	0	0	0	0	0
LGV Freight	Other	Total	0	0	0	0	0	0
OGV1	Business	2023	0	0	0	0	0	0
OGV1	Business	2037	0	0	0	0	0	0
OGV1	Business	Total	0	0	0	0	0	0
OGV1	Commuting	2023	0	0	0	0	0	0
OGV1	Commuting	2037	0	0	0	0	0	0
OGV1	Commuting	Total	0	0	0	0	0	0
OGV1	Other	2023	0	0	0	0	0	0
OGV1	Other	2037	0	0	0	0	0	0
OGV1	Other	Total	0	0	0	0	0	0
OGV2	Business	2023	0	0	0	0	0	0
OGV2	Business	2037	0	0	0	0	0	0
OGV2	Business	Total	0	0	0	0	0	0
OGV2	Commuting	2023	0	0	0	0	0	0
OGV2	Commuting	2037	0	0	0	0	0	0
OGV2	Commuting	Total	0	0	0	0	0	0
OGV2	Other	2023	0	0	0	0	0	0
OGV2	Other	2037	0	0	0	0	0	0
OGV2	Other	Total	0	0	0	0	0	0

MONETISED TIME BENEFITS BY TIME SAVING

Time benefits (£000s) by size of time saving

Vehicle type	Purpose	Year	< -5 mins	-5 to -2 mins	-2 to 0 mins	0 to 2 mins	2 to 5 mins	> 5 mins
Car	Business	2023	0	0	0	0	0	0
Car	Business	2037	0	0	0	0	0	0
Car	Business	Total	0	0	0	0	0	0
Car	Commuting	2023	0	0	0	0	0	0
Car	Commuting	2037	0	0	0	0	0	0
Car	Commuting	Total	0	0	0	0	0	0
Car	Other	2023	0	0	0	0	0	0
Car	Other	2037	0	0	0	0	0	0
Car	Other	Total	0	0	0	0	0	0
LGV Personal	Business	2023	0	0	0	0	0	0
LGV Personal	Business	2037	0	0	0	0	0	0
LGV Personal	Business	Total	0	0	0	0	0	0
LGV Personal	Commuting	2023	0	0	0	0	0	0
LGV Personal	Commuting	2037	0	0	0	0	0	0
LGV Personal	Commuting	Total	0	0	0	0	0	0
LGV Personal	Other	2023	0	0	0	0	0	0
LGV Personal	Other	2037	0	0	0	0	0	0
LGV Personal	Other	Total	0	0	0	0	0	0
LGV Freight	Business	2023	0	0	0	0	0	0
LGV Freight	Business	2037	0	0	0	0	0	0
LGV Freight	Business	Total	0	0	0	0	0	0
LGV Freight	Commuting	2023	0	0	0	0	0	0
LGV Freight	Commuting	2037	0	0	0	0	0	0
LGV Freight	Commuting	Total	0	0	0	0	0	0
LGV Freight	Other	2023	0	0	0	0	0	0
LGV Freight	Other	2037	0	0	0	0	0	0
LGV Freight	Other	Total	0	0	0	0	0	0
OGV1	Business	2023	0	0	0	0	0	0
OGV1	Business	2037	0	0	0	0	0	0
OGV1	Business	Total	0	0	0	0	0	0
OGV1	Commuting	2023	0	0	0	0	0	0
OGV1	Commuting	2037	0	0	0	0	0	0
OGV1	Commuting	Total	0	0	0	0	0	0
OGV1	Other	2023	0	0	0	0	0	0
OGV1	Other	2037	0	0	0	0	0	0
OGV1	Other	Total	0	0	0	0	0	0
OGV2	Business	2023	0	0	0	0	0	0
OGV2	Business	2037	0	0	0	0	0	0
OGV2	Business	Total	0	0	0	0	0	0
OGV2	Commuting	2023	0	0	0	0	0	0

OGV2	Commuting	2037	0	0	0	0	0	0
OGV2	Commuting	Total	0	0	0	0	0	0
OGV2	Other	2023	0	0	0	0	0	0
OGV2	Other	2037	0	0	0	0	0	0
OGV2	Other	Total	0	0	0	0	0	0

TOTAL BENEFITS BY TIME SAVING

Total benefits (£000s) by size of time saving

Vehicle type	Purpose	Year	< -5 mins	-5 to -2 mins	-2 to 0 mins	0 to 2 mins	2 to 5 mins	> 5 mins
Car	Business	2023	0	0	0	0	0	0
Car	Business	2037	0	0	0	0	0	0
Car	Business	Total	0	0	0	0	0	0
Car	Commuting	2023	0	0	0	0	0	0
Car	Commuting	2037	0	0	0	0	0	0
Car	Commuting	Total	0	0	0	0	0	0
Car	Other	2023	0	0	0	0	0	0
Car	Other	2037	0	0	0	0	0	0
Car	Other	Total	0	0	0	0	0	0
LGV Personal	Business	2023	0	0	0	0	0	0
LGV Personal	Business	2037	0	0	0	0	0	0
LGV Personal	Business	Total	0	0	0	0	0	0
LGV Personal	Commuting	2023	0	0	0	0	0	0
LGV Personal	Commuting	2037	0	0	0	0	0	0
LGV Personal	Commuting	Total	0	0	0	0	0	0
LGV Personal	Other	2023	0	0	0	0	0	0
LGV Personal	Other	2037	0	0	0	0	0	0
LGV Personal	Other	Total	0	0	0	0	0	0
LGV Freight	Business	2023	0	0	0	0	0	0
LGV Freight	Business	2037	0	0	0	0	0	0
LGV Freight	Business	Total	0	0	0	0	0	0
LGV Freight	Commuting	2023	0	0	0	0	0	0
LGV Freight	Commuting	2037	0	0	0	0	0	0
LGV Freight	Commuting	Total	0	0	0	0	0	0
LGV Freight	Other	2023	0	0	0	0	0	0
LGV Freight	Other	2037	0	0	0	0	0	0
LGV Freight	Other	Total	0	0	0	0	0	0
OGV1	Business	2023	0	0	0	0	0	0
OGV1	Business	2037	0	0	0	0	0	0
OGV1	Business	Total	0	0	0	0	0	0
OGV1	Commuting	2023	0	0	0	0	0	0
OGV1	Commuting	2037	0	0	0	0	0	0
OGV1	Commuting	Total	0	0	0	0	0	0
OGV1	Other	2023	0	0	0	0	0	0
OGV1	Other	2037	0	0	0	0	0	0

LGV Freight	Business	Total	0	0	0	0	0	0	0	0
LGV Freight	Commuting	2023	0	0	0	0	0	0	0	0
LGV Freight	Commuting	2037	0	0	0	0	0	0	0	0
LGV Freight	Commuting	Total	0	0	0	0	0	0	0	0
LGV Freight	Other	2023	0	0	0	0	0	0	0	0
LGV Freight	Other	2037	0	0	0	0	0	0	0	0
LGV Freight	Other	Total	0	0	0	0	0	0	0	0
OGV1	Business	2023	0	0	0	0	0	0	0	0
OGV1	Business	2037	0	0	0	0	0	0	0	0
OGV1	Business	Total	0	0	0	0	0	0	0	0
OGV1	Commuting	2023	0	0	0	0	0	0	0	0
OGV1	Commuting	2037	0	0	0	0	0	0	0	0
OGV1	Commuting	Total	0	0	0	0	0	0	0	0
OGV1	Other	2023	0	0	0	0	0	0	0	0
OGV1	Other	2037	0	0	0	0	0	0	0	0
OGV1	Other	Total	0	0	0	0	0	0	0	0
OGV2	Business	2023	0	0	0	0	0	0	0	0
OGV2	Business	2037	0	0	0	0	0	0	0	0
OGV2	Business	Total	0	0	0	0	0	0	0	0
OGV2	Commuting	2023	0	0	0	0	0	0	0	0
OGV2	Commuting	2037	0	0	0	0	0	0	0	0
OGV2	Commuting	Total	0	0	0	0	0	0	0	0
OGV2	Other	2023	0	0	0	0	0	0	0	0
OGV2	Other	2037	0	0	0	0	0	0	0	0
OGV2	Other	Total	0	0	0	0	0	0	0	0

SENSITIVITY

Total user benefits as a percentage of total DM user costs

Modelled Years		
Mode	2023	2037
Road	0.00%	0.00%

Economy:Economic Efficiency of the Transport System (TEE)

Consumer - Commuting user benefits	All Modes	Road
Travel Time	0	0
Vehicle operating costs	0	0
User charges	0	0
During Construction & Maintenance	0	0
NET CONSUMER - COMMUTING BENEFITS	0	0

Consumer - Other user benefits	All Modes	Road
Travel Time	0	0
Vehicle operating costs	0	0

User charges	0	0
During Construction & Maintenance	0	0
NET CONSUMER - OTHER BENEFITS	0	0

Business	All Modes	Road Personal	Road Freight
Travel Time	0	0	0
Vehicle operating costs	0	0	0
User charges	0	0	0
During Construction & Maintenance	0	0	0
Subtotal	0	0	0

Private Sector Provider Impacts

Revenue	0	0
Operating costs	0	0
Investment costs	0	0
Grant/subsidy	0	0
Subtotal	0	0

Other business Impacts

Developer contributions	0	0
NET BUSINESS IMPACT	0	

TOTAL

Present Value of Transport Economic

Efficiency Benefits (TEE)	0
---------------------------	---

Note: Benefits appear as positive numbers, while costs appear as negative numbers.

Note: All entries are present values discounted to 2010, in 2010 prices

Public Accounts

Local Government Funding	ALL MODES	Road
Revenue	0	0
Operating Costs	0	0
Investment Costs	18	18
Developer Contributions	0	0
Grant/Subsidy Payments	0	0
NET IMPACT	18	18

Central Government Funding: Transport

	ALL MODES	Road
Revenue	0	0
Operating costs	0	0
Investment costs	112	112
Developer Contributions	0	0
Grant/Subsidy Payments	0	0

NET IMPACT	112	112
------------	-----	-----

Central Government Funding: Non-Transport

Indirect Tax Revenues	0	0
-----------------------	---	---

TOTALS

Broad Transport Budget	130	130
Wider Public Finances	0	0

Note: Costs appear as positive numbers, while revenues and developer contributions appear as negative numbers.

Note: All entries are present values discounted to 2010, in 2010 prices

Analysis of Monetised Costs and Benefits

Greenhouse Gases	0
Economic Efficiency: Consumer Users (Commuting)	0
Economic Efficiency: Consumer Users (Other)	0
Economic Efficiency: Business Users and Providers	0
Wider Public Finances (Indirect Taxation Revenues)	0
Present Value of Benefits (PVB)	0
Broad Transport Budget	130
Present Value of Costs (PVC)	130
OVERALL IMPACTS	
Net Present Value (NPV)	-130
Benefit to Cost Ratio (BCR)	0.000

Note: This table includes costs and benefits which are regularly or occasionally presented in monetised form in transport appraisals, together with some where monetisation is in prospect. There may also be other significant costs and benefits, some of which cannot be presented in monetised form. Where this is the case, the analysis presented above does NOT provide a good measure of value for money and should not be used as the sole basis for decisions.

TUBA Run Information

- calculations completed

File Summary

* Run Name : TUBA-1_White_Post_Costs_FBC_ORA_V3

* Scheme File : L:\60625845_A614 MRN DfT responses\2023_Draft_FBC\TUBA\MasterFile -White_Post_cost_only_Draft_FBC_ORA_V3.txt

* Economic File : L:\60625845_A614 MRN DFT responses\2023_Draft_FBC\TUBA\Economics_TAG_db1_20_2.txt

* Output File : L:\60625845_A614 MRN DFT responses\2023_Draft_FBC\TUBA\White_Post_FBC_QRA_V3.OUT

* Log File : L:\60625845_A614 MRN DFT responses\2023_Draft_FBC\TUBA\White_Post_FBC_QRA_V3.log

* User ID : philip.g.jones

* Computer ID : UKDBYLFHQB1T3

Elapsed time : 0hrs 0mins 1secs

Appendix P Warren Hill TUBA – QRA

SCHEME SPECIFIC PARAMETERS

PARAMETERS

TUBA_version 1.9.17
run_name TUBA-1_Warren_Hill_FBC_ORA_V3
do_min_name DM
do_som_name DS

first_yr 2023
horizon_yr 2082
modelled_yrs 2023 2037
detail Yes
current_yr 2023
print_warn 20
P&R_car_speed 65.0
zones_as_sectors No

TIME_SLICES

*no.	duration(min)	annualisation	period	description
1	60	648	1	peak hour am 08:00-09:00
2	60	667	2	peak hour pm 17:00-18:00
3	60	2997	3	peak hour ip 10:00-16:00
4	60	4438	4	off peak hour

SCHEMES_DM

*Mode 1st Construction year Opening_yr Stage

DO_MIN_COSTS

*Type Mode Funding Cost Price RPI

DO_MIN_PROFILE

*Year Mode %Const %Land %Prep %Super %Maint %Op %Grant %Dev

DO_MIN_DELAY_COSTS

*Year Mode Business Commuting Other Freight

SCHEMES_DS

*Mode 1st Construction year Opening_yr Stage
1 2023 2025 SI

2055	1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2056	1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2057	1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2058	1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2059	1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2060	1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2061	1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2062	1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2063	1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2064	1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2065	1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2066	1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2067	1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2068	1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2069	1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2070	1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2071	1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2072	1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2073	1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2074	1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2075	1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2076	1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2077	1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2078	1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2079	1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2080	1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2081	1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2082	1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

DO_SOM_DELAY_COSTS

*Year Mode Business Commuting Other Freight

BENEFIT_CHANGE

*% change p.a.

*Start_yr End_yr Submode ChangePer1 ChangePer2 ChangePer3 ChangePer4 ChangePer5

USER_CLASSES

*no.	Veh/submode	purpose	person_type
1	1	1	0
2	1	2	0
3	1	3	0
4	2	3	0

5	3	1	0
6	4	1	0
7	5	1	0

INPUT_MATRICES

*no.	userclasses	timeslice	type	format	scenario	year	factor	filename
1	1	1	V	1	0	2023	0.05903	L:\60625845_A614 MRN DFT responses\2023_Draft_FBC\TUBA\Cost_only_Warren_Hill_White_Post\Outputs_White_Post\V_A614_White_Post_Costs_AM_2023_DM.txt
2	2	1	V	1	0	2023	0.32523	L:\60625845_A614 MRN DFT responses\2023_Draft_FBC\TUBA\Cost_only_Warren_Hill_White_Post\Outputs_White_Post\V_A614_White_Post_Costs_AM_2023_DM.txt
3	3	1	V	1	0	2023	0.46486	L:\60625845_A614 MRN DFT responses\2023_Draft_FBC\TUBA\Cost_only_Warren_Hill_White_Post\Outputs_White_Post\V_A614_White_Post_Costs_AM_2023_DM.txt
4	4	1	V	1	0	2023	0.01535	L:\60625845_A614 MRN DFT responses\2023_Draft_FBC\TUBA\Cost_only_Warren_Hill_White_Post\Outputs_White_Post\V_A614_White_Post_Costs_AM_2023_DM.txt
5	5	1	V	1	0	2023	0.11257	L:\60625845_A614 MRN DFT responses\2023_Draft_FBC\TUBA\Cost_only_Warren_Hill_White_Post\Outputs_White_Post\V_A614_White_Post_Costs_AM_2023_DM.txt
6	6	1	V	1	0	2023	0.00845	L:\60625845_A614 MRN DFT responses\2023_Draft_FBC\TUBA\Cost_only_Warren_Hill_White_Post\Outputs_White_Post\V_A614_White_Post_Costs_AM_2023_DM.txt
7	7	1	V	1	0	2023	0.01451	L:\60625845_A614 MRN DFT responses\2023_Draft_FBC\TUBA\Cost_only_Warren_Hill_White_Post\Outputs_White_Post\V_A614_White_Post_Costs_AM_2023_DM.txt
8	1	3	V	1	0	2023	0.05864	L:\60625845_A614 MRN DFT responses\2023_Draft_FBC\TUBA\Cost_only_Warren_Hill_White_Post\Outputs_White_Post\V_A614_White_Post_Costs_IP_2023_DM.txt
9	2	3	V	1	0	2023	0.09201	L:\60625845_A614 MRN DFT responses\2023_Draft_FBC\TUBA\Cost_only_Warren_Hill_White_Post\Outputs_White_Post\V_A614_White_Post_Costs_IP_2023_DM.txt
10	3	3	V	1	0	2023	0.66493	L:\60625845_A614 MRN DFT responses\2023_Draft_FBC\TUBA\Cost_only_Warren_Hill_White_Post\Outputs_White_Post\V_A614_White_Post_Costs_IP_2023_DM.txt
11	4	3	V	1	0	2023	0.01626	L:\60625845_A614 MRN DFT responses\2023_Draft_FBC\TUBA\Cost_only_Warren_Hill_White_Post\Outputs_White_Post\V_A614_White_Post_Costs_IP_2023_DM.txt
12	5	3	V	1	0	2023	0.11925	L:\60625845_A614 MRN DFT responses\2023_Draft_FBC\TUBA\Cost_only_Warren_Hill_White_Post\Outputs_White_Post\V_A614_White_Post_Costs_IP_2023_DM.txt
13	6	3	V	1	0	2023	0.01568	L:\60625845_A614 MRN DFT responses\2023_Draft_FBC\TUBA\Cost_only_Warren_Hill_White_Post\Outputs_White_Post\V_A614_White_Post_Costs_IP_2023_DM.txt
14	7	3	V	1	0	2023	0.03323	L:\60625845_A614 MRN DFT responses\2023_Draft_FBC\TUBA\Cost_only_Warren_Hill_White_Post\Outputs_White_Post\V_A614_White_Post_Costs_IP_2023_DM.txt
15	1	2	V	1	0	2023	0.04428	L:\60625845_A614 MRN DFT responses\2023_Draft_FBC\TUBA\Cost_only_Warren_Hill_White_Post\Outputs_White_Post\V_A614_White_Post_Costs_PM_2023_DM.txt
16	2	2	V	1	0	2023	0.28208	L:\60625845_A614 MRN DFT responses\2023_Draft_FBC\TUBA\Cost_only_Warren_Hill_White_Post\Outputs_White_Post\V_A614_White_Post_Costs_PM_2023_DM.txt
17	3	2	V	1	0	2023	0.53951	L:\60625845_A614 MRN DFT responses\2023_Draft_FBC\TUBA\Cost_only_Warren_Hill_White_Post\Outputs_White_Post\V_A614_White_Post_Costs_PM_2023_DM.txt
18	4	2	V	1	0	2023	0.01265	L:\60625845_A614 MRN DFT responses\2023_Draft_FBC\TUBA\Cost_only_Warren_Hill_White_Post\Outputs_White_Post\V_A614_White_Post_Costs_PM_2023_DM.txt
19	5	2	V	1	0	2023	0.09275	L:\60625845_A614 MRN DFT responses\2023_Draft_FBC\TUBA\Cost_only_Warren_Hill_White_Post\Outputs_White_Post\V_A614_White_Post_Costs_PM_2023_DM.txt
20	6	2	V	1	0	2023	0.00652	L:\60625845_A614 MRN DFT responses\2023_Draft_FBC\TUBA\Cost_only_Warren_Hill_White_Post\Outputs_White_Post\V_A614_White_Post_Costs_PM_2023_DM.txt
21	7	2	V	1	0	2023	0.02221	L:\60625845_A614 MRN DFT responses\2023_Draft_FBC\TUBA\Cost_only_Warren_Hill_White_Post\Outputs_White_Post\V_A614_White_Post_Costs_PM_2023_DM.txt
22	1	4	V	1	0	2023	0.03710	L:\60625845_A614 MRN DFT responses\2023_Draft_FBC\TUBA\Cost_only_Warren_Hill_White_Post\Outputs_White_Post\V_A614_White_Post_Costs_OP_2023_DM.txt
23	2	4	V	1	0	2023	0.24762	L:\60625845_A614 MRN DFT responses\2023_Draft_FBC\TUBA\Cost_only_Warren_Hill_White_Post\Outputs_White_Post\V_A614_White_Post_Costs_OP_2023_DM.txt
24	3	4	V	1	0	2023	0.57640	L:\60625845_A614 MRN DFT responses\2023_Draft_FBC\TUBA\Cost_only_Warren_Hill_White_Post\Outputs_White_Post\V_A614_White_Post_Costs_OP_2023_DM.txt
25	4	4	V	1	0	2023	0.00656	L:\60625845_A614 MRN DFT responses\2023_Draft_FBC\TUBA\Cost_only_Warren_Hill_White_Post\Outputs_White_Post\V_A614_White_Post_Costs_OP_2023_DM.txt

*mode Sector_file_name

Transport User Benefit Appraisal TUBA (1.9.17.2 64-bit)

Program run on Thu Mar 30, 2023 at 10:28:24

ERRORS AND WARNINGS

Warning: Scheme parameter zones_as_sectors set to no: Possibility that small aggregation errors may occur in the TEE table for some appraisals. Recommend undertaking a sensitivity test using a sector system (and some sectors) to check.

2 Warnings found in total (including any above)

TUBA ECONOMICS FILE DIFFERENCES

PARAMETERS - (used)

TUBA_version 1.9.17

base_year 2010

pres_val_year 2010

GDP_base 100.00 0.00 0.00

av_ind_tax 19.00 0.00 0.00

nt_carbdxvalues 83.64 250.92 167.28

t_carbdxvalues 83.64250.92167.28

PARAMETERS - (std)

TUBA_version 1.9.17

base_year 2010

pres_val_year 2010

GDP_base 100.00 0.00 0.00

av_ind_tax 19.00 0.00 0.00

nt_carbdxvalues 82.97 248.92 165.94

t_carbdxvalues 82.97248.92165.94

GDP_PER_CAPITA_GROWTH - (used)

*% change p.a.

*Start_yr End_yr VOT_Gr_purpose1 VOT_Gr_purpose2 VOT_Gr_purpose3 ..

2011 2011 0.615 0.615 0.615

2012 2012 0.801 0.801 0.801

2013 2013 1.253 1.253 1.253

2014 2014 2.208 2.208 2.208

2015 2015 1.814 1.814 1.814

2016 2016 1.425 1.425 1.425

2017 2017 1.528 1.528 1.528

2018 2018 1.046 1.046 1.046

2019 2019 1.122 1.122 1.122

2020 2020 0.099 0.099 0.099

2021 2021 0.100 0.100 0.100

2022	2022	0.099	0.099	0.099
2023	2023	-1.769	-1.769	-1.769
2024	2024	0.956	0.956	0.956
2025	2025	2.307	2.307	2.307
2026	2026	2.347	2.347	2.347
2027	2027	1.954	1.954	1.954
2028	2028	1.687	1.687	1.687
2029	2029	1.657	1.657	1.657
2030	2030	1.621	1.621	1.621
2031	2031	1.570	1.570	1.570
2032	2032	1.552	1.552	1.552
2033	2033	1.539	1.539	1.539
2034	2034	1.518	1.518	1.518
2035	2035	1.505	1.505	1.505
2036	2036	1.638	1.638	1.638
2037	2037	1.611	1.611	1.611
2038	2038	1.578	1.578	1.578
2039	2039	1.546	1.546	1.546
2040	2040	1.506	1.506	1.506
2041	2041	1.476	1.476	1.476
2042	2042	1.439	1.439	1.439
2043	2043	1.401	1.401	1.401
2044	2044	1.369	1.369	1.369
2045	2045	1.350	1.350	1.350
2046	2046	1.342	1.342	1.342
2047	2047	1.321	1.321	1.321
2048	2048	1.302	1.302	1.302
2049	2049	1.282	1.282	1.282
2050	2050	1.277	1.277	1.277
2051	2051	1.278	1.278	1.278
2052	2052	1.281	1.281	1.281
2053	2053	1.286	1.286	1.286
2054	2054	1.294	1.294	1.294
2055	2055	1.312	1.312	1.312
2056	2056	1.325	1.325	1.325
2057	2057	1.339	1.339	1.339
2058	2058	1.349	1.349	1.349
2059	2059	1.359	1.359	1.359
2060	2060	1.370	1.370	1.370
2061	2061	1.379	1.379	1.379
2062	2062	1.387	1.387	1.387
2063	2063	1.399	1.399	1.399
2064	2064	1.406	1.406	1.406
2065	2065	1.413	1.413	1.413

2066	2066	1.418	1.418	1.418
2067	2067	1.420	1.420	1.420
2068	2068	1.421	1.421	1.421
2069	2069	1.428	1.428	1.428
2070	2070	1.468	1.468	1.468
2071	2071	1.534	1.534	1.534
2072	2072	1.592	1.592	1.592
2073	2073	1.548	1.548	1.548
2074	2074	1.472	1.472	1.472
2075	2075	1.426	1.426	1.426
2076	2076	1.358	1.358	1.358
2077	2077	1.363	1.363	1.363
2078	2078	1.337	1.337	1.337
2079	2079	1.299	1.299	1.299
2080	2080	1.269	1.269	1.269
2081	2081	1.321	1.321	1.321
2082	2082	1.359	1.359	1.359
2083	2083	1.372	1.372	1.372
2084	2084	1.369	1.369	1.369
2085	2085	1.420	1.420	1.420
2086	2086	1.469	1.469	1.469
2087	2087	1.528	1.528	1.528
2088	2088	1.589	1.589	1.589
2089	2089	1.666	1.666	1.666
2090	2090	1.690	1.690	1.690
2091	2091	1.703	1.703	1.703
2092	2092	1.699	1.699	1.699
2093	2093	1.700	1.700	1.700
2094	2094	1.705	1.705	1.705
2095	2095	1.709	1.709	1.709
2096	2096	1.712	1.712	1.712
2097	2097	1.712	1.712	1.712
2098	2098	1.711	1.711	1.711
2099	2099	1.708	1.708	1.708
2100	2100	1.702	1.702	1.702
2101	2101	1.702	1.702	1.702
2102	2102	1.702	1.702	1.702
2103	2103	1.702	1.702	1.702
2104	2104	1.702	1.702	1.702
2105	2105	1.702	1.702	1.702
2106	2106	1.702	1.702	1.702
2107	2107	1.702	1.702	1.702
2108	2108	1.702	1.702	1.702
2109	2109	1.702	1.702	1.702

2110	2110	1.702	1.702	1.702
2111	2111	1.702	1.702	1.702
2112	2112	1.702	1.702	1.702
2113	2113	1.702	1.702	1.702
2114	2114	1.702	1.702	1.702
2115	2115	1.702	1.702	1.702
2116	2116	1.702	1.702	1.702
2117	2117	1.702	1.702	1.702
2118	2118	1.702	1.702	1.702
2119	2119	1.702	1.702	1.702
2120	2120	1.702	1.702	1.702
2121	2121	1.702	1.702	1.702
2122	2122	1.702	1.702	1.702
2123	2123	1.702	1.702	1.702
2124	2124	1.702	1.702	1.702
2125	2125	1.702	1.702	1.702
2126	2126	1.702	1.702	1.702
2127	2127	1.702	1.702	1.702
2128	2128	1.702	1.702	1.702
2129	2129	1.702	1.702	1.702
2130	2130	1.702	1.702	1.702
2131	2131	1.702	1.702	1.702
2132	2132	1.702	1.702	1.702
2133	2133	1.702	1.702	1.702
2134	2134	1.702	1.702	1.702
2135	2135	1.702	1.702	1.702
2136	2136	1.702	1.702	1.702
2137	2137	1.702	1.702	1.702
2138	2138	1.702	1.702	1.702
2139	2139	1.702	1.702	1.702
2140	2140	1.702	1.702	1.702
2141	2141	1.702	1.702	1.702
2142	2142	1.702	1.702	1.702
2143	2143	1.702	1.702	1.702
2144	2144	1.702	1.702	1.702
2145	2145	1.702	1.702	1.702
2146	2146	1.702	1.702	1.702
2147	2147	1.702	1.702	1.702
2148	2148	1.702	1.702	1.702
2149	2149	1.702	1.702	1.702
2150	2150	1.702	1.702	1.702
2151	2151	1.702	1.702	1.702

GDP_PER_CAPITA_GROWTH - (std)

*% change p.a.

*Start_yr	End_yr	VOT_Gr_purpose1	VOT_Gr_purpose2	VOT_Gr_purpose3 ..
2011	2011	0.435	0.435	0.435
2012	2012	0.762	0.762	0.762
2013	2013	1.548	1.548	1.548
2014	2014	2.080	2.080	2.080
2015	2015	1.556	1.556	1.556
2016	2016	0.888	0.888	0.888
2017	2017	1.137	1.137	1.137
2018	2018	0.650	0.650	0.650
2019	2019	0.885	0.885	0.885
2020	2020	0.269	0.269	0.269
2021	2021	0.267	0.267	0.267
2022	2022	0.267	0.267	0.267
2023	2023	1.654	1.654	1.654
2024	2024	0.975	0.975	0.975
2025	2025	1.311	1.311	1.311
2026	2026	1.412	1.412	1.412
2027	2027	1.480	1.480	1.480
2028	2028	1.480	1.480	1.480
2029	2029	1.463	1.463	1.463
2030	2030	1.440	1.440	1.440
2031	2031	1.413	1.413	1.413
2032	2032	1.389	1.389	1.389
2033	2033	1.387	1.387	1.387
2034	2034	1.372	1.372	1.372
2035	2035	1.345	1.345	1.345
2036	2036	1.477	1.477	1.477
2037	2037	1.475	1.475	1.475
2038	2038	1.467	1.467	1.467
2039	2039	1.443	1.443	1.443
2040	2040	1.416	1.416	1.416
2041	2041	1.397	1.397	1.397
2042	2042	1.375	1.375	1.375
2043	2043	1.351	1.351	1.351
2044	2044	1.332	1.332	1.332
2045	2045	1.320	1.320	1.320
2046	2046	1.309	1.309	1.309
2047	2047	1.292	1.292	1.292
2048	2048	1.282	1.282	1.282
2049	2049	1.281	1.281	1.281
2050	2050	1.291	1.291	1.291
2051	2051	1.307	1.307	1.307
2052	2052	1.320	1.320	1.320

2053	2053	1.332	1.332	1.332
2054	2054	1.338	1.338	1.338
2055	2055	1.358	1.358	1.358
2056	2056	1.370	1.370	1.370
2057	2057	1.385	1.385	1.385
2058	2058	1.398	1.398	1.398
2059	2059	1.406	1.406	1.406
2060	2060	1.417	1.417	1.417
2061	2061	1.437	1.437	1.437
2062	2062	1.444	1.444	1.444
2063	2063	1.456	1.456	1.456
2064	2064	1.466	1.466	1.466
2065	2065	1.482	1.482	1.482
2066	2066	1.540	1.540	1.540
2067	2067	1.607	1.607	1.607
2068	2068	1.531	1.531	1.531
2069	2069	1.521	1.521	1.521
2070	2070	1.493	1.493	1.493
2071	2071	1.518	1.518	1.518
2072	2072	1.463	1.463	1.463
2073	2073	1.426	1.426	1.426
2074	2074	1.355	1.355	1.355
2075	2075	1.317	1.317	1.317
2076	2076	1.256	1.256	1.256
2077	2077	1.271	1.271	1.271
2078	2078	1.253	1.253	1.253
2079	2079	1.219	1.219	1.219
2080	2080	1.193	1.193	1.193
2081	2081	1.251	1.251	1.251
2082	2082	1.293	1.293	1.293
2083	2083	1.309	1.309	1.309
2084	2084	1.310	1.310	1.310
2085	2085	1.364	1.364	1.364
2086	2086	1.422	1.422	1.422
2087	2087	1.488	1.488	1.488
2088	2088	1.487	1.487	1.487
2089	2089	1.498	1.498	1.498
2090	2090	1.508	1.508	1.508
2091	2091	1.513	1.513	1.513
2092	2092	1.511	1.511	1.511
2093	2093	1.508	1.508	1.508
2094	2094	1.505	1.505	1.505
2095	2095	1.501	1.501	1.501
2096	2096	1.497	1.497	1.497

2097	2097	1.491	1.491	1.491
2098	2098	1.484	1.484	1.484
2099	2099	1.476	1.476	1.476
2100	2100	1.467	1.467	1.467
2101	2101	1.467	1.467	1.467
2102	2102	1.467	1.467	1.467
2103	2103	1.467	1.467	1.467
2104	2104	1.467	1.467	1.467
2105	2105	1.467	1.467	1.467
2106	2106	1.467	1.467	1.467
2107	2107	1.467	1.467	1.467
2108	2108	1.467	1.467	1.467
2109	2109	1.467	1.467	1.467
2110	2110	1.467	1.467	1.467
2111	2111	1.467	1.467	1.467
2112	2112	1.467	1.467	1.467
2113	2113	1.467	1.467	1.467
2114	2114	1.467	1.467	1.467
2115	2115	1.467	1.467	1.467
2116	2116	1.467	1.467	1.467
2117	2117	1.467	1.467	1.467
2118	2118	1.467	1.467	1.467
2119	2119	1.467	1.467	1.467
2120	2120	1.467	1.467	1.467
2121	2121	1.467	1.467	1.467
2122	2122	1.467	1.467	1.467
2123	2123	1.467	1.467	1.467
2124	2124	1.467	1.467	1.467
2125	2125	1.467	1.467	1.467
2126	2126	1.467	1.467	1.467
2127	2127	1.467	1.467	1.467
2128	2128	1.467	1.467	1.467
2129	2129	1.467	1.467	1.467
2130	2130	1.467	1.467	1.467
2131	2131	1.467	1.467	1.467
2132	2132	1.467	1.467	1.467
2133	2133	1.467	1.467	1.467
2134	2134	1.467	1.467	1.467
2135	2135	1.467	1.467	1.467
2136	2136	1.467	1.467	1.467
2137	2137	1.467	1.467	1.467
2138	2138	1.467	1.467	1.467
2139	2139	1.467	1.467	1.467
2140	2140	1.467	1.467	1.467

2141	2141	1.467	1.467	1.467
2142	2142	1.467	1.467	1.467
2143	2143	1.467	1.467	1.467
2144	2144	1.467	1.467	1.467
2145	2145	1.467	1.467	1.467
2146	2146	1.467	1.467	1.467
2147	2147	1.467	1.467	1.467
2148	2148	1.467	1.467	1.467
2149	2149	1.467	1.467	1.467
2150	2150	1.467	1.467	1.467
2151	2151	1.467	1.467	1.467

FUEL_COST - (used)

*type resource(p/unit) duty(p/unit) VAT(%) CO2_grammes/unit (unit=litre for fuel types 1 & 2; unit=KWH for electric)

1	42.6	57.2	17.5	2230.00
2	44.3	57.2	17.5	2562.00
3	11.8	0.0	5.0	389.00

FUEL_COST - (std)

*type resource(p/unit) duty(p/unit) VAT(%) CO2_grammes/unit (unit=litre for fuel types 1 & 2; unit=KWH for electric)

1	42.6	57.2	17.5	2230.00
2	44.3	57.2	17.5	2562.00
3	11.9	0.0	5.0	389.00

FUEL_COST_CHANGES - (used)

%% change p.a.

*Start_yr End_yr fuel_type resource duty VAT CO2_Den_change

2011	2011	1	22.306	-0.354	14.286	1.171
2012	2012	1	1.986	-2.001	0.000	-1.031
2013	2013	1	-3.443	-1.746	0.000	-0.302
2014	2014	1	-11.771	-1.707	0.000	0.153
2015	2015	1	-28.520	-0.562	0.000	-0.016
2016	2016	1	-7.312	-1.719	0.000	-0.027
2017	2017	1	19.734	-1.752	0.000	-0.106
2018	2018	1	13.204	-2.472	0.000	0.128
2019	2019	1	-2.520	-2.412	0.000	0.010
2020	2020	1	-23.823	-6.920	0.000	0.015
2021	2021	1	37.033	0.586	0.000	-0.106
2022	2022	1	63.199	-5.002	0.000	-5.260
2023	2023	1	-5.410	5.535	0.000	0.000
2024	2024	1	-12.463	2.683	0.000	0.000
2025	2025	1	-3.454	0.465	0.000	0.000
2026	2026	1	-4.677	0.417	0.000	0.000
2027	2027	1	2.609	0.740	0.000	0.000

2028	2028	1	2.785	0.731	0.000	0.000
2029	2029	1	1.806	0.723	0.000	0.000
2030	2030	1	2.661	-0.293	0.000	0.000
2031	2031	1	1.728	-0.293	0.000	0.000
2032	2032	1	1.699	-0.293	0.000	0.000
2033	2033	1	2.506	-0.293	0.000	0.000
2034	2034	1	2.444	-0.293	0.000	0.000
2035	2035	1	1.591	-0.293	0.000	0.000
2036	2036	1	0.000	-0.293	0.000	0.000
2037	2037	1	0.000	-0.293	0.000	0.000
2038	2038	1	0.000	-0.293	0.000	0.000
2039	2039	1	0.000	-0.293	0.000	0.000
2040	2040	1	0.000	-0.293	0.000	0.000
2041	2041	1	0.000	-0.293	0.000	0.000
2042	2042	1	0.000	-0.293	0.000	0.000
2043	2043	1	0.000	-0.293	0.000	0.000
2044	2044	1	0.000	-0.293	0.000	0.000
2045	2045	1	0.000	-0.293	0.000	0.000
2046	2046	1	0.000	-0.293	0.000	0.000
2047	2047	1	0.000	-0.293	0.000	0.000
2048	2048	1	0.000	-0.293	0.000	0.000
2049	2049	1	0.000	-0.293	0.000	0.000
2050	2050	1	0.000	-0.293	0.000	0.000
2051	2051	1	0.000	-0.293	0.000	0.000
2052	2052	1	0.000	-0.293	0.000	0.000
2053	2053	1	0.000	-0.293	0.000	0.000
2054	2054	1	0.000	-0.293	0.000	0.000
2055	2055	1	0.000	-0.293	0.000	0.000
2056	2056	1	0.000	-0.293	0.000	0.000
2057	2057	1	0.000	-0.293	0.000	0.000
2058	2058	1	0.000	-0.293	0.000	0.000
2059	2059	1	0.000	-0.293	0.000	0.000
2060	2060	1	0.000	-0.293	0.000	0.000
2061	2061	1	0.000	-0.293	0.000	0.000
2062	2062	1	0.000	-0.293	0.000	0.000
2063	2063	1	0.000	-0.293	0.000	0.000
2064	2064	1	0.000	-0.293	0.000	0.000
2065	2065	1	0.000	-0.293	0.000	0.000
2066	2066	1	0.000	-0.293	0.000	0.000
2067	2067	1	0.000	-0.293	0.000	0.000
2068	2068	1	0.000	-0.293	0.000	0.000
2069	2069	1	0.000	-0.293	0.000	0.000
2070	2070	1	0.000	-0.293	0.000	0.000
2071	2071	1	0.000	-0.293	0.000	0.000

2072	2072	1	0.000	-0.293	0.000	0.000
2073	2073	1	0.000	-0.293	0.000	0.000
2074	2074	1	0.000	-0.293	0.000	0.000
2075	2075	1	0.000	-0.293	0.000	0.000
2076	2076	1	0.000	-0.293	0.000	0.000
2077	2077	1	0.000	-0.293	0.000	0.000
2078	2078	1	0.000	-0.293	0.000	0.000
2079	2079	1	0.000	-0.293	0.000	0.000
2080	2080	1	0.000	-0.293	0.000	0.000
2081	2081	1	0.000	-0.293	0.000	0.000
2082	2082	1	0.000	-0.293	0.000	0.000
2083	2083	1	0.000	-0.293	0.000	0.000
2084	2084	1	0.000	-0.293	0.000	0.000
2085	2085	1	0.000	-0.293	0.000	0.000
2086	2086	1	0.000	-0.293	0.000	0.000
2087	2087	1	0.000	-0.293	0.000	0.000
2088	2088	1	0.000	-0.293	0.000	0.000
2089	2089	1	0.000	-0.293	0.000	0.000
2090	2090	1	0.000	-0.293	0.000	0.000
2091	2091	1	0.000	-0.293	0.000	0.000
2092	2092	1	0.000	-0.293	0.000	0.000
2093	2093	1	0.000	-0.293	0.000	0.000
2094	2094	1	0.000	-0.293	0.000	0.000
2095	2095	1	0.000	-0.293	0.000	0.000
2096	2096	1	0.000	-0.293	0.000	0.000
2097	2097	1	0.000	-0.293	0.000	0.000
2098	2098	1	0.000	-0.293	0.000	0.000
2099	2099	1	0.000	-0.293	0.000	0.000
2100	2100	1	0.000	-0.293	0.000	0.000
2101	2101	1	0.000	-0.293	0.000	0.000
2102	2102	1	0.000	-0.293	0.000	0.000
2103	2103	1	0.000	-0.293	0.000	0.000
2104	2104	1	0.000	-0.293	0.000	0.000
2105	2105	1	0.000	-0.293	0.000	0.000
2106	2106	1	0.000	-0.293	0.000	0.000
2107	2107	1	0.000	-0.293	0.000	0.000
2108	2108	1	0.000	-0.293	0.000	0.000
2109	2109	1	0.000	-0.293	0.000	0.000
2110	2110	1	0.000	-0.293	0.000	0.000
2111	2111	1	0.000	-0.293	0.000	0.000
2112	2112	1	0.000	-0.293	0.000	0.000
2113	2113	1	0.000	-0.293	0.000	0.000
2114	2114	1	0.000	-0.293	0.000	0.000
2115	2115	1	0.000	-0.293	0.000	0.000

2116	2116	1	0.000	-0.293	0.000	0.000
2117	2117	1	0.000	-0.293	0.000	0.000
2118	2118	1	0.000	-0.293	0.000	0.000
2119	2119	1	0.000	-0.293	0.000	0.000
2120	2120	1	0.000	-0.293	0.000	0.000
2121	2121	1	0.000	-0.293	0.000	0.000
2122	2122	1	0.000	-0.293	0.000	0.000
2123	2123	1	0.000	-0.293	0.000	0.000
2124	2124	1	0.000	-0.293	0.000	0.000
2125	2125	1	0.000	-0.293	0.000	0.000
2126	2126	1	0.000	-0.293	0.000	0.000
2127	2127	1	0.000	-0.293	0.000	0.000
2128	2128	1	0.000	-0.293	0.000	0.000
2129	2129	1	0.000	-0.293	0.000	0.000
2130	2130	1	0.000	-0.293	0.000	0.000
2131	2131	1	0.000	-0.293	0.000	0.000
2132	2132	1	0.000	-0.293	0.000	0.000
2133	2133	1	0.000	-0.293	0.000	0.000
2134	2134	1	0.000	-0.293	0.000	0.000
2135	2135	1	0.000	-0.293	0.000	0.000
2136	2136	1	0.000	-0.293	0.000	0.000
2137	2137	1	0.000	-0.293	0.000	0.000
2138	2138	1	0.000	-0.293	0.000	0.000
2139	2139	1	0.000	-0.293	0.000	0.000
2140	2140	1	0.000	-0.293	0.000	0.000
2141	2141	1	0.000	-0.293	0.000	0.000
2142	2142	1	0.000	-0.293	0.000	0.000
2143	2143	1	0.000	-0.293	0.000	0.000
2144	2144	1	0.000	-0.293	0.000	0.000
2145	2145	1	0.000	-0.293	0.000	0.000
2146	2146	1	0.000	-0.293	0.000	0.000
2147	2147	1	0.000	-0.293	0.000	0.000
2148	2148	1	0.000	-0.293	0.000	0.000
2149	2149	1	0.000	-0.293	0.000	0.000
2150	2150	1	0.000	-0.293	0.000	0.000
2151	2151	1	0.000	-0.293	0.000	0.000
2011	2011	2	26.996	-0.354	14.286	1.917
2012	2012	2	3.197	-2.001	0.000	-1.071
2013	2013	2	-3.680	-1.746	0.000	4.731
2014	2014	2	-11.343	-1.707	0.000	-0.016
2015	2015	2	-29.504	-0.562	0.000	-0.020
2016	2016	2	-12.397	-1.719	0.000	0.004
2017	2017	2	22.316	-1.752	0.000	0.021
2018	2018	2	16.802	-2.472	0.000	-0.267

2019	2019	2	0.348	-2.412	0.000	-1.513
2020	2020	2	-24.318	-6.920	0.000	-4.516
2021	2021	2	30.464	0.586	0.000	-0.553
2022	2022	2	60.563	-5.002	0.000	0.295
2023	2023	2	-5.550	5.535	0.000	-0.288
2024	2024	2	-13.119	2.683	0.000	-0.174
2025	2025	2	-3.997	0.465	0.000	-0.148
2026	2026	2	-5.278	0.417	0.000	-0.034
2027	2027	2	2.671	0.740	0.000	-0.046
2028	2028	2	2.847	0.731	0.000	-0.036
2029	2029	2	1.845	0.723	0.000	-0.036
2030	2030	2	2.718	-0.293	0.000	-0.040
2031	2031	2	1.764	-0.293	0.000	-0.027
2032	2032	2	1.733	-0.293	0.000	-0.027
2033	2033	2	2.556	-0.293	0.000	0.000
2034	2034	2	2.492	-0.293	0.000	0.000
2035	2035	2	1.621	-0.293	0.000	0.000
2036	2036	2	0.000	-0.293	0.000	0.000
2037	2037	2	0.000	-0.293	0.000	0.000
2038	2038	2	0.000	-0.293	0.000	0.000
2039	2039	2	0.000	-0.293	0.000	0.000
2040	2040	2	0.000	-0.293	0.000	0.000
2041	2041	2	0.000	-0.293	0.000	0.000
2042	2042	2	0.000	-0.293	0.000	0.000
2043	2043	2	0.000	-0.293	0.000	0.000
2044	2044	2	0.000	-0.293	0.000	0.000
2045	2045	2	0.000	-0.293	0.000	0.000
2046	2046	2	0.000	-0.293	0.000	0.000
2047	2047	2	0.000	-0.293	0.000	0.000
2048	2048	2	0.000	-0.293	0.000	0.000
2049	2049	2	0.000	-0.293	0.000	0.000
2050	2050	2	0.000	-0.293	0.000	0.000
2051	2051	2	0.000	-0.293	0.000	0.000
2052	2052	2	0.000	-0.293	0.000	0.000
2053	2053	2	0.000	-0.293	0.000	0.000
2054	2054	2	0.000	-0.293	0.000	0.000
2055	2055	2	0.000	-0.293	0.000	0.000
2056	2056	2	0.000	-0.293	0.000	0.000
2057	2057	2	0.000	-0.293	0.000	0.000
2058	2058	2	0.000	-0.293	0.000	0.000
2059	2059	2	0.000	-0.293	0.000	0.000
2060	2060	2	0.000	-0.293	0.000	0.000
2061	2061	2	0.000	-0.293	0.000	0.000
2062	2062	2	0.000	-0.293	0.000	0.000

2063	2063	2	0.000	-0.293	0.000	0.000
2064	2064	2	0.000	-0.293	0.000	0.000
2065	2065	2	0.000	-0.293	0.000	0.000
2066	2066	2	0.000	-0.293	0.000	0.000
2067	2067	2	0.000	-0.293	0.000	0.000
2068	2068	2	0.000	-0.293	0.000	0.000
2069	2069	2	0.000	-0.293	0.000	0.000
2070	2070	2	0.000	-0.293	0.000	0.000
2071	2071	2	0.000	-0.293	0.000	0.000
2072	2072	2	0.000	-0.293	0.000	0.000
2073	2073	2	0.000	-0.293	0.000	0.000
2074	2074	2	0.000	-0.293	0.000	0.000
2075	2075	2	0.000	-0.293	0.000	0.000
2076	2076	2	0.000	-0.293	0.000	0.000
2077	2077	2	0.000	-0.293	0.000	0.000
2078	2078	2	0.000	-0.293	0.000	0.000
2079	2079	2	0.000	-0.293	0.000	0.000
2080	2080	2	0.000	-0.293	0.000	0.000
2081	2081	2	0.000	-0.293	0.000	0.000
2082	2082	2	0.000	-0.293	0.000	0.000
2083	2083	2	0.000	-0.293	0.000	0.000
2084	2084	2	0.000	-0.293	0.000	0.000
2085	2085	2	0.000	-0.293	0.000	0.000
2086	2086	2	0.000	-0.293	0.000	0.000
2087	2087	2	0.000	-0.293	0.000	0.000
2088	2088	2	0.000	-0.293	0.000	0.000
2089	2089	2	0.000	-0.293	0.000	0.000
2090	2090	2	0.000	-0.293	0.000	0.000
2091	2091	2	0.000	-0.293	0.000	0.000
2092	2092	2	0.000	-0.293	0.000	0.000
2093	2093	2	0.000	-0.293	0.000	0.000
2094	2094	2	0.000	-0.293	0.000	0.000
2095	2095	2	0.000	-0.293	0.000	0.000
2096	2096	2	0.000	-0.293	0.000	0.000
2097	2097	2	0.000	-0.293	0.000	0.000
2098	2098	2	0.000	-0.293	0.000	0.000
2099	2099	2	0.000	-0.293	0.000	0.000
2100	2100	2	0.000	-0.293	0.000	0.000
2101	2101	2	0.000	-0.293	0.000	0.000
2102	2102	2	0.000	-0.293	0.000	0.000
2103	2103	2	0.000	-0.293	0.000	0.000
2104	2104	2	0.000	-0.293	0.000	0.000
2105	2105	2	0.000	-0.293	0.000	0.000
2106	2106	2	0.000	-0.293	0.000	0.000

2107	2107	2	0.000	-0.293	0.000	0.000
2108	2108	2	0.000	-0.293	0.000	0.000
2109	2109	2	0.000	-0.293	0.000	0.000
2110	2110	2	0.000	-0.293	0.000	0.000
2111	2111	2	0.000	-0.293	0.000	0.000
2112	2112	2	0.000	-0.293	0.000	0.000
2113	2113	2	0.000	-0.293	0.000	0.000
2114	2114	2	0.000	-0.293	0.000	0.000
2115	2115	2	0.000	-0.293	0.000	0.000
2116	2116	2	0.000	-0.293	0.000	0.000
2117	2117	2	0.000	-0.293	0.000	0.000
2118	2118	2	0.000	-0.293	0.000	0.000
2119	2119	2	0.000	-0.293	0.000	0.000
2120	2120	2	0.000	-0.293	0.000	0.000
2121	2121	2	0.000	-0.293	0.000	0.000
2122	2122	2	0.000	-0.293	0.000	0.000
2123	2123	2	0.000	-0.293	0.000	0.000
2124	2124	2	0.000	-0.293	0.000	0.000
2125	2125	2	0.000	-0.293	0.000	0.000
2126	2126	2	0.000	-0.293	0.000	0.000
2127	2127	2	0.000	-0.293	0.000	0.000
2128	2128	2	0.000	-0.293	0.000	0.000
2129	2129	2	0.000	-0.293	0.000	0.000
2130	2130	2	0.000	-0.293	0.000	0.000
2131	2131	2	0.000	-0.293	0.000	0.000
2132	2132	2	0.000	-0.293	0.000	0.000
2133	2133	2	0.000	-0.293	0.000	0.000
2134	2134	2	0.000	-0.293	0.000	0.000
2135	2135	2	0.000	-0.293	0.000	0.000
2136	2136	2	0.000	-0.293	0.000	0.000
2137	2137	2	0.000	-0.293	0.000	0.000
2138	2138	2	0.000	-0.293	0.000	0.000
2139	2139	2	0.000	-0.293	0.000	0.000
2140	2140	2	0.000	-0.293	0.000	0.000
2141	2141	2	0.000	-0.293	0.000	0.000
2142	2142	2	0.000	-0.293	0.000	0.000
2143	2143	2	0.000	-0.293	0.000	0.000
2144	2144	2	0.000	-0.293	0.000	0.000
2145	2145	2	0.000	-0.293	0.000	0.000
2146	2146	2	0.000	-0.293	0.000	0.000
2147	2147	2	0.000	-0.293	0.000	0.000
2148	2148	2	0.000	-0.293	0.000	0.000
2149	2149	2	0.000	-0.293	0.000	0.000
2150	2150	2	0.000	-0.293	0.000	0.000

2151	2151	2	0.000	-0.293	0.000	0.000
2011	2011	3	6.623	0.000	0.000	-1.438
2012	2012	3	3.751	0.000	0.000	-1.878
2013	2013	3	4.428	0.000	0.000	-2.438
2014	2014	3	3.495	0.000	0.000	-1.891
2015	2015	3	-1.703	0.000	0.000	-2.837
2016	2016	3	-3.286	0.000	0.000	-3.035
2017	2017	3	4.940	0.000	0.000	-2.830
2018	2018	3	6.255	0.000	0.000	-3.251
2019	2019	3	7.007	0.000	0.000	-3.618
2020	2020	3	-4.724	0.000	0.000	-3.931
2021	2021	3	8.209	0.000	0.000	-4.324
2022	2022	3	44.098	0.000	0.000	-4.776
2023	2023	3	35.732	0.000	0.000	-5.300
2024	2024	3	-3.272	0.000	0.000	-5.915
2025	2025	3	-13.652	0.000	0.000	-6.643
2026	2026	3	-35.980	0.000	0.000	-7.520
2027	2027	3	-4.450	0.000	0.000	-8.594
2028	2028	3	-2.634	0.000	0.000	-9.934
2029	2029	3	-0.114	0.000	0.000	-11.657
2030	2030	3	-0.506	0.000	0.000	-13.944
2031	2031	3	-4.229	0.000	0.000	-19.089
2032	2032	3	0.441	0.000	0.000	-19.090
2033	2033	3	1.228	0.000	0.000	-19.088
2034	2034	3	1.712	0.000	0.000	-19.090
2035	2035	3	-0.946	0.000	0.000	-19.089
2036	2036	3	-0.271	0.000	0.000	-19.089
2037	2037	3	-2.629	0.000	0.000	-19.088
2038	2038	3	1.153	0.000	0.000	-19.090
2039	2039	3	-0.823	0.000	0.000	-19.092
2040	2040	3	2.635	0.000	0.000	-19.088
2041	2041	3	-1.504	0.000	0.000	-16.984
2042	2042	3	-0.001	0.000	0.000	-5.099
2043	2043	3	-0.216	0.000	0.000	-2.043
2044	2044	3	1.039	0.000	0.000	-6.009
2045	2045	3	-2.180	0.000	0.000	-15.076
2046	2046	3	1.866	0.000	0.000	-9.204
2047	2047	3	-1.602	0.000	0.000	-7.798
2048	2048	3	-2.514	0.000	0.000	-5.087
2049	2049	3	1.769	0.000	0.000	-6.945
2050	2050	3	-1.947	0.000	0.000	-1.718
2051	2051	3	0.000	0.000	0.000	0.000
2052	2052	3	0.000	0.000	0.000	0.000
2053	2053	3	0.000	0.000	0.000	0.000

2054	2054	3	0.000	0.000	0.000	0.000
2055	2055	3	0.000	0.000	0.000	0.000
2056	2056	3	0.000	0.000	0.000	0.000
2057	2057	3	0.000	0.000	0.000	0.000
2058	2058	3	0.000	0.000	0.000	0.000
2059	2059	3	0.000	0.000	0.000	0.000
2060	2060	3	0.000	0.000	0.000	0.000
2061	2061	3	0.000	0.000	0.000	0.000
2062	2062	3	0.000	0.000	0.000	0.000
2063	2063	3	0.000	0.000	0.000	0.000
2064	2064	3	0.000	0.000	0.000	0.000
2065	2065	3	0.000	0.000	0.000	0.000
2066	2066	3	0.000	0.000	0.000	0.000
2067	2067	3	0.000	0.000	0.000	0.000
2068	2068	3	0.000	0.000	0.000	0.000
2069	2069	3	0.000	0.000	0.000	0.000
2070	2070	3	0.000	0.000	0.000	0.000
2071	2071	3	0.000	0.000	0.000	0.000
2072	2072	3	0.000	0.000	0.000	0.000
2073	2073	3	0.000	0.000	0.000	0.000
2074	2074	3	0.000	0.000	0.000	0.000
2075	2075	3	0.000	0.000	0.000	0.000
2076	2076	3	0.000	0.000	0.000	0.000
2077	2077	3	0.000	0.000	0.000	0.000
2078	2078	3	0.000	0.000	0.000	0.000
2079	2079	3	0.000	0.000	0.000	0.000
2080	2080	3	0.000	0.000	0.000	0.000
2081	2081	3	0.000	0.000	0.000	0.000
2082	2082	3	0.000	0.000	0.000	0.000
2083	2083	3	0.000	0.000	0.000	0.000
2084	2084	3	0.000	0.000	0.000	0.000
2085	2085	3	0.000	0.000	0.000	0.000
2086	2086	3	0.000	0.000	0.000	0.000
2087	2087	3	0.000	0.000	0.000	0.000
2088	2088	3	0.000	0.000	0.000	0.000
2089	2089	3	0.000	0.000	0.000	0.000
2090	2090	3	0.000	0.000	0.000	0.000
2091	2091	3	0.000	0.000	0.000	0.000
2092	2092	3	0.000	0.000	0.000	0.000
2093	2093	3	0.000	0.000	0.000	0.000
2094	2094	3	0.000	0.000	0.000	0.000
2095	2095	3	0.000	0.000	0.000	0.000
2096	2096	3	0.000	0.000	0.000	0.000
2097	2097	3	0.000	0.000	0.000	0.000

2098	2098	3	0.000	0.000	0.000	0.000
2099	2099	3	0.000	0.000	0.000	0.000
2100	2100	3	0.000	0.000	0.000	0.000
2101	2101	3	0.000	0.000	0.000	0.000
2102	2102	3	0.000	0.000	0.000	0.000
2103	2103	3	0.000	0.000	0.000	0.000
2104	2104	3	0.000	0.000	0.000	0.000
2105	2105	3	0.000	0.000	0.000	0.000
2106	2106	3	0.000	0.000	0.000	0.000
2107	2107	3	0.000	0.000	0.000	0.000
2108	2108	3	0.000	0.000	0.000	0.000
2109	2109	3	0.000	0.000	0.000	0.000
2110	2110	3	0.000	0.000	0.000	0.000
2111	2111	3	0.000	0.000	0.000	0.000
2112	2112	3	0.000	0.000	0.000	0.000
2113	2113	3	0.000	0.000	0.000	0.000
2114	2114	3	0.000	0.000	0.000	0.000
2115	2115	3	0.000	0.000	0.000	0.000
2116	2116	3	0.000	0.000	0.000	0.000
2117	2117	3	0.000	0.000	0.000	0.000
2118	2118	3	0.000	0.000	0.000	0.000
2119	2119	3	0.000	0.000	0.000	0.000
2120	2120	3	0.000	0.000	0.000	0.000
2121	2121	3	0.000	0.000	0.000	0.000
2122	2122	3	0.000	0.000	0.000	0.000
2123	2123	3	0.000	0.000	0.000	0.000
2124	2124	3	0.000	0.000	0.000	0.000
2125	2125	3	0.000	0.000	0.000	0.000
2126	2126	3	0.000	0.000	0.000	0.000
2127	2127	3	0.000	0.000	0.000	0.000
2128	2128	3	0.000	0.000	0.000	0.000
2129	2129	3	0.000	0.000	0.000	0.000
2130	2130	3	0.000	0.000	0.000	0.000
2131	2131	3	0.000	0.000	0.000	0.000
2132	2132	3	0.000	0.000	0.000	0.000
2133	2133	3	0.000	0.000	0.000	0.000
2134	2134	3	0.000	0.000	0.000	0.000
2135	2135	3	0.000	0.000	0.000	0.000
2136	2136	3	0.000	0.000	0.000	0.000
2137	2137	3	0.000	0.000	0.000	0.000
2138	2138	3	0.000	0.000	0.000	0.000
2139	2139	3	0.000	0.000	0.000	0.000
2140	2140	3	0.000	0.000	0.000	0.000
2141	2141	3	0.000	0.000	0.000	0.000

2142	2142	3	0.000	0.000	0.000	0.000
2143	2143	3	0.000	0.000	0.000	0.000
2144	2144	3	0.000	0.000	0.000	0.000
2145	2145	3	0.000	0.000	0.000	0.000
2146	2146	3	0.000	0.000	0.000	0.000
2147	2147	3	0.000	0.000	0.000	0.000
2148	2148	3	0.000	0.000	0.000	0.000
2149	2149	3	0.000	0.000	0.000	0.000
2150	2150	3	0.000	0.000	0.000	0.000
2151	2151	3	0.000	0.000	0.000	0.000

FUEL_COST_CHANGES - (std)

*% change p.a.

*Start_yr	End_yr	fuel_type	resource	duty	VAT	CO2_Den_change
2011	2011	1	22.226	-0.297	14.286	-0.844
2012	2012	1	2.040	-2.049	0.000	-0.023
2013	2013	1	-3.443	-1.746	0.000	-0.438
2014	2014	1	-11.771	-1.707	0.000	-0.537
2015	2015	1	-28.520	-0.661	0.000	0.000
2016	2016	1	-7.312	-2.068	0.000	0.000
2017	2017	1	19.734	-1.912	0.000	-1.352
2018	2018	1	13.204	-2.203	0.000	-1.370
2019	2019	1	-10.631	-2.442	0.000	-1.389
2020	2020	1	-11.341	-4.832	0.000	-1.409
2021	2021	1	3.590	1.236	0.000	0.000
2022	2022	1	5.005	3.364	0.000	0.000
2023	2023	1	1.744	0.601	0.000	0.000
2024	2024	1	1.726	0.550	0.000	0.000
2025	2025	1	1.765	0.745	0.000	0.000
2026	2026	1	2.597	0.658	0.000	0.000
2027	2027	1	1.476	0.681	0.000	0.000
2028	2028	1	1.433	0.674	0.000	0.000
2029	2029	1	1.391	0.663	0.000	0.000
2030	2030	1	1.352	0.653	0.000	0.000
2031	2031	1	2.246	0.653	0.000	0.000
2032	2032	1	1.259	0.650	0.000	0.000
2033	2033	1	1.225	0.644	0.000	0.000
2034	2034	1	1.193	0.637	0.000	0.000
2035	2035	1	1.162	0.645	0.000	0.000
2036	2036	1	0.000	0.640	0.000	0.000
2037	2037	1	0.000	0.635	0.000	0.000
2038	2038	1	0.000	0.630	0.000	0.000
2039	2039	1	0.000	0.649	0.000	0.000
2040	2040	1	0.000	0.681	0.000	0.000

2041	2041	1	0.000	0.629	0.000	0.000
2042	2042	1	0.000	0.592	0.000	0.000
2043	2043	1	0.000	0.587	0.000	0.000
2044	2044	1	0.000	0.587	0.000	0.000
2045	2045	1	0.000	0.586	0.000	0.000
2046	2046	1	0.000	0.587	0.000	0.000
2047	2047	1	0.000	0.587	0.000	0.000
2048	2048	1	0.000	0.587	0.000	0.000
2049	2049	1	0.000	0.586	0.000	0.000
2050	2050	1	0.000	0.587	0.000	0.000
2051	2051	1	0.000	0.587	0.000	0.000
2052	2052	1	0.000	0.587	0.000	0.000
2053	2053	1	0.000	0.587	0.000	0.000
2054	2054	1	0.000	0.587	0.000	0.000
2055	2055	1	0.000	0.587	0.000	0.000
2056	2056	1	0.000	0.587	0.000	0.000
2057	2057	1	0.000	0.587	0.000	0.000
2058	2058	1	0.000	0.586	0.000	0.000
2059	2059	1	0.000	0.587	0.000	0.000
2060	2060	1	0.000	0.587	0.000	0.000
2061	2061	1	0.000	0.587	0.000	0.000
2062	2062	1	0.000	0.587	0.000	0.000
2063	2063	1	0.000	0.587	0.000	0.000
2064	2064	1	0.000	0.587	0.000	0.000
2065	2065	1	0.000	0.587	0.000	0.000
2066	2066	1	0.000	0.587	0.000	0.000
2067	2067	1	0.000	0.587	0.000	0.000
2068	2068	1	0.000	0.587	0.000	0.000
2069	2069	1	-1.686	0.587	0.000	0.000
2070	2070	1	0.000	0.587	0.000	0.000
2071	2071	1	0.000	0.587	0.000	0.000
2072	2072	1	0.000	0.587	0.000	0.000
2073	2073	1	0.000	0.587	0.000	0.000
2074	2074	1	0.000	0.586	0.000	0.000
2075	2075	1	0.000	0.587	0.000	0.000
2076	2076	1	0.000	0.587	0.000	0.000
2077	2077	1	0.000	0.586	0.000	0.000
2078	2078	1	0.000	0.587	0.000	0.000
2079	2079	1	0.000	0.587	0.000	0.000
2080	2080	1	0.000	0.587	0.000	0.000
2081	2081	1	0.000	0.587	0.000	0.000
2082	2082	1	0.000	0.587	0.000	0.000
2083	2083	1	0.000	0.587	0.000	0.000
2084	2084	1	0.000	0.587	0.000	0.000

2085	2085	1	0.000	0.587	0.000	0.000
2086	2086	1	0.000	0.587	0.000	0.000
2087	2087	1	0.000	0.587	0.000	0.000
2088	2088	1	0.000	0.587	0.000	0.000
2089	2089	1	0.000	0.587	0.000	0.000
2090	2090	1	0.000	0.587	0.000	0.000
2091	2091	1	0.000	0.587	0.000	0.000
2092	2092	1	0.000	0.587	0.000	0.000
2093	2093	1	0.000	0.587	0.000	0.000
2094	2094	1	0.000	0.587	0.000	0.000
2095	2095	1	0.000	0.587	0.000	0.000
2096	2096	1	0.000	0.587	0.000	0.000
2097	2097	1	0.000	0.587	0.000	0.000
2098	2098	1	0.000	0.587	0.000	0.000
2099	2099	1	0.000	0.587	0.000	0.000
2100	2100	1	0.000	0.587	0.000	0.000
2101	2101	1	0.000	0.587	0.000	0.000
2102	2102	1	0.000	0.587	0.000	0.000
2103	2103	1	0.000	0.587	0.000	0.000
2104	2104	1	0.000	0.587	0.000	0.000
2105	2105	1	0.000	0.587	0.000	0.000
2106	2106	1	0.000	0.587	0.000	0.000
2107	2107	1	0.000	0.587	0.000	0.000
2108	2108	1	0.000	0.587	0.000	0.000
2109	2109	1	0.000	0.587	0.000	0.000
2110	2110	1	0.000	0.587	0.000	0.000
2111	2111	1	0.000	0.587	0.000	0.000
2112	2112	1	0.000	0.587	0.000	0.000
2113	2113	1	0.000	0.587	0.000	0.000
2114	2114	1	0.000	0.587	0.000	0.000
2115	2115	1	0.000	0.587	0.000	0.000
2116	2116	1	0.000	0.587	0.000	0.000
2117	2117	1	0.000	0.587	0.000	0.000
2118	2118	1	0.000	0.587	0.000	0.000
2119	2119	1	0.000	0.587	0.000	0.000
2120	2120	1	0.000	0.587	0.000	0.000
2121	2121	1	0.000	0.587	0.000	0.000
2122	2122	1	0.000	0.587	0.000	0.000
2123	2123	1	0.000	0.587	0.000	0.000
2124	2124	1	0.000	0.587	0.000	0.000
2125	2125	1	0.000	0.587	0.000	0.000
2126	2126	1	0.000	0.587	0.000	0.000
2127	2127	1	0.000	0.587	0.000	0.000
2128	2128	1	0.000	0.587	0.000	0.000

2129	2129	1	0.000	0.587	0.000	0.000
2130	2130	1	0.000	0.587	0.000	0.000
2131	2131	1	0.000	0.587	0.000	0.000
2132	2132	1	0.000	0.587	0.000	0.000
2133	2133	1	0.000	0.587	0.000	0.000
2134	2134	1	0.000	0.587	0.000	0.000
2135	2135	1	0.000	0.587	0.000	0.000
2136	2136	1	0.000	0.587	0.000	0.000
2137	2137	1	0.000	0.587	0.000	0.000
2138	2138	1	0.000	0.587	0.000	0.000
2139	2139	1	0.000	0.587	0.000	0.000
2140	2140	1	0.000	0.587	0.000	0.000
2141	2141	1	0.000	0.587	0.000	0.000
2142	2142	1	0.000	0.587	0.000	0.000
2143	2143	1	0.000	0.587	0.000	0.000
2144	2144	1	0.000	0.587	0.000	0.000
2145	2145	1	0.000	0.587	0.000	0.000
2146	2146	1	0.000	0.587	0.000	0.000
2147	2147	1	0.000	0.587	0.000	0.000
2148	2148	1	0.000	0.587	0.000	0.000
2149	2149	1	0.000	0.587	0.000	0.000
2150	2150	1	0.000	0.587	0.000	0.000
2151	2151	1	0.000	0.587	0.000	0.000
2011	2011	2	26.919	-0.297	14,286	0.188
2012	2012	2	3.247	-2.049	0.000	1.643
2013	2013	2	-3.680	-1.746	0.000	-0.436
2014	2014	2	-11.343	-1.707	0.000	0.153
2015	2015	2	-29.504	-0.661	0.000	0.004
2016	2016	2	-12.397	-2.068	0.000	0.003
2017	2017	2	22.316	-1.912	0.000	-1.744
2018	2018	2	16.802	-2.203	0.000	-1.775
2019	2019	2	-11.392	-2.442	0.000	-1.807
2020	2020	2	-11.913	-4.832	0.000	-1.841
2021	2021	2	3.816	1.236	0.000	0.000
2022	2022	2	5.133	3.364	0.000	0.000
2023	2023	2	1.862	0.601	0.000	0.000
2024	2024	2	1.853	0.550	0.000	0.000
2025	2025	2	1.886	0.745	0.000	0.000
2026	2026	2	2.790	0.658	0.000	0.000
2027	2027	2	1.583	0.681	0.000	0.000
2028	2028	2	1.535	0.674	0.000	0.000
2029	2029	2	1.489	0.663	0.000	0.000
2030	2030	2	1.445	0.653	0.000	0.000
2031	2031	2	2.399	0.653	0.000	0.000

2032	2032	2	1.343	0.650	0.000	0.000
2033	2033	2	1.306	0.644	0.000	0.000
2034	2034	2	1.270	0.637	0.000	0.000
2035	2035	2	1.236	0.645	0.000	0.000
2036	2036	2	0.000	0.640	0.000	0.000
2037	2037	2	0.000	0.635	0.000	0.000
2038	2038	2	0.000	0.630	0.000	0.000
2039	2039	2	0.000	0.649	0.000	0.000
2040	2040	2	0.000	0.681	0.000	0.000
2041	2041	2	0.000	0.629	0.000	0.000
2042	2042	2	0.000	0.592	0.000	0.000
2043	2043	2	0.000	0.587	0.000	0.000
2044	2044	2	0.000	0.587	0.000	0.000
2045	2045	2	0.000	0.586	0.000	0.000
2046	2046	2	0.000	0.587	0.000	0.000
2047	2047	2	0.000	0.587	0.000	0.000
2048	2048	2	0.000	0.587	0.000	0.000
2049	2049	2	0.000	0.586	0.000	0.000
2050	2050	2	0.000	0.587	0.000	0.000
2051	2051	2	0.000	0.587	0.000	0.000
2052	2052	2	0.000	0.587	0.000	0.000
2053	2053	2	0.000	0.587	0.000	0.000
2054	2054	2	0.000	0.587	0.000	0.000
2055	2055	2	0.000	0.587	0.000	0.000
2056	2056	2	0.000	0.587	0.000	0.000
2057	2057	2	0.000	0.587	0.000	0.000
2058	2058	2	0.000	0.586	0.000	0.000
2059	2059	2	0.000	0.587	0.000	0.000
2060	2060	2	0.000	0.587	0.000	0.000
2061	2061	2	0.000	0.587	0.000	0.000
2062	2062	2	0.000	0.587	0.000	0.000
2063	2063	2	0.000	0.587	0.000	0.000
2064	2064	2	0.000	0.587	0.000	0.000
2065	2065	2	0.000	0.587	0.000	0.000
2066	2066	2	0.000	0.587	0.000	0.000
2067	2067	2	0.000	0.587	0.000	0.000
2068	2068	2	0.000	0.587	0.000	0.000
2069	2069	2	-1.686	0.587	0.000	0.000
2070	2070	2	0.000	0.587	0.000	0.000
2071	2071	2	0.000	0.587	0.000	0.000
2072	2072	2	0.000	0.587	0.000	0.000
2073	2073	2	0.000	0.587	0.000	0.000
2074	2074	2	0.000	0.586	0.000	0.000
2075	2075	2	0.000	0.587	0.000	0.000

2076	2076	2	0.000	0.587	0.000	0.000
2077	2077	2	0.000	0.586	0.000	0.000
2078	2078	2	0.000	0.587	0.000	0.000
2079	2079	2	0.000	0.587	0.000	0.000
2080	2080	2	0.000	0.587	0.000	0.000
2081	2081	2	0.000	0.587	0.000	0.000
2082	2082	2	0.000	0.587	0.000	0.000
2083	2083	2	0.000	0.587	0.000	0.000
2084	2084	2	0.000	0.587	0.000	0.000
2085	2085	2	0.000	0.587	0.000	0.000
2086	2086	2	0.000	0.587	0.000	0.000
2087	2087	2	0.000	0.587	0.000	0.000
2088	2088	2	0.000	0.587	0.000	0.000
2089	2089	2	0.000	0.587	0.000	0.000
2090	2090	2	0.000	0.587	0.000	0.000
2091	2091	2	0.000	0.587	0.000	0.000
2092	2092	2	0.000	0.587	0.000	0.000
2093	2093	2	0.000	0.587	0.000	0.000
2094	2094	2	0.000	0.587	0.000	0.000
2095	2095	2	0.000	0.587	0.000	0.000
2096	2096	2	0.000	0.587	0.000	0.000
2097	2097	2	0.000	0.587	0.000	0.000
2098	2098	2	0.000	0.587	0.000	0.000
2099	2099	2	0.000	0.587	0.000	0.000
2100	2100	2	0.000	0.587	0.000	0.000
2101	2101	2	0.000	0.587	0.000	0.000
2102	2102	2	0.000	0.587	0.000	0.000
2103	2103	2	0.000	0.587	0.000	0.000
2104	2104	2	0.000	0.587	0.000	0.000
2105	2105	2	0.000	0.587	0.000	0.000
2106	2106	2	0.000	0.587	0.000	0.000
2107	2107	2	0.000	0.587	0.000	0.000
2108	2108	2	0.000	0.587	0.000	0.000
2109	2109	2	0.000	0.587	0.000	0.000
2110	2110	2	0.000	0.587	0.000	0.000
2111	2111	2	0.000	0.587	0.000	0.000
2112	2112	2	0.000	0.587	0.000	0.000
2113	2113	2	0.000	0.587	0.000	0.000
2114	2114	2	0.000	0.587	0.000	0.000
2115	2115	2	0.000	0.587	0.000	0.000
2116	2116	2	0.000	0.587	0.000	0.000
2117	2117	2	0.000	0.587	0.000	0.000
2118	2118	2	0.000	0.587	0.000	0.000
2119	2119	2	0.000	0.587	0.000	0.000

2120	2120	2	0.000	0.587	0.000	0.000
2121	2121	2	0.000	0.587	0.000	0.000
2122	2122	2	0.000	0.587	0.000	0.000
2123	2123	2	0.000	0.587	0.000	0.000
2124	2124	2	0.000	0.587	0.000	0.000
2125	2125	2	0.000	0.587	0.000	0.000
2126	2126	2	0.000	0.587	0.000	0.000
2127	2127	2	0.000	0.587	0.000	0.000
2128	2128	2	0.000	0.587	0.000	0.000
2129	2129	2	0.000	0.587	0.000	0.000
2130	2130	2	0.000	0.587	0.000	0.000
2131	2131	2	0.000	0.587	0.000	0.000
2132	2132	2	0.000	0.587	0.000	0.000
2133	2133	2	0.000	0.587	0.000	0.000
2134	2134	2	0.000	0.587	0.000	0.000
2135	2135	2	0.000	0.587	0.000	0.000
2136	2136	2	0.000	0.587	0.000	0.000
2137	2137	2	0.000	0.587	0.000	0.000
2138	2138	2	0.000	0.587	0.000	0.000
2139	2139	2	0.000	0.587	0.000	0.000
2140	2140	2	0.000	0.587	0.000	0.000
2141	2141	2	0.000	0.587	0.000	0.000
2142	2142	2	0.000	0.587	0.000	0.000
2143	2143	2	0.000	0.587	0.000	0.000
2144	2144	2	0.000	0.587	0.000	0.000
2145	2145	2	0.000	0.587	0.000	0.000
2146	2146	2	0.000	0.587	0.000	0.000
2147	2147	2	0.000	0.587	0.000	0.000
2148	2148	2	0.000	0.587	0.000	0.000
2149	2149	2	0.000	0.587	0.000	0.000
2150	2150	2	0.000	0.587	0.000	0.000
2151	2151	2	0.000	0.587	0.000	0.000
2011	2011	3	6.000	0.000	0.000	-1.438
2012	2012	3	3.963	0.000	0.000	-1.878
2013	2013	3	4.453	0.000	0.000	-2.438
2014	2014	3	0.807	0.000	0.000	-1.891
2015	2015	3	-2.124	0.000	0.000	-2.837
2016	2016	3	-1.596	0.000	0.000	-3.035
2017	2017	3	3.662	0.000	0.000	-2.830
2018	2018	3	6.268	0.000	0.000	-3.251
2019	2019	3	4.006	0.000	0.000	-3.618
2020	2020	3	-3.240	0.000	0.000	-3.931
2021	2021	3	9.768	0.000	0.000	-4.324
2022	2022	3	1.799	0.000	0.000	-4.776

2023	2023	3	-0.216	0.000	0.000	-5.300
2024	2024	3	-1.595	0.000	0.000	-5.915
2025	2025	3	1.049	0.000	0.000	-6.643
2026	2026	3	0.894	0.000	0.000	-7.520
2027	2027	3	-1.865	0.000	0.000	-8.594
2028	2028	3	-0.274	0.000	0.000	-9.934
2029	2029	3	-0.789	0.000	0.000	-11.657
2030	2030	3	1.876	0.000	0.000	-13.944
2031	2031	3	-0.287	0.000	0.000	-19.089
2032	2032	3	-2.211	0.000	0.000	-19.090
2033	2033	3	-2.565	0.000	0.000	-19.088
2034	2034	3	-1.399	0.000	0.000	-19.090
2035	2035	3	-1.444	0.000	0.000	-19.089
2036	2036	3	-0.695	0.000	0.000	-19.089
2037	2037	3	-0.258	0.000	0.000	-19.088
2038	2038	3	-0.856	0.000	0.000	-19.090
2039	2039	3	1.452	0.000	0.000	-19.092
2040	2040	3	-1.512	0.000	0.000	-19.088
2041	2041	3	0.000	0.000	0.000	-16.984
2042	2042	3	0.000	0.000	0.000	-5.099
2043	2043	3	0.000	0.000	0.000	-2.043
2044	2044	3	0.000	0.000	0.000	-6.009
2045	2045	3	0.000	0.000	0.000	-15.076
2046	2046	3	0.000	0.000	0.000	-9.204
2047	2047	3	0.000	0.000	0.000	-7.798
2048	2048	3	0.000	0.000	0.000	-5.087
2049	2049	3	0.000	0.000	0.000	-6.945
2050	2050	3	0.000	0.000	0.000	-1.718
2051	2051	3	0.000	0.000	0.000	0.000
2052	2052	3	0.000	0.000	0.000	0.000
2053	2053	3	0.000	0.000	0.000	0.000
2054	2054	3	0.000	0.000	0.000	0.000
2055	2055	3	0.000	0.000	0.000	0.000
2056	2056	3	0.000	0.000	0.000	0.000
2057	2057	3	0.000	0.000	0.000	0.000
2058	2058	3	0.000	0.000	0.000	0.000
2059	2059	3	0.000	0.000	0.000	0.000
2060	2060	3	0.000	0.000	0.000	0.000
2061	2061	3	0.000	0.000	0.000	0.000
2062	2062	3	0.000	0.000	0.000	0.000
2063	2063	3	0.000	0.000	0.000	0.000
2064	2064	3	0.000	0.000	0.000	0.000
2065	2065	3	0.000	0.000	0.000	0.000
2066	2066	3	0.000	0.000	0.000	0.000

2067	2067	3	0.000	0.000	0.000	0.000
2068	2068	3	0.000	0.000	0.000	0.000
2069	2069	3	0.000	0.000	0.000	0.000
2070	2070	3	0.000	0.000	0.000	0.000
2071	2071	3	0.000	0.000	0.000	0.000
2072	2072	3	0.000	0.000	0.000	0.000
2073	2073	3	0.000	0.000	0.000	0.000
2074	2074	3	0.000	0.000	0.000	0.000
2075	2075	3	0.000	0.000	0.000	0.000
2076	2076	3	0.000	0.000	0.000	0.000
2077	2077	3	0.000	0.000	0.000	0.000
2078	2078	3	0.000	0.000	0.000	0.000
2079	2079	3	0.000	0.000	0.000	0.000
2080	2080	3	0.000	0.000	0.000	0.000
2081	2081	3	0.000	0.000	0.000	0.000
2082	2082	3	0.000	0.000	0.000	0.000
2083	2083	3	0.000	0.000	0.000	0.000
2084	2084	3	0.000	0.000	0.000	0.000
2085	2085	3	0.000	0.000	0.000	0.000
2086	2086	3	0.000	0.000	0.000	0.000
2087	2087	3	0.000	0.000	0.000	0.000
2088	2088	3	0.000	0.000	0.000	0.000
2089	2089	3	0.000	0.000	0.000	0.000
2090	2090	3	0.000	0.000	0.000	0.000
2091	2091	3	0.000	0.000	0.000	0.000
2092	2092	3	0.000	0.000	0.000	0.000
2093	2093	3	0.000	0.000	0.000	0.000
2094	2094	3	0.000	0.000	0.000	0.000
2095	2095	3	0.000	0.000	0.000	0.000
2096	2096	3	0.000	0.000	0.000	0.000
2097	2097	3	0.000	0.000	0.000	0.000
2098	2098	3	0.000	0.000	0.000	0.000
2099	2099	3	0.000	0.000	0.000	0.000
2100	2100	3	0.000	0.000	0.000	0.000
2101	2101	3	0.000	0.000	0.000	0.000
2102	2102	3	0.000	0.000	0.000	0.000
2103	2103	3	0.000	0.000	0.000	0.000
2104	2104	3	0.000	0.000	0.000	0.000
2105	2105	3	0.000	0.000	0.000	0.000
2106	2106	3	0.000	0.000	0.000	0.000
2107	2107	3	0.000	0.000	0.000	0.000
2108	2108	3	0.000	0.000	0.000	0.000
2109	2109	3	0.000	0.000	0.000	0.000
2110	2110	3	0.000	0.000	0.000	0.000

2111	2111	3	0.000	0.000	0.000	0.000
2112	2112	3	0.000	0.000	0.000	0.000
2113	2113	3	0.000	0.000	0.000	0.000
2114	2114	3	0.000	0.000	0.000	0.000
2115	2115	3	0.000	0.000	0.000	0.000
2116	2116	3	0.000	0.000	0.000	0.000
2117	2117	3	0.000	0.000	0.000	0.000
2118	2118	3	0.000	0.000	0.000	0.000
2119	2119	3	0.000	0.000	0.000	0.000
2120	2120	3	0.000	0.000	0.000	0.000
2121	2121	3	0.000	0.000	0.000	0.000
2122	2122	3	0.000	0.000	0.000	0.000
2123	2123	3	0.000	0.000	0.000	0.000
2124	2124	3	0.000	0.000	0.000	0.000
2125	2125	3	0.000	0.000	0.000	0.000
2126	2126	3	0.000	0.000	0.000	0.000
2127	2127	3	0.000	0.000	0.000	0.000
2128	2128	3	0.000	0.000	0.000	0.000
2129	2129	3	0.000	0.000	0.000	0.000
2130	2130	3	0.000	0.000	0.000	0.000
2131	2131	3	0.000	0.000	0.000	0.000
2132	2132	3	0.000	0.000	0.000	0.000
2133	2133	3	0.000	0.000	0.000	0.000
2134	2134	3	0.000	0.000	0.000	0.000
2135	2135	3	0.000	0.000	0.000	0.000
2136	2136	3	0.000	0.000	0.000	0.000
2137	2137	3	0.000	0.000	0.000	0.000
2138	2138	3	0.000	0.000	0.000	0.000
2139	2139	3	0.000	0.000	0.000	0.000
2140	2140	3	0.000	0.000	0.000	0.000
2141	2141	3	0.000	0.000	0.000	0.000
2142	2142	3	0.000	0.000	0.000	0.000
2143	2143	3	0.000	0.000	0.000	0.000
2144	2144	3	0.000	0.000	0.000	0.000
2145	2145	3	0.000	0.000	0.000	0.000
2146	2146	3	0.000	0.000	0.000	0.000
2147	2147	3	0.000	0.000	0.000	0.000
2148	2148	3	0.000	0.000	0.000	0.000
2149	2149	3	0.000	0.000	0.000	0.000
2150	2150	3	0.000	0.000	0.000	0.000
2151	2151	3	0.000	0.000	0.000	0.000

FLEET - (used)

*veh_type %Petrol %Diesel %Electric

1	59.8962	40.0961	0.0077
2	3.4548	96.4566	0.0886
3	3.4548	96.4566	0.0886
4	0.0000	100.0000	0.0000
5	0.0000	100.0000	0.0000
6	0.0000	99.9221	0.0779
7	0.0000	100.0000	0.0000
8	0.0000	100.0000	0.0000

FLEET - (std)

*veh_type	%Petrol	%Diesel	%Electric
1	59.6299	40.3625	0.0076
2	3.4505	96.4583	0.0912
3	3.4505	96.4583	0.0912
4	0.0000	100.0000	0.0000
5	0.0000	100.0000	0.0000
6	0.0000	100.0000	0.0000
7	0.0000	100.0000	0.0000
8	0.0000	100.0000	0.0000

FLEET_CHANGES - (used)

*% p.a.

*Start_yr	End_yr	Veh_type	%Change_Petrol	%Change_Diesel	%Change_Electric
2011	2011	1	-3.5334	5.2644	72.7273
2012	2012	1	-3.5938	4.8952	77.4436
2013	2013	1	-3.6635	4.5816	52.5424
2014	2014	1	-3.5106	3.9580	142.2222
2015	2015	1	-3.2761	3.3338	105.1606
2016	2016	1	-2.7303	2.5141	65.3438
2017	2017	1	-0.9381	0.6152	48.4449
2018	2018	1	1.1306	-1.3993	39.2394
2019	2019	1	2.3623	-2.7214	36.5882
2020	2020	1	1.9473	-3.2533	75.2245
2021	2021	1	1.5292	-4.3172	87.2343
2022	2022	1	0.2404	-4.6395	72.5965
2023	2023	1	-0.8037	-5.4000	58.4144
2024	2024	1	-1.4484	-6.2086	43.9989
2025	2025	1	-2.0998	-7.3022	35.9550
2026	2026	1	-2.4509	-7.9695	27.7036
2027	2027	1	-2.9226	-8.6666	22.7674
2028	2028	1	-3.3225	-9.3402	18.9875
2029	2029	1	-3.6571	-9.8518	15.8753
2030	2030	1	-3.9691	-10.1168	13.3105
2031	2031	1	-4.0715	-10.1036	10.9677

2032	2032	1	-4.0434	-9.9044	9.0164
2033	2033	1	-4.1522	-9.4536	7.5826
2034	2034	1	-4.2021	-8.8854	6.4073
2035	2035	1	-4.0578	-8.4250	5.3933
2036	2036	1	-3.8855	-7.8288	4.5411
2037	2037	1	-3.8221	-7.0415	3.8820
2038	2038	1	-3.5816	-6.0722	3.2150
2039	2039	1	-3.3132	-5.1005	2.6551
2040	2040	1	-2.9987	-4.3872	2.2093
2041	2041	1	-2.5436	-3.6258	1.7546
2042	2042	1	-2.2945	-3.1222	1.4878
2043	2043	1	-1.9852	-2.7371	1.2411
2044	2044	1	-1.6650	-2.2924	1.0049
2045	2045	1	-1.4495	-1.9597	0.8450
2046	2046	1	-1.2558	-1.6572	0.7092
2047	2047	1	-1.0944	-1.4064	0.6005
2048	2048	1	-0.9945	-1.2353	0.5303
2049	2049	1	-0.8969	-1.0790	0.4665
2050	2050	1	-0.7964	-0.9332	0.4054
2011	2011	2	-9.9745	0.3593	-2.2573
2012	2012	2	-8.1699	0.2539	9.5843
2013	2013	2	-8.1580	0.2422	-2.1075
2014	2014	2	-8.2993	0.2019	22.8202
2015	2015	2	-7.8448	0.1740	16.8273
2016	2016	2	-8.3367	0.1676	15.7539
2017	2017	2	-1.9981	0.0132	17.9520
2018	2018	2	3.9723	-0.1194	20.7143
2019	2019	2	2.8159	-0.1663	47.4283
2020	2020	2	0.6107	-0.2061	58.0426
2021	2021	2	-7.3773	-0.2553	79.4296
2022	2022	2	-1.0385	-0.1683	20.0218
2023	2023	2	-1.0646	-0.1605	16.0196
2024	2024	2	-0.8959	-0.1530	12.9320
2025	2025	2	-0.8468	-0.2198	15.8266
2026	2026	2	-0.8017	-0.2901	17.6330
2027	2027	2	-0.8082	-0.3992	20.2846
2028	2028	2	-0.9106	-0.5771	24.0664
2029	2029	2	-1.0264	-0.7144	23.8074
2030	2030	2	-1.3629	-1.0477	27.9255
2031	2031	2	-1.8716	-1.4764	30.4203
2032	2032	2	-2.3561	-1.9387	30.1393
2033	2033	2	-2.9243	-2.4870	29.1112
2034	2034	2	-3.4326	-2.9768	26.3028
2035	2035	2	-3.8181	-3.3308	22.6024

2036	2036	2	-4.0270	-3.5179	18.8201
2037	2037	2	-4.0964	-3.5581	15.4568
2038	2038	2	-4.1052	-3.5435	12.8578
2039	2039	2	-3.7973	-3.2205	9.9910
2040	2040	2	-3.7896	-3.2207	8.7892
2041	2041	2	-3.3695	-2.8372	6.8894
2042	2042	2	-3.3659	-2.8357	6.2576
2043	2043	2	-3.3161	-2.7852	5.6196
2044	2044	2	-3.2138	-2.6951	5.0050
2045	2045	2	-3.0706	-2.5788	4.4374
2046	2046	2	-2.8271	-2.3669	3.7986
2047	2047	2	-2.6535	-2.2117	3.3391
2048	2048	2	-2.4825	-2.0531	2.9326
2049	2049	2	-2.2761	-1.8776	2.5526
2050	2050	2	-2.0738	-1.6824	2.1886
2011	2011	3	-9.9745	0.3593	-2.2573
2012	2012	3	-8.1699	0.2539	9.5843
2013	2013	3	-8.1580	0.2422	-2.1075
2014	2014	3	-8.2993	0.2019	22.8202
2015	2015	3	-7.8448	0.1740	16.8273
2016	2016	3	-8.3367	0.1676	15.7539
2017	2017	3	-1.9981	0.0132	17.9520
2018	2018	3	3.9723	-0.1194	20.7143
2019	2019	3	2.8159	-0.1663	47.4283
2020	2020	3	0.6107	-0.2061	58.0426
2021	2021	3	-7.3773	-0.2553	79.4296
2022	2022	3	-1.0385	-0.1683	20.0218
2023	2023	3	-1.0646	-0.1605	16.0196
2024	2024	3	-0.8959	-0.1530	12.9320
2025	2025	3	-0.8468	-0.2198	15.8266
2026	2026	3	-0.8017	-0.2901	17.6330
2027	2027	3	-0.8082	-0.3992	20.2846
2028	2028	3	-0.9106	-0.5771	24.0664
2029	2029	3	-1.0264	-0.7144	23.8074
2030	2030	3	-1.3629	-1.0477	27.9255
2031	2031	3	-1.8716	-1.4764	30.4203
2032	2032	3	-2.3561	-1.9387	30.1393
2033	2033	3	-2.9243	-2.4870	29.1112
2034	2034	3	-3.4326	-2.9768	26.3028
2035	2035	3	-3.8181	-3.3308	22.6024
2036	2036	3	-4.0270	-3.5179	18.8201
2037	2037	3	-4.0964	-3.5581	15.4568
2038	2038	3	-4.1052	-3.5435	12.8578
2039	2039	3	-3.7973	-3.2205	9.9910

2040	2040	3	-3.7896	-3.2207	8.7892
2041	2041	3	-3.3695	-2.8372	6.8894
2042	2042	3	-3.3659	-2.8357	6.2576
2043	2043	3	-3.3161	-2.7852	5.6196
2044	2044	3	-3.2138	-2.6951	5.0050
2045	2045	3	-3.0706	-2.5788	4.4374
2046	2046	3	-2.8271	-2.3669	3.7986
2047	2047	3	-2.6535	-2.2117	3.3391
2048	2048	3	-2.4825	-2.0531	2.9326
2049	2049	3	-2.2761	-1.8776	2.5526
2050	2050	3	-2.0738	-1.6824	2.1886
2011	2011	6	0.0000	-0.0011	1.4121
2012	2012	6	0.0000	-0.0202	25.5696
2013	2013	6	0.0000	-0.0327	32.9637
2014	2014	6	0.0000	-0.0723	54.7384
2015	2015	6	0.0000	-0.0313	15.2866
2016	2016	6	0.0000	-0.0935	39.6515
2017	2017	6	0.0000	-0.0617	18.7158
2018	2018	6	0.0000	-0.1298	33.1453
2019	2019	6	0.0000	-0.3121	59.7805
2020	2020	6	0.0000	-0.2987	35.6910
2021	2021	6	0.0000	-0.7068	62.0549
2022	2022	6	0.0000	-4.7142	253.6139
2023	2023	6	0.0000	-4.4616	64.6774
2024	2024	6	0.0000	-2.5792	21.6914
2025	2025	6	0.0000	-3.3217	22.3641
2026	2026	6	0.0000	-2.9956	15.9353
2027	2027	6	0.0000	-3.3685	14.9927
2028	2028	6	0.0000	-3.8909	14.5529
2029	2029	6	0.0000	-3.5896	11.2641
2030	2030	6	0.0000	-1.2289	3.3416
2031	2031	6	0.0000	-1.0185	2.6469
2032	2032	6	0.0000	-0.7730	1.9371
2033	2033	6	0.0000	-0.6043	1.4741
2034	2034	6	0.0000	-0.4783	1.1429
2035	2035	6	0.0000	-0.3495	0.8217
2036	2036	6	0.0000	-0.2085	0.4846
2037	2037	6	0.0000	-0.0851	0.1965
2038	2038	6	0.0000	0.0268	-0.0617
2039	2039	6	0.0000	0.0965	-0.2223
2040	2040	6	0.0000	-0.6920	1.5991
2041	2041	6	0.0000	-0.5875	1.3269
2042	2042	6	0.0000	-0.5265	1.1667
2043	2043	6	0.0000	-0.4615	1.0055

2044	2044	6	0.0000	-0.3947	0.8475
2045	2045	6	0.0000	-0.3467	0.7352
2046	2046	6	0.0000	-0.3361	0.7051
2047	2047	6	0.0000	-0.3365	0.6986
2048	2048	6	0.0000	-0.3394	0.6974
2049	2049	6	0.0000	-0.3277	0.6665
2050	2050	6	0.0000	-0.3043	0.6127
2051	2151	1	0.0000	0.0000	0.0000
2051	2151	2	0.0000	0.0000	0.0000
2051	2151	3	0.0000	0.0000	0.0000
2011	2151	4	0.0000	0.0000	0.0000
2011	2151	5	0.0000	0.0000	0.0000
2051	2151	6	0.0000	0.0000	0.0000

FLEET_CHANGES - (std)

*% p.a.

*Start_yr	End_yr	Veh_type	%Change_Petrol	%Change_Diesel	%Change_Electric
2011	2011	1	-3.5474	5.2271	72.3684
2012	2012	1	-3.6255	4.8862	75.5725
2013	2013	1	-3.7045	4.5823	52.6087
2014	2014	1	-3.5372	3.9494	137.0370
2015	2015	1	-3.3037	3.3379	101.4423
2016	2016	1	-2.7361	2.5097	63.3652
2017	2017	1	-0.8923	0.5861	47.9912
2018	2018	1	1.1991	-1.4201	38.8203
2019	2019	1	1.7017	-1.9941	33.4222
2020	2020	1	1.8536	-2.2461	27.1952
2021	2021	1	1.6150	-2.5074	42.8975
2022	2022	1	1.4618	-2.7336	40.4296
2023	2023	1	1.3175	-3.0441	37.7636
2024	2024	1	0.9803	-3.5199	40.2425
2025	2025	1	0.2872	-4.2813	45.8903
2026	2026	1	-0.0235	-4.6731	36.0447
2027	2027	1	-0.1975	-4.8289	27.3620
2028	2028	1	-0.3930	-4.9178	21.9646
2029	2029	1	-0.6139	-4.9385	18.2947
2030	2030	1	-0.9186	-4.8594	15.7936
2031	2031	1	-1.1396	-4.5854	13.2690
2032	2032	1	-1.3598	-4.2639	11.3740
2033	2033	1	-1.5543	-3.9092	9.8508
2034	2034	1	-1.7099	-3.6116	8.6724
2035	2035	1	-1.8177	-3.2999	7.6247
2036	2036	1	-1.8688	-3.0327	6.7218
2037	2037	1	-1.8936	-2.8160	5.9844

2038	2038	1	-1.8686	-2.5621	5.2552
2039	2039	1	-1.8261	-2.3161	4.6228
2040	2040	1	-2.0337	-2.4757	4.7437
2041	2041	1	-1.9404	-2.3503	4.2169
2042	2042	1	-1.8614	-2.2344	3.7873
2043	2043	1	-1.7986	-2.0982	3.4172
2044	2044	1	-1.8062	-2.0617	3.2286
2045	2045	1	-1.7138	-1.9060	2.8834
2046	2046	1	-1.6902	-1.8698	2.7094
2047	2047	1	-1.6879	-1.8470	2.5779
2048	2048	1	-1.6589	-1.8011	2.4200
2049	2049	1	-1.6009	-1.7231	2.2342
2050	2050	1	-1.5935	-1.7035	2.1344
2011	2011	2	-9.9551	0.3589	-2.9605
2012	2012	2	-8.0850	0.2503	10.1695
2013	2013	2	-8.1413	0.2417	-2.2564
2014	2014	2	-8.3635	0.2034	22.5603
2015	2015	2	-7.9288	0.1755	16.6952
2016	2016	2	-8.3676	0.1677	15.7007
2017	2017	2	-1.9723	0.0123	17.7552
2018	2018	2	4.0994	-0.1225	20.6247
2019	2019	2	-1.5414	-0.0689	44.2857
2020	2020	2	-1.2465	0.0340	-2.4134
2021	2021	2	-0.1690	-0.0505	16.7089
2022	2022	2	0.1344	-0.0690	17.5767
2023	2023	2	0.9644	-0.1262	23.9603
2024	2024	2	2.0384	-0.2103	30.4753
2025	2025	2	4.5262	-0.4417	47.9714
2026	2026	2	3.4807	-0.4261	32.5352
2027	2027	2	3.9436	-0.5348	31.1116
2028	2028	2	4.5536	-0.6795	30.2961
2029	2029	2	4.8684	-0.7989	27.3836
2030	2030	2	4.9673	-0.9096	24.5096
2031	2031	2	5.0865	-0.9474	20.1742
2032	2032	2	4.8793	-1.0056	17.7808
2033	2033	2	4.6320	-1.0543	15.7803
2034	2034	2	4.3655	-1.0969	14.1249
2035	2035	2	4.0807	-1.1390	12.8123
2036	2036	2	3.8076	-1.1648	11.5496
2037	2037	2	3.5417	-1.1887	10.5057
2038	2038	2	3.2793	-1.2049	9.5762
2039	2039	2	3.0357	-1.2185	8.7799
2040	2040	2	2.8032	-1.2286	8.0825
2041	2041	2	2.5647	-1.2034	7.2582

2042	2042	2	2.4018	-1.2091	6.7416
2043	2043	2	2.2033	-1.2237	6.3558
2044	2044	2	2.0402	-1.2164	5.8890
2045	2045	2	1.8815	-1.2057	5.4663
2046	2046	2	1.6834	-1.1668	4.9758
2047	2047	2	1.5551	-1.1570	4.6635
2048	2048	2	1.4237	-1.1416	4.3618
2049	2049	2	1.2542	-1.1392	4.1548
2050	2050	2	1.1467	-1.1150	3.8719
2011	2011	3	-9.9551	0.3589	-2.9605
2012	2012	3	-8.0850	0.2503	10.1695
2013	2013	3	-8.1413	0.2417	-2.2564
2014	2014	3	-8.3635	0.2034	22.5603
2015	2015	3	-7.9288	0.1755	16.6952
2016	2016	3	-8.3676	0.1677	15.7007
2017	2017	3	-1.9723	0.0123	17.7552
2018	2018	3	4.0994	-0.1225	20.6247
2019	2019	3	-1.5414	-0.0689	44.2857
2020	2020	3	-1.2465	0.0340	-2.4134
2021	2021	3	-0.1690	-0.0505	16.7089
2022	2022	3	0.1344	-0.0690	17.5767
2023	2023	3	0.9644	-0.1262	23.9603
2024	2024	3	2.0384	-0.2103	30.4753
2025	2025	3	4.5262	-0.4417	47.9714
2026	2026	3	3.4807	-0.4261	32.5352
2027	2027	3	3.9436	-0.5348	31.1116
2028	2028	3	4.5536	-0.6795	30.2961
2029	2029	3	4.8684	-0.7989	27.3836
2030	2030	3	4.9673	-0.9096	24.5096
2031	2031	3	5.0865	-0.9474	20.1742
2032	2032	3	4.8793	-1.0056	17.7808
2033	2033	3	4.6320	-1.0543	15.7803
2034	2034	3	4.3655	-1.0969	14.1249
2035	2035	3	4.0807	-1.1390	12.8123
2036	2036	3	3.8076	-1.1648	11.5496
2037	2037	3	3.5417	-1.1887	10.5057
2038	2038	3	3.2793	-1.2049	9.5762
2039	2039	3	3.0357	-1.2185	8.7799
2040	2040	3	2.8032	-1.2286	8.0825
2041	2041	3	2.5647	-1.2034	7.2582
2042	2042	3	2.4018	-1.2091	6.7416
2043	2043	3	2.2033	-1.2237	6.3558
2044	2044	3	2.0402	-1.2164	5.8890
2045	2045	3	1.8815	-1.2057	5.4663

2046	2046	3	1.6834	-1.1668	4.9758
2047	2047	3	1.5551	-1.1570	4.6635
2048	2048	3	1.4237	-1.1416	4.3618
2049	2049	3	1.2542	-1.1392	4.1548
2050	2050	3	1.1467	-1.1150	3.8719
2051	2151	1	0.0000	0.0000	0.0000
2051	2151	2	0.0000	0.0000	0.0000
2051	2151	3	0.0000	0.0000	0.0000
2011	2151	4	0.0000	0.0000	0.0000
2011	2151	5	0.0000	0.0000	0.0000
2011	2151	6	0.0000	0.0000	0.0000

FUEL_CONSUMPTION - (used)

*veh_type	fuel_type	a_fuel	b_fuel	c_fuel	d_fuel	cut-off_speeds(km/h)	
		max		min			
1	1	0.4666	0.09917	-0.11296E-02	0.74815E-05	130	10
1	2	0.5050	0.07241	-0.69660E-03	0.54893E-05	130	10
1	3	0.0000	0.22466	0.00000E+00	0.00000E+00	120	10
2	1	0.3518	0.19727	-0.30966E-02	0.19998E-04	120	10
2	2	0.4682	0.11444	-0.16510E-02	0.13977E-04	110	10
2	3	0.0000	0.25706	0.00000E+00	0.00000E+00	120	10
3	1	0.3518	0.19727	-0.30966E-02	0.19998E-04	120	10
3	2	0.4682	0.11444	-0.16510E-02	0.13977E-04	110	10
3	3	0.0000	0.25706	0.00000E+00	0.00000E+00	120	10
4	2	2.6039	0.13816	-0.99860E-03	0.10906E-04	85	12
5	2	5.7277	0.29745	-0.19708E-02	0.11746E-04	85	12
6	2	3.3350	0.29304	-0.31851E-02	0.23364E-04	85	12
6	3	0.0000	1.17983	0.00000E+00	0.00000E+00	85	12

FUEL_CONSUMPTION - (std)

*veh_type	fuel_type	a_fuel	b_fuel	c_fuel	d_fuel	cut-off_speeds(km/h)	
		max		min			
1	1	0.4707	0.10003	-0.11394E-02	0.75462E-05	130	10
1	2	0.5069	0.07268	-0.69920E-03	0.55097E-05	130	10
1	3	0.0000	0.21366	0.00000E+00	0.00000E+00	120	10
2	1	0.3487	0.19552	-0.30690E-02	0.19819E-04	120	10
2	2	0.4688	0.11457	-0.16529E-02	0.13993E-04	110	10
2	3	0.0000	0.23232	0.00000E+00	0.00000E+00	120	10
3	1	0.3487	0.19552	-0.30690E-02	0.19819E-04	120	10
3	2	0.4688	0.11457	-0.16529E-02	0.13993E-04	110	10
3	3	0.0000	0.23232	0.00000E+00	0.00000E+00	120	10
4	2	2.6115	0.13856	-0.10015E-02	0.10938E-04	85	12
5	2	5.7221	0.29716	-0.19688E-02	0.11735E-04	85	12
6	2	3.3602	0.29525	-0.32091E-02	0.23540E-04	85	12

FUEL_EFFICIENCY - (used)

*% p.a.

*Start_yr	End_yr	veh_type	fuel_type	change
2011	2011	1	1	0.662
2011	2011	1	2	0.817
2011	2011	1	3	-0.025
2011	2011	2	1	-0.095
2011	2011	2	2	0.139
2011	2011	2	3	0.000
2011	2011	3	1	-0.095
2011	2011	3	2	0.139
2011	2011	3	3	0.000
2011	2011	4	2	-0.217
2011	2011	4	3	0.000
2011	2011	5	2	-0.047
2011	2011	5	3	0.000
2011	2011	6	2	-0.140
2011	2011	6	3	0.000
2012	2012	1	1	0.824
2012	2012	1	2	0.877
2012	2012	1	3	0.491
2012	2012	2	1	-0.074
2012	2012	2	2	0.386
2012	2012	2	3	0.000
2012	2012	3	1	-0.074
2012	2012	3	2	0.386
2012	2012	3	3	0.000
2012	2012	4	2	-3.140
2012	2012	4	3	0.000
2012	2012	5	2	0.414
2012	2012	5	3	0.000
2012	2012	6	2	-0.258
2012	2012	6	3	0.000
2013	2013	1	1	1.035
2013	2013	1	2	0.939
2013	2013	1	3	0.025
2013	2013	2	1	0.178
2013	2013	2	2	0.142
2013	2013	2	3	0.000
2013	2013	3	1	0.178
2013	2013	3	2	0.142
2013	2013	3	3	0.000
2013	2013	4	2	0.524

2013	2013	4	3	0.000
2013	2013	5	2	0.199
2013	2013	5	3	0.000
2013	2013	6	2	-0.069
2013	2013	6	3	0.000
2014	2014	1	1	-0.594
2014	2014	1	2	0.712
2014	2014	1	3	0.709
2014	2014	2	1	-0.410
2014	2014	2	2	0.114
2014	2014	2	3	-0.064
2014	2014	3	1	-0.410
2014	2014	3	2	0.114
2014	2014	3	3	-0.064
2014	2014	4	2	-1.002
2014	2014	4	3	0.000
2014	2014	5	2	0.195
2014	2014	5	3	0.000
2014	2014	6	2	-0.064
2014	2014	6	3	0.000
2015	2015	1	1	1.252
2015	2015	1	2	1.319
2015	2015	1	3	0.591
2015	2015	2	1	2.511
2015	2015	2	2	0.235
2015	2015	2	3	-0.700
2015	2015	3	1	2.511
2015	2015	3	2	0.235
2015	2015	3	3	-0.700
2015	2015	4	2	0.295
2015	2015	4	3	0.000
2015	2015	5	2	0.327
2015	2015	5	3	0.000
2015	2015	6	2	-0.221
2015	2015	6	3	0.000
2016	2016	1	1	1.373
2016	2016	1	2	1.203
2016	2016	1	3	0.418
2016	2016	2	1	-0.117
2016	2016	2	2	0.703
2016	2016	2	3	-0.216
2016	2016	3	1	-0.117
2016	2016	3	2	0.703
2016	2016	3	3	-0.216

2016	2016	4	2	0.922
2016	2016	4	3	0.000
2016	2016	5	2	0.233
2016	2016	5	3	0.000
2016	2016	6	2	-0.060
2016	2016	6	3	-0.097
2017	2017	1	1	1.236
2017	2017	1	2	0.778
2017	2017	1	3	0.132
2017	2017	2	1	1.631
2017	2017	2	2	1.238
2017	2017	2	3	-0.009
2017	2017	3	1	1.631
2017	2017	3	2	1.238
2017	2017	3	3	-0.009
2017	2017	4	2	-0.773
2017	2017	4	3	0.000
2017	2017	5	2	0.317
2017	2017	5	3	0.000
2017	2017	6	2	-0.036
2017	2017	6	3	-0.080
2018	2018	1	1	0.987
2018	2018	1	2	0.058
2018	2018	1	3	0.092
2018	2018	2	1	3.066
2018	2018	2	2	0.884
2018	2018	2	3	-0.418
2018	2018	3	1	3.066
2018	2018	3	2	0.884
2018	2018	3	3	-0.418
2018	2018	4	2	0.421
2018	2018	4	3	0.000
2018	2018	5	2	0.544
2018	2018	5	3	0.000
2018	2018	6	2	-0.161
2018	2018	6	3	-0.191
2019	2019	1	1	0.626
2019	2019	1	2	-0.319
2019	2019	1	3	-0.347
2019	2019	2	1	1.138
2019	2019	2	2	0.740
2019	2019	2	3	0.088
2019	2019	3	1	1.138
2019	2019	3	2	0.740

2019	2019	3	3	0.088
2019	2019	4	2	-0.944
2019	2019	4	3	0.000
2019	2019	5	2	0.546
2019	2019	5	3	0.000
2019	2019	6	2	-0.168
2019	2019	6	3	-0.223
2020	2020	1	1	0.927
2020	2020	1	2	-0.092
2020	2020	1	3	-0.578
2020	2020	2	1	1.902
2020	2020	2	2	0.372
2020	2020	2	3	-0.341
2020	2020	3	1	1.902
2020	2020	3	2	0.372
2020	2020	3	3	-0.341
2020	2020	4	2	-0.700
2020	2020	4	3	0.000
2020	2020	5	2	0.352
2020	2020	5	3	0.000
2020	2020	6	2	-0.118
2020	2020	6	3	-0.337
2021	2021	1	1	1.169
2021	2021	1	2	-0.014
2021	2021	1	3	3.385
2021	2021	2	1	2.499
2021	2021	2	2	1.189
2021	2021	2	3	0.466
2021	2021	3	1	2.499
2021	2021	3	2	1.189
2021	2021	3	3	0.466
2021	2021	4	2	0.532
2021	2021	4	3	0.000
2021	2021	5	2	0.644
2021	2021	5	3	0.000
2021	2021	6	2	-0.093
2021	2021	6	3	0.885
2022	2022	1	1	-0.836
2022	2022	1	2	0.006
2022	2022	1	3	3.869
2022	2022	2	1	4.304
2022	2022	2	2	0.815
2022	2022	2	3	-0.062
2022	2022	3	1	4.304

2022	2022	3	2	0.815
2022	2022	3	3	-0.062
2022	2022	4	2	0.589
2022	2022	4	3	0.000
2022	2022	5	2	0.547
2022	2022	5	3	0.000
2022	2022	6	2	-0.120
2022	2022	6	3	3.311
2023	2023	1	1	0.823
2023	2023	1	2	-0.026
2023	2023	1	3	2.928
2023	2023	2	1	2.131
2023	2023	2	2	0.721
2023	2023	2	3	0.297
2023	2023	3	1	2.131
2023	2023	3	2	0.721
2023	2023	3	3	0.297
2023	2023	4	2	0.577
2023	2023	4	3	0.000
2023	2023	5	2	0.560
2023	2023	5	3	0.000
2023	2023	6	2	-0.095
2023	2023	6	3	1.901
2024	2024	1	1	0.593
2024	2024	1	2	-0.057
2024	2024	1	3	2.092
2024	2024	2	1	2.062
2024	2024	2	2	0.675
2024	2024	2	3	0.341
2024	2024	3	1	2.062
2024	2024	3	2	0.675
2024	2024	3	3	0.341
2024	2024	4	2	0.567
2024	2024	4	3	0.000
2024	2024	5	2	0.586
2024	2024	5	3	0.000
2024	2024	6	2	0.011
2024	2024	6	3	1.362
2025	2025	1	1	0.334
2025	2025	1	2	-0.072
2025	2025	1	3	1.828
2025	2025	2	1	2.658
2025	2025	2	2	1.643
2025	2025	2	3	0.472

2025	2025	3	1	2.658
2025	2025	3	2	1.643
2025	2025	3	3	0.472
2025	2025	4	2	1.078
2025	2025	4	3	0.000
2025	2025	5	2	1.849
2025	2025	5	3	0.000
2025	2025	6	2	0.031
2025	2025	6	3	1.886
2026	2026	1	1	0.238
2026	2026	1	2	-0.115
2026	2026	1	3	1.458
2026	2026	2	1	2.532
2026	2026	2	2	1.489
2026	2026	2	3	0.578
2026	2026	3	1	2.532
2026	2026	3	2	1.489
2026	2026	3	3	0.578
2026	2026	4	2	1.050
2026	2026	4	3	0.000
2026	2026	5	2	1.888
2026	2026	5	3	0.000
2026	2026	6	2	0.052
2026	2026	6	3	1.530
2027	2027	1	1	0.159
2027	2027	1	2	-0.159
2027	2027	1	3	1.326
2027	2027	2	1	4.516
2027	2027	2	2	1.360
2027	2027	2	3	0.506
2027	2027	3	1	4.516
2027	2027	3	2	1.360
2027	2027	3	3	0.506
2027	2027	4	2	1.010
2027	2027	4	3	0.000
2027	2027	5	2	1.827
2027	2027	5	3	0.000
2027	2027	6	2	0.127
2027	2027	6	3	1.497
2028	2028	1	1	0.087
2028	2028	1	2	-0.216
2028	2028	1	3	1.215
2028	2028	2	1	2.106
2028	2028	2	2	1.237

2028	2028	2	3	0.556
2028	2028	3	1	2.106
2028	2028	3	2	1.237
2028	2028	3	3	0.556
2028	2028	4	2	0.976
2028	2028	4	3	0.000
2028	2028	5	2	1.778
2028	2028	5	3	0.000
2028	2028	6	2	0.136
2028	2028	6	3	1.429
2029	2029	1	1	0.024
2029	2029	1	2	-0.284
2029	2029	1	3	1.180
2029	2029	2	1	1.991
2029	2029	2	2	1.142
2029	2029	2	3	0.357
2029	2029	3	1	1.991
2029	2029	3	2	1.142
2029	2029	3	3	0.357
2029	2029	4	2	0.948
2029	2029	4	3	0.000
2029	2029	5	2	1.702
2029	2029	5	3	0.000
2029	2029	6	2	0.148
2029	2029	6	3	1.250
2030	2030	1	1	0.021
2030	2030	1	2	-0.366
2030	2030	1	3	1.123
2030	2030	2	1	2.720
2030	2030	2	2	2.177
2030	2030	2	3	-0.469
2030	2030	3	1	2.720
2030	2030	3	2	2.177
2030	2030	3	3	-0.469
2030	2030	4	2	1.599
2030	2030	4	3	0.000
2030	2030	5	2	3.302
2030	2030	5	3	0.000
2030	2030	6	2	0.190
2030	2030	6	3	0.841
2031	2031	1	1	-0.068
2031	2031	1	2	-0.361
2031	2031	1	3	0.961
2031	2031	2	1	0.062

2031	2031	2	2	2.084
2031	2031	2	3	-1.235
2031	2031	3	1	0.062
2031	2031	3	2	2.084
2031	2031	3	3	-1.235
2031	2031	4	2	1.522
2031	2031	4	3	0.000
2031	2031	5	2	3.277
2031	2031	5	3	0.000
2031	2031	6	2	0.192
2031	2031	6	3	0.787
2032	2032	1	1	-0.106
2032	2032	1	2	-0.381
2032	2032	1	3	0.857
2032	2032	2	1	2.503
2032	2032	2	2	1.668
2032	2032	2	3	-1.684
2032	2032	3	1	2.503
2032	2032	3	2	1.668
2032	2032	3	3	-1.684
2032	2032	4	2	1.484
2032	2032	4	3	0.000
2032	2032	5	2	3.008
2032	2032	5	3	0.000
2032	2032	6	2	0.084
2032	2032	6	3	0.750
2033	2033	1	1	-0.116
2033	2033	1	2	-0.386
2033	2033	1	3	0.790
2033	2033	2	1	2.964
2033	2033	2	2	1.626
2033	2033	2	3	-1.777
2033	2033	3	1	2.964
2033	2033	3	2	1.626
2033	2033	3	3	-1.777
2033	2033	4	2	1.404
2033	2033	4	3	0.000
2033	2033	5	2	2.748
2033	2033	5	3	0.000
2033	2033	6	2	0.145
2033	2033	6	3	0.721
2034	2034	1	1	-0.126
2034	2034	1	2	-0.393
2034	2034	1	3	0.748

2034	2034	2	1	4.667
2034	2034	2	2	1.264
2034	2034	2	3	-1.521
2034	2034	3	1	4.667
2034	2034	3	2	1.264
2034	2034	3	3	-1.521
2034	2034	4	2	1.321
2034	2034	4	3	0.000
2034	2034	5	2	2.559
2034	2034	5	3	0.000
2034	2034	6	2	0.401
2034	2034	6	3	0.724
2035	2035	1	1	-0.173
2035	2035	1	2	-0.358
2035	2035	1	3	0.722
2035	2035	2	1	-2.719
2035	2035	2	2	1.183
2035	2035	2	3	-1.133
2035	2035	3	1	-2.719
2035	2035	3	2	1.183
2035	2035	3	3	-1.133
2035	2035	4	2	1.229
2035	2035	4	3	0.000
2035	2035	5	2	2.323
2035	2035	5	3	0.000
2035	2035	6	2	0.252
2035	2035	6	3	0.748
2036	2036	1	1	-0.188
2036	2036	1	2	-0.251
2036	2036	1	3	0.712
2036	2036	2	1	2.305
2036	2036	2	2	1.146
2036	2036	2	3	-0.751
2036	2036	3	1	2.305
2036	2036	3	2	1.146
2036	2036	3	3	-0.751
2036	2036	4	2	1.142
2036	2036	4	3	0.000
2036	2036	5	2	2.020
2036	2036	5	3	0.000
2036	2036	6	2	0.188
2036	2036	6	3	0.761
2037	2037	1	1	-0.232
2037	2037	1	2	-0.323

2037	2037	1	3	0.717
2037	2037	2	1	1.801
2037	2037	2	2	1.152
2037	2037	2	3	-0.441
2037	2037	3	1	1.801
2037	2037	3	2	1.152
2037	2037	3	3	-0.441
2037	2037	4	2	1.035
2037	2037	4	3	0.000
2037	2037	5	2	1.558
2037	2037	5	3	0.000
2037	2037	6	2	0.354
2037	2037	6	3	0.782
2038	2038	1	1	-0.236
2038	2038	1	2	-0.424
2038	2038	1	3	0.717
2038	2038	2	1	5.995
2038	2038	2	2	1.204
2038	2038	2	3	-0.217
2038	2038	3	1	5.995
2038	2038	3	2	1.204
2038	2038	3	3	-0.217
2038	2038	4	2	0.915
2038	2038	4	3	0.000
2038	2038	5	2	1.195
2038	2038	5	3	0.000
2038	2038	6	2	0.272
2038	2038	6	3	0.805
2039	2039	1	1	-0.233
2039	2039	1	2	-0.611
2039	2039	1	3	0.713
2039	2039	2	1	-0.357
2039	2039	2	2	0.702
2039	2039	2	3	0.021
2039	2039	3	1	-0.357
2039	2039	3	2	0.702
2039	2039	3	3	0.021
2039	2039	4	2	0.794
2039	2039	4	3	0.000
2039	2039	5	2	0.889
2039	2039	5	3	0.000
2039	2039	6	2	0.201
2039	2039	6	3	0.822
2040	2040	1	1	-0.203

2040	2040	1	2	-0.411
2040	2040	1	3	0.720
2040	2040	2	1	1.080
2040	2040	2	2	0.723
2040	2040	2	3	0.104
2040	2040	3	1	1.080
2040	2040	3	2	0.723
2040	2040	3	3	0.104
2040	2040	4	2	0.689
2040	2040	4	3	0.000
2040	2040	5	2	0.664
2040	2040	5	3	0.000
2040	2040	6	2	0.256
2040	2040	6	3	0.928
2041	2041	1	1	0.027
2041	2041	1	2	0.054
2041	2041	1	3	0.701
2041	2041	2	1	4.247
2041	2041	2	2	0.511
2041	2041	2	3	0.157
2041	2041	3	1	4.247
2041	2041	3	2	0.511
2041	2041	3	3	0.157
2041	2041	4	2	0.607
2041	2041	4	3	0.000
2041	2041	5	2	0.494
2041	2041	5	3	0.000
2041	2041	6	2	0.423
2041	2041	6	3	0.866
2042	2042	1	1	-0.082
2042	2042	1	2	-0.073
2042	2042	1	3	0.685
2042	2042	2	1	2.107
2042	2042	2	2	0.932
2042	2042	2	3	0.161
2042	2042	3	1	2.107
2042	2042	3	2	0.932
2042	2042	3	3	0.161
2042	2042	4	2	0.538
2042	2042	4	3	0.000
2042	2042	5	2	0.370
2042	2042	5	3	0.000
2042	2042	6	2	0.288
2042	2042	6	3	0.802

2043	2043	1	1	-0.107
2043	2043	1	2	-0.009
2043	2043	1	3	0.662
2043	2043	2	1	0.816
2043	2043	2	2	0.626
2043	2043	2	3	0.170
2043	2043	3	1	0.816
2043	2043	3	2	0.626
2043	2043	3	3	0.170
2043	2043	4	2	0.485
2043	2043	4	3	0.000
2043	2043	5	2	0.292
2043	2043	5	3	0.000
2043	2043	6	2	0.262
2043	2043	6	3	0.744
2044	2044	1	1	-0.075
2044	2044	1	2	-0.004
2044	2044	1	3	0.639
2044	2044	2	1	0.451
2044	2044	2	2	0.395
2044	2044	2	3	0.197
2044	2044	3	1	0.451
2044	2044	3	2	0.395
2044	2044	3	3	0.197
2044	2044	4	2	0.446
2044	2044	4	3	0.000
2044	2044	5	2	0.234
2044	2044	5	3	0.000
2044	2044	6	2	0.256
2044	2044	6	3	0.710
2045	2045	1	1	-0.046
2045	2045	1	2	-0.001
2045	2045	1	3	0.620
2045	2045	2	1	0.400
2045	2045	2	2	0.339
2045	2045	2	3	0.217
2045	2045	3	1	0.400
2045	2045	3	2	0.339
2045	2045	3	3	0.217
2045	2045	4	2	0.415
2045	2045	4	3	0.000
2045	2045	5	2	0.199
2045	2045	5	3	0.000
2045	2045	6	2	0.255

2045	2045	6	3	0.674
2046	2046	1	1	-0.022
2046	2046	1	2	0.000
2046	2046	1	3	0.603
2046	2046	2	1	1.958
2046	2046	2	2	1.266
2046	2046	2	3	0.233
2046	2046	3	1	1.958
2046	2046	3	2	1.266
2046	2046	3	3	0.233
2046	2046	4	2	0.425
2046	2046	4	3	0.000
2046	2046	5	2	0.214
2046	2046	5	3	0.000
2046	2046	6	2	0.248
2046	2046	6	3	0.634
2047	2047	1	1	-0.009
2047	2047	1	2	0.002
2047	2047	1	3	0.581
2047	2047	2	1	0.207
2047	2047	2	2	0.178
2047	2047	2	3	0.264
2047	2047	3	1	0.207
2047	2047	3	2	0.178
2047	2047	3	3	0.264
2047	2047	4	2	0.362
2047	2047	4	3	0.000
2047	2047	5	2	0.138
2047	2047	5	3	0.000
2047	2047	6	2	0.247
2047	2047	6	3	0.577
2048	2048	1	1	0.004
2048	2048	1	2	0.003
2048	2048	1	3	0.565
2048	2048	2	1	0.179
2048	2048	2	2	0.147
2048	2048	2	3	0.285
2048	2048	3	1	0.179
2048	2048	3	2	0.147
2048	2048	3	3	0.285
2048	2048	4	2	0.349
2048	2048	4	3	0.000
2048	2048	5	2	0.124
2048	2048	5	3	0.000

2048	2048	6	2	0.252
2048	2048	6	3	0.549
2049	2049	1	1	0.013
2049	2049	1	2	0.004
2049	2049	1	3	0.545
2049	2049	2	1	0.156
2049	2049	2	2	0.124
2049	2049	2	3	0.310
2049	2049	3	1	0.156
2049	2049	3	2	0.124
2049	2049	3	3	0.310
2049	2049	4	2	0.340
2049	2049	4	3	0.000
2049	2049	5	2	0.116
2049	2049	5	3	0.000
2049	2049	6	2	0.241
2049	2049	6	3	0.528
2050	2050	1	1	0.019
2050	2050	1	2	0.004
2050	2050	1	3	0.529
2050	2050	2	1	0.139
2050	2050	2	2	0.106
2050	2050	2	3	0.332
2050	2050	3	1	0.139
2050	2050	3	2	0.106
2050	2050	3	3	0.332
2050	2050	4	2	0.333
2050	2050	4	3	0.000
2050	2050	5	2	0.109
2050	2050	5	3	0.000
2050	2050	6	2	0.270
2050	2050	6	3	0.512
2051	2151	1	1	0.000
2051	2151	1	2	0.000
2051	2151	1	3	0.000
2051	2151	2	1	0.000
2051	2151	2	2	0.000
2051	2151	2	3	0.000
2051	2151	3	1	0.000
2051	2151	3	2	0.000
2051	2151	3	3	0.000
2051	2151	4	2	0.000
2051	2151	4	3	0.000
2051	2151	5	2	0.000

2051	2151	5	3	0.000
2051	2151	6	2	0.000
2051	2151	6	3	0.000

FUEL_EFFICIENCY - (std)

*% p.a.

*Start_yr	End_yr	veh_type	fuel_type	change
2011	2011	1	1	0.604
2011	2011	1	2	0.874
2011	2011	1	3	0.032
2011	2011	2	1	-0.168
2011	2011	2	2	0.177
2011	2011	2	3	0.000
2011	2011	3	1	-0.168
2011	2011	3	2	0.177
2011	2011	3	3	0.000
2011	2011	4	2	-0.113
2011	2011	5	2	0.011
2012	2012	1	1	0.285
2012	2012	1	2	0.975
2012	2012	1	3	-0.707
2012	2012	2	1	-0.630
2012	2012	2	2	0.468
2012	2012	2	3	0.000
2012	2012	3	1	-0.630
2012	2012	3	2	0.468
2012	2012	3	3	0.000
2012	2012	4	2	-2.932
2012	2012	5	2	0.288
2013	2013	1	1	0.891
2013	2013	1	2	0.920
2013	2013	1	3	0.085
2013	2013	2	1	0.031
2013	2013	2	2	0.107
2013	2013	2	3	0.000
2013	2013	3	1	0.031
2013	2013	3	2	0.107
2013	2013	3	3	0.000
2013	2013	4	2	0.475
2013	2013	5	2	0.068
2014	2014	1	1	0.979
2014	2014	1	2	0.945
2014	2014	1	3	-1.015
2014	2014	2	1	-0.518

2014	2014	2	2	0.057
2014	2014	2	3	-0.042
2014	2014	3	1	-0.518
2014	2014	3	2	0.057
2014	2014	3	3	-0.042
2014	2014	4	2	-1.038
2014	2014	5	2	0.144
2015	2015	1	1	1.281
2015	2015	1	2	1.319
2015	2015	1	3	-0.927
2015	2015	2	1	2.498
2015	2015	2	2	0.323
2015	2015	2	3	-0.454
2015	2015	3	1	2.498
2015	2015	3	2	0.323
2015	2015	3	3	-0.454
2015	2015	4	2	0.361
2015	2015	5	2	0.480
2016	2016	1	1	1.406
2016	2016	1	2	1.207
2016	2016	1	3	1.034
2016	2016	2	1	-0.062
2016	2016	2	2	0.705
2016	2016	2	3	0.340
2016	2016	3	1	-0.062
2016	2016	3	2	0.705
2016	2016	3	3	0.340
2016	2016	4	2	0.747
2016	2016	5	2	0.239
2017	2017	1	1	1.270
2017	2017	1	2	0.783
2017	2017	1	3	1.188
2017	2017	2	1	1.646
2017	2017	2	2	1.249
2017	2017	2	3	0.804
2017	2017	3	1	1.646
2017	2017	3	2	1.249
2017	2017	3	3	0.804
2017	2017	4	2	-0.771
2017	2017	5	2	0.316
2018	2018	1	1	1.029
2018	2018	1	2	0.063
2018	2018	1	3	1.035
2018	2018	2	1	3.029

2018	2018	2	2	0.770
2018	2018	2	3	0.708
2018	2018	3	1	3.029
2018	2018	3	2	0.770
2018	2018	3	3	0.708
2018	2018	4	2	-0.058
2018	2018	5	2	0.407
2019	2019	1	1	0.990
2019	2019	1	2	-0.041
2019	2019	1	3	2.359
2019	2019	2	1	1.141
2019	2019	2	2	0.522
2019	2019	2	3	2.118
2019	2019	3	1	1.141
2019	2019	3	2	0.522
2019	2019	3	3	2.118
2019	2019	4	2	0.247
2019	2019	5	2	0.388
2020	2020	1	1	2.680
2020	2020	1	2	1.323
2020	2020	1	3	2.699
2020	2020	2	1	1.842
2020	2020	2	2	1.432
2020	2020	2	3	-2.324
2020	2020	3	1	1.842
2020	2020	3	2	1.432
2020	2020	3	3	-2.324
2020	2020	4	2	0.341
2020	2020	5	2	0.470
2021	2021	1	1	2.289
2021	2021	1	2	1.469
2021	2021	1	3	5.660
2021	2021	2	1	1.283
2021	2021	2	2	1.165
2021	2021	2	3	-0.804
2021	2021	3	1	1.283
2021	2021	3	2	1.165
2021	2021	3	3	-0.804
2021	2021	4	2	0.484
2021	2021	5	2	0.523
2022	2022	1	1	2.080
2022	2022	1	2	1.497
2022	2022	1	3	3.960
2022	2022	2	1	2.960

2022	2022	2	2	1.102
2022	2022	2	3	-0.880
2022	2022	3	1	2.960
2022	2022	3	2	1.102
2022	2022	3	3	-0.880
2022	2022	4	2	0.491
2022	2022	5	2	0.531
2023	2023	1	1	1.895
2023	2023	1	2	1.393
2023	2023	1	3	2.637
2023	2023	2	1	1.045
2023	2023	2	2	0.925
2023	2023	2	3	-1.450
2023	2023	3	1	1.045
2023	2023	3	2	0.925
2023	2023	3	3	-1.450
2023	2023	4	2	0.500
2023	2023	5	2	0.548
2024	2024	1	1	1.891
2024	2024	1	2	1.258
2024	2024	1	3	2.035
2024	2024	2	1	1.277
2024	2024	2	2	0.822
2024	2024	2	3	-1.389
2024	2024	3	1	1.277
2024	2024	3	2	0.822
2024	2024	3	3	-1.389
2024	2024	4	2	0.490
2024	2024	5	2	0.544
2025	2025	1	1	1.650
2025	2025	1	2	1.164
2025	2025	1	3	1.843
2025	2025	2	1	2.913
2025	2025	2	2	1.999
2025	2025	2	3	-1.541
2025	2025	3	1	2.913
2025	2025	3	2	1.999
2025	2025	3	3	-1.541
2025	2025	4	2	0.918
2025	2025	5	2	1.864
2026	2026	1	1	1.468
2026	2026	1	2	1.107
2026	2026	1	3	1.211
2026	2026	2	1	2.351

2026	2026	2	2	1.780
2026	2026	2	3	-0.553
2026	2026	3	1	2.351
2026	2026	3	2	1.780
2026	2026	3	3	-0.553
2026	2026	4	2	0.900
2026	2026	5	2	1.854
2027	2027	1	1	1.372
2027	2027	1	2	1.130
2027	2027	1	3	0.922
2027	2027	2	1	3.660
2027	2027	2	2	1.600
2027	2027	2	3	-0.253
2027	2027	3	1	3.660
2027	2027	3	2	1.600
2027	2027	3	3	-0.253
2027	2027	4	2	0.874
2027	2027	5	2	1.767
2028	2028	1	1	1.234
2028	2028	1	2	1.148
2028	2028	1	3	0.747
2028	2028	2	1	1.853
2028	2028	2	2	1.433
2028	2028	2	3	0.019
2028	2028	3	1	1.853
2028	2028	3	2	1.433
2028	2028	3	3	0.019
2028	2028	4	2	0.846
2028	2028	5	2	1.644
2029	2029	1	1	1.110
2029	2029	1	2	1.140
2029	2029	1	3	0.694
2029	2029	2	1	1.699
2029	2029	2	2	1.299
2029	2029	2	3	0.258
2029	2029	3	1	1.699
2029	2029	3	2	1.299
2029	2029	3	3	0.258
2029	2029	4	2	0.808
2029	2029	5	2	1.531
2030	2030	1	1	2.306
2030	2030	1	2	2.305
2030	2030	1	3	0.690
2030	2030	2	1	3.530

2030	2030	2	2	2.726
2030	2030	2	3	0.398
2030	2030	3	1	3.530
2030	2030	3	2	2.726
2030	2030	3	3	0.398
2030	2030	4	2	1.394
2030	2030	5	2	3.225
2031	2031	1	1	2.230
2031	2031	1	2	2.375
2031	2031	1	3	0.571
2031	2031	2	1	1.740
2031	2031	2	2	2.564
2031	2031	2	3	0.251
2031	2031	3	1	1.740
2031	2031	3	2	2.564
2031	2031	3	3	0.251
2031	2031	4	2	1.307
2031	2031	5	2	3.126
2032	2032	1	1	2.088
2032	2032	1	2	2.387
2032	2032	1	3	0.492
2032	2032	2	1	2.870
2032	2032	2	2	2.133
2032	2032	2	3	0.170
2032	2032	3	1	2.870
2032	2032	3	2	2.133
2032	2032	3	3	0.170
2032	2032	4	2	1.294
2032	2032	5	2	2.946
2033	2033	1	1	2.021
2033	2033	1	2	2.185
2033	2033	1	3	0.435
2033	2033	2	1	2.820
2033	2033	2	2	2.016
2033	2033	2	3	0.145
2033	2033	3	1	2.820
2033	2033	3	2	2.016
2033	2033	3	3	0.145
2033	2033	4	2	1.240
2033	2033	5	2	2.667
2034	2034	1	1	1.933
2034	2034	1	2	1.998
2034	2034	1	3	0.405
2034	2034	2	1	3.326

2034	2034	2	2	1.646
2034	2034	2	3	0.151
2034	2034	3	1	3.326
2034	2034	3	2	1.646
2034	2034	3	3	0.151
2034	2034	4	2	1.176
2034	2034	5	2	2.450
2035	2035	1	1	1.795
2035	2035	1	2	1.826
2035	2035	1	3	0.374
2035	2035	2	1	-0.177
2035	2035	2	2	1.517
2035	2035	2	3	0.162
2035	2035	3	1	-0.177
2035	2035	3	2	1.517
2035	2035	3	3	0.162
2035	2035	4	2	1.110
2035	2035	5	2	2.072
2036	2036	1	1	1.602
2036	2036	1	2	1.723
2036	2036	1	3	0.362
2036	2036	2	1	1.873
2036	2036	2	2	1.401
2036	2036	2	3	0.192
2036	2036	3	1	1.873
2036	2036	3	2	1.401
2036	2036	3	3	0.192
2036	2036	4	2	1.026
2036	2036	5	2	1.652
2037	2037	1	1	1.499
2037	2037	1	2	1.565
2037	2037	1	3	0.374
2037	2037	2	1	1.484
2037	2037	2	2	1.325
2037	2037	2	3	0.232
2037	2037	3	1	1.484
2037	2037	3	2	1.325
2037	2037	3	3	0.232
2037	2037	4	2	0.935
2037	2037	5	2	1.356
2038	2038	1	1	1.372
2038	2038	1	2	1.357
2038	2038	1	3	0.386
2038	2038	2	1	2.766

2038	2038	2	2	1.280
2038	2038	2	3	0.263
2038	2038	3	1	2.766
2038	2038	3	2	1.280
2038	2038	3	3	0.263
2038	2038	4	2	0.848
2038	2038	5	2	1.046
2039	2039	1	1	1.233
2039	2039	1	2	1.098
2039	2039	1	3	0.402
2039	2039	2	1	0.398
2039	2039	2	2	0.831
2039	2039	2	3	0.296
2039	2039	3	1	0.398
2039	2039	3	2	0.831
2039	2039	3	3	0.296
2039	2039	4	2	0.758
2039	2039	5	2	0.806
2040	2040	1	1	1.198
2040	2040	1	2	1.161
2040	2040	1	3	0.342
2040	2040	2	1	0.753
2040	2040	2	2	0.771
2040	2040	2	3	0.329
2040	2040	3	1	0.753
2040	2040	3	2	0.771
2040	2040	3	3	0.329
2040	2040	4	2	0.660
2040	2040	5	2	0.599
2041	2041	1	1	1.300
2041	2041	1	2	1.581
2041	2041	1	3	0.360
2041	2041	2	1	1.010
2041	2041	2	2	1.026
2041	2041	2	3	0.390
2041	2041	3	1	1.010
2041	2041	3	2	1.026
2041	2041	3	3	0.390
2041	2041	4	2	0.582
2041	2041	5	2	0.436
2042	2042	1	1	0.879
2042	2042	1	2	0.843
2042	2042	1	3	0.374
2042	2042	2	1	0.496

2042	2042	2	2	0.525
2042	2042	2	3	0.477
2042	2042	3	1	0.496
2042	2042	3	2	0.525
2042	2042	3	3	0.477
2042	2042	4	2	0.512
2042	2042	5	2	0.335
2043	2043	1	1	0.765
2043	2043	1	2	0.693
2043	2043	1	3	0.385
2043	2043	2	1	0.415
2043	2043	2	2	0.437
2043	2043	2	3	0.533
2043	2043	3	1	0.415
2043	2043	3	2	0.437
2043	2043	3	3	0.533
2043	2043	4	2	0.451
2043	2043	5	2	0.259
2044	2044	1	1	0.624
2044	2044	1	2	0.557
2044	2044	1	3	0.405
2044	2044	2	1	0.345
2044	2044	2	2	0.357
2044	2044	2	3	0.581
2044	2044	3	1	0.345
2044	2044	3	2	0.357
2044	2044	3	3	0.581
2044	2044	4	2	0.404
2044	2044	5	2	0.202
2045	2045	1	1	0.483
2045	2045	1	2	0.421
2045	2045	1	3	0.407
2045	2045	2	1	0.285
2045	2045	2	2	0.288
2045	2045	2	3	0.623
2045	2045	3	1	0.285
2045	2045	3	2	0.288
2045	2045	3	3	0.623
2045	2045	4	2	0.365
2045	2045	5	2	0.160
2046	2046	1	1	0.320
2046	2046	1	2	0.344
2046	2046	1	3	0.428
2046	2046	2	1	0.652

2046	2046	2	2	0.858
2046	2046	2	3	0.645
2046	2046	3	1	0.652
2046	2046	3	2	0.858
2046	2046	3	3	0.645
2046	2046	4	2	0.374
2046	2046	5	2	0.157
2047	2047	1	1	0.238
2047	2047	1	2	0.257
2047	2047	1	3	0.441
2047	2047	2	1	0.150
2047	2047	2	2	0.136
2047	2047	2	3	0.686
2047	2047	3	1	0.150
2047	2047	3	2	0.136
2047	2047	3	3	0.686
2047	2047	4	2	0.304
2047	2047	5	2	0.087
2048	2048	1	1	0.179
2048	2048	1	2	0.195
2048	2048	1	3	0.452
2048	2048	2	1	0.126
2048	2048	2	2	0.108
2048	2048	2	3	0.717
2048	2048	3	1	0.126
2048	2048	3	2	0.108
2048	2048	3	3	0.717
2048	2048	4	2	0.288
2048	2048	5	2	0.074
2049	2049	1	1	0.135
2049	2049	1	2	0.148
2049	2049	1	3	0.461
2049	2049	2	1	0.106
2049	2049	2	2	0.087
2049	2049	2	3	0.745
2049	2049	3	1	0.106
2049	2049	3	2	0.087
2049	2049	3	3	0.745
2049	2049	4	2	0.275
2049	2049	5	2	0.062
2050	2050	1	1	0.103
2050	2050	1	2	0.114
2050	2050	1	3	0.472
2050	2050	2	1	0.091

2050	2050	2	2	0.072
2050	2050	2	3	0.770
2050	2050	3	1	0.091
2050	2050	3	2	0.072
2050	2050	3	3	0.770
2050	2050	4	2	0.266
2050	2050	5	2	0.055
2051	2151	1	1	0.000
2051	2151	1	2	0.000
2051	2151	1	3	0.000
2051	2151	2	1	0.000
2051	2151	2	2	0.000
2051	2151	2	3	0.000
2051	2151	3	1	0.000
2051	2151	3	2	0.000
2051	2151	3	3	0.000
2051	2151	4	2	0.000
2051	2151	5	2	0.000
2011	2151	6	2	0.000

INPUT_SUMMARY

Run name TUBA-1_Warren_Hill_FBC_ORA_V3
DM scheme DM
DS scheme DS

Economic parameter file L:\60625845_A614 MRN DfT responses\2023_Draft_FBC\TUBA\Economics_TAG_db1_20_2.txt
Scheme parameter file L:\60625845_A614 MRN DfT responses\2023_Draft_FBC\TUBA\MasterFile -Warren_Hill_cost_only_Draft_FBC_ORA_V3.txt

First year of scheme costs 2023
First Appraisal Year 2023
Last Appraisal Year 2082
Modelled years 2023 2037

Time period	Total hours
AM peak	648
PM peak	667
Inter-peak	2997
Off-peak	4438
Total	8750

Note: All monetary values are in 2010 market prices. All monetary values discounted to 2010 unless otherwise stated.

DM_SCHEME_COSTS

Road	2045	0	0	0	0	0	0	0	0
Road	2046	0	0	0	0	0	0	0	0
Road	2047	0	0	0	0	0	0	0	0
Road	2048	0	0	0	0	0	0	0	0
Road	2049	0	0	0	0	0	0	0	0
Road	2050	0	0	0	0	0	0	0	0
Road	2051	0	0	0	0	0	0	0	0
Road	2052	0	0	0	0	0	0	0	0
Road	2053	0	0	0	0	0	0	0	0
Road	2054	0	0	0	0	0	0	0	0
Road	2055	0	0	0	0	0	0	0	0
Road	2056	0	0	0	0	0	0	0	0
Road	2057	0	0	0	0	0	0	0	0
Road	2058	0	0	0	0	0	0	0	0
Road	2059	0	0	0	0	0	0	0	0
Road	2060	0	0	0	0	0	0	0	0
Road	2061	0	0	0	0	0	0	0	0
Road	2062	0	0	0	0	0	0	0	0
Road	2063	0	0	0	0	0	0	0	0
Road	2064	0	0	0	0	0	0	0	0
Road	2065	0	0	0	0	0	0	0	0
Road	2066	0	0	0	0	0	0	0	0
Road	2067	0	0	0	0	0	0	0	0
Road	2068	0	0	0	0	0	0	0	0
Road	2069	0	0	0	0	0	0	0	0
Road	2070	0	0	0	0	0	0	0	0
Road	2071	0	0	0	0	0	0	0	0
Road	2072	0	0	0	0	0	0	0	0
Road	2073	0	0	0	0	0	0	0	0
Road	2074	0	0	0	0	0	0	0	0
Road	2075	0	0	0	0	0	0	0	0
Road	2076	0	0	0	0	0	0	0	0
Road	2077	0	0	0	0	0	0	0	0
Road	2078	0	0	0	0	0	0	0	0
Road	2079	0	0	0	0	0	0	0	0
Road	2080	0	0	0	0	0	0	0	0
Road	2081	0	0	0	0	0	0	0	0
Road	2082	0	0	0	0	0	0	0	0

PRESENT_VALUE_COSTS

Scheme investment and operating costs (i.e. excluding grant/subsidy, developer contributions and delays) and differences. £000s.

Mode	Year	DM_scheme_costs	DS_scheme_costs	Difference
Road	2023	0	7	7
Road	2024	0	125	125

Road	2025	0	0	0
Road	2026	0	0	0
Road	2027	0	0	0
Road	2028	0	0	0
Road	2029	0	0	0
Road	2030	0	0	0
Road	2031	0	0	0
Road	2032	0	0	0
Road	2033	0	0	0
Road	2034	0	0	0
Road	2035	0	0	0
Road	2036	0	0	0
Road	2037	0	0	0
Road	2038	0	0	0
Road	2039	0	0	0
Road	2040	0	0	0
Road	2041	0	0	0
Road	2042	0	0	0
Road	2043	0	0	0
Road	2044	0	0	0
Road	2045	0	0	0
Road	2046	0	0	0
Road	2047	0	0	0
Road	2048	0	0	0
Road	2049	0	0	0
Road	2050	0	0	0
Road	2051	0	0	0
Road	2052	0	0	0
Road	2053	0	0	0
Road	2054	0	0	0
Road	2055	0	0	0
Road	2056	0	0	0
Road	2057	0	0	0
Road	2058	0	0	0
Road	2059	0	0	0
Road	2060	0	0	0
Road	2061	0	0	0
Road	2062	0	0	0
Road	2063	0	0	0
Road	2064	0	0	0
Road	2065	0	0	0
Road	2066	0	0	0
Road	2067	0	0	0
Road	2068	0	0	0

Road	2069	0	0	0
Road	2070	0	0	0
Road	2071	0	0	0
Road	2072	0	0	0
Road	2073	0	0	0
Road	2074	0	0	0
Road	2075	0	0	0
Road	2076	0	0	0
Road	2077	0	0	0
Road	2078	0	0	0
Road	2079	0	0	0
Road	2080	0	0	0
Road	2081	0	0	0
Road	2082	0	0	0
Road	Total	0	131	131

TRIP_MATRIX_TOTALS

Annualised total trip numbers(thousands)

Submode	Year	Time period	DO MIN	DO SOM
Car	2023	AM peak	0	0
Car	2023	PM peak	0	0
Car	2023	Inter-peak	0	0
Car	2023	Off-peak	0	0
Car	2023	All	0	0
Car	2037	AM peak	0	0
Car	2037	PM peak	0	0
Car	2037	Inter-peak	0	0
Car	2037	Off-peak	0	0
Car	2037	All	0	0
LGV Personal	2023	AM peak	0	0
LGV Personal	2023	PM peak	0	0
LGV Personal	2023	Inter-peak	0	0
LGV Personal	2023	Off-peak	0	0
LGV Personal	2023	All	0	0
LGV Personal	2037	AM peak	0	0
LGV Personal	2037	PM peak	0	0
LGV Personal	2037	Inter-peak	0	0
LGV Personal	2037	Off-peak	0	0
LGV Personal	2037	All	0	0
LGV Freight	2023	AM peak	0	0
LGV Freight	2023	PM peak	0	0
LGV Freight	2023	Inter-peak	0	0
LGV Freight	2023	Off-peak	0	0
LGV Freight	2023	All	0	0

LGV Freight	2037 AM peak	0	0
LGV Freight	2037 PM peak	0	0
LGV Freight	2037 Inter-peak	0	0
LGV Freight	2037 Off-peak	0	0
LGV Freight	2037 All	0	0
OGV1	2023 AM peak	0	0
OGV1	2023 PM peak	0	0
OGV1	2023 Inter-peak	0	0
OGV1	2023 Off-peak	0	0
OGV1	2023 All	0	0
OGV1	2037 AM peak	0	0
OGV1	2037 PM peak	0	0
OGV1	2037 Inter-peak	0	0
OGV1	2037 Off-peak	0	0
OGV1	2037 All	0	0
OGV2	2023 AM peak	0	0
OGV2	2023 PM peak	0	0
OGV2	2023 Inter-peak	0	0
OGV2	2023 Off-peak	0	0
OGV2	2023 All	0	0
OGV2	2037 AM peak	0	0
OGV2	2037 PM peak	0	0
OGV2	2037 Inter-peak	0	0
OGV2	2037 Off-peak	0	0
OGV2	2037 All	0	0
All	2023 AM peak	0	0
All	2023 PM peak	0	0
All	2023 Inter-peak	0	0
All	2023 Off-peak	0	0
All	2023 All	0	0
All	2037 AM peak	0	0
All	2037 PM peak	0	0
All	2037 Inter-peak	0	0
All	2037 Off-peak	0	0
All	2037 All	0	0

DM&DS_USER_COSTS

Total value of user costs, DM and DS. £000s.

Mode	Year	DMtot_time	DMtot_charge	DMtot_fuel	DMtot_nonfuel	DStot_time	DStot_charge	DStot_fuel	DStot_nonfuel
Road	2023	0	0	0	0	0	0	0	0
Road	2037	0	0	0	0	0	0	0	0

FUEL_CONSUMPTION

Total fuel consumption, DM and DS. kilounits.

MODE

User benefits and changes in revenues by mode, all years. £000s.

Mode	Year	User	User_Charges	Vehicle_Operating_Cost		Operator_Rev	Indirect
		Time	PT_fares_(pri)	Fuel	Non_fuel	PT_fares_(pri)	
Road	2023	0	0	0	0	0	0
Road	2024	0	0	0	0	0	0
Road	2025	0	0	0	0	0	0
Road	2026	0	0	0	0	0	0
Road	2027	0	0	0	0	0	0
Road	2028	0	0	0	0	0	0
Road	2029	0	0	0	0	0	0
Road	2030	0	0	0	0	0	0
Road	2031	0	0	0	0	0	0
Road	2032	0	0	0	0	0	0
Road	2033	0	0	0	0	0	0
Road	2034	0	0	0	0	0	0
Road	2035	0	0	0	0	0	0
Road	2036	0	0	0	0	0	0
Road	2037	0	0	0	0	0	0
Road	2038	0	0	0	0	0	0
Road	2039	0	0	0	0	0	0
Road	2040	0	0	0	0	0	0
Road	2041	0	0	0	0	0	0
Road	2042	0	0	0	0	0	0
Road	2043	0	0	0	0	0	0
Road	2044	0	0	0	0	0	0
Road	2045	0	0	0	0	0	0
Road	2046	0	0	0	0	0	0
Road	2047	0	0	0	0	0	0
Road	2048	0	0	0	0	0	0
Road	2049	0	0	0	0	0	0
Road	2050	0	0	0	0	0	0
Road	2051	0	0	0	0	0	0
Road	2052	0	0	0	0	0	0
Road	2053	0	0	0	0	0	0
Road	2054	0	0	0	0	0	0
Road	2055	0	0	0	0	0	0
Road	2056	0	0	0	0	0	0
Road	2057	0	0	0	0	0	0
Road	2058	0	0	0	0	0	0
Road	2059	0	0	0	0	0	0
Road	2060	0	0	0	0	0	0
Road	2061	0	0	0	0	0	0
Road	2062	0	0	0	0	0	0

Road	2063	0	0	0	0	0	0
Road	2064	0	0	0	0	0	0
Road	2065	0	0	0	0	0	0
Road	2066	0	0	0	0	0	0
Road	2067	0	0	0	0	0	0
Road	2068	0	0	0	0	0	0
Road	2069	0	0	0	0	0	0
Road	2070	0	0	0	0	0	0
Road	2071	0	0	0	0	0	0
Road	2072	0	0	0	0	0	0
Road	2073	0	0	0	0	0	0
Road	2074	0	0	0	0	0	0
Road	2075	0	0	0	0	0	0
Road	2076	0	0	0	0	0	0
Road	2077	0	0	0	0	0	0
Road	2078	0	0	0	0	0	0
Road	2079	0	0	0	0	0	0
Road	2080	0	0	0	0	0	0
Road	2081	0	0	0	0	0	0
Road	2082	0	0	0	0	0	0
Road	Total	0	0	0	0	0	0

SUBMODE

User benefits and changes in revenues by submode/vehicle type, modelled years and total. £000s.

Submode	Year	User	User_Charges	Vehicle_Operating_Cost		Operator_Rev	Indirect
		Time	PT_fares_(pri)	Fuel	Non_fuel	PT_fares_(pri)	
Car	2023	0	0	0	0	0	0
Car	2037	0	0	0	0	0	0
LGV Personal	2023	0	0	0	0	0	0
LGV Personal	2037	0	0	0	0	0	0
LGV Freight	2023	0	0	0	0	0	0
LGV Freight	2037	0	0	0	0	0	0
OGV1	2023	0	0	0	0	0	0
OGV1	2037	0	0	0	0	0	0
OGV2	2023	0	0	0	0	0	0
OGV2	2037	0	0	0	0	0	0
All	2023	0	0	0	0	0	0
All	2037	0	0	0	0	0	0
Car	Total	0	0	0	0	0	0
LGV Personal	Total	0	0	0	0	0	0
LGV Freight	Total	0	0	0	0	0	0
OGV1	Total	0	0	0	0	0	0
OGV2	Total	0	0	0	0	0	0
All	Total	0	0	0	0	0	0

PERSON_TYPES

User benefits and changes in revenues by person type, modelled years and total. £000s.

Person_type	Year	User	User_Charges	Vehicle_Operating_Cost		Operator_Rev	Indirect
		Time	PT_fares_(pri)	Fuel	Non_fuel	PT_fares_(pri)	
All	2023	0	0	0	0	0	0
All	2037	0	0	0	0	0	0
All	Total	0	0	0	0	0	0

PURPOSE

User benefits and changes in revenues by trip purpose, modelled years and total. £000s.

Purpose	Year	User	User_Charges	Vehicle_Operating_Cost		Operator_Rev	Indirect
		Time	PT_fares_(pri)	Fuel	Non_fuel	PT_fares_(pri)	
Business	2023	0	0	0	0	0	0
Business	2037	0	0	0	0	0	0
Commuting	2023	0	0	0	0	0	0
Commuting	2037	0	0	0	0	0	0
Other	2023	0	0	0	0	0	0
Other	2037	0	0	0	0	0	0
Business	Total	0	0	0	0	0	0
Commuting	Total	0	0	0	0	0	0
Other	Total	0	0	0	0	0	0

PERIOD

User benefits and changes in revenues by time period, modelled years and total. £000s.

Period	Year	User	User_Charges	Vehicle_Operating_Cost		Operator_Rev	Indirect
		Time	PT_fares_(pri)	Fuel	Non_fuel	PT_fares_(pri)	
AM peak	2023	0	0	0	0	0	0
AM peak	2037	0	0	0	0	0	0
PM peak	2023	0	0	0	0	0	0
PM peak	2037	0	0	0	0	0	0
Inter-peak	2023	0	0	0	0	0	0
Inter-peak	2037	0	0	0	0	0	0
Off-peak	2023	0	0	0	0	0	0
Off-peak	2037	0	0	0	0	0	0
AM peak	Total	0	0	0	0	0	0
PM peak	Total	0	0	0	0	0	0
Inter-peak	Total	0	0	0	0	0	0
Off-peak	Total	0	0	0	0	0	0

NON MONETISED TIME BENEFITS BY TIME SAVING

Time benefits (thousands of person hrs) by size of time saving

Vehicle type	Purpose	Year	< -5 mins	-5 to -2 mins	-2 to 0 mins	0 to 2 mins	2 to 5 mins	> 5 mins
Car	Business	2023	0	0	0	0	0	0

Car	Business	2037	0	0	0	0	0	0
Car	Business	Total	0	0	0	0	0	0
Car	Commuting	2023	0	0	0	0	0	0
Car	Commuting	2037	0	0	0	0	0	0
Car	Commuting	Total	0	0	0	0	0	0
Car	Other	2023	0	0	0	0	0	0
Car	Other	2037	0	0	0	0	0	0
Car	Other	Total	0	0	0	0	0	0
LGV Personal	Business	2023	0	0	0	0	0	0
LGV Personal	Business	2037	0	0	0	0	0	0
LGV Personal	Business	Total	0	0	0	0	0	0
LGV Personal	Commuting	2023	0	0	0	0	0	0
LGV Personal	Commuting	2037	0	0	0	0	0	0
LGV Personal	Commuting	Total	0	0	0	0	0	0
LGV Personal	Other	2023	0	0	0	0	0	0
LGV Personal	Other	2037	0	0	0	0	0	0
LGV Personal	Other	Total	0	0	0	0	0	0
LGV Freight	Business	2023	0	0	0	0	0	0
LGV Freight	Business	2037	0	0	0	0	0	0
LGV Freight	Business	Total	0	0	0	0	0	0
LGV Freight	Commuting	2023	0	0	0	0	0	0
LGV Freight	Commuting	2037	0	0	0	0	0	0
LGV Freight	Commuting	Total	0	0	0	0	0	0
LGV Freight	Other	2023	0	0	0	0	0	0
LGV Freight	Other	2037	0	0	0	0	0	0
LGV Freight	Other	Total	0	0	0	0	0	0
OGV1	Business	2023	0	0	0	0	0	0
OGV1	Business	2037	0	0	0	0	0	0
OGV1	Business	Total	0	0	0	0	0	0
OGV1	Commuting	2023	0	0	0	0	0	0
OGV1	Commuting	2037	0	0	0	0	0	0
OGV1	Commuting	Total	0	0	0	0	0	0
OGV1	Other	2023	0	0	0	0	0	0
OGV1	Other	2037	0	0	0	0	0	0
OGV1	Other	Total	0	0	0	0	0	0
OGV2	Business	2023	0	0	0	0	0	0
OGV2	Business	2037	0	0	0	0	0	0
OGV2	Business	Total	0	0	0	0	0	0
OGV2	Commuting	2023	0	0	0	0	0	0
OGV2	Commuting	2037	0	0	0	0	0	0
OGV2	Commuting	Total	0	0	0	0	0	0
OGV2	Other	2023	0	0	0	0	0	0
OGV2	Other	2037	0	0	0	0	0	0
OGV2	Other	Total	0	0	0	0	0	0

MONETISED TIME BENEFITS BY TIME SAVING

Time benefits (£000s) by size of time saving

Vehicle type	Purpose	Year	< -5 mins	-5 to -2 mins	-2 to 0 mins	0 to 2 mins	2 to 5 mins	> 5 mins
Car	Business	2023	0	0	0	0	0	0
Car	Business	2037	0	0	0	0	0	0
Car	Business	Total	0	0	0	0	0	0
Car	Commuting	2023	0	0	0	0	0	0
Car	Commuting	2037	0	0	0	0	0	0
Car	Commuting	Total	0	0	0	0	0	0
Car	Other	2023	0	0	0	0	0	0
Car	Other	2037	0	0	0	0	0	0
Car	Other	Total	0	0	0	0	0	0
LGV Personal	Business	2023	0	0	0	0	0	0
LGV Personal	Business	2037	0	0	0	0	0	0
LGV Personal	Business	Total	0	0	0	0	0	0
LGV Personal	Commuting	2023	0	0	0	0	0	0
LGV Personal	Commuting	2037	0	0	0	0	0	0
LGV Personal	Commuting	Total	0	0	0	0	0	0
LGV Personal	Other	2023	0	0	0	0	0	0
LGV Personal	Other	2037	0	0	0	0	0	0
LGV Personal	Other	Total	0	0	0	0	0	0
LGV Freight	Business	2023	0	0	0	0	0	0
LGV Freight	Business	2037	0	0	0	0	0	0
LGV Freight	Business	Total	0	0	0	0	0	0
LGV Freight	Commuting	2023	0	0	0	0	0	0
LGV Freight	Commuting	2037	0	0	0	0	0	0
LGV Freight	Commuting	Total	0	0	0	0	0	0
LGV Freight	Other	2023	0	0	0	0	0	0
LGV Freight	Other	2037	0	0	0	0	0	0
LGV Freight	Other	Total	0	0	0	0	0	0
OGV1	Business	2023	0	0	0	0	0	0
OGV1	Business	2037	0	0	0	0	0	0
OGV1	Business	Total	0	0	0	0	0	0
OGV1	Commuting	2023	0	0	0	0	0	0
OGV1	Commuting	2037	0	0	0	0	0	0
OGV1	Commuting	Total	0	0	0	0	0	0
OGV1	Other	2023	0	0	0	0	0	0
OGV1	Other	2037	0	0	0	0	0	0
OGV1	Other	Total	0	0	0	0	0	0
OGV2	Business	2023	0	0	0	0	0	0
OGV2	Business	2037	0	0	0	0	0	0
OGV2	Business	Total	0	0	0	0	0	0
OGV2	Commuting	2023	0	0	0	0	0	0

OGV2	Commuting	2037	0	0	0	0	0	0
OGV2	Commuting	Total	0	0	0	0	0	0
OGV2	Other	2023	0	0	0	0	0	0
OGV2	Other	2037	0	0	0	0	0	0
OGV2	Other	Total	0	0	0	0	0	0

TOTAL BENEFITS BY TIME SAVING

Total benefits (£000s) by size of time saving

Vehicle type	Purpose	Year	< -5 mins	-5 to -2 mins	-2 to 0 mins	0 to 2 mins	2 to 5 mins	> 5 mins
Car	Business	2023	0	0	0	0	0	0
Car	Business	2037	0	0	0	0	0	0
Car	Business	Total	0	0	0	0	0	0
Car	Commuting	2023	0	0	0	0	0	0
Car	Commuting	2037	0	0	0	0	0	0
Car	Commuting	Total	0	0	0	0	0	0
Car	Other	2023	0	0	0	0	0	0
Car	Other	2037	0	0	0	0	0	0
Car	Other	Total	0	0	0	0	0	0
LGV Personal	Business	2023	0	0	0	0	0	0
LGV Personal	Business	2037	0	0	0	0	0	0
LGV Personal	Business	Total	0	0	0	0	0	0
LGV Personal	Commuting	2023	0	0	0	0	0	0
LGV Personal	Commuting	2037	0	0	0	0	0	0
LGV Personal	Commuting	Total	0	0	0	0	0	0
LGV Personal	Other	2023	0	0	0	0	0	0
LGV Personal	Other	2037	0	0	0	0	0	0
LGV Personal	Other	Total	0	0	0	0	0	0
LGV Freight	Business	2023	0	0	0	0	0	0
LGV Freight	Business	2037	0	0	0	0	0	0
LGV Freight	Business	Total	0	0	0	0	0	0
LGV Freight	Commuting	2023	0	0	0	0	0	0
LGV Freight	Commuting	2037	0	0	0	0	0	0
LGV Freight	Commuting	Total	0	0	0	0	0	0
LGV Freight	Other	2023	0	0	0	0	0	0
LGV Freight	Other	2037	0	0	0	0	0	0
LGV Freight	Other	Total	0	0	0	0	0	0
OGV1	Business	2023	0	0	0	0	0	0
OGV1	Business	2037	0	0	0	0	0	0
OGV1	Business	Total	0	0	0	0	0	0
OGV1	Commuting	2023	0	0	0	0	0	0
OGV1	Commuting	2037	0	0	0	0	0	0
OGV1	Commuting	Total	0	0	0	0	0	0
OGV1	Other	2023	0	0	0	0	0	0
OGV1	Other	2037	0	0	0	0	0	0

LGV Freight	Business	Total	0	0	0	0	0	0	0	0
LGV Freight	Commuting	2023	0	0	0	0	0	0	0	0
LGV Freight	Commuting	2037	0	0	0	0	0	0	0	0
LGV Freight	Commuting	Total	0	0	0	0	0	0	0	0
LGV Freight	Other	2023	0	0	0	0	0	0	0	0
LGV Freight	Other	2037	0	0	0	0	0	0	0	0
LGV Freight	Other	Total	0	0	0	0	0	0	0	0
OGV1	Business	2023	0	0	0	0	0	0	0	0
OGV1	Business	2037	0	0	0	0	0	0	0	0
OGV1	Business	Total	0	0	0	0	0	0	0	0
OGV1	Commuting	2023	0	0	0	0	0	0	0	0
OGV1	Commuting	2037	0	0	0	0	0	0	0	0
OGV1	Commuting	Total	0	0	0	0	0	0	0	0
OGV1	Other	2023	0	0	0	0	0	0	0	0
OGV1	Other	2037	0	0	0	0	0	0	0	0
OGV1	Other	Total	0	0	0	0	0	0	0	0
OGV2	Business	2023	0	0	0	0	0	0	0	0
OGV2	Business	2037	0	0	0	0	0	0	0	0
OGV2	Business	Total	0	0	0	0	0	0	0	0
OGV2	Commuting	2023	0	0	0	0	0	0	0	0
OGV2	Commuting	2037	0	0	0	0	0	0	0	0
OGV2	Commuting	Total	0	0	0	0	0	0	0	0
OGV2	Other	2023	0	0	0	0	0	0	0	0
OGV2	Other	2037	0	0	0	0	0	0	0	0
OGV2	Other	Total	0	0	0	0	0	0	0	0

SENSITIVITY

Total user benefits as a percentage of total DM user costs

Modelled Years		
Mode	2023	2037
Road	0.00%	0.00%

Economy:Economic Efficiency of the Transport System (TEE)

Consumer - Commuting user benefits	All Modes	Road
Travel Time	0	0
Vehicle operating costs	0	0
User charges	0	0
During Construction & Maintenance	0	0
NET CONSUMER - COMMUTING BENEFITS	0	0

Consumer - Other user benefits	All Modes	Road
Travel Time	0	0
Vehicle operating costs	0	0

User charges	0	0
During Construction & Maintenance	0	0
NET CONSUMER - OTHER BENEFITS	0	0

Business	All Modes	Road Personal	Road Freight
Travel Time	0	0	0
Vehicle operating costs	0	0	0
User charges	0	0	0
During Construction & Maintenance	0	0	0
Subtotal	0	0	0

Private Sector Provider Impacts

Revenue	0	0
Operating costs	0	0
Investment costs	0	0
Grant/subsidy	0	0
Subtotal	0	0

Other business Impacts

Developer contributions	0	0
NET BUSINESS IMPACT	0	

TOTAL

Present Value of Transport Economic

Efficiency Benefits (TEE)	0
---------------------------	---

Note: Benefits appear as positive numbers, while costs appear as negative numbers.

Note: All entries are present values discounted to 2010, in 2010 prices

Public Accounts

Local Government Funding	ALL MODES	Road
Revenue	0	0
Operating Costs	0	0
Investment Costs	19	19
Developer Contributions	0	0
Grant/Subsidy Payments	0	0
NET IMPACT	19	19

Central Government Funding: Transport

	ALL MODES	Road
Revenue	0	0
Operating costs	0	0
Investment costs	113	113
Developer Contributions	0	0
Grant/Subsidy Payments	0	0

NET IMPACT	113	113
------------	-----	-----

Central Government Funding: Non-Transport

Indirect Tax Revenues	0	0
-----------------------	---	---

TOTALS

Broad Transport Budget	131	131
Wider Public Finances	0	0

Note: Costs appear as positive numbers, while revenues and developer contributions appear as negative numbers.

Note: All entries are present values discounted to 2010, in 2010 prices

Analysis of Monetised Costs and Benefits

Greenhouse Gases	0
Economic Efficiency: Consumer Users (Commuting)	0
Economic Efficiency: Consumer Users (Other)	0
Economic Efficiency: Business Users and Providers	0
Wider Public Finances (Indirect Taxation Revenues)	0
Present Value of Benefits (PVB)	0
Broad Transport Budget	131
Present Value of Costs (PVC)	131
OVERALL IMPACTS	
Net Present Value (NPV)	-131
Benefit to Cost Ratio (BCR)	0.000

Note: This table includes costs and benefits which are regularly or occasionally presented in monetised form in transport appraisals, together with some where monetisation is in prospect. There may also be other significant costs and benefits, some of which cannot be presented in monetised form. Where this is the case, the analysis presented above does NOT provide a good measure of value for money and should not be used as the sole basis for decisions.

TUBA Run Information

- calculations completed

File Summary

* Run Name : TUBA-1_Warren_Hill_FBC_QRA_V3

* Scheme File : L:\60625845_A614 MRN DFT responses\2023_Draft_FBC\TUBA\MasterFile -Warren_Hill_cost_only_Draft_FBC_QRA_V3.txt

* Economic File : L:\60625845_A614 MRN DFT responses\2023_Draft_FBC\TUBA\Economics_TAG_db1_20_2.txt

* Output File : L:\60625845_A614 MRN DFT responses\2023_Draft_FBC\TUBA\Warren_Hill_FBC_QRA_V3.OUT

* Log File : L:\60625845_A614 MRN DFT responses\2023_Draft_FBC\TUBA\Warren_Hill_FBC_QRA_V3.log

* User ID : philip.g.jones

* Computer ID : UKDBYLFHQB1T3

Elapsed time : 0hrs 0mins 1secs

Appendix Q Lowdham TUBA – QRA

SCHEME SPECIFIC PARAMETERS

PARAMETERS

TUBA_version 1.9.17
run_name TUBA-6_Lowdham_FBC_QRA_V3
do_min_name DM
do_som_name DS

first_yr 2023
horizon_yr 2082
modelled_yrs 2023 2037
detail Yes
current_yr 2023
print_warn 20
P&R_car_speed 65.0
zones_as_sectors No

TIME_SLICES

*no.	duration(min)	annualisation	period	description
1	60	648	1	peak hour am 08:00-09:00
2	60	667	2	peak hour pm 17:00-18:00
3	60	2997	3	peak hour ip 10:00-16:00
4	60	4438	4	off peak hour

SCHEMES_DM

*Mode 1st Construction year Opening_yr Stage

DO_MIN_COSTS

*Type Mode Funding Cost Price RPI

DO_MIN_PROFILE

*Year Mode %Const %Land %Prep %Super %Maint %Op %Grant %Dev

DO_MIN_DELAY_COSTS

*Year Mode Business Commuting Other Freight

SCHEMES_DS

*Mode 1st Construction year Opening_yr Stage

1 2024 2027 SI

DO_SOM_COSTS

*Type	Mode	Funding	Cost	Price	RPI		
M	1		LOC	202.91	F	123.41	1
P	1		CEN	585.08	F	133.39	1.00
C	1		CEN	3804.95	F	133.39	1.00
L	1		CEN	197.74	F	133.39	1.00
S	1		CEN	27.63	F	133.39	1.00
P	1		LOC	110.87	F	133.39	1.00
C	1		LOC	2586.12	F	133.39	1.00
L	1		LOC	0.00	F	133.39	1.00
S	1		LOC	19.05	F	133.39	1.00
D	1		LOC	61.49	F	133.39	1.00

DO_SOM_PROFILE

*Year	Mode	%Const	%Land	%Prep	%Super	%Maint	%Op	%Grant	%Dev
2023	1	0.84			100.00	30.39	0.00	0.00	0.00
2024	1	0.00			0.00	12.87	0.00	0.00	0.00
2025	1	19.83			0.00	28.37	20.00	0.00	0.00
2026	1	79.33			0.00	28.37	80.00	0.00	100.00
2027	1	0			0	0	0.911	0	0
2028	1	0			0	0	1.788	0	0
2029	1	0			0	0	0.87	0	0
2030	1	0			0	0	0.851	0	0
2031	1	0			0	0	0.831	0	0
2032	1	0			0	0	0.813	0	0
2033	1	0			0	0	5.028	0	0
2034	1	0			0	0	0.777	0	0
2035	1	0			0	0	0.759	0	0
2036	1	0			0	0	0.742	0	0
2037	1	0			0	0	0.725	0	0
2038	1	0			0	0	1.424	0	0
2039	1	0			0	0	0.693	0	0
2040	1	0			0	0	0.678	0	0
2041	1	0			0	0	0.662	0	0
2042	1	0			0	0	0.647	0	0
2043	1	0			0	0	27.234	0	0
2044	1	0			0	0	0.619	0	0
2045	1	0			0	0	0.605	0	0
2046	1	0			0	0	0.591	0	0
2047	1	0			0	0	0.578	0	0
2048	1	0			0	0	2.458	0	0
2049	1	0			0	0	0.552	0	0
2050	1	0			0	0	0.54	0	0
2051	1	0			0	0	0.528	0	0
2052	1	0			0	0	0.516	0	0

2053	1	0	0	0	0	3.19	0	0	0
2054	1	0	0	0	0	0.493	0	0	0
2055	1	0	0	0	0	0.482	0	0	0
2056	1	0	0	0	0	0.471	0	0	0
2057	1	0	0	0	0	0.46	0	0	0
2058	1	0	0	0	0	0.904	0	0	0
2059	1	0	0	0	0	0.44	0	0	0
2060	1	0	0	0	0	0.43	0	0	0
2061	1	0	0	0	0	0.42	0	0	0
2062	1	0	0	0	0	0.411	0	0	0
2063	1	0	0	0	0	27.041	0	0	0
2064	1	0	0	0	0	0.393	0	0	0
2065	1	0	0	0	0	0.384	0	0	0
2066	1	0	0	0	0	0.375	0	0	0
2067	1	0	0	0	0	0.367	0	0	0
2068	1	0	0	0	0	0.72	0	0	0
2069	1	0	0	0	0	0.35	0	0	0
2070	1	0	0	0	0	0.343	0	0	0
2071	1	0	0	0	0	0.335	0	0	0
2072	1	0	0	0	0	0.327	0	0	0
2073	1	0	0	0	0	3.524	0	0	0
2074	1	0	0	0	0	0.313	0	0	0
2075	1	0	0	0	0	0.306	0	0	0
2076	1	0	0	0	0	0.299	0	0	0
2077	1	0	0	0	0	0.292	0	0	0
2078	1	0	0	0	0	0.573	0	0	0
2079	1	0	0	0	0	0.279	0	0	0
2080	1	0	0	0	0	0.272	0	0	0
2081	1	0	0	0	0	0.266	0	0	0
2082	1	0	0	0	0	3.12	0	0	0

DO_SOM_DELAY_COSTS

*Year Mode Business Commuting Other Freight

BENEFIT_CHANGE

*% change p.a.

*Start_yr End_yr Submode ChangePer1 ChangePer2 ChangePer3 ChangePer4 ChangePer5

USER_CLASSES

*no. Veh/submode purpose person_type

1	1	1	0
2	1	2	0

3	1	3	0
4	2	3	0
5	3	1	0
6	4	1	0
7	5	1	0

INPUT_MATRICES

*no.	userclasses	timeslice	type	format	scenario	year	factor	filename
1	1	1	V	1	0	2023	0.05743	L:\60625845_A614 MRN DfT responses\2023_Draft_FBC\TUBA\6-Lowdham\Outputs_V4\V_6_Lowdham_V4 AM 2023 DM.txt
2	2	1	V	1	0	2023	0.31641	L:\60625845_A614 MRN DfT responses\2023_Draft_FBC\TUBA\6-Lowdham\Outputs_V4\V_6_Lowdham_V4 AM 2023 DM.txt
3	3	1	V	1	0	2023	0.45226	L:\60625845_A614 MRN DfT responses\2023_Draft_FBC\TUBA\6-Lowdham\Outputs_V4\V_6_Lowdham_V4 AM 2023 DM.txt
4	4	1	V	1	0	2023	0.01500	L:\60625845_A614 MRN DfT responses\2023_Draft_FBC\TUBA\6-Lowdham\Outputs_V4\V_6_Lowdham_V4 AM 2023 DM.txt
5	5	1	V	1	0	2023	0.11000	L:\60625845_A614 MRN DfT responses\2023_Draft_FBC\TUBA\6-Lowdham\Outputs_V4\V_6_Lowdham_V4 AM 2023 DM.txt
6	6	1	V	1	0	2023	0.03010	L:\60625845_A614 MRN DfT responses\2023_Draft_FBC\TUBA\6-Lowdham\Outputs_V4\V_6_Lowdham_V4 AM 2023 DM.txt
7	7	1	V	1	0	2023	0.01880	L:\60625845_A614 MRN DfT responses\2023_Draft_FBC\TUBA\6-Lowdham\Outputs_V4\V_6_Lowdham_V4 AM 2023 DM.txt
8	1	2	V	1	0	2023	0.04320	L:\60625845_A614 MRN DfT responses\2023_Draft_FBC\TUBA\6-Lowdham\Outputs_V4\V_6_Lowdham_V4 PM 2023 DM.txt
9	2	2	V	1	0	2023	0.27515	L:\60625845_A614 MRN DfT responses\2023_Draft_FBC\TUBA\6-Lowdham\Outputs_V4\V_6_Lowdham_V4 PM 2023 DM.txt
10	3	2	V	1	0	2023	0.52626	L:\60625845_A614 MRN DfT responses\2023_Draft_FBC\TUBA\6-Lowdham\Outputs_V4\V_6_Lowdham_V4 PM 2023 DM.txt
11	4	2	V	1	0	2023	0.01470	L:\60625845_A614 MRN DfT responses\2023_Draft_FBC\TUBA\6-Lowdham\Outputs_V4\V_6_Lowdham_V4 PM 2023 DM.txt
12	5	2	V	1	0	2023	0.10780	L:\60625845_A614 MRN DfT responses\2023_Draft_FBC\TUBA\6-Lowdham\Outputs_V4\V_6_Lowdham_V4 PM 2023 DM.txt
13	6	2	V	1	0	2023	0.01850	L:\60625845_A614 MRN DfT responses\2023_Draft_FBC\TUBA\6-Lowdham\Outputs_V4\V_6_Lowdham_V4 PM 2023 DM.txt
14	7	2	V	1	0	2023	0.01430	L:\60625845_A614 MRN DfT responses\2023_Draft_FBC\TUBA\6-Lowdham\Outputs_V4\V_6_Lowdham_V4 PM 2023 DM.txt
15	1	3	V	1	0	2023	0.05581	L:\60625845_A614 MRN DfT responses\2023_Draft_FBC\TUBA\6-Lowdham\Outputs_V4\V_6_Lowdham_V4 IP 2023 DM.txt
16	2	3	V	1	0	2023	0.08757	L:\60625845_A614 MRN DfT responses\2023_Draft_FBC\TUBA\6-Lowdham\Outputs_V4\V_6_Lowdham_V4 IP 2023 DM.txt
17	3	3	V	1	0	2023	0.63282	L:\60625845_A614 MRN DfT responses\2023_Draft_FBC\TUBA\6-Lowdham\Outputs_V4\V_6_Lowdham_V4 IP 2023 DM.txt
18	4	3	V	1	0	2023	0.01636	L:\60625845_A614 MRN DfT responses\2023_Draft_FBC\TUBA\6-Lowdham\Outputs_V4\V_6_Lowdham_V4 IP 2023 DM.txt
19	5	3	V	1	0	2023	0.11994	L:\60625845_A614 MRN DfT responses\2023_Draft_FBC\TUBA\6-Lowdham\Outputs_V4\V_6_Lowdham_V4 IP 2023 DM.txt
20	6	3	V	1	0	2023	0.05730	L:\60625845_A614 MRN DfT responses\2023_Draft_FBC\TUBA\6-Lowdham\Outputs_V4\V_6_Lowdham_V4 IP 2023 DM.txt
21	7	3	V	1	0	2023	0.03020	L:\60625845_A614 MRN DfT responses\2023_Draft_FBC\TUBA\6-Lowdham\Outputs_V4\V_6_Lowdham_V4 IP 2023 DM.txt
22	1	4	V	1	0	2023	0.03345	L:\60625845_A614 MRN DfT responses\2023_Draft_FBC\TUBA\6-Lowdham\Outputs_V4\V_6_Lowdham_V4 OP 2023 DM.txt
23	2	4	V	1	0	2023	0.22320	L:\60625845_A614 MRN DfT responses\2023_Draft_FBC\TUBA\6-Lowdham\Outputs_V4\V_6_Lowdham_V4 OP 2023 DM.txt
24	3	4	V	1	0	2023	0.51955	L:\60625845_A614 MRN DfT responses\2023_Draft_FBC\TUBA\6-Lowdham\Outputs_V4\V_6_Lowdham_V4 OP 2023 DM.txt

25	4	4	V	1	0	2023	0.01636	L:\60625845_A614 MRN DFT responses\2023_Draft_FBC\TUBA\6-Lowdham\Outputs_V4\W_6_Lowdham_V4	OP	2023	DM.txt
26	5	4	V	1	0	2023	0.11994	L:\60625845_A614 MRN DFT responses\2023_Draft_FBC\TUBA\6-Lowdham\Outputs_V4\W_6_Lowdham_V4	OP	2023	DM.txt
27	6	4	V	1	0	2023	0.05730	L:\60625845_A614 MRN DFT responses\2023_Draft_FBC\TUBA\6-Lowdham\Outputs_V4\W_6_Lowdham_V4	OP	2023	DM.txt
28	7	4	V	1	0	2023	0.03020	L:\60625845_A614 MRN DFT responses\2023_Draft_FBC\TUBA\6-Lowdham\Outputs_V4\W_6_Lowdham_V4	OP	2023	DM.txt
29	1	1	V	1	1	2023	0.05743	L:\60625845_A614 MRN DFT responses\2023_Draft_FBC\TUBA\6-Lowdham\Outputs_V4\W_6_Lowdham_V4	AM	2023	DS.txt
30	2	1	V	1	1	2023	0.31641	L:\60625845_A614 MRN DFT responses\2023_Draft_FBC\TUBA\6-Lowdham\Outputs_V4\W_6_Lowdham_V4	AM	2023	DS.txt
31	3	1	V	1	1	2023	0.45226	L:\60625845_A614 MRN DFT responses\2023_Draft_FBC\TUBA\6-Lowdham\Outputs_V4\W_6_Lowdham_V4	AM	2023	DS.txt
32	4	1	V	1	1	2023	0.01500	L:\60625845_A614 MRN DFT responses\2023_Draft_FBC\TUBA\6-Lowdham\Outputs_V4\W_6_Lowdham_V4	AM	2023	DS.txt
33	5	1	V	1	1	2023	0.11000	L:\60625845_A614 MRN DFT responses\2023_Draft_FBC\TUBA\6-Lowdham\Outputs_V4\W_6_Lowdham_V4	AM	2023	DS.txt
34	6	1	V	1	1	2023	0.03010	L:\60625845_A614 MRN DFT responses\2023_Draft_FBC\TUBA\6-Lowdham\Outputs_V4\W_6_Lowdham_V4	AM	2023	DS.txt
35	7	1	V	1	1	2023	0.01880	L:\60625845_A614 MRN DFT responses\2023_Draft_FBC\TUBA\6-Lowdham\Outputs_V4\W_6_Lowdham_V4	AM	2023	DS.txt
36	1	2	V	1	1	2023	0.04320	L:\60625845_A614 MRN DFT responses\2023_Draft_FBC\TUBA\6-Lowdham\Outputs_V4\W_6_Lowdham_V4	PM	2023	DS.txt
37	2	2	V	1	1	2023	0.27515	L:\60625845_A614 MRN DFT responses\2023_Draft_FBC\TUBA\6-Lowdham\Outputs_V4\W_6_Lowdham_V4	PM	2023	DS.txt
38	3	2	V	1	1	2023	0.52626	L:\60625845_A614 MRN DFT responses\2023_Draft_FBC\TUBA\6-Lowdham\Outputs_V4\W_6_Lowdham_V4	PM	2023	DS.txt
39	4	2	V	1	1	2023	0.01470	L:\60625845_A614 MRN DFT responses\2023_Draft_FBC\TUBA\6-Lowdham\Outputs_V4\W_6_Lowdham_V4	PM	2023	DS.txt
40	5	2	V	1	1	2023	0.10780	L:\60625845_A614 MRN DFT responses\2023_Draft_FBC\TUBA\6-Lowdham\Outputs_V4\W_6_Lowdham_V4	PM	2023	DS.txt
41	6	2	V	1	1	2023	0.01850	L:\60625845_A614 MRN DFT responses\2023_Draft_FBC\TUBA\6-Lowdham\Outputs_V4\W_6_Lowdham_V4	PM	2023	DS.txt
42	7	2	V	1	1	2023	0.01430	L:\60625845_A614 MRN DFT responses\2023_Draft_FBC\TUBA\6-Lowdham\Outputs_V4\W_6_Lowdham_V4	PM	2023	DS.txt
43	1	3	V	1	1	2023	0.05581	L:\60625845_A614 MRN DFT responses\2023_Draft_FBC\TUBA\6-Lowdham\Outputs_V4\W_6_Lowdham_V4	IP	2023	DS.txt
44	2	3	V	1	1	2023	0.08757	L:\60625845_A614 MRN DFT responses\2023_Draft_FBC\TUBA\6-Lowdham\Outputs_V4\W_6_Lowdham_V4	IP	2023	DS.txt
45	3	3	V	1	1	2023	0.63282	L:\60625845_A614 MRN DFT responses\2023_Draft_FBC\TUBA\6-Lowdham\Outputs_V4\W_6_Lowdham_V4	IP	2023	DS.txt
46	4	3	V	1	1	2023	0.01636	L:\60625845_A614 MRN DFT responses\2023_Draft_FBC\TUBA\6-Lowdham\Outputs_V4\W_6_Lowdham_V4	IP	2023	DS.txt
47	5	3	V	1	1	2023	0.11994	L:\60625845_A614 MRN DFT responses\2023_Draft_FBC\TUBA\6-Lowdham\Outputs_V4\W_6_Lowdham_V4	IP	2023	DS.txt
48	6	3	V	1	1	2023	0.05730	L:\60625845_A614 MRN DFT responses\2023_Draft_FBC\TUBA\6-Lowdham\Outputs_V4\W_6_Lowdham_V4	IP	2023	DS.txt
49	7	3	V	1	1	2023	0.03020	L:\60625845_A614 MRN DFT responses\2023_Draft_FBC\TUBA\6-Lowdham\Outputs_V4\W_6_Lowdham_V4	IP	2023	DS.txt
50	1	4	V	1	1	2023	0.03345	L:\60625845_A614 MRN DFT responses\2023_Draft_FBC\TUBA\6-Lowdham\Outputs_V4\W_6_Lowdham_V4	OP	2023	DS.txt
51	2	4	V	1	1	2023	0.22320	L:\60625845_A614 MRN DFT responses\2023_Draft_FBC\TUBA\6-Lowdham\Outputs_V4\W_6_Lowdham_V4	OP	2023	DS.txt
52	3	4	V	1	1	2023	0.51955	L:\60625845_A614 MRN DFT responses\2023_Draft_FBC\TUBA\6-Lowdham\Outputs_V4\W_6_Lowdham_V4	OP	2023	DS.txt
53	4	4	V	1	1	2023	0.01636	L:\60625845_A614 MRN DFT responses\2023_Draft_FBC\TUBA\6-Lowdham\Outputs_V4\W_6_Lowdham_V4	OP	2023	DS.txt

171	3	1	V	1	0	2037	0.45226	L:\60625845_A614 MRN DfT responses\2023_Draft_FBC\TUBA\6-Lowdham\Outputs_V4\W_6_Lowdham_V4 AM 2037
DM.txt								
172	4	1	V	1	0	2037	0.01500	L:\60625845_A614 MRN DfT responses\2023_Draft_FBC\TUBA\6-Lowdham\Outputs_V4\W_6_Lowdham_V4 AM 2037
DM.txt								
173	5	1	V	1	0	2037	0.11000	L:\60625845_A614 MRN DfT responses\2023_Draft_FBC\TUBA\6-Lowdham\Outputs_V4\W_6_Lowdham_V4 AM 2037
DM.txt								
174	6	1	V	1	0	2037	0.03010	L:\60625845_A614 MRN DfT responses\2023_Draft_FBC\TUBA\6-Lowdham\Outputs_V4\W_6_Lowdham_V4 AM 2037
DM.txt								
175	7	1	V	1	0	2037	0.01880	L:\60625845_A614 MRN DfT responses\2023_Draft_FBC\TUBA\6-Lowdham\Outputs_V4\W_6_Lowdham_V4 AM 2037
DM.txt								
176	1	2	V	1	0	2037	0.04320	L:\60625845_A614 MRN DfT responses\2023_Draft_FBC\TUBA\6-Lowdham\Outputs_V4\W_6_Lowdham_V4 PM 2037
DM.txt								
177	2	2	V	1	0	2037	0.27515	L:\60625845_A614 MRN DfT responses\2023_Draft_FBC\TUBA\6-Lowdham\Outputs_V4\W_6_Lowdham_V4 PM 2037
DM.txt								
178	3	2	V	1	0	2037	0.52626	L:\60625845_A614 MRN DfT responses\2023_Draft_FBC\TUBA\6-Lowdham\Outputs_V4\W_6_Lowdham_V4 PM 2037
DM.txt								
179	4	2	V	1	0	2037	0.01470	L:\60625845_A614 MRN DfT responses\2023_Draft_FBC\TUBA\6-Lowdham\Outputs_V4\W_6_Lowdham_V4 PM 2037
DM.txt								
180	5	2	V	1	0	2037	0.10780	L:\60625845_A614 MRN DfT responses\2023_Draft_FBC\TUBA\6-Lowdham\Outputs_V4\W_6_Lowdham_V4 PM 2037
DM.txt								
181	6	2	V	1	0	2037	0.01850	L:\60625845_A614 MRN DfT responses\2023_Draft_FBC\TUBA\6-Lowdham\Outputs_V4\W_6_Lowdham_V4 PM 2037
DM.txt								
182	7	2	V	1	0	2037	0.01430	L:\60625845_A614 MRN DfT responses\2023_Draft_FBC\TUBA\6-Lowdham\Outputs_V4\W_6_Lowdham_V4 PM 2037
DM.txt								
183	1	3	V	1	0	2037	0.05581	L:\60625845_A614 MRN DfT responses\2023_Draft_FBC\TUBA\6-Lowdham\Outputs_V4\W_6_Lowdham_V4 IP 2037
DM.txt								
184	2	3	V	1	0	2037	0.08757	L:\60625845_A614 MRN DfT responses\2023_Draft_FBC\TUBA\6-Lowdham\Outputs_V4\W_6_Lowdham_V4 IP 2037
DM.txt								
185	3	3	V	1	0	2037	0.63282	L:\60625845_A614 MRN DfT responses\2023_Draft_FBC\TUBA\6-Lowdham\Outputs_V4\W_6_Lowdham_V4 IP 2037
DM.txt								
186	4	3	V	1	0	2037	0.01636	L:\60625845_A614 MRN DfT responses\2023_Draft_FBC\TUBA\6-Lowdham\Outputs_V4\W_6_Lowdham_V4 IP 2037
DM.txt								
187	5	3	V	1	0	2037	0.11994	L:\60625845_A614 MRN DfT responses\2023_Draft_FBC\TUBA\6-Lowdham\Outputs_V4\W_6_Lowdham_V4 IP 2037
DM.txt								
188	6	3	V	1	0	2037	0.05730	L:\60625845_A614 MRN DfT responses\2023_Draft_FBC\TUBA\6-Lowdham\Outputs_V4\W_6_Lowdham_V4 IP 2037
DM.txt								
189	7	3	V	1	0	2037	0.03020	L:\60625845_A614 MRN DfT responses\2023_Draft_FBC\TUBA\6-Lowdham\Outputs_V4\W_6_Lowdham_V4 IP 2037
DM.txt								
190	1	4	V	1	0	2037	0.03345	L:\60625845_A614 MRN DfT responses\2023_Draft_FBC\TUBA\6-Lowdham\Outputs_V4\W_6_Lowdham_V4 OP 2037
DM.txt								
191	2	4	V	1	0	2037	0.22320	L:\60625845_A614 MRN DfT responses\2023_Draft_FBC\TUBA\6-Lowdham\Outputs_V4\W_6_Lowdham_V4 OP 2037
DM.txt								
192	3	4	V	1	0	2037	0.51955	L:\60625845_A614 MRN DfT responses\2023_Draft_FBC\TUBA\6-Lowdham\Outputs_V4\W_6_Lowdham_V4 OP 2037
DM.txt								
193	4	4	V	1	0	2037	0.01636	L:\60625845_A614 MRN DfT responses\2023_Draft_FBC\TUBA\6-Lowdham\Outputs_V4\W_6_Lowdham_V4 OP 2037
DM.txt								
194	5	4	V	1	0	2037	0.11994	L:\60625845_A614 MRN DfT responses\2023_Draft_FBC\TUBA\6-Lowdham\Outputs_V4\W_6_Lowdham_V4 OP 2037
DM.txt								
195	6	4	V	1	0	2037	0.05730	L:\60625845_A614 MRN DfT responses\2023_Draft_FBC\TUBA\6-Lowdham\Outputs_V4\W_6_Lowdham_V4 OP 2037
DM.txt								
196	7	4	V	1	0	2037	0.03020	L:\60625845_A614 MRN DfT responses\2023_Draft_FBC\TUBA\6-Lowdham\Outputs_V4\W_6_Lowdham_V4 OP 2037
DM.txt								
197	1	1	V	1	1	2037	0.05743	L:\60625845_A614 MRN DfT responses\2023_Draft_FBC\TUBA\6-Lowdham\Outputs_V4\W_6_Lowdham_V4 AM 2037
DS.txt								
198	2	1	V	1	1	2037	0.31641	L:\60625845_A614 MRN DfT responses\2023_Draft_FBC\TUBA\6-Lowdham\Outputs_V4\W_6_Lowdham_V4 AM 2037
DS.txt								
199	3	1	V	1	1	2037	0.45226	L:\60625845_A614 MRN DfT responses\2023_Draft_FBC\TUBA\6-Lowdham\Outputs_V4\W_6_Lowdham_V4 AM 2037
DS.txt								

200	4	1	V	1	1	2037	0.01500	L:\60625845_A614 MRN DfT responses\2023_Draft_FBC\TUBA\6-Lowdham\Outputs_V4\W_6_Lowdham_V4	AM 2037	DS.txt
201	5	1	V	1	1	2037	0.11000	L:\60625845_A614 MRN DfT responses\2023_Draft_FBC\TUBA\6-Lowdham\Outputs_V4\W_6_Lowdham_V4	AM 2037	DS.txt
202	6	1	V	1	1	2037	0.03010	L:\60625845_A614 MRN DfT responses\2023_Draft_FBC\TUBA\6-Lowdham\Outputs_V4\W_6_Lowdham_V4	AM 2037	DS.txt
203	7	1	V	1	1	2037	0.01880	L:\60625845_A614 MRN DfT responses\2023_Draft_FBC\TUBA\6-Lowdham\Outputs_V4\W_6_Lowdham_V4	AM 2037	DS.txt
204	1	2	V	1	1	2037	0.04320	L:\60625845_A614 MRN DfT responses\2023_Draft_FBC\TUBA\6-Lowdham\Outputs_V4\W_6_Lowdham_V4	PM 2037	DS.txt
205	2	2	V	1	1	2037	0.27515	L:\60625845_A614 MRN DfT responses\2023_Draft_FBC\TUBA\6-Lowdham\Outputs_V4\W_6_Lowdham_V4	PM 2037	DS.txt
206	3	2	V	1	1	2037	0.52626	L:\60625845_A614 MRN DfT responses\2023_Draft_FBC\TUBA\6-Lowdham\Outputs_V4\W_6_Lowdham_V4	PM 2037	DS.txt
207	4	2	V	1	1	2037	0.01470	L:\60625845_A614 MRN DfT responses\2023_Draft_FBC\TUBA\6-Lowdham\Outputs_V4\W_6_Lowdham_V4	PM 2037	DS.txt
208	5	2	V	1	1	2037	0.10780	L:\60625845_A614 MRN DfT responses\2023_Draft_FBC\TUBA\6-Lowdham\Outputs_V4\W_6_Lowdham_V4	PM 2037	DS.txt
209	6	2	V	1	1	2037	0.01850	L:\60625845_A614 MRN DfT responses\2023_Draft_FBC\TUBA\6-Lowdham\Outputs_V4\W_6_Lowdham_V4	PM 2037	DS.txt
210	7	2	V	1	1	2037	0.01430	L:\60625845_A614 MRN DfT responses\2023_Draft_FBC\TUBA\6-Lowdham\Outputs_V4\W_6_Lowdham_V4	PM 2037	DS.txt
211	1	3	V	1	1	2037	0.05581	L:\60625845_A614 MRN DfT responses\2023_Draft_FBC\TUBA\6-Lowdham\Outputs_V4\W_6_Lowdham_V4	IP 2037	DS.txt
212	2	3	V	1	1	2037	0.08757	L:\60625845_A614 MRN DfT responses\2023_Draft_FBC\TUBA\6-Lowdham\Outputs_V4\W_6_Lowdham_V4	IP 2037	DS.txt
213	3	3	V	1	1	2037	0.63282	L:\60625845_A614 MRN DfT responses\2023_Draft_FBC\TUBA\6-Lowdham\Outputs_V4\W_6_Lowdham_V4	IP 2037	DS.txt
214	4	3	V	1	1	2037	0.01636	L:\60625845_A614 MRN DfT responses\2023_Draft_FBC\TUBA\6-Lowdham\Outputs_V4\W_6_Lowdham_V4	IP 2037	DS.txt
215	5	3	V	1	1	2037	0.11994	L:\60625845_A614 MRN DfT responses\2023_Draft_FBC\TUBA\6-Lowdham\Outputs_V4\W_6_Lowdham_V4	IP 2037	DS.txt
216	6	3	V	1	1	2037	0.05730	L:\60625845_A614 MRN DfT responses\2023_Draft_FBC\TUBA\6-Lowdham\Outputs_V4\W_6_Lowdham_V4	IP 2037	DS.txt
217	7	3	V	1	1	2037	0.03020	L:\60625845_A614 MRN DfT responses\2023_Draft_FBC\TUBA\6-Lowdham\Outputs_V4\W_6_Lowdham_V4	IP 2037	DS.txt
218	1	4	V	1	1	2037	0.03345	L:\60625845_A614 MRN DfT responses\2023_Draft_FBC\TUBA\6-Lowdham\Outputs_V4\W_6_Lowdham_V4	OP 2037	DS.txt
219	2	4	V	1	1	2037	0.22320	L:\60625845_A614 MRN DfT responses\2023_Draft_FBC\TUBA\6-Lowdham\Outputs_V4\W_6_Lowdham_V4	OP 2037	DS.txt
220	3	4	V	1	1	2037	0.51955	L:\60625845_A614 MRN DfT responses\2023_Draft_FBC\TUBA\6-Lowdham\Outputs_V4\W_6_Lowdham_V4	OP 2037	DS.txt
221	4	4	V	1	1	2037	0.01636	L:\60625845_A614 MRN DfT responses\2023_Draft_FBC\TUBA\6-Lowdham\Outputs_V4\W_6_Lowdham_V4	OP 2037	DS.txt
222	5	4	V	1	1	2037	0.11994	L:\60625845_A614 MRN DfT responses\2023_Draft_FBC\TUBA\6-Lowdham\Outputs_V4\W_6_Lowdham_V4	OP 2037	DS.txt
223	6	4	V	1	1	2037	0.05730	L:\60625845_A614 MRN DfT responses\2023_Draft_FBC\TUBA\6-Lowdham\Outputs_V4\W_6_Lowdham_V4	OP 2037	DS.txt
224	7	4	V	1	1	2037	0.03020	L:\60625845_A614 MRN DfT responses\2023_Draft_FBC\TUBA\6-Lowdham\Outputs_V4\W_6_Lowdham_V4	OP 2037	DS.txt
225	1	1	T	1	0	2037	1.00000	L:\60625845_A614 MRN DfT responses\2023_Draft_FBC\TUBA\6-Lowdham\Outputs_V4\T_6_Lowdham_V4	AM 2037	DM.txt
226	2	1	T	1	0	2037	1.00000	L:\60625845_A614 MRN DfT responses\2023_Draft_FBC\TUBA\6-Lowdham\Outputs_V4\T_6_Lowdham_V4	AM 2037	DM.txt
227	3	1	T	1	0	2037	1.00000	L:\60625845_A614 MRN DfT responses\2023_Draft_FBC\TUBA\6-Lowdham\Outputs_V4\T_6_Lowdham_V4	AM 2037	DM.txt
228	4	1	T	1	0	2037	1.00000	L:\60625845_A614 MRN DfT responses\2023_Draft_FBC\TUBA\6-Lowdham\Outputs_V4\T_6_Lowdham_V4	AM 2037	DM.txt

SECTORS

^mode Sector_file_name

ERRORS AND WARNINGS

Warning: Scheme parameter zones_as_sectors set to no: Possibility that small aggregation errors may occur in the TEE table for some appraisals. Recommend undertaking a sensitivity test using a sector system (and some sectors) to check.

2053 Warnings found in total (including any above)

Warning (147 serious): Ratio of DM to DS travel time higher than limit for the following:

Origin	Destination	Time_slice	Veh_type	Purpose	Person_type	Year	DM_time	DS_time	Ratio	DM_trips	DS_trips
4	1	2	LGV Personal	Other	All	2037	0.090	0.001	68.885	4.248	4.248
4	2	2	LGV Personal	Other	All	2037	0.090	0.001	68.885	4.704	4.704
4	3	2	LGV Personal	Other	All	2037	0.090	0.001	68.885	3.837	3.837
4	1	2	Car	Business	All	2037	0.090	0.001	68.885	12.485	12.485
4	2	2	Car	Business	All	2037	0.090	0.001	68.885	13.824	13.824
4	3	2	Car	Business	All	2037	0.090	0.001	68.885	11.275	11.275
4	1	2	LGV Freight	Business	All	2037	0.090	0.001	68.885	31.154	31.154
4	2	2	LGV Freight	Business	All	2037	0.090	0.001	68.885	34.496	34.496
4	3	2	LGV Freight	Business	All	2037	0.090	0.001	68.885	28.136	28.136
4	1	2	Car	Commuting	All	2037	0.090	0.001	68.885	79.518	79.518
4	2	2	Car	Commuting	All	2037	0.090	0.001	68.885	88.048	88.048
4	3	2	Car	Commuting	All	2037	0.090	0.001	68.885	71.814	71.814
4	1	2	OGV1	Business	All	2037	0.090	0.001	68.885	5.346	5.346
4	2	2	OGV1	Business	All	2037	0.090	0.001	68.885	5.920	5.920
4	3	2	OGV1	Business	All	2037	0.090	0.001	68.885	4.829	4.829
4	1	2	Car	Other	All	2037	0.090	0.001	68.885	152.089	152.089
4	2	2	Car	Other	All	2037	0.090	0.001	68.885	168.403	168.403
4	3	2	Car	Other	All	2037	0.090	0.001	68.885	137.354	137.354
4	1	2	OGV2	Business	All	2037	0.090	0.001	68.885	4.133	4.133
4	2	2	OGV2	Business	All	2037	0.090	0.001	68.885	4.576	4.576

Displayed 20 warnings of a total of 315 of this type.

Warning: DM speeds greater than limit for the following:

Origin	Destination	Time_slice	Veh_type	Purpose	Person_type	Year	DM_dist	DM_time	Cal_Speed	DM_trips	VOC_Speed
1	1	4	OGV1	Business	All	2023	2.000	0.000	4081.633	0.000	85.000
1	2	4	OGV1	Business	All	2023	2.000	0.000	4081.633	0.573	85.000
1	3	4	OGV1	Business	All	2023	2.000	0.000	4081.633	2.521	85.000
1	4	4	OGV1	Business	All	2023	2.000	0.000	4081.633	0.745	85.000
1	1	4	OGV2	Business	All	2023	2.000	0.000	4081.633	0.000	85.000
1	2	4	OGV2	Business	All	2023	2.000	0.000	4081.633	0.302	85.000
1	3	4	OGV2	Business	All	2023	2.000	0.000	4081.633	1.329	85.000
1	4	4	OGV2	Business	All	2023	2.000	0.000	4081.633	0.393	85.000

1	1	4	Car	Business	All	2023	2.000	0.000	4081.633	0.000	130.000
1	2	4	Car	Business	All	2023	2.000	0.000	4081.633	0.335	130.000
1	3	4	Car	Business	All	2023	2.000	0.000	4081.633	1.472	130.000
1	4	4	Car	Business	All	2023	2.000	0.000	4081.633	0.435	130.000
1	1	4	LGV Freight	Business	All	2023	2.000	0.000	4081.633	0.000	110.000
1	2	4	LGV Freight	Business	All	2023	2.000	0.000	4081.633	1.199	110.000
1	3	4	LGV Freight	Business	All	2023	2.000	0.000	4081.633	5.277	110.000
1	4	4	LGV Freight	Business	All	2023	2.000	0.000	4081.633	1.559	110.000
1	1	4	Car	Commuting	All	2023	2.000	0.000	4081.633	0.000	130.000
1	2	4	Car	Commuting	All	2023	2.000	0.000	4081.633	2.232	130.000
1	3	4	Car	Commuting	All	2023	2.000	0.000	4081.633	9.821	130.000
1	4	4	Car	Commuting	All	2023	2.000	0.000	4081.633	2.902	130.000

Displayed 20 warnings of a total of 840 of this type.

Warning: DS speeds greater than limit for the following:

Origin	Destination	Time_slice	Veh_type	Purpose	Person_type	Year	DS_dist	DS_time	Ca_Speed	DS_trips	VOC_Speed
4	1	4	LGV Freight	Business	All	2023	2.000	0.000	5128.205	2.039	110.000
4	2	4	LGV Freight	Business	All	2023	2.000	0.000	5128.205	2.159	110.000
4	3	4	LGV Freight	Business	All	2023	2.000	0.000	5128.205	2.759	110.000
4	4	4	LGV Freight	Business	All	2023	2.000	0.000	5128.205	0.000	110.000
4	1	4	OGV1	Business	All	2023	2.000	0.000	5128.205	0.974	85.000
4	2	4	OGV1	Business	All	2023	2.000	0.000	5128.205	1.031	85.000
4	3	4	OGV1	Business	All	2023	2.000	0.000	5128.205	1.318	85.000
4	4	4	OGV1	Business	All	2023	2.000	0.000	5128.205	0.000	85.000
4	1	4	OGV2	Business	All	2023	2.000	0.000	5128.205	0.513	85.000
4	2	4	OGV2	Business	All	2023	2.000	0.000	5128.205	0.544	85.000
4	3	4	OGV2	Business	All	2023	2.000	0.000	5128.205	0.695	85.000
4	4	4	OGV2	Business	All	2023	2.000	0.000	5128.205	0.000	85.000
4	1	4	Car	Business	All	2023	2.000	0.000	5128.205	0.569	130.000
4	2	4	Car	Business	All	2023	2.000	0.000	5128.205	0.602	130.000
4	3	4	Car	Business	All	2023	2.000	0.000	5128.205	0.769	130.000
4	4	4	Car	Business	All	2023	2.000	0.000	5128.205	0.000	130.000
4	1	4	Car	Commuting	All	2023	2.000	0.000	5128.205	3.794	130.000
4	2	4	Car	Commuting	All	2023	2.000	0.000	5128.205	4.018	130.000
4	3	4	Car	Commuting	All	2023	2.000	0.000	5128.205	5.134	130.000
4	4	4	Car	Commuting	All	2023	2.000	0.000	5128.205	0.000	130.000

Displayed 20 warnings of a total of 896 of this type.

TUBA ECONOMICS FILE DIFFERENCES

PARAMETERS - (used)

TUBA_version 1.9.17

base_year 2010

pres_val_year 2010

GDP_base 100.00 0.00 0.00
av_ind_tax 19.00 0.00 0.00
nt_carbdxvalues 83.64 250.92 167.28
t_carbdxvalues 83.64250.92167.28

PARAMETERS - (std)

TUBA_version 1.9.17
base_year 2010
pres_val_year 2010
GDP_base 100.00 0.00 0.00
av_ind_tax 19.00 0.00 0.00
nt_carbdxvalues 82.97 248.92 165.94
t_carbdxvalues 82.97248.92165.94

GDP_PER_CAPITA_GROWTH - (used)

*% change p.a.

*Start_yr	End_yr	VOT_Gr_purpose1	VOT_Gr_purpose2	VOT_Gr_purpose3 ..
2011	2011	0.615	0.615	0.615
2012	2012	0.801	0.801	0.801
2013	2013	1.253	1.253	1.253
2014	2014	2.208	2.208	2.208
2015	2015	1.814	1.814	1.814
2016	2016	1.425	1.425	1.425
2017	2017	1.528	1.528	1.528
2018	2018	1.046	1.046	1.046
2019	2019	1.122	1.122	1.122
2020	2020	0.099	0.099	0.099
2021	2021	0.100	0.100	0.100
2022	2022	0.099	0.099	0.099
2023	2023	-1.769	-1.769	-1.769
2024	2024	0.956	0.956	0.956
2025	2025	2.307	2.307	2.307
2026	2026	2.347	2.347	2.347
2027	2027	1.954	1.954	1.954
2028	2028	1.687	1.687	1.687
2029	2029	1.657	1.657	1.657
2030	2030	1.621	1.621	1.621
2031	2031	1.570	1.570	1.570
2032	2032	1.552	1.552	1.552
2033	2033	1.539	1.539	1.539
2034	2034	1.518	1.518	1.518
2035	2035	1.505	1.505	1.505
2036	2036	1.638	1.638	1.638
2037	2037	1.611	1.611	1.611

2038	2038	1.578	1.578	1.578
2039	2039	1.546	1.546	1.546
2040	2040	1.506	1.506	1.506
2041	2041	1.476	1.476	1.476
2042	2042	1.439	1.439	1.439
2043	2043	1.401	1.401	1.401
2044	2044	1.369	1.369	1.369
2045	2045	1.350	1.350	1.350
2046	2046	1.342	1.342	1.342
2047	2047	1.321	1.321	1.321
2048	2048	1.302	1.302	1.302
2049	2049	1.282	1.282	1.282
2050	2050	1.277	1.277	1.277
2051	2051	1.278	1.278	1.278
2052	2052	1.281	1.281	1.281
2053	2053	1.286	1.286	1.286
2054	2054	1.294	1.294	1.294
2055	2055	1.312	1.312	1.312
2056	2056	1.325	1.325	1.325
2057	2057	1.339	1.339	1.339
2058	2058	1.349	1.349	1.349
2059	2059	1.359	1.359	1.359
2060	2060	1.370	1.370	1.370
2061	2061	1.379	1.379	1.379
2062	2062	1.387	1.387	1.387
2063	2063	1.399	1.399	1.399
2064	2064	1.406	1.406	1.406
2065	2065	1.413	1.413	1.413
2066	2066	1.418	1.418	1.418
2067	2067	1.420	1.420	1.420
2068	2068	1.421	1.421	1.421
2069	2069	1.428	1.428	1.428
2070	2070	1.468	1.468	1.468
2071	2071	1.534	1.534	1.534
2072	2072	1.592	1.592	1.592
2073	2073	1.548	1.548	1.548
2074	2074	1.472	1.472	1.472
2075	2075	1.426	1.426	1.426
2076	2076	1.358	1.358	1.358
2077	2077	1.363	1.363	1.363
2078	2078	1.337	1.337	1.337
2079	2079	1.299	1.299	1.299
2080	2080	1.269	1.269	1.269
2081	2081	1.321	1.321	1.321

2082	2082	1.359	1.359	1.359
2083	2083	1.372	1.372	1.372
2084	2084	1.369	1.369	1.369
2085	2085	1.420	1.420	1.420
2086	2086	1.469	1.469	1.469
2087	2087	1.528	1.528	1.528
2088	2088	1.589	1.589	1.589
2089	2089	1.666	1.666	1.666
2090	2090	1.690	1.690	1.690
2091	2091	1.703	1.703	1.703
2092	2092	1.699	1.699	1.699
2093	2093	1.700	1.700	1.700
2094	2094	1.705	1.705	1.705
2095	2095	1.709	1.709	1.709
2096	2096	1.712	1.712	1.712
2097	2097	1.712	1.712	1.712
2098	2098	1.711	1.711	1.711
2099	2099	1.708	1.708	1.708
2100	2100	1.702	1.702	1.702
2101	2101	1.702	1.702	1.702
2102	2102	1.702	1.702	1.702
2103	2103	1.702	1.702	1.702
2104	2104	1.702	1.702	1.702
2105	2105	1.702	1.702	1.702
2106	2106	1.702	1.702	1.702
2107	2107	1.702	1.702	1.702
2108	2108	1.702	1.702	1.702
2109	2109	1.702	1.702	1.702
2110	2110	1.702	1.702	1.702
2111	2111	1.702	1.702	1.702
2112	2112	1.702	1.702	1.702
2113	2113	1.702	1.702	1.702
2114	2114	1.702	1.702	1.702
2115	2115	1.702	1.702	1.702
2116	2116	1.702	1.702	1.702
2117	2117	1.702	1.702	1.702
2118	2118	1.702	1.702	1.702
2119	2119	1.702	1.702	1.702
2120	2120	1.702	1.702	1.702
2121	2121	1.702	1.702	1.702
2122	2122	1.702	1.702	1.702
2123	2123	1.702	1.702	1.702
2124	2124	1.702	1.702	1.702
2125	2125	1.702	1.702	1.702

2126	2126	1.702	1.702	1.702
2127	2127	1.702	1.702	1.702
2128	2128	1.702	1.702	1.702
2129	2129	1.702	1.702	1.702
2130	2130	1.702	1.702	1.702
2131	2131	1.702	1.702	1.702
2132	2132	1.702	1.702	1.702
2133	2133	1.702	1.702	1.702
2134	2134	1.702	1.702	1.702
2135	2135	1.702	1.702	1.702
2136	2136	1.702	1.702	1.702
2137	2137	1.702	1.702	1.702
2138	2138	1.702	1.702	1.702
2139	2139	1.702	1.702	1.702
2140	2140	1.702	1.702	1.702
2141	2141	1.702	1.702	1.702
2142	2142	1.702	1.702	1.702
2143	2143	1.702	1.702	1.702
2144	2144	1.702	1.702	1.702
2145	2145	1.702	1.702	1.702
2146	2146	1.702	1.702	1.702
2147	2147	1.702	1.702	1.702
2148	2148	1.702	1.702	1.702
2149	2149	1.702	1.702	1.702
2150	2150	1.702	1.702	1.702
2151	2151	1.702	1.702	1.702

GDP_PER_CAPITA_GROWTH - (std)

*% change p.a.

*Start_yr	End_yr	VOT_Gr_purpose1	VOT_Gr_purpose2	VOT_Gr_purpose3 ..
2011	2011	0.435	0.435	0.435
2012	2012	0.762	0.762	0.762
2013	2013	1.548	1.548	1.548
2014	2014	2.080	2.080	2.080
2015	2015	1.556	1.556	1.556
2016	2016	0.888	0.888	0.888
2017	2017	1.137	1.137	1.137
2018	2018	0.650	0.650	0.650
2019	2019	0.885	0.885	0.885
2020	2020	0.269	0.269	0.269
2021	2021	0.267	0.267	0.267
2022	2022	0.267	0.267	0.267
2023	2023	1.654	1.654	1.654
2024	2024	0.975	0.975	0.975

2025	2025	1.311	1.311	1.311
2026	2026	1.412	1.412	1.412
2027	2027	1.480	1.480	1.480
2028	2028	1.480	1.480	1.480
2029	2029	1.463	1.463	1.463
2030	2030	1.440	1.440	1.440
2031	2031	1.413	1.413	1.413
2032	2032	1.389	1.389	1.389
2033	2033	1.387	1.387	1.387
2034	2034	1.372	1.372	1.372
2035	2035	1.345	1.345	1.345
2036	2036	1.477	1.477	1.477
2037	2037	1.475	1.475	1.475
2038	2038	1.467	1.467	1.467
2039	2039	1.443	1.443	1.443
2040	2040	1.416	1.416	1.416
2041	2041	1.397	1.397	1.397
2042	2042	1.375	1.375	1.375
2043	2043	1.351	1.351	1.351
2044	2044	1.332	1.332	1.332
2045	2045	1.320	1.320	1.320
2046	2046	1.309	1.309	1.309
2047	2047	1.292	1.292	1.292
2048	2048	1.282	1.282	1.282
2049	2049	1.281	1.281	1.281
2050	2050	1.291	1.291	1.291
2051	2051	1.307	1.307	1.307
2052	2052	1.320	1.320	1.320
2053	2053	1.332	1.332	1.332
2054	2054	1.338	1.338	1.338
2055	2055	1.358	1.358	1.358
2056	2056	1.370	1.370	1.370
2057	2057	1.385	1.385	1.385
2058	2058	1.398	1.398	1.398
2059	2059	1.406	1.406	1.406
2060	2060	1.417	1.417	1.417
2061	2061	1.437	1.437	1.437
2062	2062	1.444	1.444	1.444
2063	2063	1.456	1.456	1.456
2064	2064	1.466	1.466	1.466
2065	2065	1.482	1.482	1.482
2066	2066	1.540	1.540	1.540
2067	2067	1.607	1.607	1.607
2068	2068	1.531	1.531	1.531

2069	2069	1.521	1.521	1.521
2070	2070	1.493	1.493	1.493
2071	2071	1.518	1.518	1.518
2072	2072	1.463	1.463	1.463
2073	2073	1.426	1.426	1.426
2074	2074	1.355	1.355	1.355
2075	2075	1.317	1.317	1.317
2076	2076	1.256	1.256	1.256
2077	2077	1.271	1.271	1.271
2078	2078	1.253	1.253	1.253
2079	2079	1.219	1.219	1.219
2080	2080	1.193	1.193	1.193
2081	2081	1.251	1.251	1.251
2082	2082	1.293	1.293	1.293
2083	2083	1.309	1.309	1.309
2084	2084	1.310	1.310	1.310
2085	2085	1.364	1.364	1.364
2086	2086	1.422	1.422	1.422
2087	2087	1.488	1.488	1.488
2088	2088	1.487	1.487	1.487
2089	2089	1.498	1.498	1.498
2090	2090	1.508	1.508	1.508
2091	2091	1.513	1.513	1.513
2092	2092	1.511	1.511	1.511
2093	2093	1.508	1.508	1.508
2094	2094	1.505	1.505	1.505
2095	2095	1.501	1.501	1.501
2096	2096	1.497	1.497	1.497
2097	2097	1.491	1.491	1.491
2098	2098	1.484	1.484	1.484
2099	2099	1.476	1.476	1.476
2100	2100	1.467	1.467	1.467
2101	2101	1.467	1.467	1.467
2102	2102	1.467	1.467	1.467
2103	2103	1.467	1.467	1.467
2104	2104	1.467	1.467	1.467
2105	2105	1.467	1.467	1.467
2106	2106	1.467	1.467	1.467
2107	2107	1.467	1.467	1.467
2108	2108	1.467	1.467	1.467
2109	2109	1.467	1.467	1.467
2110	2110	1.467	1.467	1.467
2111	2111	1.467	1.467	1.467
2112	2112	1.467	1.467	1.467

2113	2113	1.467	1.467	1.467
2114	2114	1.467	1.467	1.467
2115	2115	1.467	1.467	1.467
2116	2116	1.467	1.467	1.467
2117	2117	1.467	1.467	1.467
2118	2118	1.467	1.467	1.467
2119	2119	1.467	1.467	1.467
2120	2120	1.467	1.467	1.467
2121	2121	1.467	1.467	1.467
2122	2122	1.467	1.467	1.467
2123	2123	1.467	1.467	1.467
2124	2124	1.467	1.467	1.467
2125	2125	1.467	1.467	1.467
2126	2126	1.467	1.467	1.467
2127	2127	1.467	1.467	1.467
2128	2128	1.467	1.467	1.467
2129	2129	1.467	1.467	1.467
2130	2130	1.467	1.467	1.467
2131	2131	1.467	1.467	1.467
2132	2132	1.467	1.467	1.467
2133	2133	1.467	1.467	1.467
2134	2134	1.467	1.467	1.467
2135	2135	1.467	1.467	1.467
2136	2136	1.467	1.467	1.467
2137	2137	1.467	1.467	1.467
2138	2138	1.467	1.467	1.467
2139	2139	1.467	1.467	1.467
2140	2140	1.467	1.467	1.467
2141	2141	1.467	1.467	1.467
2142	2142	1.467	1.467	1.467
2143	2143	1.467	1.467	1.467
2144	2144	1.467	1.467	1.467
2145	2145	1.467	1.467	1.467
2146	2146	1.467	1.467	1.467
2147	2147	1.467	1.467	1.467
2148	2148	1.467	1.467	1.467
2149	2149	1.467	1.467	1.467
2150	2150	1.467	1.467	1.467
2151	2151	1.467	1.467	1.467

FUEL_COST - (used)

*type resource(p/unit) duty(p/unit) VAT(%) CO2_grammes/unit (unit=litre for fuel types 1 & 2; unit=KWH for electric)

1	42.6	57.2	17.5	2230.00
2	44.3	57.2	17.5	2562.00

3	11.8	0.0	5.0	389.00
---	------	-----	-----	--------

FUEL_COST - (std)

*type resource(p/unit) duty(p/unit) VAT(%) CO2_grammes/unit (unit=litre for fuel types 1 & 2; unit=KWH for electric)

1	42.6	57.2	17.5	2230.00
2	44.3	57.2	17.5	2562.00
3	11.9	0.0	5.0	389.00

FUEL_COST_CHANGES - (used)

*% change p.a.

*Start_yr End_yr fuel_type resource duty VAT CO2_Den_change

2011	2011	1	22.306	-0.354	14.286	1.171
2012	2012	1	1.986	-2.001	0.000	-1.031
2013	2013	1	-3.443	-1.746	0.000	-0.302
2014	2014	1	-11.771	-1.707	0.000	0.153
2015	2015	1	-28.520	-0.562	0.000	-0.016
2016	2016	1	-7.312	-1.719	0.000	-0.027
2017	2017	1	19.734	-1.752	0.000	-0.106
2018	2018	1	13.204	-2.472	0.000	0.128
2019	2019	1	-2.520	-2.412	0.000	0.010
2020	2020	1	-23.823	-6.920	0.000	0.015
2021	2021	1	37.033	0.586	0.000	-0.106
2022	2022	1	63.199	-5.002	0.000	-5.260
2023	2023	1	-5.410	5.535	0.000	0.000
2024	2024	1	-12.463	2.683	0.000	0.000
2025	2025	1	-3.454	0.465	0.000	0.000
2026	2026	1	-4.677	0.417	0.000	0.000
2027	2027	1	2.609	0.740	0.000	0.000
2028	2028	1	2.785	0.731	0.000	0.000
2029	2029	1	1.806	0.723	0.000	0.000
2030	2030	1	2.661	-0.293	0.000	0.000
2031	2031	1	1.728	-0.293	0.000	0.000
2032	2032	1	1.699	-0.293	0.000	0.000
2033	2033	1	2.506	-0.293	0.000	0.000
2034	2034	1	2.444	-0.293	0.000	0.000
2035	2035	1	1.591	-0.293	0.000	0.000
2036	2036	1	0.000	-0.293	0.000	0.000
2037	2037	1	0.000	-0.293	0.000	0.000
2038	2038	1	0.000	-0.293	0.000	0.000
2039	2039	1	0.000	-0.293	0.000	0.000
2040	2040	1	0.000	-0.293	0.000	0.000
2041	2041	1	0.000	-0.293	0.000	0.000
2042	2042	1	0.000	-0.293	0.000	0.000
2043	2043	1	0.000	-0.293	0.000	0.000

2044	2044	1	0.000	-0.293	0.000	0.000
2045	2045	1	0.000	-0.293	0.000	0.000
2046	2046	1	0.000	-0.293	0.000	0.000
2047	2047	1	0.000	-0.293	0.000	0.000
2048	2048	1	0.000	-0.293	0.000	0.000
2049	2049	1	0.000	-0.293	0.000	0.000
2050	2050	1	0.000	-0.293	0.000	0.000
2051	2051	1	0.000	-0.293	0.000	0.000
2052	2052	1	0.000	-0.293	0.000	0.000
2053	2053	1	0.000	-0.293	0.000	0.000
2054	2054	1	0.000	-0.293	0.000	0.000
2055	2055	1	0.000	-0.293	0.000	0.000
2056	2056	1	0.000	-0.293	0.000	0.000
2057	2057	1	0.000	-0.293	0.000	0.000
2058	2058	1	0.000	-0.293	0.000	0.000
2059	2059	1	0.000	-0.293	0.000	0.000
2060	2060	1	0.000	-0.293	0.000	0.000
2061	2061	1	0.000	-0.293	0.000	0.000
2062	2062	1	0.000	-0.293	0.000	0.000
2063	2063	1	0.000	-0.293	0.000	0.000
2064	2064	1	0.000	-0.293	0.000	0.000
2065	2065	1	0.000	-0.293	0.000	0.000
2066	2066	1	0.000	-0.293	0.000	0.000
2067	2067	1	0.000	-0.293	0.000	0.000
2068	2068	1	0.000	-0.293	0.000	0.000
2069	2069	1	0.000	-0.293	0.000	0.000
2070	2070	1	0.000	-0.293	0.000	0.000
2071	2071	1	0.000	-0.293	0.000	0.000
2072	2072	1	0.000	-0.293	0.000	0.000
2073	2073	1	0.000	-0.293	0.000	0.000
2074	2074	1	0.000	-0.293	0.000	0.000
2075	2075	1	0.000	-0.293	0.000	0.000
2076	2076	1	0.000	-0.293	0.000	0.000
2077	2077	1	0.000	-0.293	0.000	0.000
2078	2078	1	0.000	-0.293	0.000	0.000
2079	2079	1	0.000	-0.293	0.000	0.000
2080	2080	1	0.000	-0.293	0.000	0.000
2081	2081	1	0.000	-0.293	0.000	0.000
2082	2082	1	0.000	-0.293	0.000	0.000
2083	2083	1	0.000	-0.293	0.000	0.000
2084	2084	1	0.000	-0.293	0.000	0.000
2085	2085	1	0.000	-0.293	0.000	0.000
2086	2086	1	0.000	-0.293	0.000	0.000
2087	2087	1	0.000	-0.293	0.000	0.000

2088	2088	1	0.000	-0.293	0.000	0.000
2089	2089	1	0.000	-0.293	0.000	0.000
2090	2090	1	0.000	-0.293	0.000	0.000
2091	2091	1	0.000	-0.293	0.000	0.000
2092	2092	1	0.000	-0.293	0.000	0.000
2093	2093	1	0.000	-0.293	0.000	0.000
2094	2094	1	0.000	-0.293	0.000	0.000
2095	2095	1	0.000	-0.293	0.000	0.000
2096	2096	1	0.000	-0.293	0.000	0.000
2097	2097	1	0.000	-0.293	0.000	0.000
2098	2098	1	0.000	-0.293	0.000	0.000
2099	2099	1	0.000	-0.293	0.000	0.000
2100	2100	1	0.000	-0.293	0.000	0.000
2101	2101	1	0.000	-0.293	0.000	0.000
2102	2102	1	0.000	-0.293	0.000	0.000
2103	2103	1	0.000	-0.293	0.000	0.000
2104	2104	1	0.000	-0.293	0.000	0.000
2105	2105	1	0.000	-0.293	0.000	0.000
2106	2106	1	0.000	-0.293	0.000	0.000
2107	2107	1	0.000	-0.293	0.000	0.000
2108	2108	1	0.000	-0.293	0.000	0.000
2109	2109	1	0.000	-0.293	0.000	0.000
2110	2110	1	0.000	-0.293	0.000	0.000
2111	2111	1	0.000	-0.293	0.000	0.000
2112	2112	1	0.000	-0.293	0.000	0.000
2113	2113	1	0.000	-0.293	0.000	0.000
2114	2114	1	0.000	-0.293	0.000	0.000
2115	2115	1	0.000	-0.293	0.000	0.000
2116	2116	1	0.000	-0.293	0.000	0.000
2117	2117	1	0.000	-0.293	0.000	0.000
2118	2118	1	0.000	-0.293	0.000	0.000
2119	2119	1	0.000	-0.293	0.000	0.000
2120	2120	1	0.000	-0.293	0.000	0.000
2121	2121	1	0.000	-0.293	0.000	0.000
2122	2122	1	0.000	-0.293	0.000	0.000
2123	2123	1	0.000	-0.293	0.000	0.000
2124	2124	1	0.000	-0.293	0.000	0.000
2125	2125	1	0.000	-0.293	0.000	0.000
2126	2126	1	0.000	-0.293	0.000	0.000
2127	2127	1	0.000	-0.293	0.000	0.000
2128	2128	1	0.000	-0.293	0.000	0.000
2129	2129	1	0.000	-0.293	0.000	0.000
2130	2130	1	0.000	-0.293	0.000	0.000
2131	2131	1	0.000	-0.293	0.000	0.000

2132	2132	1	0.000	-0.293	0.000	0.000
2133	2133	1	0.000	-0.293	0.000	0.000
2134	2134	1	0.000	-0.293	0.000	0.000
2135	2135	1	0.000	-0.293	0.000	0.000
2136	2136	1	0.000	-0.293	0.000	0.000
2137	2137	1	0.000	-0.293	0.000	0.000
2138	2138	1	0.000	-0.293	0.000	0.000
2139	2139	1	0.000	-0.293	0.000	0.000
2140	2140	1	0.000	-0.293	0.000	0.000
2141	2141	1	0.000	-0.293	0.000	0.000
2142	2142	1	0.000	-0.293	0.000	0.000
2143	2143	1	0.000	-0.293	0.000	0.000
2144	2144	1	0.000	-0.293	0.000	0.000
2145	2145	1	0.000	-0.293	0.000	0.000
2146	2146	1	0.000	-0.293	0.000	0.000
2147	2147	1	0.000	-0.293	0.000	0.000
2148	2148	1	0.000	-0.293	0.000	0.000
2149	2149	1	0.000	-0.293	0.000	0.000
2150	2150	1	0.000	-0.293	0.000	0.000
2151	2151	1	0.000	-0.293	0.000	0.000
2011	2011	2	26.996	-0.354	14.286	1.917
2012	2012	2	3.197	-2.001	0.000	-1.071
2013	2013	2	-3.680	-1.746	0.000	4.731
2014	2014	2	-11.343	-1.707	0.000	-0.016
2015	2015	2	-29.504	-0.562	0.000	-0.020
2016	2016	2	-12.397	-1.719	0.000	0.004
2017	2017	2	22.316	-1.752	0.000	0.021
2018	2018	2	16.802	-2.472	0.000	-0.267
2019	2019	2	0.348	-2.412	0.000	-1.513
2020	2020	2	-24.318	-6.920	0.000	-4.516
2021	2021	2	30.464	0.586	0.000	-0.553
2022	2022	2	60.563	-5.002	0.000	0.295
2023	2023	2	-5.550	5.535	0.000	-0.288
2024	2024	2	-13.119	2.683	0.000	-0.174
2025	2025	2	-3.997	0.465	0.000	-0.148
2026	2026	2	-5.278	0.417	0.000	-0.034
2027	2027	2	2.671	0.740	0.000	-0.046
2028	2028	2	2.847	0.731	0.000	-0.036
2029	2029	2	1.845	0.723	0.000	-0.036
2030	2030	2	2.718	-0.293	0.000	-0.040
2031	2031	2	1.764	-0.293	0.000	-0.027
2032	2032	2	1.733	-0.293	0.000	-0.027
2033	2033	2	2.556	-0.293	0.000	0.000
2034	2034	2	2.492	-0.293	0.000	0.000

2035	2035	2	1.621	-0.293	0.000	0.000
2036	2036	2	0.000	-0.293	0.000	0.000
2037	2037	2	0.000	-0.293	0.000	0.000
2038	2038	2	0.000	-0.293	0.000	0.000
2039	2039	2	0.000	-0.293	0.000	0.000
2040	2040	2	0.000	-0.293	0.000	0.000
2041	2041	2	0.000	-0.293	0.000	0.000
2042	2042	2	0.000	-0.293	0.000	0.000
2043	2043	2	0.000	-0.293	0.000	0.000
2044	2044	2	0.000	-0.293	0.000	0.000
2045	2045	2	0.000	-0.293	0.000	0.000
2046	2046	2	0.000	-0.293	0.000	0.000
2047	2047	2	0.000	-0.293	0.000	0.000
2048	2048	2	0.000	-0.293	0.000	0.000
2049	2049	2	0.000	-0.293	0.000	0.000
2050	2050	2	0.000	-0.293	0.000	0.000
2051	2051	2	0.000	-0.293	0.000	0.000
2052	2052	2	0.000	-0.293	0.000	0.000
2053	2053	2	0.000	-0.293	0.000	0.000
2054	2054	2	0.000	-0.293	0.000	0.000
2055	2055	2	0.000	-0.293	0.000	0.000
2056	2056	2	0.000	-0.293	0.000	0.000
2057	2057	2	0.000	-0.293	0.000	0.000
2058	2058	2	0.000	-0.293	0.000	0.000
2059	2059	2	0.000	-0.293	0.000	0.000
2060	2060	2	0.000	-0.293	0.000	0.000
2061	2061	2	0.000	-0.293	0.000	0.000
2062	2062	2	0.000	-0.293	0.000	0.000
2063	2063	2	0.000	-0.293	0.000	0.000
2064	2064	2	0.000	-0.293	0.000	0.000
2065	2065	2	0.000	-0.293	0.000	0.000
2066	2066	2	0.000	-0.293	0.000	0.000
2067	2067	2	0.000	-0.293	0.000	0.000
2068	2068	2	0.000	-0.293	0.000	0.000
2069	2069	2	0.000	-0.293	0.000	0.000
2070	2070	2	0.000	-0.293	0.000	0.000
2071	2071	2	0.000	-0.293	0.000	0.000
2072	2072	2	0.000	-0.293	0.000	0.000
2073	2073	2	0.000	-0.293	0.000	0.000
2074	2074	2	0.000	-0.293	0.000	0.000
2075	2075	2	0.000	-0.293	0.000	0.000
2076	2076	2	0.000	-0.293	0.000	0.000
2077	2077	2	0.000	-0.293	0.000	0.000
2078	2078	2	0.000	-0.293	0.000	0.000

2079	2079	2	0.000	-0.293	0.000	0.000
2080	2080	2	0.000	-0.293	0.000	0.000
2081	2081	2	0.000	-0.293	0.000	0.000
2082	2082	2	0.000	-0.293	0.000	0.000
2083	2083	2	0.000	-0.293	0.000	0.000
2084	2084	2	0.000	-0.293	0.000	0.000
2085	2085	2	0.000	-0.293	0.000	0.000
2086	2086	2	0.000	-0.293	0.000	0.000
2087	2087	2	0.000	-0.293	0.000	0.000
2088	2088	2	0.000	-0.293	0.000	0.000
2089	2089	2	0.000	-0.293	0.000	0.000
2090	2090	2	0.000	-0.293	0.000	0.000
2091	2091	2	0.000	-0.293	0.000	0.000
2092	2092	2	0.000	-0.293	0.000	0.000
2093	2093	2	0.000	-0.293	0.000	0.000
2094	2094	2	0.000	-0.293	0.000	0.000
2095	2095	2	0.000	-0.293	0.000	0.000
2096	2096	2	0.000	-0.293	0.000	0.000
2097	2097	2	0.000	-0.293	0.000	0.000
2098	2098	2	0.000	-0.293	0.000	0.000
2099	2099	2	0.000	-0.293	0.000	0.000
2100	2100	2	0.000	-0.293	0.000	0.000
2101	2101	2	0.000	-0.293	0.000	0.000
2102	2102	2	0.000	-0.293	0.000	0.000
2103	2103	2	0.000	-0.293	0.000	0.000
2104	2104	2	0.000	-0.293	0.000	0.000
2105	2105	2	0.000	-0.293	0.000	0.000
2106	2106	2	0.000	-0.293	0.000	0.000
2107	2107	2	0.000	-0.293	0.000	0.000
2108	2108	2	0.000	-0.293	0.000	0.000
2109	2109	2	0.000	-0.293	0.000	0.000
2110	2110	2	0.000	-0.293	0.000	0.000
2111	2111	2	0.000	-0.293	0.000	0.000
2112	2112	2	0.000	-0.293	0.000	0.000
2113	2113	2	0.000	-0.293	0.000	0.000
2114	2114	2	0.000	-0.293	0.000	0.000
2115	2115	2	0.000	-0.293	0.000	0.000
2116	2116	2	0.000	-0.293	0.000	0.000
2117	2117	2	0.000	-0.293	0.000	0.000
2118	2118	2	0.000	-0.293	0.000	0.000
2119	2119	2	0.000	-0.293	0.000	0.000
2120	2120	2	0.000	-0.293	0.000	0.000
2121	2121	2	0.000	-0.293	0.000	0.000
2122	2122	2	0.000	-0.293	0.000	0.000

2123	2123	2	0.000	-0.293	0.000	0.000
2124	2124	2	0.000	-0.293	0.000	0.000
2125	2125	2	0.000	-0.293	0.000	0.000
2126	2126	2	0.000	-0.293	0.000	0.000
2127	2127	2	0.000	-0.293	0.000	0.000
2128	2128	2	0.000	-0.293	0.000	0.000
2129	2129	2	0.000	-0.293	0.000	0.000
2130	2130	2	0.000	-0.293	0.000	0.000
2131	2131	2	0.000	-0.293	0.000	0.000
2132	2132	2	0.000	-0.293	0.000	0.000
2133	2133	2	0.000	-0.293	0.000	0.000
2134	2134	2	0.000	-0.293	0.000	0.000
2135	2135	2	0.000	-0.293	0.000	0.000
2136	2136	2	0.000	-0.293	0.000	0.000
2137	2137	2	0.000	-0.293	0.000	0.000
2138	2138	2	0.000	-0.293	0.000	0.000
2139	2139	2	0.000	-0.293	0.000	0.000
2140	2140	2	0.000	-0.293	0.000	0.000
2141	2141	2	0.000	-0.293	0.000	0.000
2142	2142	2	0.000	-0.293	0.000	0.000
2143	2143	2	0.000	-0.293	0.000	0.000
2144	2144	2	0.000	-0.293	0.000	0.000
2145	2145	2	0.000	-0.293	0.000	0.000
2146	2146	2	0.000	-0.293	0.000	0.000
2147	2147	2	0.000	-0.293	0.000	0.000
2148	2148	2	0.000	-0.293	0.000	0.000
2149	2149	2	0.000	-0.293	0.000	0.000
2150	2150	2	0.000	-0.293	0.000	0.000
2151	2151	2	0.000	-0.293	0.000	0.000
2011	2011	3	6.623	0.000	0.000	-1.438
2012	2012	3	3.751	0.000	0.000	-1.878
2013	2013	3	4.428	0.000	0.000	-2.438
2014	2014	3	3.495	0.000	0.000	-1.891
2015	2015	3	-1.703	0.000	0.000	-2.837
2016	2016	3	-3.286	0.000	0.000	-3.035
2017	2017	3	4.940	0.000	0.000	-2.830
2018	2018	3	6.255	0.000	0.000	-3.251
2019	2019	3	7.007	0.000	0.000	-3.618
2020	2020	3	-4.724	0.000	0.000	-3.931
2021	2021	3	8.209	0.000	0.000	-4.324
2022	2022	3	44.098	0.000	0.000	-4.776
2023	2023	3	35.732	0.000	0.000	-5.300
2024	2024	3	-3.272	0.000	0.000	-5.915
2025	2025	3	-13.652	0.000	0.000	-6.643

2026	2026	3	-35.980	0.000	0.000	-7.520
2027	2027	3	-4.450	0.000	0.000	-8.594
2028	2028	3	-2.634	0.000	0.000	-9.934
2029	2029	3	-0.114	0.000	0.000	-11.657
2030	2030	3	-0.506	0.000	0.000	-13.944
2031	2031	3	-4.229	0.000	0.000	-19.089
2032	2032	3	0.441	0.000	0.000	-19.090
2033	2033	3	1.228	0.000	0.000	-19.088
2034	2034	3	1.712	0.000	0.000	-19.090
2035	2035	3	-0.946	0.000	0.000	-19.089
2036	2036	3	-0.271	0.000	0.000	-19.089
2037	2037	3	-2.629	0.000	0.000	-19.088
2038	2038	3	1.153	0.000	0.000	-19.090
2039	2039	3	-0.823	0.000	0.000	-19.092
2040	2040	3	2.635	0.000	0.000	-19.088
2041	2041	3	-1.504	0.000	0.000	-16.984
2042	2042	3	-0.001	0.000	0.000	-5.099
2043	2043	3	-0.216	0.000	0.000	-2.043
2044	2044	3	1.039	0.000	0.000	-6.009
2045	2045	3	-2.180	0.000	0.000	-15.076
2046	2046	3	1.866	0.000	0.000	-9.204
2047	2047	3	-1.602	0.000	0.000	-7.798
2048	2048	3	-2.514	0.000	0.000	-5.087
2049	2049	3	1.769	0.000	0.000	-6.945
2050	2050	3	-1.947	0.000	0.000	-1.718
2051	2051	3	0.000	0.000	0.000	0.000
2052	2052	3	0.000	0.000	0.000	0.000
2053	2053	3	0.000	0.000	0.000	0.000
2054	2054	3	0.000	0.000	0.000	0.000
2055	2055	3	0.000	0.000	0.000	0.000
2056	2056	3	0.000	0.000	0.000	0.000
2057	2057	3	0.000	0.000	0.000	0.000
2058	2058	3	0.000	0.000	0.000	0.000
2059	2059	3	0.000	0.000	0.000	0.000
2060	2060	3	0.000	0.000	0.000	0.000
2061	2061	3	0.000	0.000	0.000	0.000
2062	2062	3	0.000	0.000	0.000	0.000
2063	2063	3	0.000	0.000	0.000	0.000
2064	2064	3	0.000	0.000	0.000	0.000
2065	2065	3	0.000	0.000	0.000	0.000
2066	2066	3	0.000	0.000	0.000	0.000
2067	2067	3	0.000	0.000	0.000	0.000
2068	2068	3	0.000	0.000	0.000	0.000
2069	2069	3	0.000	0.000	0.000	0.000

2070	2070	3	0.000	0.000	0.000	0.000
2071	2071	3	0.000	0.000	0.000	0.000
2072	2072	3	0.000	0.000	0.000	0.000
2073	2073	3	0.000	0.000	0.000	0.000
2074	2074	3	0.000	0.000	0.000	0.000
2075	2075	3	0.000	0.000	0.000	0.000
2076	2076	3	0.000	0.000	0.000	0.000
2077	2077	3	0.000	0.000	0.000	0.000
2078	2078	3	0.000	0.000	0.000	0.000
2079	2079	3	0.000	0.000	0.000	0.000
2080	2080	3	0.000	0.000	0.000	0.000
2081	2081	3	0.000	0.000	0.000	0.000
2082	2082	3	0.000	0.000	0.000	0.000
2083	2083	3	0.000	0.000	0.000	0.000
2084	2084	3	0.000	0.000	0.000	0.000
2085	2085	3	0.000	0.000	0.000	0.000
2086	2086	3	0.000	0.000	0.000	0.000
2087	2087	3	0.000	0.000	0.000	0.000
2088	2088	3	0.000	0.000	0.000	0.000
2089	2089	3	0.000	0.000	0.000	0.000
2090	2090	3	0.000	0.000	0.000	0.000
2091	2091	3	0.000	0.000	0.000	0.000
2092	2092	3	0.000	0.000	0.000	0.000
2093	2093	3	0.000	0.000	0.000	0.000
2094	2094	3	0.000	0.000	0.000	0.000
2095	2095	3	0.000	0.000	0.000	0.000
2096	2096	3	0.000	0.000	0.000	0.000
2097	2097	3	0.000	0.000	0.000	0.000
2098	2098	3	0.000	0.000	0.000	0.000
2099	2099	3	0.000	0.000	0.000	0.000
2100	2100	3	0.000	0.000	0.000	0.000
2101	2101	3	0.000	0.000	0.000	0.000
2102	2102	3	0.000	0.000	0.000	0.000
2103	2103	3	0.000	0.000	0.000	0.000
2104	2104	3	0.000	0.000	0.000	0.000
2105	2105	3	0.000	0.000	0.000	0.000
2106	2106	3	0.000	0.000	0.000	0.000
2107	2107	3	0.000	0.000	0.000	0.000
2108	2108	3	0.000	0.000	0.000	0.000
2109	2109	3	0.000	0.000	0.000	0.000
2110	2110	3	0.000	0.000	0.000	0.000
2111	2111	3	0.000	0.000	0.000	0.000
2112	2112	3	0.000	0.000	0.000	0.000
2113	2113	3	0.000	0.000	0.000	0.000

2114	2114	3	0.000	0.000	0.000	0.000
2115	2115	3	0.000	0.000	0.000	0.000
2116	2116	3	0.000	0.000	0.000	0.000
2117	2117	3	0.000	0.000	0.000	0.000
2118	2118	3	0.000	0.000	0.000	0.000
2119	2119	3	0.000	0.000	0.000	0.000
2120	2120	3	0.000	0.000	0.000	0.000
2121	2121	3	0.000	0.000	0.000	0.000
2122	2122	3	0.000	0.000	0.000	0.000
2123	2123	3	0.000	0.000	0.000	0.000
2124	2124	3	0.000	0.000	0.000	0.000
2125	2125	3	0.000	0.000	0.000	0.000
2126	2126	3	0.000	0.000	0.000	0.000
2127	2127	3	0.000	0.000	0.000	0.000
2128	2128	3	0.000	0.000	0.000	0.000
2129	2129	3	0.000	0.000	0.000	0.000
2130	2130	3	0.000	0.000	0.000	0.000
2131	2131	3	0.000	0.000	0.000	0.000
2132	2132	3	0.000	0.000	0.000	0.000
2133	2133	3	0.000	0.000	0.000	0.000
2134	2134	3	0.000	0.000	0.000	0.000
2135	2135	3	0.000	0.000	0.000	0.000
2136	2136	3	0.000	0.000	0.000	0.000
2137	2137	3	0.000	0.000	0.000	0.000
2138	2138	3	0.000	0.000	0.000	0.000
2139	2139	3	0.000	0.000	0.000	0.000
2140	2140	3	0.000	0.000	0.000	0.000
2141	2141	3	0.000	0.000	0.000	0.000
2142	2142	3	0.000	0.000	0.000	0.000
2143	2143	3	0.000	0.000	0.000	0.000
2144	2144	3	0.000	0.000	0.000	0.000
2145	2145	3	0.000	0.000	0.000	0.000
2146	2146	3	0.000	0.000	0.000	0.000
2147	2147	3	0.000	0.000	0.000	0.000
2148	2148	3	0.000	0.000	0.000	0.000
2149	2149	3	0.000	0.000	0.000	0.000
2150	2150	3	0.000	0.000	0.000	0.000
2151	2151	3	0.000	0.000	0.000	0.000

FUEL_COST_CHANGES - (std)

*% change p.a.

*Start_yr	End_yr	fuel_type	resource	duty	VAT	CO2_Den_change
2011	2011	1	22.226	-0.297	14.286	-0.844
2012	2012	1	2.040	-2.049	0.000	-0.023

2013	2013	1	-3.443	-1.746	0.000	-0.438
2014	2014	1	-11.771	-1.707	0.000	-0.537
2015	2015	1	-28.520	-0.661	0.000	0.000
2016	2016	1	-7.312	-2.068	0.000	0.000
2017	2017	1	19.734	-1.912	0.000	-1.352
2018	2018	1	13.204	-2.203	0.000	-1.370
2019	2019	1	-10.631	-2.442	0.000	-1.389
2020	2020	1	-11.341	-4.832	0.000	-1.409
2021	2021	1	3.590	1.236	0.000	0.000
2022	2022	1	5.005	3.364	0.000	0.000
2023	2023	1	1.744	0.601	0.000	0.000
2024	2024	1	1.726	0.550	0.000	0.000
2025	2025	1	1.765	0.745	0.000	0.000
2026	2026	1	2.597	0.658	0.000	0.000
2027	2027	1	1.476	0.681	0.000	0.000
2028	2028	1	1.433	0.674	0.000	0.000
2029	2029	1	1.391	0.663	0.000	0.000
2030	2030	1	1.352	0.653	0.000	0.000
2031	2031	1	2.246	0.653	0.000	0.000
2032	2032	1	1.259	0.650	0.000	0.000
2033	2033	1	1.225	0.644	0.000	0.000
2034	2034	1	1.193	0.637	0.000	0.000
2035	2035	1	1.162	0.645	0.000	0.000
2036	2036	1	0.000	0.640	0.000	0.000
2037	2037	1	0.000	0.635	0.000	0.000
2038	2038	1	0.000	0.630	0.000	0.000
2039	2039	1	0.000	0.649	0.000	0.000
2040	2040	1	0.000	0.681	0.000	0.000
2041	2041	1	0.000	0.629	0.000	0.000
2042	2042	1	0.000	0.592	0.000	0.000
2043	2043	1	0.000	0.587	0.000	0.000
2044	2044	1	0.000	0.587	0.000	0.000
2045	2045	1	0.000	0.586	0.000	0.000
2046	2046	1	0.000	0.587	0.000	0.000
2047	2047	1	0.000	0.587	0.000	0.000
2048	2048	1	0.000	0.587	0.000	0.000
2049	2049	1	0.000	0.586	0.000	0.000
2050	2050	1	0.000	0.587	0.000	0.000
2051	2051	1	0.000	0.587	0.000	0.000
2052	2052	1	0.000	0.587	0.000	0.000
2053	2053	1	0.000	0.587	0.000	0.000
2054	2054	1	0.000	0.587	0.000	0.000
2055	2055	1	0.000	0.587	0.000	0.000
2056	2056	1	0.000	0.587	0.000	0.000

2057	2057	1	0.000	0.587	0.000	0.000
2058	2058	1	0.000	0.586	0.000	0.000
2059	2059	1	0.000	0.587	0.000	0.000
2060	2060	1	0.000	0.587	0.000	0.000
2061	2061	1	0.000	0.587	0.000	0.000
2062	2062	1	0.000	0.587	0.000	0.000
2063	2063	1	0.000	0.587	0.000	0.000
2064	2064	1	0.000	0.587	0.000	0.000
2065	2065	1	0.000	0.587	0.000	0.000
2066	2066	1	0.000	0.587	0.000	0.000
2067	2067	1	0.000	0.587	0.000	0.000
2068	2068	1	0.000	0.587	0.000	0.000
2069	2069	1	-1.686	0.587	0.000	0.000
2070	2070	1	0.000	0.587	0.000	0.000
2071	2071	1	0.000	0.587	0.000	0.000
2072	2072	1	0.000	0.587	0.000	0.000
2073	2073	1	0.000	0.587	0.000	0.000
2074	2074	1	0.000	0.586	0.000	0.000
2075	2075	1	0.000	0.587	0.000	0.000
2076	2076	1	0.000	0.587	0.000	0.000
2077	2077	1	0.000	0.586	0.000	0.000
2078	2078	1	0.000	0.587	0.000	0.000
2079	2079	1	0.000	0.587	0.000	0.000
2080	2080	1	0.000	0.587	0.000	0.000
2081	2081	1	0.000	0.587	0.000	0.000
2082	2082	1	0.000	0.587	0.000	0.000
2083	2083	1	0.000	0.587	0.000	0.000
2084	2084	1	0.000	0.587	0.000	0.000
2085	2085	1	0.000	0.587	0.000	0.000
2086	2086	1	0.000	0.587	0.000	0.000
2087	2087	1	0.000	0.587	0.000	0.000
2088	2088	1	0.000	0.587	0.000	0.000
2089	2089	1	0.000	0.587	0.000	0.000
2090	2090	1	0.000	0.587	0.000	0.000
2091	2091	1	0.000	0.587	0.000	0.000
2092	2092	1	0.000	0.587	0.000	0.000
2093	2093	1	0.000	0.587	0.000	0.000
2094	2094	1	0.000	0.587	0.000	0.000
2095	2095	1	0.000	0.587	0.000	0.000
2096	2096	1	0.000	0.587	0.000	0.000
2097	2097	1	0.000	0.587	0.000	0.000
2098	2098	1	0.000	0.587	0.000	0.000
2099	2099	1	0.000	0.587	0.000	0.000
2100	2100	1	0.000	0.587	0.000	0.000

2101	2101	1	0.000	0.587	0.000	0.000
2102	2102	1	0.000	0.587	0.000	0.000
2103	2103	1	0.000	0.587	0.000	0.000
2104	2104	1	0.000	0.587	0.000	0.000
2105	2105	1	0.000	0.587	0.000	0.000
2106	2106	1	0.000	0.587	0.000	0.000
2107	2107	1	0.000	0.587	0.000	0.000
2108	2108	1	0.000	0.587	0.000	0.000
2109	2109	1	0.000	0.587	0.000	0.000
2110	2110	1	0.000	0.587	0.000	0.000
2111	2111	1	0.000	0.587	0.000	0.000
2112	2112	1	0.000	0.587	0.000	0.000
2113	2113	1	0.000	0.587	0.000	0.000
2114	2114	1	0.000	0.587	0.000	0.000
2115	2115	1	0.000	0.587	0.000	0.000
2116	2116	1	0.000	0.587	0.000	0.000
2117	2117	1	0.000	0.587	0.000	0.000
2118	2118	1	0.000	0.587	0.000	0.000
2119	2119	1	0.000	0.587	0.000	0.000
2120	2120	1	0.000	0.587	0.000	0.000
2121	2121	1	0.000	0.587	0.000	0.000
2122	2122	1	0.000	0.587	0.000	0.000
2123	2123	1	0.000	0.587	0.000	0.000
2124	2124	1	0.000	0.587	0.000	0.000
2125	2125	1	0.000	0.587	0.000	0.000
2126	2126	1	0.000	0.587	0.000	0.000
2127	2127	1	0.000	0.587	0.000	0.000
2128	2128	1	0.000	0.587	0.000	0.000
2129	2129	1	0.000	0.587	0.000	0.000
2130	2130	1	0.000	0.587	0.000	0.000
2131	2131	1	0.000	0.587	0.000	0.000
2132	2132	1	0.000	0.587	0.000	0.000
2133	2133	1	0.000	0.587	0.000	0.000
2134	2134	1	0.000	0.587	0.000	0.000
2135	2135	1	0.000	0.587	0.000	0.000
2136	2136	1	0.000	0.587	0.000	0.000
2137	2137	1	0.000	0.587	0.000	0.000
2138	2138	1	0.000	0.587	0.000	0.000
2139	2139	1	0.000	0.587	0.000	0.000
2140	2140	1	0.000	0.587	0.000	0.000
2141	2141	1	0.000	0.587	0.000	0.000
2142	2142	1	0.000	0.587	0.000	0.000
2143	2143	1	0.000	0.587	0.000	0.000
2144	2144	1	0.000	0.587	0.000	0.000

2145	2145	1	0.000	0.587	0.000	0.000
2146	2146	1	0.000	0.587	0.000	0.000
2147	2147	1	0.000	0.587	0.000	0.000
2148	2148	1	0.000	0.587	0.000	0.000
2149	2149	1	0.000	0.587	0.000	0.000
2150	2150	1	0.000	0.587	0.000	0.000
2151	2151	1	0.000	0.587	0.000	0.000
2011	2011	2	26.919	-0.297	14.286	0.188
2012	2012	2	3.247	-2.049	0.000	1.643
2013	2013	2	-3.680	-1.746	0.000	-0.436
2014	2014	2	-11.343	-1.707	0.000	0.153
2015	2015	2	-29.504	-0.661	0.000	0.004
2016	2016	2	-12.397	-2.068	0.000	0.003
2017	2017	2	22.316	-1.912	0.000	-1.744
2018	2018	2	16.802	-2.203	0.000	-1.775
2019	2019	2	-11.392	-2.442	0.000	-1.807
2020	2020	2	-11.913	-4.832	0.000	-1.841
2021	2021	2	3.816	1.236	0.000	0.000
2022	2022	2	5.133	3.364	0.000	0.000
2023	2023	2	1.862	0.601	0.000	0.000
2024	2024	2	1.853	0.550	0.000	0.000
2025	2025	2	1.886	0.745	0.000	0.000
2026	2026	2	2.790	0.658	0.000	0.000
2027	2027	2	1.583	0.681	0.000	0.000
2028	2028	2	1.535	0.674	0.000	0.000
2029	2029	2	1.489	0.663	0.000	0.000
2030	2030	2	1.445	0.653	0.000	0.000
2031	2031	2	2.399	0.653	0.000	0.000
2032	2032	2	1.343	0.650	0.000	0.000
2033	2033	2	1.306	0.644	0.000	0.000
2034	2034	2	1.270	0.637	0.000	0.000
2035	2035	2	1.236	0.645	0.000	0.000
2036	2036	2	0.000	0.640	0.000	0.000
2037	2037	2	0.000	0.635	0.000	0.000
2038	2038	2	0.000	0.630	0.000	0.000
2039	2039	2	0.000	0.649	0.000	0.000
2040	2040	2	0.000	0.681	0.000	0.000
2041	2041	2	0.000	0.629	0.000	0.000
2042	2042	2	0.000	0.592	0.000	0.000
2043	2043	2	0.000	0.587	0.000	0.000
2044	2044	2	0.000	0.587	0.000	0.000
2045	2045	2	0.000	0.586	0.000	0.000
2046	2046	2	0.000	0.587	0.000	0.000
2047	2047	2	0.000	0.587	0.000	0.000

2048	2048	2	0.000	0.587	0.000	0.000
2049	2049	2	0.000	0.586	0.000	0.000
2050	2050	2	0.000	0.587	0.000	0.000
2051	2051	2	0.000	0.587	0.000	0.000
2052	2052	2	0.000	0.587	0.000	0.000
2053	2053	2	0.000	0.587	0.000	0.000
2054	2054	2	0.000	0.587	0.000	0.000
2055	2055	2	0.000	0.587	0.000	0.000
2056	2056	2	0.000	0.587	0.000	0.000
2057	2057	2	0.000	0.587	0.000	0.000
2058	2058	2	0.000	0.586	0.000	0.000
2059	2059	2	0.000	0.587	0.000	0.000
2060	2060	2	0.000	0.587	0.000	0.000
2061	2061	2	0.000	0.587	0.000	0.000
2062	2062	2	0.000	0.587	0.000	0.000
2063	2063	2	0.000	0.587	0.000	0.000
2064	2064	2	0.000	0.587	0.000	0.000
2065	2065	2	0.000	0.587	0.000	0.000
2066	2066	2	0.000	0.587	0.000	0.000
2067	2067	2	0.000	0.587	0.000	0.000
2068	2068	2	0.000	0.587	0.000	0.000
2069	2069	2	-1.686	0.587	0.000	0.000
2070	2070	2	0.000	0.587	0.000	0.000
2071	2071	2	0.000	0.587	0.000	0.000
2072	2072	2	0.000	0.587	0.000	0.000
2073	2073	2	0.000	0.587	0.000	0.000
2074	2074	2	0.000	0.586	0.000	0.000
2075	2075	2	0.000	0.587	0.000	0.000
2076	2076	2	0.000	0.587	0.000	0.000
2077	2077	2	0.000	0.586	0.000	0.000
2078	2078	2	0.000	0.587	0.000	0.000
2079	2079	2	0.000	0.587	0.000	0.000
2080	2080	2	0.000	0.587	0.000	0.000
2081	2081	2	0.000	0.587	0.000	0.000
2082	2082	2	0.000	0.587	0.000	0.000
2083	2083	2	0.000	0.587	0.000	0.000
2084	2084	2	0.000	0.587	0.000	0.000
2085	2085	2	0.000	0.587	0.000	0.000
2086	2086	2	0.000	0.587	0.000	0.000
2087	2087	2	0.000	0.587	0.000	0.000
2088	2088	2	0.000	0.587	0.000	0.000
2089	2089	2	0.000	0.587	0.000	0.000
2090	2090	2	0.000	0.587	0.000	0.000
2091	2091	2	0.000	0.587	0.000	0.000

2092	2092	2	0.000	0.587	0.000	0.000
2093	2093	2	0.000	0.587	0.000	0.000
2094	2094	2	0.000	0.587	0.000	0.000
2095	2095	2	0.000	0.587	0.000	0.000
2096	2096	2	0.000	0.587	0.000	0.000
2097	2097	2	0.000	0.587	0.000	0.000
2098	2098	2	0.000	0.587	0.000	0.000
2099	2099	2	0.000	0.587	0.000	0.000
2100	2100	2	0.000	0.587	0.000	0.000
2101	2101	2	0.000	0.587	0.000	0.000
2102	2102	2	0.000	0.587	0.000	0.000
2103	2103	2	0.000	0.587	0.000	0.000
2104	2104	2	0.000	0.587	0.000	0.000
2105	2105	2	0.000	0.587	0.000	0.000
2106	2106	2	0.000	0.587	0.000	0.000
2107	2107	2	0.000	0.587	0.000	0.000
2108	2108	2	0.000	0.587	0.000	0.000
2109	2109	2	0.000	0.587	0.000	0.000
2110	2110	2	0.000	0.587	0.000	0.000
2111	2111	2	0.000	0.587	0.000	0.000
2112	2112	2	0.000	0.587	0.000	0.000
2113	2113	2	0.000	0.587	0.000	0.000
2114	2114	2	0.000	0.587	0.000	0.000
2115	2115	2	0.000	0.587	0.000	0.000
2116	2116	2	0.000	0.587	0.000	0.000
2117	2117	2	0.000	0.587	0.000	0.000
2118	2118	2	0.000	0.587	0.000	0.000
2119	2119	2	0.000	0.587	0.000	0.000
2120	2120	2	0.000	0.587	0.000	0.000
2121	2121	2	0.000	0.587	0.000	0.000
2122	2122	2	0.000	0.587	0.000	0.000
2123	2123	2	0.000	0.587	0.000	0.000
2124	2124	2	0.000	0.587	0.000	0.000
2125	2125	2	0.000	0.587	0.000	0.000
2126	2126	2	0.000	0.587	0.000	0.000
2127	2127	2	0.000	0.587	0.000	0.000
2128	2128	2	0.000	0.587	0.000	0.000
2129	2129	2	0.000	0.587	0.000	0.000
2130	2130	2	0.000	0.587	0.000	0.000
2131	2131	2	0.000	0.587	0.000	0.000
2132	2132	2	0.000	0.587	0.000	0.000
2133	2133	2	0.000	0.587	0.000	0.000
2134	2134	2	0.000	0.587	0.000	0.000
2135	2135	2	0.000	0.587	0.000	0.000

2136	2136	2	0.000	0.587	0.000	0.000
2137	2137	2	0.000	0.587	0.000	0.000
2138	2138	2	0.000	0.587	0.000	0.000
2139	2139	2	0.000	0.587	0.000	0.000
2140	2140	2	0.000	0.587	0.000	0.000
2141	2141	2	0.000	0.587	0.000	0.000
2142	2142	2	0.000	0.587	0.000	0.000
2143	2143	2	0.000	0.587	0.000	0.000
2144	2144	2	0.000	0.587	0.000	0.000
2145	2145	2	0.000	0.587	0.000	0.000
2146	2146	2	0.000	0.587	0.000	0.000
2147	2147	2	0.000	0.587	0.000	0.000
2148	2148	2	0.000	0.587	0.000	0.000
2149	2149	2	0.000	0.587	0.000	0.000
2150	2150	2	0.000	0.587	0.000	0.000
2151	2151	2	0.000	0.587	0.000	0.000
2011	2011	3	6.000	0.000	0.000	-1.438
2012	2012	3	3.963	0.000	0.000	-1.878
2013	2013	3	4.453	0.000	0.000	-2.438
2014	2014	3	0.807	0.000	0.000	-1.891
2015	2015	3	-2.124	0.000	0.000	-2.837
2016	2016	3	-1.596	0.000	0.000	-3.035
2017	2017	3	3.662	0.000	0.000	-2.830
2018	2018	3	6.268	0.000	0.000	-3.251
2019	2019	3	4.006	0.000	0.000	-3.618
2020	2020	3	-3.240	0.000	0.000	-3.931
2021	2021	3	9.768	0.000	0.000	-4.324
2022	2022	3	1.799	0.000	0.000	-4.776
2023	2023	3	-0.216	0.000	0.000	-5.300
2024	2024	3	-1.595	0.000	0.000	-5.915
2025	2025	3	1.049	0.000	0.000	-6.643
2026	2026	3	0.894	0.000	0.000	-7.520
2027	2027	3	-1.865	0.000	0.000	-8.594
2028	2028	3	-0.274	0.000	0.000	-9.934
2029	2029	3	-0.789	0.000	0.000	-11.657
2030	2030	3	1.876	0.000	0.000	-13.944
2031	2031	3	-0.287	0.000	0.000	-19.089
2032	2032	3	-2.211	0.000	0.000	-19.090
2033	2033	3	-2.565	0.000	0.000	-19.088
2034	2034	3	-1.399	0.000	0.000	-19.090
2035	2035	3	-1.444	0.000	0.000	-19.089
2036	2036	3	-0.695	0.000	0.000	-19.089
2037	2037	3	-0.258	0.000	0.000	-19.088
2038	2038	3	-0.856	0.000	0.000	-19.090

2039	2039	3	1.452	0.000	0.000	-19.092
2040	2040	3	-1.512	0.000	0.000	-19.088
2041	2041	3	0.000	0.000	0.000	-16.984
2042	2042	3	0.000	0.000	0.000	-5.099
2043	2043	3	0.000	0.000	0.000	-2.043
2044	2044	3	0.000	0.000	0.000	-6.009
2045	2045	3	0.000	0.000	0.000	-15.076
2046	2046	3	0.000	0.000	0.000	-9.204
2047	2047	3	0.000	0.000	0.000	-7.798
2048	2048	3	0.000	0.000	0.000	-5.087
2049	2049	3	0.000	0.000	0.000	-6.945
2050	2050	3	0.000	0.000	0.000	-1.718
2051	2051	3	0.000	0.000	0.000	0.000
2052	2052	3	0.000	0.000	0.000	0.000
2053	2053	3	0.000	0.000	0.000	0.000
2054	2054	3	0.000	0.000	0.000	0.000
2055	2055	3	0.000	0.000	0.000	0.000
2056	2056	3	0.000	0.000	0.000	0.000
2057	2057	3	0.000	0.000	0.000	0.000
2058	2058	3	0.000	0.000	0.000	0.000
2059	2059	3	0.000	0.000	0.000	0.000
2060	2060	3	0.000	0.000	0.000	0.000
2061	2061	3	0.000	0.000	0.000	0.000
2062	2062	3	0.000	0.000	0.000	0.000
2063	2063	3	0.000	0.000	0.000	0.000
2064	2064	3	0.000	0.000	0.000	0.000
2065	2065	3	0.000	0.000	0.000	0.000
2066	2066	3	0.000	0.000	0.000	0.000
2067	2067	3	0.000	0.000	0.000	0.000
2068	2068	3	0.000	0.000	0.000	0.000
2069	2069	3	0.000	0.000	0.000	0.000
2070	2070	3	0.000	0.000	0.000	0.000
2071	2071	3	0.000	0.000	0.000	0.000
2072	2072	3	0.000	0.000	0.000	0.000
2073	2073	3	0.000	0.000	0.000	0.000
2074	2074	3	0.000	0.000	0.000	0.000
2075	2075	3	0.000	0.000	0.000	0.000
2076	2076	3	0.000	0.000	0.000	0.000
2077	2077	3	0.000	0.000	0.000	0.000
2078	2078	3	0.000	0.000	0.000	0.000
2079	2079	3	0.000	0.000	0.000	0.000
2080	2080	3	0.000	0.000	0.000	0.000
2081	2081	3	0.000	0.000	0.000	0.000
2082	2082	3	0.000	0.000	0.000	0.000

2083	2083	3	0.000	0.000	0.000	0.000
2084	2084	3	0.000	0.000	0.000	0.000
2085	2085	3	0.000	0.000	0.000	0.000
2086	2086	3	0.000	0.000	0.000	0.000
2087	2087	3	0.000	0.000	0.000	0.000
2088	2088	3	0.000	0.000	0.000	0.000
2089	2089	3	0.000	0.000	0.000	0.000
2090	2090	3	0.000	0.000	0.000	0.000
2091	2091	3	0.000	0.000	0.000	0.000
2092	2092	3	0.000	0.000	0.000	0.000
2093	2093	3	0.000	0.000	0.000	0.000
2094	2094	3	0.000	0.000	0.000	0.000
2095	2095	3	0.000	0.000	0.000	0.000
2096	2096	3	0.000	0.000	0.000	0.000
2097	2097	3	0.000	0.000	0.000	0.000
2098	2098	3	0.000	0.000	0.000	0.000
2099	2099	3	0.000	0.000	0.000	0.000
2100	2100	3	0.000	0.000	0.000	0.000
2101	2101	3	0.000	0.000	0.000	0.000
2102	2102	3	0.000	0.000	0.000	0.000
2103	2103	3	0.000	0.000	0.000	0.000
2104	2104	3	0.000	0.000	0.000	0.000
2105	2105	3	0.000	0.000	0.000	0.000
2106	2106	3	0.000	0.000	0.000	0.000
2107	2107	3	0.000	0.000	0.000	0.000
2108	2108	3	0.000	0.000	0.000	0.000
2109	2109	3	0.000	0.000	0.000	0.000
2110	2110	3	0.000	0.000	0.000	0.000
2111	2111	3	0.000	0.000	0.000	0.000
2112	2112	3	0.000	0.000	0.000	0.000
2113	2113	3	0.000	0.000	0.000	0.000
2114	2114	3	0.000	0.000	0.000	0.000
2115	2115	3	0.000	0.000	0.000	0.000
2116	2116	3	0.000	0.000	0.000	0.000
2117	2117	3	0.000	0.000	0.000	0.000
2118	2118	3	0.000	0.000	0.000	0.000
2119	2119	3	0.000	0.000	0.000	0.000
2120	2120	3	0.000	0.000	0.000	0.000
2121	2121	3	0.000	0.000	0.000	0.000
2122	2122	3	0.000	0.000	0.000	0.000
2123	2123	3	0.000	0.000	0.000	0.000
2124	2124	3	0.000	0.000	0.000	0.000
2125	2125	3	0.000	0.000	0.000	0.000
2126	2126	3	0.000	0.000	0.000	0.000

2127	2127	3	0.000	0.000	0.000	0.000
2128	2128	3	0.000	0.000	0.000	0.000
2129	2129	3	0.000	0.000	0.000	0.000
2130	2130	3	0.000	0.000	0.000	0.000
2131	2131	3	0.000	0.000	0.000	0.000
2132	2132	3	0.000	0.000	0.000	0.000
2133	2133	3	0.000	0.000	0.000	0.000
2134	2134	3	0.000	0.000	0.000	0.000
2135	2135	3	0.000	0.000	0.000	0.000
2136	2136	3	0.000	0.000	0.000	0.000
2137	2137	3	0.000	0.000	0.000	0.000
2138	2138	3	0.000	0.000	0.000	0.000
2139	2139	3	0.000	0.000	0.000	0.000
2140	2140	3	0.000	0.000	0.000	0.000
2141	2141	3	0.000	0.000	0.000	0.000
2142	2142	3	0.000	0.000	0.000	0.000
2143	2143	3	0.000	0.000	0.000	0.000
2144	2144	3	0.000	0.000	0.000	0.000
2145	2145	3	0.000	0.000	0.000	0.000
2146	2146	3	0.000	0.000	0.000	0.000
2147	2147	3	0.000	0.000	0.000	0.000
2148	2148	3	0.000	0.000	0.000	0.000
2149	2149	3	0.000	0.000	0.000	0.000
2150	2150	3	0.000	0.000	0.000	0.000
2151	2151	3	0.000	0.000	0.000	0.000

FLEET - (used)

*veh_type	%Petrol	%Diesel	%Electric
1	59.8962	40.0961	0.0077
2	3.4548	96.4566	0.0886
3	3.4548	96.4566	0.0886
4	0.0000	100.0000	0.0000
5	0.0000	100.0000	0.0000
6	0.0000	99.9221	0.0779
7	0.0000	100.0000	0.0000
8	0.0000	100.0000	0.0000

FLEET - (std)

*veh_type	%Petrol	%Diesel	%Electric
1	59.6299	40.3625	0.0076
2	3.4505	96.4583	0.0912
3	3.4505	96.4583	0.0912
4	0.0000	100.0000	0.0000
5	0.0000	100.0000	0.0000

6	0.0000	100.0000	0.0000
7	0.0000	100.0000	0.0000
8	0.0000	100.0000	0.0000

FLEET_CHANGES - (used)

*% p.a.

*Start_yr	End_yr	Veh_type	%Change_Petrol	%Change_Diesel	%Change_Electric
2011	2011	1	-3.5334	5.2644	72.7273
2012	2012	1	-3.5938	4.8952	77.4436
2013	2013	1	-3.6635	4.5816	52.5424
2014	2014	1	-3.5106	3.9580	142.2222
2015	2015	1	-3.2761	3.3338	105.1606
2016	2016	1	-2.7303	2.5141	65.3438
2017	2017	1	-0.9381	0.6152	48.4449
2018	2018	1	1.1306	-1.3993	39.2394
2019	2019	1	2.3623	-2.7214	36.5882
2020	2020	1	1.9473	-3.2533	75.2245
2021	2021	1	1.5292	-4.3172	87.2343
2022	2022	1	0.2404	-4.6395	72.5965
2023	2023	1	-0.8037	-5.4000	58.4144
2024	2024	1	-1.4484	-6.2086	43.9989
2025	2025	1	-2.0998	-7.3022	35.9550
2026	2026	1	-2.4509	-7.9695	27.7036
2027	2027	1	-2.9226	-8.6666	22.7674
2028	2028	1	-3.3225	-9.3402	18.9875
2029	2029	1	-3.6571	-9.8518	15.8753
2030	2030	1	-3.9691	-10.1168	13.3105
2031	2031	1	-4.0715	-10.1036	10.9677
2032	2032	1	-4.0434	-9.9044	9.0164
2033	2033	1	-4.1522	-9.4536	7.5826
2034	2034	1	-4.2021	-8.8854	6.4073
2035	2035	1	-4.0578	-8.4250	5.3933
2036	2036	1	-3.8855	-7.8288	4.5411
2037	2037	1	-3.8221	-7.0415	3.8820
2038	2038	1	-3.5816	-6.0722	3.2150
2039	2039	1	-3.3132	-5.1005	2.6551
2040	2040	1	-2.9987	-4.3872	2.2093
2041	2041	1	-2.5436	-3.6258	1.7546
2042	2042	1	-2.2945	-3.1222	1.4878
2043	2043	1	-1.9852	-2.7371	1.2411
2044	2044	1	-1.6650	-2.2924	1.0049
2045	2045	1	-1.4495	-1.9597	0.8450
2046	2046	1	-1.2558	-1.6572	0.7092
2047	2047	1	-1.0944	-1.4064	0.6005

2048	2048	1	-0.9945	-1.2353	0.5303
2049	2049	1	-0.8969	-1.0790	0.4665
2050	2050	1	-0.7964	-0.9332	0.4054
2011	2011	2	-9.9745	0.3593	-2.2573
2012	2012	2	-8.1699	0.2539	9.5843
2013	2013	2	-8.1580	0.2422	-2.1075
2014	2014	2	-8.2993	0.2019	22.8202
2015	2015	2	-7.8448	0.1740	16.8273
2016	2016	2	-8.3367	0.1676	15.7539
2017	2017	2	-1.9981	0.0132	17.9520
2018	2018	2	3.9723	-0.1194	20.7143
2019	2019	2	2.8159	-0.1663	47.4283
2020	2020	2	0.6107	-0.2061	58.0426
2021	2021	2	-7.3773	-0.2553	79.4296
2022	2022	2	-1.0385	-0.1683	20.0218
2023	2023	2	-1.0646	-0.1605	16.0196
2024	2024	2	-0.8959	-0.1530	12.9320
2025	2025	2	-0.8468	-0.2198	15.8266
2026	2026	2	-0.8017	-0.2901	17.6330
2027	2027	2	-0.8082	-0.3992	20.2846
2028	2028	2	-0.9106	-0.5771	24.0664
2029	2029	2	-1.0264	-0.7144	23.8074
2030	2030	2	-1.3629	-1.0477	27.9255
2031	2031	2	-1.8716	-1.4764	30.4203
2032	2032	2	-2.3561	-1.9387	30.1393
2033	2033	2	-2.9243	-2.4870	29.1112
2034	2034	2	-3.4326	-2.9768	26.3028
2035	2035	2	-3.8181	-3.3308	22.6024
2036	2036	2	-4.0270	-3.5179	18.8201
2037	2037	2	-4.0964	-3.5581	15.4568
2038	2038	2	-4.1052	-3.5435	12.8578
2039	2039	2	-3.7973	-3.2205	9.9910
2040	2040	2	-3.7896	-3.2207	8.7892
2041	2041	2	-3.3695	-2.8372	6.8894
2042	2042	2	-3.3659	-2.8357	6.2576
2043	2043	2	-3.3161	-2.7852	5.6196
2044	2044	2	-3.2138	-2.6951	5.0050
2045	2045	2	-3.0706	-2.5788	4.4374
2046	2046	2	-2.8271	-2.3669	3.7986
2047	2047	2	-2.6535	-2.2117	3.3391
2048	2048	2	-2.4825	-2.0531	2.9326
2049	2049	2	-2.2761	-1.8776	2.5526
2050	2050	2	-2.0738	-1.6824	2.1886
2011	2011	3	-9.9745	0.3593	-2.2573

2012	2012	3	-8.1699	0.2539	9.5843
2013	2013	3	-8.1580	0.2422	-2.1075
2014	2014	3	-8.2993	0.2019	22.8202
2015	2015	3	-7.8448	0.1740	16.8273
2016	2016	3	-8.3367	0.1676	15.7539
2017	2017	3	-1.9981	0.0132	17.9520
2018	2018	3	3.9723	-0.1194	20.7143
2019	2019	3	2.8159	-0.1663	47.4283
2020	2020	3	0.6107	-0.2061	58.0426
2021	2021	3	-7.3773	-0.2553	79.4296
2022	2022	3	-1.0385	-0.1683	20.0218
2023	2023	3	-1.0646	-0.1605	16.0196
2024	2024	3	-0.8959	-0.1530	12.9320
2025	2025	3	-0.8468	-0.2198	15.8266
2026	2026	3	-0.8017	-0.2901	17.6330
2027	2027	3	-0.8082	-0.3992	20.2846
2028	2028	3	-0.9106	-0.5771	24.0664
2029	2029	3	-1.0264	-0.7144	23.8074
2030	2030	3	-1.3629	-1.0477	27.9255
2031	2031	3	-1.8716	-1.4764	30.4203
2032	2032	3	-2.3561	-1.9387	30.1393
2033	2033	3	-2.9243	-2.4870	29.1112
2034	2034	3	-3.4326	-2.9768	26.3028
2035	2035	3	-3.8181	-3.3308	22.6024
2036	2036	3	-4.0270	-3.5179	18.8201
2037	2037	3	-4.0964	-3.5581	15.4568
2038	2038	3	-4.1052	-3.5435	12.8578
2039	2039	3	-3.7973	-3.2205	9.9910
2040	2040	3	-3.7896	-3.2207	8.7892
2041	2041	3	-3.3695	-2.8372	6.8894
2042	2042	3	-3.3659	-2.8357	6.2576
2043	2043	3	-3.3161	-2.7852	5.6196
2044	2044	3	-3.2138	-2.6951	5.0050
2045	2045	3	-3.0706	-2.5788	4.4374
2046	2046	3	-2.8271	-2.3669	3.7986
2047	2047	3	-2.6535	-2.2117	3.3391
2048	2048	3	-2.4825	-2.0531	2.9326
2049	2049	3	-2.2761	-1.8776	2.5526
2050	2050	3	-2.0738	-1.6824	2.1886
2011	2011	6	0.0000	-0.0011	1.4121
2012	2012	6	0.0000	-0.0202	25.5696
2013	2013	6	0.0000	-0.0327	32.9637
2014	2014	6	0.0000	-0.0723	54.7384
2015	2015	6	0.0000	-0.0313	15.2866

2016	2016	6	0.0000	-0.0935	39.6515
2017	2017	6	0.0000	-0.0617	18.7158
2018	2018	6	0.0000	-0.1298	33.1453
2019	2019	6	0.0000	-0.3121	59.7805
2020	2020	6	0.0000	-0.2987	35.6910
2021	2021	6	0.0000	-0.7068	62.0549
2022	2022	6	0.0000	-4.7142	253.6139
2023	2023	6	0.0000	-4.4616	64.6774
2024	2024	6	0.0000	-2.5792	21.6914
2025	2025	6	0.0000	-3.3217	22.3641
2026	2026	6	0.0000	-2.9956	15.9353
2027	2027	6	0.0000	-3.3685	14.9927
2028	2028	6	0.0000	-3.8909	14.5529
2029	2029	6	0.0000	-3.5896	11.2641
2030	2030	6	0.0000	-1.2289	3.3416
2031	2031	6	0.0000	-1.0185	2.6469
2032	2032	6	0.0000	-0.7730	1.9371
2033	2033	6	0.0000	-0.6043	1.4741
2034	2034	6	0.0000	-0.4783	1.1429
2035	2035	6	0.0000	-0.3495	0.8217
2036	2036	6	0.0000	-0.2085	0.4846
2037	2037	6	0.0000	-0.0851	0.1965
2038	2038	6	0.0000	0.0268	-0.0617
2039	2039	6	0.0000	0.0965	-0.2223
2040	2040	6	0.0000	-0.6920	1.5991
2041	2041	6	0.0000	-0.5875	1.3269
2042	2042	6	0.0000	-0.5265	1.1667
2043	2043	6	0.0000	-0.4615	1.0055
2044	2044	6	0.0000	-0.3947	0.8475
2045	2045	6	0.0000	-0.3467	0.7352
2046	2046	6	0.0000	-0.3361	0.7051
2047	2047	6	0.0000	-0.3365	0.6986
2048	2048	6	0.0000	-0.3394	0.6974
2049	2049	6	0.0000	-0.3277	0.6665
2050	2050	6	0.0000	-0.3043	0.6127
2051	2151	1	0.0000	0.0000	0.0000
2051	2151	2	0.0000	0.0000	0.0000
2051	2151	3	0.0000	0.0000	0.0000
2011	2151	4	0.0000	0.0000	0.0000
2011	2151	5	0.0000	0.0000	0.0000
2051	2151	6	0.0000	0.0000	0.0000

FLEET_CHANGES - (std)

***% p.a.

*Start_yr	End_yr	Veh_type	%Change_Petrol	%Change_Diesel	%Change_Electric
2011	2011	1	-3.5474	5.2271	72.3684
2012	2012	1	-3.6255	4.8862	75.5725
2013	2013	1	-3.7045	4.5823	52.6087
2014	2014	1	-3.5372	3.9494	137.0370
2015	2015	1	-3.3037	3.3379	101.4423
2016	2016	1	-2.7361	2.5097	63.3652
2017	2017	1	-0.8923	0.5861	47.9912
2018	2018	1	1.1991	-1.4201	38.8203
2019	2019	1	1.7017	-1.9941	33.4222
2020	2020	1	1.8536	-2.2461	27.1952
2021	2021	1	1.6150	-2.5074	42.8975
2022	2022	1	1.4618	-2.7336	40.4296
2023	2023	1	1.3175	-3.0441	37.7636
2024	2024	1	0.9803	-3.5199	40.2425
2025	2025	1	0.2872	-4.2813	45.8903
2026	2026	1	-0.0235	-4.6731	36.0447
2027	2027	1	-0.1975	-4.8289	27.3620
2028	2028	1	-0.3930	-4.9178	21.9646
2029	2029	1	-0.6139	-4.9385	18.2947
2030	2030	1	-0.9186	-4.8594	15.7936
2031	2031	1	-1.1396	-4.5854	13.2690
2032	2032	1	-1.3598	-4.2639	11.3740
2033	2033	1	-1.5543	-3.9092	9.8508
2034	2034	1	-1.7099	-3.6116	8.6724
2035	2035	1	-1.8177	-3.2999	7.6247
2036	2036	1	-1.8688	-3.0327	6.7218
2037	2037	1	-1.8936	-2.8160	5.9844
2038	2038	1	-1.8686	-2.5621	5.2552
2039	2039	1	-1.8261	-2.3161	4.6228
2040	2040	1	-2.0337	-2.4757	4.7437
2041	2041	1	-1.9404	-2.3503	4.2169
2042	2042	1	-1.8614	-2.2344	3.7873
2043	2043	1	-1.7986	-2.0982	3.4172
2044	2044	1	-1.8062	-2.0617	3.2286
2045	2045	1	-1.7138	-1.9060	2.8834
2046	2046	1	-1.6902	-1.8698	2.7094
2047	2047	1	-1.6879	-1.8470	2.5779
2048	2048	1	-1.6589	-1.8011	2.4200
2049	2049	1	-1.6009	-1.7231	2.2342
2050	2050	1	-1.5935	-1.7035	2.1344
2011	2011	2	-9.9551	0.3589	-2.9605
2012	2012	2	-8.0850	0.2503	10.1695
2013	2013	2	-8.1413	0.2417	-2.2564

2014	2014	2	-8.3635	0.2034	22.5603
2015	2015	2	-7.9288	0.1755	16.6952
2016	2016	2	-8.3676	0.1677	15.7007
2017	2017	2	-1.9723	0.0123	17.7552
2018	2018	2	4.0994	-0.1225	20.6247
2019	2019	2	-1.5414	-0.0689	44.2857
2020	2020	2	-1.2465	0.0340	-2.4134
2021	2021	2	-0.1690	-0.0505	16.7089
2022	2022	2	0.1344	-0.0690	17.5767
2023	2023	2	0.9644	-0.1262	23.9603
2024	2024	2	2.0384	-0.2103	30.4753
2025	2025	2	4.5262	-0.4417	47.9714
2026	2026	2	3.4807	-0.4261	32.5352
2027	2027	2	3.9436	-0.5348	31.1116
2028	2028	2	4.5536	-0.6795	30.2961
2029	2029	2	4.8684	-0.7989	27.3836
2030	2030	2	4.9673	-0.9096	24.5096
2031	2031	2	5.0865	-0.9474	20.1742
2032	2032	2	4.8793	-1.0056	17.7808
2033	2033	2	4.6320	-1.0543	15.7803
2034	2034	2	4.3655	-1.0969	14.1249
2035	2035	2	4.0807	-1.1390	12.8123
2036	2036	2	3.8076	-1.1648	11.5496
2037	2037	2	3.5417	-1.1887	10.5057
2038	2038	2	3.2793	-1.2049	9.5762
2039	2039	2	3.0357	-1.2185	8.7799
2040	2040	2	2.8032	-1.2286	8.0825
2041	2041	2	2.5647	-1.2034	7.2582
2042	2042	2	2.4018	-1.2091	6.7416
2043	2043	2	2.2033	-1.2237	6.3558
2044	2044	2	2.0402	-1.2164	5.8890
2045	2045	2	1.8815	-1.2057	5.4663
2046	2046	2	1.6834	-1.1668	4.9758
2047	2047	2	1.5551	-1.1570	4.6635
2048	2048	2	1.4237	-1.1416	4.3618
2049	2049	2	1.2542	-1.1392	4.1548
2050	2050	2	1.1467	-1.1150	3.8719
2011	2011	3	-9.9551	0.3589	-2.9605
2012	2012	3	-8.0850	0.2503	10.1695
2013	2013	3	-8.1413	0.2417	-2.2564
2014	2014	3	-8.3635	0.2034	22.5603
2015	2015	3	-7.9288	0.1755	16.6952
2016	2016	3	-8.3676	0.1677	15.7007
2017	2017	3	-1.9723	0.0123	17.7552

2018	2018	3	4.0994	-0.1225	20.6247
2019	2019	3	-1.5414	-0.0689	44.2857
2020	2020	3	-1.2465	0.0340	-2.4134
2021	2021	3	-0.1690	-0.0505	16.7089
2022	2022	3	0.1344	-0.0690	17.5767
2023	2023	3	0.9644	-0.1262	23.9603
2024	2024	3	2.0384	-0.2103	30.4753
2025	2025	3	4.5262	-0.4417	47.9714
2026	2026	3	3.4807	-0.4261	32.5352
2027	2027	3	3.9436	-0.5348	31.1116
2028	2028	3	4.5536	-0.6795	30.2961
2029	2029	3	4.8684	-0.7989	27.3836
2030	2030	3	4.9673	-0.9096	24.5096
2031	2031	3	5.0865	-0.9474	20.1742
2032	2032	3	4.8793	-1.0056	17.7808
2033	2033	3	4.6320	-1.0543	15.7803
2034	2034	3	4.3655	-1.0969	14.1249
2035	2035	3	4.0807	-1.1390	12.8123
2036	2036	3	3.8076	-1.1648	11.5496
2037	2037	3	3.5417	-1.1887	10.5057
2038	2038	3	3.2793	-1.2049	9.5762
2039	2039	3	3.0357	-1.2185	8.7799
2040	2040	3	2.8032	-1.2286	8.0825
2041	2041	3	2.5647	-1.2034	7.2582
2042	2042	3	2.4018	-1.2091	6.7416
2043	2043	3	2.2033	-1.2237	6.3558
2044	2044	3	2.0402	-1.2164	5.8890
2045	2045	3	1.8815	-1.2057	5.4663
2046	2046	3	1.6834	-1.1668	4.9758
2047	2047	3	1.5551	-1.1570	4.6635
2048	2048	3	1.4237	-1.1416	4.3618
2049	2049	3	1.2542	-1.1392	4.1548
2050	2050	3	1.1467	-1.1150	3.8719
2051	2151	1	0.0000	0.0000	0.0000
2051	2151	2	0.0000	0.0000	0.0000
2051	2151	3	0.0000	0.0000	0.0000
2011	2151	4	0.0000	0.0000	0.0000
2011	2151	5	0.0000	0.0000	0.0000
2011	2151	6	0.0000	0.0000	0.0000

FUEL_CONSUMPTION - (used)

*veh_type fuel_type a_fuel b_fuel c_fuel d_fuel cut-off_speeds(km/h)

*

max min

1 1 0.4666 0.09917 -0.11296E-02 0.74815E-05 130 10

1	2	0.5050	0.07241	-0.69660E-03	0.54893E-05	130	10
1	3	0.0000	0.22466	0.00000E+00	0.00000E+00	120	10
2	1	0.3518	0.19727	-0.30966E-02	0.19998E-04	120	10
2	2	0.4682	0.11444	-0.16510E-02	0.13977E-04	110	10
2	3	0.0000	0.25706	0.00000E+00	0.00000E+00	120	10
3	1	0.3518	0.19727	-0.30966E-02	0.19998E-04	120	10
3	2	0.4682	0.11444	-0.16510E-02	0.13977E-04	110	10
3	3	0.0000	0.25706	0.00000E+00	0.00000E+00	120	10
4	2	2.6039	0.13816	-0.99860E-03	0.10906E-04	85	12
5	2	5.7277	0.29745	-0.19708E-02	0.11746E-04	85	12
6	2	3.3350	0.29304	-0.31851E-02	0.23364E-04	85	12
6	3	0.0000	1.17983	0.00000E+00	0.00000E+00	85	12

FUEL_CONSUMPTION - (std)

*veh_type	fuel_type	a_fuel	b_fuel	c_fuel	d_fuel	cut-off_speeds(km/h)	
		max	min				
1	1	0.4707	0.10003	-0.11394E-02	0.75462E-05	130	10
1	2	0.5069	0.07268	-0.69920E-03	0.55097E-05	130	10
1	3	0.0000	0.21366	0.00000E+00	0.00000E+00	120	10
2	1	0.3487	0.19552	-0.30690E-02	0.19819E-04	120	10
2	2	0.4688	0.11457	-0.16529E-02	0.13993E-04	110	10
2	3	0.0000	0.23232	0.00000E+00	0.00000E+00	120	10
3	1	0.3487	0.19552	-0.30690E-02	0.19819E-04	120	10
3	2	0.4688	0.11457	-0.16529E-02	0.13993E-04	110	10
3	3	0.0000	0.23232	0.00000E+00	0.00000E+00	120	10
4	2	2.6115	0.13856	-0.10015E-02	0.10938E-04	85	12
5	2	5.7221	0.29716	-0.19688E-02	0.11735E-04	85	12
6	2	3.3602	0.29525	-0.32091E-02	0.23540E-04	85	12

FUEL_EFFICIENCY - (used)

*% p.a.

*Start_yr	End_yr	veh_type	fuel_type	change
2011	2011	1	1	0.662
2011	2011	1	2	0.817
2011	2011	1	3	-0.025
2011	2011	2	1	-0.095
2011	2011	2	2	0.139
2011	2011	2	3	0.000
2011	2011	3	1	-0.095
2011	2011	3	2	0.139
2011	2011	3	3	0.000
2011	2011	4	2	-0.217
2011	2011	4	3	0.000
2011	2011	5	2	-0.047

2011	2011	5	3	0.000
2011	2011	6	2	-0.140
2011	2011	6	3	0.000
2012	2012	1	1	0.824
2012	2012	1	2	0.877
2012	2012	1	3	0.491
2012	2012	2	1	-0.074
2012	2012	2	2	0.386
2012	2012	2	3	0.000
2012	2012	3	1	-0.074
2012	2012	3	2	0.386
2012	2012	3	3	0.000
2012	2012	4	2	-3.140
2012	2012	4	3	0.000
2012	2012	5	2	0.414
2012	2012	5	3	0.000
2012	2012	6	2	-0.258
2012	2012	6	3	0.000
2013	2013	1	1	1.035
2013	2013	1	2	0.939
2013	2013	1	3	0.025
2013	2013	2	1	0.178
2013	2013	2	2	0.142
2013	2013	2	3	0.000
2013	2013	3	1	0.178
2013	2013	3	2	0.142
2013	2013	3	3	0.000
2013	2013	4	2	0.524
2013	2013	4	3	0.000
2013	2013	5	2	0.199
2013	2013	5	3	0.000
2013	2013	6	2	-0.069
2013	2013	6	3	0.000
2014	2014	1	1	-0.594
2014	2014	1	2	0.712
2014	2014	1	3	0.709
2014	2014	2	1	-0.410
2014	2014	2	2	0.114
2014	2014	2	3	-0.064
2014	2014	3	1	-0.410
2014	2014	3	2	0.114
2014	2014	3	3	-0.064
2014	2014	4	2	-1.002
2014	2014	4	3	0.000

2014	2014	5	2	0.195
2014	2014	5	3	0.000
2014	2014	6	2	-0.064
2014	2014	6	3	0.000
2015	2015	1	1	1.252
2015	2015	1	2	1.319
2015	2015	1	3	0.591
2015	2015	2	1	2.511
2015	2015	2	2	0.235
2015	2015	2	3	-0.700
2015	2015	3	1	2.511
2015	2015	3	2	0.235
2015	2015	3	3	-0.700
2015	2015	4	2	0.295
2015	2015	4	3	0.000
2015	2015	5	2	0.327
2015	2015	5	3	0.000
2015	2015	6	2	-0.221
2015	2015	6	3	0.000
2016	2016	1	1	1.373
2016	2016	1	2	1.203
2016	2016	1	3	0.418
2016	2016	2	1	-0.117
2016	2016	2	2	0.703
2016	2016	2	3	-0.216
2016	2016	3	1	-0.117
2016	2016	3	2	0.703
2016	2016	3	3	-0.216
2016	2016	4	2	0.922
2016	2016	4	3	0.000
2016	2016	5	2	0.233
2016	2016	5	3	0.000
2016	2016	6	2	-0.060
2016	2016	6	3	-0.097
2017	2017	1	1	1.236
2017	2017	1	2	0.778
2017	2017	1	3	0.132
2017	2017	2	1	1.631
2017	2017	2	2	1.238
2017	2017	2	3	-0.009
2017	2017	3	1	1.631
2017	2017	3	2	1.238
2017	2017	3	3	-0.009
2017	2017	4	2	-0.773

2017	2017	4	3	0.000
2017	2017	5	2	0.317
2017	2017	5	3	0.000
2017	2017	6	2	-0.036
2017	2017	6	3	-0.080
2018	2018	1	1	0.987
2018	2018	1	2	0.058
2018	2018	1	3	0.092
2018	2018	2	1	3.066
2018	2018	2	2	0.884
2018	2018	2	3	-0.418
2018	2018	3	1	3.066
2018	2018	3	2	0.884
2018	2018	3	3	-0.418
2018	2018	4	2	0.421
2018	2018	4	3	0.000
2018	2018	5	2	0.544
2018	2018	5	3	0.000
2018	2018	6	2	-0.161
2018	2018	6	3	-0.191
2019	2019	1	1	0.626
2019	2019	1	2	-0.319
2019	2019	1	3	-0.347
2019	2019	2	1	1.138
2019	2019	2	2	0.740
2019	2019	2	3	0.088
2019	2019	3	1	1.138
2019	2019	3	2	0.740
2019	2019	3	3	0.088
2019	2019	4	2	-0.944
2019	2019	4	3	0.000
2019	2019	5	2	0.546
2019	2019	5	3	0.000
2019	2019	6	2	-0.168
2019	2019	6	3	-0.223
2020	2020	1	1	0.927
2020	2020	1	2	-0.092
2020	2020	1	3	-0.578
2020	2020	2	1	1.902
2020	2020	2	2	0.372
2020	2020	2	3	-0.341
2020	2020	3	1	1.902
2020	2020	3	2	0.372
2020	2020	3	3	-0.341

2020	2020	4	2	-0.700
2020	2020	4	3	0.000
2020	2020	5	2	0.352
2020	2020	5	3	0.000
2020	2020	6	2	-0.118
2020	2020	6	3	-0.337
2021	2021	1	1	1.169
2021	2021	1	2	-0.014
2021	2021	1	3	3.385
2021	2021	2	1	2.499
2021	2021	2	2	1.189
2021	2021	2	3	0.466
2021	2021	3	1	2.499
2021	2021	3	2	1.189
2021	2021	3	3	0.466
2021	2021	4	2	0.532
2021	2021	4	3	0.000
2021	2021	5	2	0.644
2021	2021	5	3	0.000
2021	2021	6	2	-0.093
2021	2021	6	3	0.885
2022	2022	1	1	-0.836
2022	2022	1	2	0.006
2022	2022	1	3	3.869
2022	2022	2	1	4.304
2022	2022	2	2	0.815
2022	2022	2	3	-0.062
2022	2022	3	1	4.304
2022	2022	3	2	0.815
2022	2022	3	3	-0.062
2022	2022	4	2	0.589
2022	2022	4	3	0.000
2022	2022	5	2	0.547
2022	2022	5	3	0.000
2022	2022	6	2	-0.120
2022	2022	6	3	3.311
2023	2023	1	1	0.823
2023	2023	1	2	-0.026
2023	2023	1	3	2.928
2023	2023	2	1	2.131
2023	2023	2	2	0.721
2023	2023	2	3	0.297
2023	2023	3	1	2.131
2023	2023	3	2	0.721

2023	2023	3	3	0.297
2023	2023	4	2	0.577
2023	2023	4	3	0.000
2023	2023	5	2	0.560
2023	2023	5	3	0.000
2023	2023	6	2	-0.095
2023	2023	6	3	1.901
2024	2024	1	1	0.593
2024	2024	1	2	-0.057
2024	2024	1	3	2.092
2024	2024	2	1	2.062
2024	2024	2	2	0.675
2024	2024	2	3	0.341
2024	2024	3	1	2.062
2024	2024	3	2	0.675
2024	2024	3	3	0.341
2024	2024	4	2	0.567
2024	2024	4	3	0.000
2024	2024	5	2	0.586
2024	2024	5	3	0.000
2024	2024	6	2	0.011
2024	2024	6	3	1.362
2025	2025	1	1	0.334
2025	2025	1	2	-0.072
2025	2025	1	3	1.828
2025	2025	2	1	2.658
2025	2025	2	2	1.643
2025	2025	2	3	0.472
2025	2025	3	1	2.658
2025	2025	3	2	1.643
2025	2025	3	3	0.472
2025	2025	4	2	1.078
2025	2025	4	3	0.000
2025	2025	5	2	1.849
2025	2025	5	3	0.000
2025	2025	6	2	0.031
2025	2025	6	3	1.886
2026	2026	1	1	0.238
2026	2026	1	2	-0.115
2026	2026	1	3	1.458
2026	2026	2	1	2.532
2026	2026	2	2	1.489
2026	2026	2	3	0.578
2026	2026	3	1	2.532

2026	2026	3	2	1.489
2026	2026	3	3	0.578
2026	2026	4	2	1.050
2026	2026	4	3	0.000
2026	2026	5	2	1.888
2026	2026	5	3	0.000
2026	2026	6	2	0.052
2026	2026	6	3	1.530
2027	2027	1	1	0.159
2027	2027	1	2	-0.159
2027	2027	1	3	1.326
2027	2027	2	1	4.516
2027	2027	2	2	1.360
2027	2027	2	3	0.506
2027	2027	3	1	4.516
2027	2027	3	2	1.360
2027	2027	3	3	0.506
2027	2027	4	2	1.010
2027	2027	4	3	0.000
2027	2027	5	2	1.827
2027	2027	5	3	0.000
2027	2027	6	2	0.127
2027	2027	6	3	1.497
2028	2028	1	1	0.087
2028	2028	1	2	-0.216
2028	2028	1	3	1.215
2028	2028	2	1	2.106
2028	2028	2	2	1.237
2028	2028	2	3	0.556
2028	2028	3	1	2.106
2028	2028	3	2	1.237
2028	2028	3	3	0.556
2028	2028	4	2	0.976
2028	2028	4	3	0.000
2028	2028	5	2	1.778
2028	2028	5	3	0.000
2028	2028	6	2	0.136
2028	2028	6	3	1.429
2029	2029	1	1	0.024
2029	2029	1	2	-0.284
2029	2029	1	3	1.180
2029	2029	2	1	1.991
2029	2029	2	2	1.142
2029	2029	2	3	0.357

2029	2029	3	1	1.991
2029	2029	3	2	1.142
2029	2029	3	3	0.357
2029	2029	4	2	0.948
2029	2029	4	3	0.000
2029	2029	5	2	1.702
2029	2029	5	3	0.000
2029	2029	6	2	0.148
2029	2029	6	3	1.250
2030	2030	1	1	0.021
2030	2030	1	2	-0.366
2030	2030	1	3	1.123
2030	2030	2	1	2.720
2030	2030	2	2	2.177
2030	2030	2	3	-0.469
2030	2030	3	1	2.720
2030	2030	3	2	2.177
2030	2030	3	3	-0.469
2030	2030	4	2	1.599
2030	2030	4	3	0.000
2030	2030	5	2	3.302
2030	2030	5	3	0.000
2030	2030	6	2	0.190
2030	2030	6	3	0.841
2031	2031	1	1	-0.068
2031	2031	1	2	-0.361
2031	2031	1	3	0.961
2031	2031	2	1	0.062
2031	2031	2	2	2.084
2031	2031	2	3	-1.235
2031	2031	3	1	0.062
2031	2031	3	2	2.084
2031	2031	3	3	-1.235
2031	2031	4	2	1.522
2031	2031	4	3	0.000
2031	2031	5	2	3.277
2031	2031	5	3	0.000
2031	2031	6	2	0.192
2031	2031	6	3	0.787
2032	2032	1	1	-0.106
2032	2032	1	2	-0.381
2032	2032	1	3	0.857
2032	2032	2	1	2.503
2032	2032	2	2	1.668

2032	2032	2	3	-1.684
2032	2032	3	1	2.503
2032	2032	3	2	1.668
2032	2032	3	3	-1.684
2032	2032	4	2	1.484
2032	2032	4	3	0.000
2032	2032	5	2	3.008
2032	2032	5	3	0.000
2032	2032	6	2	0.084
2032	2032	6	3	0.750
2033	2033	1	1	-0.116
2033	2033	1	2	-0.386
2033	2033	1	3	0.790
2033	2033	2	1	2.964
2033	2033	2	2	1.626
2033	2033	2	3	-1.777
2033	2033	3	1	2.964
2033	2033	3	2	1.626
2033	2033	3	3	-1.777
2033	2033	4	2	1.404
2033	2033	4	3	0.000
2033	2033	5	2	2.748
2033	2033	5	3	0.000
2033	2033	6	2	0.145
2033	2033	6	3	0.721
2034	2034	1	1	-0.126
2034	2034	1	2	-0.393
2034	2034	1	3	0.748
2034	2034	2	1	4.667
2034	2034	2	2	1.264
2034	2034	2	3	-1.521
2034	2034	3	1	4.667
2034	2034	3	2	1.264
2034	2034	3	3	-1.521
2034	2034	4	2	1.321
2034	2034	4	3	0.000
2034	2034	5	2	2.559
2034	2034	5	3	0.000
2034	2034	6	2	0.401
2034	2034	6	3	0.724
2035	2035	1	1	-0.173
2035	2035	1	2	-0.358
2035	2035	1	3	0.722
2035	2035	2	1	-2.719

2035	2035	2	2	1.183
2035	2035	2	3	-1.133
2035	2035	3	1	-2.719
2035	2035	3	2	1.183
2035	2035	3	3	-1.133
2035	2035	4	2	1.229
2035	2035	4	3	0.000
2035	2035	5	2	2.323
2035	2035	5	3	0.000
2035	2035	6	2	0.252
2035	2035	6	3	0.748
2036	2036	1	1	-0.188
2036	2036	1	2	-0.251
2036	2036	1	3	0.712
2036	2036	2	1	2.305
2036	2036	2	2	1.146
2036	2036	2	3	-0.751
2036	2036	3	1	2.305
2036	2036	3	2	1.146
2036	2036	3	3	-0.751
2036	2036	4	2	1.142
2036	2036	4	3	0.000
2036	2036	5	2	2.020
2036	2036	5	3	0.000
2036	2036	6	2	0.188
2036	2036	6	3	0.761
2037	2037	1	1	-0.232
2037	2037	1	2	-0.323
2037	2037	1	3	0.717
2037	2037	2	1	1.801
2037	2037	2	2	1.152
2037	2037	2	3	-0.441
2037	2037	3	1	1.801
2037	2037	3	2	1.152
2037	2037	3	3	-0.441
2037	2037	4	2	1.035
2037	2037	4	3	0.000
2037	2037	5	2	1.558
2037	2037	5	3	0.000
2037	2037	6	2	0.354
2037	2037	6	3	0.782
2038	2038	1	1	-0.236
2038	2038	1	2	-0.424
2038	2038	1	3	0.717

2038	2038	2	1	5.995
2038	2038	2	2	1.204
2038	2038	2	3	-0.217
2038	2038	3	1	5.995
2038	2038	3	2	1.204
2038	2038	3	3	-0.217
2038	2038	4	2	0.915
2038	2038	4	3	0.000
2038	2038	5	2	1.195
2038	2038	5	3	0.000
2038	2038	6	2	0.272
2038	2038	6	3	0.805
2039	2039	1	1	-0.233
2039	2039	1	2	-0.611
2039	2039	1	3	0.713
2039	2039	2	1	-0.357
2039	2039	2	2	0.702
2039	2039	2	3	0.021
2039	2039	3	1	-0.357
2039	2039	3	2	0.702
2039	2039	3	3	0.021
2039	2039	4	2	0.794
2039	2039	4	3	0.000
2039	2039	5	2	0.889
2039	2039	5	3	0.000
2039	2039	6	2	0.201
2039	2039	6	3	0.822
2040	2040	1	1	-0.203
2040	2040	1	2	-0.411
2040	2040	1	3	0.720
2040	2040	2	1	1.080
2040	2040	2	2	0.723
2040	2040	2	3	0.104
2040	2040	3	1	1.080
2040	2040	3	2	0.723
2040	2040	3	3	0.104
2040	2040	4	2	0.689
2040	2040	4	3	0.000
2040	2040	5	2	0.664
2040	2040	5	3	0.000
2040	2040	6	2	0.256
2040	2040	6	3	0.928
2041	2041	1	1	0.027
2041	2041	1	2	0.054

2041	2041	1	3	0.701
2041	2041	2	1	4.247
2041	2041	2	2	0.511
2041	2041	2	3	0.157
2041	2041	3	1	4.247
2041	2041	3	2	0.511
2041	2041	3	3	0.157
2041	2041	4	2	0.607
2041	2041	4	3	0.000
2041	2041	5	2	0.494
2041	2041	5	3	0.000
2041	2041	6	2	0.423
2041	2041	6	3	0.866
2042	2042	1	1	-0.082
2042	2042	1	2	-0.073
2042	2042	1	3	0.685
2042	2042	2	1	2.107
2042	2042	2	2	0.932
2042	2042	2	3	0.161
2042	2042	3	1	2.107
2042	2042	3	2	0.932
2042	2042	3	3	0.161
2042	2042	4	2	0.538
2042	2042	4	3	0.000
2042	2042	5	2	0.370
2042	2042	5	3	0.000
2042	2042	6	2	0.288
2042	2042	6	3	0.802
2043	2043	1	1	-0.107
2043	2043	1	2	-0.009
2043	2043	1	3	0.662
2043	2043	2	1	0.816
2043	2043	2	2	0.626
2043	2043	2	3	0.170
2043	2043	3	1	0.816
2043	2043	3	2	0.626
2043	2043	3	3	0.170
2043	2043	4	2	0.485
2043	2043	4	3	0.000
2043	2043	5	2	0.292
2043	2043	5	3	0.000
2043	2043	6	2	0.262
2043	2043	6	3	0.744
2044	2044	1	1	-0.075

2044	2044	1	2	-0.004
2044	2044	1	3	0.639
2044	2044	2	1	0.451
2044	2044	2	2	0.395
2044	2044	2	3	0.197
2044	2044	3	1	0.451
2044	2044	3	2	0.395
2044	2044	3	3	0.197
2044	2044	4	2	0.446
2044	2044	4	3	0.000
2044	2044	5	2	0.234
2044	2044	5	3	0.000
2044	2044	6	2	0.256
2044	2044	6	3	0.710
2045	2045	1	1	-0.046
2045	2045	1	2	-0.001
2045	2045	1	3	0.620
2045	2045	2	1	0.400
2045	2045	2	2	0.339
2045	2045	2	3	0.217
2045	2045	3	1	0.400
2045	2045	3	2	0.339
2045	2045	3	3	0.217
2045	2045	4	2	0.415
2045	2045	4	3	0.000
2045	2045	5	2	0.199
2045	2045	5	3	0.000
2045	2045	6	2	0.255
2045	2045	6	3	0.674
2046	2046	1	1	-0.022
2046	2046	1	2	0.000
2046	2046	1	3	0.603
2046	2046	2	1	1.958
2046	2046	2	2	1.266
2046	2046	2	3	0.233
2046	2046	3	1	1.958
2046	2046	3	2	1.266
2046	2046	3	3	0.233
2046	2046	4	2	0.425
2046	2046	4	3	0.000
2046	2046	5	2	0.214
2046	2046	5	3	0.000
2046	2046	6	2	0.248
2046	2046	6	3	0.634

2047	2047	1	1	-0.009
2047	2047	1	2	0.002
2047	2047	1	3	0.581
2047	2047	2	1	0.207
2047	2047	2	2	0.178
2047	2047	2	3	0.264
2047	2047	3	1	0.207
2047	2047	3	2	0.178
2047	2047	3	3	0.264
2047	2047	4	2	0.362
2047	2047	4	3	0.000
2047	2047	5	2	0.138
2047	2047	5	3	0.000
2047	2047	6	2	0.247
2047	2047	6	3	0.577
2048	2048	1	1	0.004
2048	2048	1	2	0.003
2048	2048	1	3	0.565
2048	2048	2	1	0.179
2048	2048	2	2	0.147
2048	2048	2	3	0.285
2048	2048	3	1	0.179
2048	2048	3	2	0.147
2048	2048	3	3	0.285
2048	2048	4	2	0.349
2048	2048	4	3	0.000
2048	2048	5	2	0.124
2048	2048	5	3	0.000
2048	2048	6	2	0.252
2048	2048	6	3	0.549
2049	2049	1	1	0.013
2049	2049	1	2	0.004
2049	2049	1	3	0.545
2049	2049	2	1	0.156
2049	2049	2	2	0.124
2049	2049	2	3	0.310
2049	2049	3	1	0.156
2049	2049	3	2	0.124
2049	2049	3	3	0.310
2049	2049	4	2	0.340
2049	2049	4	3	0.000
2049	2049	5	2	0.116
2049	2049	5	3	0.000
2049	2049	6	2	0.241

2049	2049	6	3	0.528
2050	2050	1	1	0.019
2050	2050	1	2	0.004
2050	2050	1	3	0.529
2050	2050	2	1	0.139
2050	2050	2	2	0.106
2050	2050	2	3	0.332
2050	2050	3	1	0.139
2050	2050	3	2	0.106
2050	2050	3	3	0.332
2050	2050	4	2	0.333
2050	2050	4	3	0.000
2050	2050	5	2	0.109
2050	2050	5	3	0.000
2050	2050	6	2	0.270
2050	2050	6	3	0.512
2051	2151	1	1	0.000
2051	2151	1	2	0.000
2051	2151	1	3	0.000
2051	2151	2	1	0.000
2051	2151	2	2	0.000
2051	2151	2	3	0.000
2051	2151	3	1	0.000
2051	2151	3	2	0.000
2051	2151	3	3	0.000
2051	2151	4	2	0.000
2051	2151	4	3	0.000
2051	2151	5	2	0.000
2051	2151	5	3	0.000
2051	2151	6	2	0.000
2051	2151	6	3	0.000

FUEL_EFFICIENCY - (std)

*% p.a.

*Start_yr	End_yr	veh_type	fuel_type	change
2011	2011	1	1	0.604
2011	2011	1	2	0.874
2011	2011	1	3	0.032
2011	2011	2	1	-0.168
2011	2011	2	2	0.177
2011	2011	2	3	0.000
2011	2011	3	1	-0.168
2011	2011	3	2	0.177
2011	2011	3	3	0.000

2011	2011	4	2	-0.113
2011	2011	5	2	0.011
2012	2012	1	1	0.285
2012	2012	1	2	0.975
2012	2012	1	3	-0.707
2012	2012	2	1	-0.630
2012	2012	2	2	0.468
2012	2012	2	3	0.000
2012	2012	3	1	-0.630
2012	2012	3	2	0.468
2012	2012	3	3	0.000
2012	2012	4	2	-2.932
2012	2012	5	2	0.288
2013	2013	1	1	0.891
2013	2013	1	2	0.920
2013	2013	1	3	0.085
2013	2013	2	1	0.031
2013	2013	2	2	0.107
2013	2013	2	3	0.000
2013	2013	3	1	0.031
2013	2013	3	2	0.107
2013	2013	3	3	0.000
2013	2013	4	2	0.475
2013	2013	5	2	0.068
2014	2014	1	1	0.979
2014	2014	1	2	0.945
2014	2014	1	3	-1.015
2014	2014	2	1	-0.518
2014	2014	2	2	0.057
2014	2014	2	3	-0.042
2014	2014	3	1	-0.518
2014	2014	3	2	0.057
2014	2014	3	3	-0.042
2014	2014	4	2	-1.038
2014	2014	5	2	0.144
2015	2015	1	1	1.281
2015	2015	1	2	1.319
2015	2015	1	3	-0.927
2015	2015	2	1	2.498
2015	2015	2	2	0.323
2015	2015	2	3	-0.454
2015	2015	3	1	2.498
2015	2015	3	2	0.323
2015	2015	3	3	-0.454

2015	2015	4	2	0.361
2015	2015	5	2	0.480
2016	2016	1	1	1.406
2016	2016	1	2	1.207
2016	2016	1	3	1.034
2016	2016	2	1	-0.062
2016	2016	2	2	0.705
2016	2016	2	3	0.340
2016	2016	3	1	-0.062
2016	2016	3	2	0.705
2016	2016	3	3	0.340
2016	2016	4	2	0.747
2016	2016	5	2	0.239
2017	2017	1	1	1.270
2017	2017	1	2	0.783
2017	2017	1	3	1.188
2017	2017	2	1	1.646
2017	2017	2	2	1.249
2017	2017	2	3	0.804
2017	2017	3	1	1.646
2017	2017	3	2	1.249
2017	2017	3	3	0.804
2017	2017	4	2	-0.771
2017	2017	5	2	0.316
2018	2018	1	1	1.029
2018	2018	1	2	0.063
2018	2018	1	3	1.035
2018	2018	2	1	3.029
2018	2018	2	2	0.770
2018	2018	2	3	0.708
2018	2018	3	1	3.029
2018	2018	3	2	0.770
2018	2018	3	3	0.708
2018	2018	4	2	-0.058
2018	2018	5	2	0.407
2019	2019	1	1	0.990
2019	2019	1	2	-0.041
2019	2019	1	3	2.359
2019	2019	2	1	1.141
2019	2019	2	2	0.522
2019	2019	2	3	2.118
2019	2019	3	1	1.141
2019	2019	3	2	0.522
2019	2019	3	3	2.118

2019	2019	4	2	0.247
2019	2019	5	2	0.388
2020	2020	1	1	2.680
2020	2020	1	2	1.323
2020	2020	1	3	2.699
2020	2020	2	1	1.842
2020	2020	2	2	1.432
2020	2020	2	3	-2.324
2020	2020	3	1	1.842
2020	2020	3	2	1.432
2020	2020	3	3	-2.324
2020	2020	4	2	0.341
2020	2020	5	2	0.470
2021	2021	1	1	2.289
2021	2021	1	2	1.469
2021	2021	1	3	5.660
2021	2021	2	1	1.283
2021	2021	2	2	1.165
2021	2021	2	3	-0.804
2021	2021	3	1	1.283
2021	2021	3	2	1.165
2021	2021	3	3	-0.804
2021	2021	4	2	0.484
2021	2021	5	2	0.523
2022	2022	1	1	2.080
2022	2022	1	2	1.497
2022	2022	1	3	3.960
2022	2022	2	1	2.960
2022	2022	2	2	1.102
2022	2022	2	3	-0.880
2022	2022	3	1	2.960
2022	2022	3	2	1.102
2022	2022	3	3	-0.880
2022	2022	4	2	0.491
2022	2022	5	2	0.531
2023	2023	1	1	1.895
2023	2023	1	2	1.393
2023	2023	1	3	2.637
2023	2023	2	1	1.045
2023	2023	2	2	0.925
2023	2023	2	3	-1.450
2023	2023	3	1	1.045
2023	2023	3	2	0.925
2023	2023	3	3	-1.450

2023	2023	4	2	0.500
2023	2023	5	2	0.548
2024	2024	1	1	1.891
2024	2024	1	2	1.258
2024	2024	1	3	2.035
2024	2024	2	1	1.277
2024	2024	2	2	0.822
2024	2024	2	3	-1.389
2024	2024	3	1	1.277
2024	2024	3	2	0.822
2024	2024	3	3	-1.389
2024	2024	4	2	0.490
2024	2024	5	2	0.544
2025	2025	1	1	1.650
2025	2025	1	2	1.164
2025	2025	1	3	1.843
2025	2025	2	1	2.913
2025	2025	2	2	1.999
2025	2025	2	3	-1.541
2025	2025	3	1	2.913
2025	2025	3	2	1.999
2025	2025	3	3	-1.541
2025	2025	4	2	0.918
2025	2025	5	2	1.864
2026	2026	1	1	1.468
2026	2026	1	2	1.107
2026	2026	1	3	1.211
2026	2026	2	1	2.351
2026	2026	2	2	1.780
2026	2026	2	3	-0.553
2026	2026	3	1	2.351
2026	2026	3	2	1.780
2026	2026	3	3	-0.553
2026	2026	4	2	0.900
2026	2026	5	2	1.854
2027	2027	1	1	1.372
2027	2027	1	2	1.130
2027	2027	1	3	0.922
2027	2027	2	1	3.660
2027	2027	2	2	1.600
2027	2027	2	3	-0.253
2027	2027	3	1	3.660
2027	2027	3	2	1.600
2027	2027	3	3	-0.253

2027	2027	4	2	0.874
2027	2027	5	2	1.767
2028	2028	1	1	1.234
2028	2028	1	2	1.148
2028	2028	1	3	0.747
2028	2028	2	1	1.853
2028	2028	2	2	1.433
2028	2028	2	3	0.019
2028	2028	3	1	1.853
2028	2028	3	2	1.433
2028	2028	3	3	0.019
2028	2028	4	2	0.846
2028	2028	5	2	1.644
2029	2029	1	1	1.110
2029	2029	1	2	1.140
2029	2029	1	3	0.694
2029	2029	2	1	1.699
2029	2029	2	2	1.299
2029	2029	2	3	0.258
2029	2029	3	1	1.699
2029	2029	3	2	1.299
2029	2029	3	3	0.258
2029	2029	4	2	0.808
2029	2029	5	2	1.531
2030	2030	1	1	2.306
2030	2030	1	2	2.305
2030	2030	1	3	0.690
2030	2030	2	1	3.530
2030	2030	2	2	2.726
2030	2030	2	3	0.398
2030	2030	3	1	3.530
2030	2030	3	2	2.726
2030	2030	3	3	0.398
2030	2030	4	2	1.394
2030	2030	5	2	3.225
2031	2031	1	1	2.230
2031	2031	1	2	2.375
2031	2031	1	3	0.571
2031	2031	2	1	1.740
2031	2031	2	2	2.564
2031	2031	2	3	0.251
2031	2031	3	1	1.740
2031	2031	3	2	2.564
2031	2031	3	3	0.251

2031	2031	4	2	1.307
2031	2031	5	2	3.126
2032	2032	1	1	2.088
2032	2032	1	2	2.387
2032	2032	1	3	0.492
2032	2032	2	1	2.870
2032	2032	2	2	2.133
2032	2032	2	3	0.170
2032	2032	3	1	2.870
2032	2032	3	2	2.133
2032	2032	3	3	0.170
2032	2032	4	2	1.294
2032	2032	5	2	2.946
2033	2033	1	1	2.021
2033	2033	1	2	2.185
2033	2033	1	3	0.435
2033	2033	2	1	2.820
2033	2033	2	2	2.016
2033	2033	2	3	0.145
2033	2033	3	1	2.820
2033	2033	3	2	2.016
2033	2033	3	3	0.145
2033	2033	4	2	1.240
2033	2033	5	2	2.667
2034	2034	1	1	1.933
2034	2034	1	2	1.998
2034	2034	1	3	0.405
2034	2034	2	1	3.326
2034	2034	2	2	1.646
2034	2034	2	3	0.151
2034	2034	3	1	3.326
2034	2034	3	2	1.646
2034	2034	3	3	0.151
2034	2034	4	2	1.176
2034	2034	5	2	2.450
2035	2035	1	1	1.795
2035	2035	1	2	1.826
2035	2035	1	3	0.374
2035	2035	2	1	-0.177
2035	2035	2	2	1.517
2035	2035	2	3	0.162
2035	2035	3	1	-0.177
2035	2035	3	2	1.517
2035	2035	3	3	0.162

2035	2035	4	2	1.110
2035	2035	5	2	2.072
2036	2036	1	1	1.602
2036	2036	1	2	1.723
2036	2036	1	3	0.362
2036	2036	2	1	1.873
2036	2036	2	2	1.401
2036	2036	2	3	0.192
2036	2036	3	1	1.873
2036	2036	3	2	1.401
2036	2036	3	3	0.192
2036	2036	4	2	1.026
2036	2036	5	2	1.652
2037	2037	1	1	1.499
2037	2037	1	2	1.565
2037	2037	1	3	0.374
2037	2037	2	1	1.484
2037	2037	2	2	1.325
2037	2037	2	3	0.232
2037	2037	3	1	1.484
2037	2037	3	2	1.325
2037	2037	3	3	0.232
2037	2037	4	2	0.935
2037	2037	5	2	1.356
2038	2038	1	1	1.372
2038	2038	1	2	1.357
2038	2038	1	3	0.386
2038	2038	2	1	2.766
2038	2038	2	2	1.280
2038	2038	2	3	0.263
2038	2038	3	1	2.766
2038	2038	3	2	1.280
2038	2038	3	3	0.263
2038	2038	4	2	0.848
2038	2038	5	2	1.046
2039	2039	1	1	1.233
2039	2039	1	2	1.098
2039	2039	1	3	0.402
2039	2039	2	1	0.398
2039	2039	2	2	0.831
2039	2039	2	3	0.296
2039	2039	3	1	0.398
2039	2039	3	2	0.831
2039	2039	3	3	0.296

2039	2039	4	2	0.758
2039	2039	5	2	0.806
2040	2040	1	1	1.198
2040	2040	1	2	1.161
2040	2040	1	3	0.342
2040	2040	2	1	0.753
2040	2040	2	2	0.771
2040	2040	2	3	0.329
2040	2040	3	1	0.753
2040	2040	3	2	0.771
2040	2040	3	3	0.329
2040	2040	4	2	0.660
2040	2040	5	2	0.599
2041	2041	1	1	1.300
2041	2041	1	2	1.581
2041	2041	1	3	0.360
2041	2041	2	1	1.010
2041	2041	2	2	1.026
2041	2041	2	3	0.390
2041	2041	3	1	1.010
2041	2041	3	2	1.026
2041	2041	3	3	0.390
2041	2041	4	2	0.582
2041	2041	5	2	0.436
2042	2042	1	1	0.879
2042	2042	1	2	0.843
2042	2042	1	3	0.374
2042	2042	2	1	0.496
2042	2042	2	2	0.525
2042	2042	2	3	0.477
2042	2042	3	1	0.496
2042	2042	3	2	0.525
2042	2042	3	3	0.477
2042	2042	4	2	0.512
2042	2042	5	2	0.335
2043	2043	1	1	0.765
2043	2043	1	2	0.693
2043	2043	1	3	0.385
2043	2043	2	1	0.415
2043	2043	2	2	0.437
2043	2043	2	3	0.533
2043	2043	3	1	0.415
2043	2043	3	2	0.437
2043	2043	3	3	0.533

2043	2043	4	2	0.451
2043	2043	5	2	0.259
2044	2044	1	1	0.624
2044	2044	1	2	0.557
2044	2044	1	3	0.405
2044	2044	2	1	0.345
2044	2044	2	2	0.357
2044	2044	2	3	0.581
2044	2044	3	1	0.345
2044	2044	3	2	0.357
2044	2044	3	3	0.581
2044	2044	4	2	0.404
2044	2044	5	2	0.202
2045	2045	1	1	0.483
2045	2045	1	2	0.421
2045	2045	1	3	0.407
2045	2045	2	1	0.285
2045	2045	2	2	0.288
2045	2045	2	3	0.623
2045	2045	3	1	0.285
2045	2045	3	2	0.288
2045	2045	3	3	0.623
2045	2045	4	2	0.365
2045	2045	5	2	0.160
2046	2046	1	1	0.320
2046	2046	1	2	0.344
2046	2046	1	3	0.428
2046	2046	2	1	0.652
2046	2046	2	2	0.858
2046	2046	2	3	0.645
2046	2046	3	1	0.652
2046	2046	3	2	0.858
2046	2046	3	3	0.645
2046	2046	4	2	0.374
2046	2046	5	2	0.157
2047	2047	1	1	0.238
2047	2047	1	2	0.257
2047	2047	1	3	0.441
2047	2047	2	1	0.150
2047	2047	2	2	0.136
2047	2047	2	3	0.686
2047	2047	3	1	0.150
2047	2047	3	2	0.136
2047	2047	3	3	0.686

2047	2047	4	2	0.304
2047	2047	5	2	0.087
2048	2048	1	1	0.179
2048	2048	1	2	0.195
2048	2048	1	3	0.452
2048	2048	2	1	0.126
2048	2048	2	2	0.108
2048	2048	2	3	0.717
2048	2048	3	1	0.126
2048	2048	3	2	0.108
2048	2048	3	3	0.717
2048	2048	4	2	0.288
2048	2048	5	2	0.074
2049	2049	1	1	0.135
2049	2049	1	2	0.148
2049	2049	1	3	0.461
2049	2049	2	1	0.106
2049	2049	2	2	0.087
2049	2049	2	3	0.745
2049	2049	3	1	0.106
2049	2049	3	2	0.087
2049	2049	3	3	0.745
2049	2049	4	2	0.275
2049	2049	5	2	0.062
2050	2050	1	1	0.103
2050	2050	1	2	0.114
2050	2050	1	3	0.472
2050	2050	2	1	0.091
2050	2050	2	2	0.072
2050	2050	2	3	0.770
2050	2050	3	1	0.091
2050	2050	3	2	0.072
2050	2050	3	3	0.770
2050	2050	4	2	0.266
2050	2050	5	2	0.055
2051	2151	1	1	0.000
2051	2151	1	2	0.000
2051	2151	1	3	0.000
2051	2151	2	1	0.000
2051	2151	2	2	0.000
2051	2151	2	3	0.000
2051	2151	3	1	0.000
2051	2151	3	2	0.000
2051	2151	3	3	0.000

Road	2037	0	0	0	0	0	0	0	0
Road	2038	0	0	0	0	0	0	0	0
Road	2039	0	0	0	0	0	0	0	0
Road	2040	0	0	0	0	0	0	0	0
Road	2041	0	0	0	0	0	0	0	0
Road	2042	0	0	0	0	0	0	0	0
Road	2043	0	0	0	0	0	0	0	0
Road	2044	0	0	0	0	0	0	0	0
Road	2045	0	0	0	0	0	0	0	0
Road	2046	0	0	0	0	0	0	0	0
Road	2047	0	0	0	0	0	0	0	0
Road	2048	0	0	0	0	0	0	0	0
Road	2049	0	0	0	0	0	0	0	0
Road	2050	0	0	0	0	0	0	0	0
Road	2051	0	0	0	0	0	0	0	0
Road	2052	0	0	0	0	0	0	0	0
Road	2053	0	0	0	0	0	0	0	0
Road	2054	0	0	0	0	0	0	0	0
Road	2055	0	0	0	0	0	0	0	0
Road	2056	0	0	0	0	0	0	0	0
Road	2057	0	0	0	0	0	0	0	0
Road	2058	0	0	0	0	0	0	0	0
Road	2059	0	0	0	0	0	0	0	0
Road	2060	0	0	0	0	0	0	0	0
Road	2061	0	0	0	0	0	0	0	0
Road	2062	0	0	0	0	0	0	0	0
Road	2063	0	0	0	0	0	0	0	0
Road	2064	0	0	0	0	0	0	0	0
Road	2065	0	0	0	0	0	0	0	0
Road	2066	0	0	0	0	0	0	0	0
Road	2067	0	0	0	0	0	0	0	0
Road	2068	0	0	0	0	0	0	0	0
Road	2069	0	0	0	0	0	0	0	0
Road	2070	0	0	0	0	0	0	0	0
Road	2071	0	0	0	0	0	0	0	0
Road	2072	0	0	0	0	0	0	0	0
Road	2073	0	0	0	0	0	0	0	0
Road	2074	0	0	0	0	0	0	0	0
Road	2075	0	0	0	0	0	0	0	0
Road	2076	0	0	0	0	0	0	0	0
Road	2077	0	0	0	0	0	0	0	0
Road	2078	0	0	0	0	0	0	0	0
Road	2079	0	0	0	0	0	0	0	0
Road	2080	0	0	0	0	0	0	0	0

Road	2081	0	0	0	0	0	0	0	0
Road	2082	0	0	0	0	0	0	0	0

DS_SCHEME_COSTS

Do something scheme costs. Undiscounted £000s

Mode	Year	Prep.	Superv.	Constr.	Land	Maint.	Oper.	Grant/Sub.	Dev_Cont
Road	2023	226	0	57	212	0	0	0	0
Road	2024	96	0	0	0	0	0	0	0
Road	2025	211	10	2232	0	0	0	0	0
Road	2026	211	40	3610	0	0	0	0	45
Road	2027	0	0	0	0	2	0	0	0
Road	2028	0	0	0	0	3	0	0	0
Road	2029	0	0	0	0	2	0	0	0
Road	2030	0	0	0	0	2	0	0	0
Road	2031	0	0	0	0	2	0	0	0
Road	2032	0	0	0	0	2	0	0	0
Road	2033	0	0	0	0	10	0	0	0
Road	2034	0	0	0	0	2	0	0	0
Road	2035	0	0	0	0	1	0	0	0
Road	2036	0	0	0	0	1	0	0	0
Road	2037	0	0	0	0	1	0	0	0
Road	2038	0	0	0	0	3	0	0	0
Road	2039	0	0	0	0	1	0	0	0
Road	2040	0	0	0	0	1	0	0	0
Road	2041	0	0	0	0	1	0	0	0
Road	2042	0	0	0	0	1	0	0	0
Road	2043	0	0	0	0	53	0	0	0
Road	2044	0	0	0	0	1	0	0	0
Road	2045	0	0	0	0	1	0	0	0
Road	2046	0	0	0	0	1	0	0	0
Road	2047	0	0	0	0	1	0	0	0
Road	2048	0	0	0	0	5	0	0	0
Road	2049	0	0	0	0	1	0	0	0
Road	2050	0	0	0	0	1	0	0	0
Road	2051	0	0	0	0	1	0	0	0
Road	2052	0	0	0	0	1	0	0	0
Road	2053	0	0	0	0	6	0	0	0
Road	2054	0	0	0	0	1	0	0	0
Road	2055	0	0	0	0	1	0	0	0
Road	2056	0	0	0	0	1	0	0	0
Road	2057	0	0	0	0	1	0	0	0
Road	2058	0	0	0	0	2	0	0	0
Road	2059	0	0	0	0	1	0	0	0
Road	2060	0	0	0	0	1	0	0	0

Road	2061	0	0	0	0	1	0	0	0
Road	2062	0	0	0	0	1	0	0	0
Road	2063	0	0	0	0	53	0	0	0
Road	2064	0	0	0	0	1	0	0	0
Road	2065	0	0	0	0	1	0	0	0
Road	2066	0	0	0	0	1	0	0	0
Road	2067	0	0	0	0	1	0	0	0
Road	2068	0	0	0	0	1	0	0	0
Road	2069	0	0	0	0	1	0	0	0
Road	2070	0	0	0	0	1	0	0	0
Road	2071	0	0	0	0	1	0	0	0
Road	2072	0	0	0	0	1	0	0	0
Road	2073	0	0	0	0	7	0	0	0
Road	2074	0	0	0	0	1	0	0	0
Road	2075	0	0	0	0	1	0	0	0
Road	2076	0	0	0	0	1	0	0	0
Road	2077	0	0	0	0	1	0	0	0
Road	2078	0	0	0	0	1	0	0	0
Road	2079	0	0	0	0	1	0	0	0
Road	2080	0	0	0	0	1	0	0	0
Road	2081	0	0	0	0	1	0	0	0
Road	2082	0	0	0	0	6	0	0	0

PRESENT_VALUE_COSTS

Scheme investment and operating costs (i.e. excluding grant/subsidy, developer contributions and delays) and differences. E000s.

Mode	Year	DM_scheme_costs	DS_scheme_costs	Difference
Road	2023	0	317	317
Road	2024	0	59	59
Road	2025	0	1464	1464
Road	2026	0	2227	2227
Road	2027	0	1	1
Road	2028	0	2	2
Road	2029	0	1	1
Road	2030	0	1	1
Road	2031	0	1	1
Road	2032	0	1	1
Road	2033	0	4	4
Road	2034	0	1	1
Road	2035	0	1	1
Road	2036	0	1	1
Road	2037	0	1	1
Road	2038	0	1	1
Road	2039	0	0	0
Road	2040	0	0	0

Road	2041	0	0	0
Road	2042	0	0	0
Road	2043	0	17	17
Road	2044	0	0	0
Road	2045	0	0	0
Road	2046	0	0	0
Road	2047	0	0	0
Road	2048	0	1	1
Road	2049	0	0	0
Road	2050	0	0	0
Road	2051	0	0	0
Road	2052	0	0	0
Road	2053	0	1	1
Road	2054	0	0	0
Road	2055	0	0	0
Road	2056	0	0	0
Road	2057	0	0	0
Road	2058	0	0	0
Road	2059	0	0	0
Road	2060	0	0	0
Road	2061	0	0	0
Road	2062	0	0	0
Road	2063	0	9	9
Road	2064	0	0	0
Road	2065	0	0	0
Road	2066	0	0	0
Road	2067	0	0	0
Road	2068	0	0	0
Road	2069	0	0	0
Road	2070	0	0	0
Road	2071	0	0	0
Road	2072	0	0	0
Road	2073	0	1	1
Road	2074	0	0	0
Road	2075	0	0	0
Road	2076	0	0	0
Road	2077	0	0	0
Road	2078	0	0	0
Road	2079	0	0	0
Road	2080	0	0	0
Road	2081	0	0	0
Road	2082	0	1	1
Road	Total	0	4119	4119

TRIP_MATRIX_TOTALS

Annualised total trip numbers(thousands)

Submode	Year	Time period	DO MIN	DO SOM
Car	2023	AM peak	1954	1954
Car	2023	PM peak	2091	2091
Car	2023	Inter-peak	5769	5769
Car	2023	Off-peak	837	837
Car	2023	All	10652	10652
Car	2037	AM peak	2038	2038
Car	2037	PM peak	2152	2152
Car	2037	Inter-peak	6018	6018
Car	2037	Off-peak	875	875
Car	2037	All	11083	11083
LGV Personal	2023	AM peak	35	35
LGV Personal	2023	PM peak	36	36
LGV Personal	2023	Inter-peak	122	122
LGV Personal	2023	Off-peak	18	18
LGV Personal	2023	All	211	211
LGV Personal	2037	AM peak	37	37
LGV Personal	2037	PM peak	37	37
LGV Personal	2037	Inter-peak	127	127
LGV Personal	2037	Off-peak	18	18
LGV Personal	2037	All	220	220
LGV Freight	2023	AM peak	260	260
LGV Freight	2023	PM peak	267	267
LGV Freight	2023	Inter-peak	891	891
LGV Freight	2023	Off-peak	129	129
LGV Freight	2023	All	1548	1548
LGV Freight	2037	AM peak	271	271
LGV Freight	2037	PM peak	275	275
LGV Freight	2037	Inter-peak	930	930
LGV Freight	2037	Off-peak	135	135
LGV Freight	2037	All	1611	1611
OGV1	2023	AM peak	71	71
OGV1	2023	PM peak	46	46
OGV1	2023	Inter-peak	426	426
OGV1	2023	Off-peak	62	62
OGV1	2023	All	605	605
OGV1	2037	AM peak	74	74
OGV1	2037	PM peak	47	47
OGV1	2037	Inter-peak	444	444
OGV1	2037	Off-peak	65	65
OGV1	2037	All	630	630
OGV2	2023	AM peak	44	44

OGV2	2023 PM peak	35	35
OGV2	2023 Inter-peak	224	224
OGV2	2023 Off-peak	33	33
OGV2	2023 All	337	337
OGV2	2037 AM peak	46	46
OGV2	2037 PM peak	36	36
OGV2	2037 Inter-peak	234	234
OGV2	2037 Off-peak	34	34
OGV2	2037 All	351	351
All	2023 AM peak	2366	2366
All	2023 PM peak	2476	2476
All	2023 Inter-peak	7433	7433
All	2023 Off-peak	1078	1078
All	2023 All	13353	13353
All	2037 AM peak	2467	2467
All	2037 PM peak	2548	2548
All	2037 Inter-peak	7753	7753
All	2037 Off-peak	1127	1127
All	2037 All	13895	13895

DM&DS_USER_COSTS

Total value of user costs, DM and DS. E000s.

Mode	Year	DMtot_time	DMtot_charge	DMtot_fuel	DMtot_nonfuel	DStot_time	DStot_charge	DStot_fuel	DStot_nonfuel
Road	2023	503	0	1943	977	134	0	1937	967
Road	2037	484	0	819	630	123	0	814	622

FUEL_CONSUMPTION

Total fuel consumption, DM and DS. kilounits.

Submode	Year	Do minimum			Do something		
		Petrol	Diesel	Electric	Petrol	Diesel	Electric
Car	2023	824	645	318	820	645	318
Car	2037	525	197	2149	520	196	2149
LGV Personal	2023	1	40	1	1	40	1
LGV Personal	2037	0	27	26	0	27	26
LGV Freight	2023	6	294	10	6	295	10
LGV Freight	2037	3	199	193	3	199	193
OGV1	2023	0	204	0	0	202	0
OGV1	2037	0	180	0	0	179	0
OGV2	2023	0	184	0	0	181	0
OGV2	2037	0	141	0	0	139	0
All	2023	831	1366	330	826	1364	330
All	2037	529	745	2368	524	741	2368
Car	Total	29163	12233	125045	28925	12216	125045
LGV Personal	Total	22	1373	2383	21	1374	2383

LGV Freight	Total	159	10070	17470	157	10077	17470
OGV1	Total	0	10537	0	0	10457	0
OGV2	Total	0	8531	0	0	8370	0
All	Total	29344	42745	144898	29104	42495	144898

CO2_EMISSIONS_UNTRADED

Submode	Year	Emissions (tonnes)			cost (E000s, low)			cost (E000s, central)			cost (E000s, high)		
		DM	DS	Increase	DM	DS	Increase	DM	DS	Increase	DM	DS	Increase
Car	2023	3366	3358	-8	220	219	-1	440	439	-1	660	658	-2
Car	2037	1601	1590	-11	80	79	-1	160	159	-1	239	238	-2
LGV Personal	2023	103	103	0	7	7	0	13	13	0	20	20	0
LGV Personal	2037	69	69	-0	3	3	-0	7	7	-0	10	10	-0
LGV Freight	2023	754	756	2	49	49	0	98	99	0	148	148	0
LGV Freight	2037	507	507	-0	25	25	-0	51	51	-0	76	76	-0
OGV1	2023	514	511	-3	34	33	-0	67	67	-0	101	100	-1
OGV1	2037	453	449	-4	23	22	-0	45	45	-0	68	67	-1
OGV2	2023	464	457	-7	30	30	-0	61	60	-1	91	90	-1
OGV2	2037	355	348	-7	18	17	-0	35	35	-1	53	52	-1
All	2023	5201	5185	-16	340	339	-1	679	677	-2	1019	1016	-3
All	2024	5062	5045	-17	324	323	-1	649	646	-2	973	970	-3
All	2025	4891	4873	-18	307	306	-1	615	612	-2	922	919	-3
All	2026	4719	4700	-19	291	290	-1	582	579	-2	873	869	-3
All	2027	4541	4522	-19	275	273	-1	549	547	-2	824	820	-4
All	2028	4362	4342	-20	259	258	-1	517	515	-2	776	773	-4
All	2029	4185	4165	-20	244	242	-1	487	485	-2	731	727	-4
All	2030	3993	3972	-21	228	227	-1	456	453	-2	684	680	-4
All	2031	3811	3790	-21	213	212	-1	427	424	-2	640	637	-3
All	2032	3644	3623	-21	200	199	-1	400	398	-2	600	597	-3
All	2033	3487	3466	-21	188	187	-1	376	373	-2	563	560	-3
All	2034	3342	3321	-21	177	175	-1	353	351	-2	530	526	-3
All	2035	3211	3190	-21	166	165	-1	333	331	-2	499	496	-3
All	2036	3091	3070	-21	157	156	-1	314	312	-2	471	468	-3
All	2037	2985	2963	-21	149	148	-1	298	296	-2	446	443	-3
All	2038	2884	2863	-21	141	140	-1	282	280	-2	423	420	-3
All	2039	2802	2781	-20	134	133	-1	269	267	-2	403	400	-3
All	2040	2729	2709	-20	128	127	-1	257	255	-2	385	382	-3
All	2041	2665	2646	-20	123	122	-1	246	244	-2	369	366	-3
All	2042	2609	2590	-19	118	117	-1	236	234	-2	354	352	-3
All	2043	2561	2542	-19	114	113	-1	227	226	-2	341	338	-3
All	2044	2520	2501	-19	110	109	-1	219	218	-2	329	327	-2
All	2045	2485	2466	-19	106	105	-1	212	210	-2	318	316	-2
All	2046	2449	2430	-19	103	102	-1	205	203	-2	308	305	-2
All	2047	2422	2404	-19	99	99	-1	199	197	-2	298	296	-2
All	2048	2398	2380	-18	97	96	-1	193	192	-1	290	287	-2

All	2049	2376	2358	-18	94	93	-1	188	186	-1	281	279	-2
All	2050	2357	2339	-18	91	91	-1	183	181	-1	274	272	-2
All	2051	2357	2339	-18	90	89	-1	179	178	-1	269	266	-2
All	2052	2357	2339	-18	88	87	-1	176	174	-1	263	261	-2
All	2053	2357	2339	-18	86	85	-1	172	171	-1	258	256	-2
All	2054	2357	2339	-18	85	84	-1	170	168	-1	254	253	-2
All	2055	2357	2339	-18	84	83	-1	167	166	-1	251	249	-2
All	2056	2357	2339	-18	82	82	-1	165	163	-1	247	245	-2
All	2057	2357	2339	-18	81	81	-1	162	161	-1	244	242	-2
All	2058	2357	2339	-18	80	79	-1	160	159	-1	240	238	-2
All	2059	2357	2339	-18	79	78	-1	158	156	-1	236	235	-2
All	2060	2357	2339	-18	78	77	-1	155	154	-1	233	231	-2
All	2061	2357	2339	-18	77	76	-1	153	152	-1	230	228	-2
All	2062	2357	2339	-18	75	75	-1	151	150	-1	226	225	-2
All	2063	2357	2339	-18	74	74	-1	149	148	-1	223	221	-2
All	2064	2357	2339	-18	73	73	-1	147	145	-1	220	218	-2
All	2065	2357	2339	-18	72	72	-1	144	143	-1	217	215	-2
All	2066	2357	2339	-18	71	71	-1	142	141	-1	213	212	-2
All	2067	2357	2339	-18	70	70	-1	140	139	-1	210	209	-2
All	2068	2357	2339	-18	69	69	-1	138	137	-1	207	206	-2
All	2069	2357	2339	-18	68	68	-1	136	135	-1	204	203	-2
All	2070	2357	2339	-18	67	67	-1	134	133	-1	201	200	-2
All	2071	2357	2339	-18	66	66	-1	132	131	-1	198	197	-2
All	2072	2357	2339	-18	65	65	-1	130	129	-1	195	194	-2
All	2073	2357	2339	-18	64	64	-0	128	127	-1	193	191	-1
All	2074	2357	2339	-18	63	63	-0	127	126	-1	190	188	-1
All	2075	2357	2339	-18	62	62	-0	125	124	-1	187	186	-1
All	2076	2357	2339	-18	61	61	-0	123	122	-1	184	183	-1
All	2077	2357	2339	-18	61	60	-0	121	120	-1	182	180	-1
All	2078	2357	2339	-18	60	59	-0	119	118	-1	179	178	-1
All	2079	2357	2339	-18	59	58	-0	118	117	-1	176	175	-1
All	2080	2357	2339	-18	58	57	-0	116	115	-1	174	172	-1
All	2081	2357	2339	-18	57	57	-0	114	113	-1	171	170	-1
All	2082	2357	2339	-18	56	56	-0	113	112	-1	169	167	-1
Car	Total	92254	91711	-543	4039	4017	-22	8078	8034	-44	12117	12050	-67
LGV Personal	Total	3493	3495	2	152	152	0	304	305	0	456	457	0
LGV Freight	Total	25614	25628	14	1116	1116	1	2231	2233	2	3347	3349	3
OGV1	Total	26446	26244	-202	1073	1065	-8	2147	2131	-16	3220	3196	-24
OGV2	Total	21411	21008	-404	877	860	-16	1753	1721	-33	2630	2581	-49
All	Total	169219	168086	-1133	7257	7211	-46	14514	14423	-91	21771	21634	-137

CO2_EMISSIONS_TRADED

Submode	Year	Emissions (tonnes)			cost (£000s, low)			cost (£000s, central)			cost (£000s, high)		
		DM	DS	Increase	DM	DS	Increase	DM	DS	Increase	DM	DS	Increase

Car	2023	81	81	0	5	5	0	11	11	0	16	16	0
Car	2037	63	63	0	3	3	0	6	6	0	9	9	0
LGV Personal	2023	0	0	0	0	0	0	0	0	0	0	0	0
LGV Personal	2037	1	1	0	0	0	0	0	0	0	0	0	0
LGV Freight	2023	3	3	0	0	0	0	0	0	0	1	1	0
LGV Freight	2037	6	6	0	0	0	0	1	1	0	1	1	0
OGV1	2023	0	0	0	0	0	0	0	0	0	0	0	0
OGV1	2037	0	0	0	0	0	0	0	0	0	0	0	0
OGV2	2023	0	0	0	0	0	0	0	0	0	0	0	0
OGV2	2037	0	0	0	0	0	0	0	0	0	0	0	0
All	2023	84	84	0	5	5	0	11	11	0	16	16	0
All	2024	111	111	0	7	7	0	14	14	0	21	21	0
All	2025	138	138	0	9	9	0	17	17	0	26	26	0
All	2026	161	161	0	10	10	0	20	20	0	30	30	0
All	2027	179	179	0	11	11	0	22	22	0	32	32	0
All	2028	190	190	0	11	11	0	23	23	0	34	34	0
All	2029	193	193	0	11	11	0	22	22	0	34	34	0
All	2030	187	187	0	11	11	0	21	21	0	32	32	0
All	2031	168	168	0	9	9	0	19	19	0	28	28	0
All	2032	149	149	0	8	8	0	16	16	0	24	24	0
All	2033	130	130	0	7	7	0	14	14	0	21	21	0
All	2034	113	113	0	6	6	0	12	12	0	18	18	0
All	2035	97	97	0	5	5	0	10	10	0	15	15	0
All	2036	82	82	0	4	4	0	8	8	0	13	13	0
All	2037	70	70	0	3	3	0	7	7	0	10	10	0
All	2038	58	58	0	3	3	0	6	6	0	9	9	0
All	2039	48	48	0	2	2	0	5	5	0	7	7	0
All	2040	40	40	0	2	2	0	4	4	0	6	6	0
All	2041	34	34	0	2	2	0	3	3	0	5	5	0
All	2042	33	33	0	1	1	0	3	3	0	4	4	0
All	2043	32	32	0	1	1	0	3	3	0	4	4	0
All	2044	31	31	0	1	1	0	3	3	0	4	4	0
All	2045	26	26	0	1	1	0	2	2	0	3	3	0
All	2046	24	24	0	1	1	0	2	2	0	3	3	0
All	2047	22	22	0	1	1	0	2	2	0	3	3	0
All	2048	21	21	0	1	1	0	2	2	0	3	3	0
All	2049	20	20	0	1	1	0	2	2	0	2	2	0
All	2050	19	19	0	1	1	0	2	2	0	2	2	0
All	2051	19	19	0	1	1	0	1	1	0	2	2	0
All	2052	19	19	0	1	1	0	1	1	0	2	2	0
All	2053	19	19	0	1	1	0	1	1	0	2	2	0
All	2054	19	19	0	1	1	0	1	1	0	2	2	0
All	2055	19	19	0	1	1	0	1	1	0	2	2	0
All	2056	19	19	0	1	1	0	1	1	0	2	2	0

All	2057	19	19	0	1	1	0	1	1	0	2	2	0
All	2058	19	19	0	1	1	0	1	1	0	2	2	0
All	2059	19	19	0	1	1	0	1	1	0	2	2	0
All	2060	19	19	0	1	1	0	1	1	0	2	2	0
All	2061	19	19	0	1	1	0	1	1	0	2	2	0
All	2062	19	19	0	1	1	0	1	1	0	2	2	0
All	2063	19	19	0	1	1	0	1	1	0	2	2	0
All	2064	19	19	0	1	1	0	1	1	0	2	2	0
All	2065	19	19	0	1	1	0	1	1	0	2	2	0
All	2066	19	19	0	1	1	0	1	1	0	2	2	0
All	2067	19	19	0	1	1	0	1	1	0	2	2	0
All	2068	19	19	0	1	1	0	1	1	0	2	2	0
All	2069	19	19	0	1	1	0	1	1	0	2	2	0
All	2070	19	19	0	1	1	0	1	1	0	2	2	0
All	2071	19	19	0	1	1	0	1	1	0	2	2	0
All	2072	19	19	0	1	1	0	1	1	0	2	2	0
All	2073	19	19	0	1	1	0	1	1	0	2	2	0
All	2074	19	19	0	1	1	0	1	1	0	2	2	0
All	2075	19	19	0	1	1	0	1	1	0	2	2	0
All	2076	19	19	0	1	1	0	1	1	0	2	2	0
All	2077	19	19	0	0	0	0	1	1	0	1	1	0
All	2078	19	19	0	0	0	0	1	1	0	1	1	0
All	2079	19	19	0	0	0	0	1	1	0	1	1	0
All	2080	19	19	0	0	0	0	1	1	0	1	1	0
All	2081	19	19	0	0	0	0	1	1	0	1	1	0
All	2082	19	19	0	0	0	0	1	1	0	1	1	0
Car	Total	2853	2853	0	146	146	0	292	292	0	438	438	0
LGV Personal	Total	27	27	0	1	1	0	2	2	0	3	3	0
LGV Freight	Total	201	201	0	9	9	0	17	17	0	26	26	0
OGV1	Total	0	0	0	0	0	0	0	0	0	0	0	0
OGV2	Total	0	0	0	0	0	0	0	0	0	0	0	0
All	Total	3082	3082	0	156	156	0	311	311	0	467	467	0

CO2_EMISSIONS_BY_TIME_PERIOD_UNTRADED

Submode	Year	Emissions (tonnes)			cost (£000s, low)			cost (£000s, central)			cost (£000s, high)		
		DM	DS	Increase	DM	DS	Increase	DM	DS	Increase	DM	DS	Increase
AM peak	2023	881	881	0	58	58	0	115	115	0	173	173	0
AM peak	2037	488	488	0	24	24	0	49	49	0	73	73	0
PM peak	2023	910	894	-16	59	58	-1	119	117	-2	178	175	-3
PM peak	2037	498	477	-21	25	24	-1	50	48	-2	74	71	-3
Inter-peak	2023	2978	2978	0	194	194	0	389	389	0	583	583	0
Inter-peak	2037	1745	1745	0	87	87	0	174	174	0	261	261	0
Off-peak	2023	432	432	0	28	28	0	56	56	0	85	85	0
Off-peak	2037	254	254	0	13	13	0	25	25	0	38	38	0

AM peak	Total	27626	27626	0	1191	1191	0	2382	2382	0	3573	3573	0
PM peak	Total	28112	26979	-1133	1215	1169	-46	2429	2338	-91	3644	3507	-137
Inter-peak	Total	99081	99081	0	4236	4236	0	8472	8472	0	12708	12708	0
Off-peak	Total	14400	14400	0	616	616	0	1231	1231	0	1847	1847	0

NOTE: The cost of any UK Allowances (UKAs) purchased to cover traded emissions (i.e. emissions from sectors covered by the UK Emissions Trading System) will be reflected in the purchase price of traded sector goods (such as electricity). Since the purchase price is used in the costs, considered in transport appraisal, the cost of the relevant UKAs will be included in the cost benefit analysis, "internalising" the costs of emissions from traded sectors.

The CO2 EMISSIONS BY TIME PERIOD TRADED reported in the table below are therefore provided for information purposes only - they are not included in the Economic Efficiency of the Transport System (TEE) table.

For further information, please refer to TAG Unit A-3 para. 4.1.5 and 4.2.9

CO2_EMISSIONS_BY_TIME_PERIOD_TRADED

Submode	Year	Emissions (tonnes)			cost (£000s, low)			cost (£000s, central)			cost (£000s, high)		
		DM	DS	Increase	DM	DS	Increase	DM	DS	Increase	DM	DS	Increase
AM peak	2023	15	15	0	1	1	0	2	2	0	3	3	0
AM peak	2037	13	13	0	1	1	0	1	1	0	2	2	0
PM peak	2023	16	16	0	1	1	0	2	2	0	3	3	0
PM peak	2037	13	13	0	1	1	0	1	1	0	2	2	0
Inter-peak	2023	46	46	0	3	3	0	6	6	0	9	9	0
Inter-peak	2037	38	38	0	2	2	0	4	4	0	6	6	0
Off-peak	2023	7	7	0	0	0	0	1	1	0	1	1	0
Off-peak	2037	6	6	0	0	0	0	1	1	0	1	1	0
AM peak	Total	563	563	0	28	28	0	57	57	0	85	85	0
PM peak	Total	595	595	0	30	30	0	60	60	0	90	90	0
Inter-peak	Total	1680	1680	0	85	85	0	169	169	0	254	254	0
Off-peak	Total	244	244	0	12	12	0	25	25	0	37	37	0

MODE

User benefits and changes in revenues by mode, all years. £000s.

Mode	Year	User	User_Charges	Vehicle_Operating_Cost		Operator_Rev	Indirect
		Time	PT_fares_(pri)	Fuel	Non_fuel	PT_fares_(pri)	
Road	2023	370	0	6	10	0	-3
Road	2024	370	0	6	10	0	-3
Road	2025	370	0	6	10	0	-3
Road	2026	370	0	6	9	0	-3
Road	2027	370	0	6	9	0	-3
Road	2028	369	0	6	9	0	-3
Road	2029	369	0	6	9	0	-3
Road	2030	368	0	6	9	0	-3
Road	2031	367	0	6	9	0	-3
Road	2032	366	0	5	9	0	-2
Road	2033	366	0	5	8	0	-2
Road	2034	364	0	5	8	0	-2

Road	2035	363	0	5	8	0	-2
Road	2036	362	0	5	8	0	-2
Road	2037	361	0	5	8	0	-2
Road	2038	354	0	5	8	0	-2
Road	2039	347	0	4	7	0	-2
Road	2040	340	0	4	7	0	-2
Road	2041	334	0	4	7	0	-2
Road	2042	327	0	4	7	0	-2
Road	2043	321	0	3	6	0	-2
Road	2044	315	0	3	6	0	-1
Road	2045	309	0	3	6	0	-1
Road	2046	303	0	3	6	0	-1
Road	2047	297	0	3	6	0	-1
Road	2048	291	0	3	5	0	-1
Road	2049	285	0	3	5	0	-1
Road	2050	280	0	3	5	0	-1
Road	2051	275	0	3	5	0	-1
Road	2052	269	0	2	5	0	-1
Road	2053	264	0	2	5	0	-1
Road	2054	260	0	2	4	0	-1
Road	2055	256	0	2	4	0	-1
Road	2056	253	0	2	4	0	-1
Road	2057	249	0	2	4	0	-1
Road	2058	245	0	2	4	0	-1
Road	2059	242	0	2	4	0	-1
Road	2060	238	0	2	4	0	-1
Road	2061	235	0	2	4	0	-1
Road	2062	231	0	2	3	0	-1
Road	2063	228	0	2	3	0	-1
Road	2064	225	0	2	3	0	-1
Road	2065	221	0	2	3	0	-1
Road	2066	218	0	2	3	0	-1
Road	2067	215	0	2	3	0	-1
Road	2068	212	0	1	3	0	-1
Road	2069	209	0	1	3	0	-1
Road	2070	206	0	1	3	0	-1
Road	2071	203	0	1	3	0	-1
Road	2072	200	0	1	3	0	-1
Road	2073	197	0	1	3	0	-1
Road	2074	194	0	1	2	0	-0
Road	2075	191	0	1	2	0	-0
Road	2076	188	0	1	2	0	-0
Road	2077	186	0	1	2	0	-0
Road	2078	183	0	1	2	0	-0

Road	2079	180	0	1	2	0	-0
Road	2080	178	0	1	2	0	-0
Road	2081	175	0	1	2	0	-0
Road	2082	173	0	1	2	0	-0
Road	Total	16605	0	179	316	0	-78

SUBMODE

User benefits and changes in revenues by submode/vehicle type, modelled years and total. £000s.

Submode	Year	User	User_Charges	Fuel	Vehicle_Operating_Cost	Operator_Rev	Indirect
		Time	PT_fares_(pri		Non_fuel	PT_fares_(pri	Taxes
Car	2023	286	0	3	2	0	-1
Car	2037	279	0	3	2	0	-1
LGV Personal	2023	4	0	-0	0	0	0
LGV Personal	2037	4	0	0	0	0	-0
LGV Freight	2023	60	0	-1	2	0	0
LGV Freight	2037	59	0	0	2	0	-0
OGV1	2023	12	0	1	2	0	-0
OGV1	2037	11	0	1	2	0	-0
OGV2	2023	8	0	2	3	0	-1
OGV2	2037	8	0	1	3	0	-1
All	2023	370	0	6	10	0	-3
All	2037	361	0	5	8	0	-2
Car	Total	12833	0	95	78	0	-42
LGV Personal	Total	163	0	-1	0	0	0
LGV Freight	Total	2711	0	-4	65	0	2
OGV1	Total	523	0	29	73	0	-12
OGV2	Total	375	0	59	100	0	-26
All	Total	16605	0	179	316	0	-78

PERSON_TYPES

User benefits and changes in revenues by person type, modelled years and total. £000s.

Person_type	Year	User	User_Charges	Fuel	Vehicle_Operating_Cost	Operator_Rev	Indirect
		Time	PT_fares_(pri		Non_fuel	PT_fares_(pri	Taxes
All	2023	370	0	6	10	0	-3
All	2037	361	0	5	8	0	-2
All	Total	16605	0	179	316	0	-78

PURPOSE

User benefits and changes in revenues by trip purpose, modelled years and total. £000s.

Purpose	Year	User	User_Charges	Fuel	Vehicle_Operating_Cost	Operator_Rev	Indirect
		Time	PT_fares_(pri		Non_fuel	PT_fares_(pri	Taxes
Business	2023	96	0	3	10	0	-1
Business	2037	94	0	2	8	0	-1
Commuting	2023	112	0	1	0	0	-0

Commuting	2037	110	0	1	0	0	-0
Other	2023	162	0	2	0	0	-1
Other	2037	157	0	2	0	0	-1
Business	Total	4315	0	89	316	0	-38
Commuting	Total	5078	0	31	0	0	-14
Other	Total	7213	0	59	0	0	-26

PERIOD

User benefits and changes in revenues by time period, modelled years and total. £000s.

Period	Year	User	User_Charges	Vehicle_Operating_Cost		Operator_Rev	Indirect
		Time	PT_fares_(pri	Fuel	Non_fuel	PT_fares_(pri	Taxes
AM peak	2023	31	0	0	1	0	0
AM peak	2037	41	0	0	1	0	0
PM peak	2023	318	0	6	8	0	-3
PM peak	2037	301	0	5	6	0	-2
Inter-peak	2023	21	0	0	1	0	0
Inter-peak	2037	18	0	0	1	0	0
Off-peak	2023	1	0	0	0	0	0
Off-peak	2037	0	0	0	0	0	0
AM peak	Total	1819	0	0	41	0	0
PM peak	Total	13904	0	179	245	0	-78
Inter-peak	Total	861	0	0	29	0	0
Off-peak	Total	21	0	0	1	0	0

NON MONETISED TIME BENEFITS BY TIME SAVING

Time benefits (thousands of person hrs) by size of time saving

Vehicle type	Purpose	Year	< -5 mins	-5 to -2 mins	-2 to 0 mins	0 to 2 mins	2 to 5 mins	> 5 mins
Car	Business	2023	0	0	-0	1	2	0
Car	Business	2037	0	0	-0	1	0	3
Car	Business	Total	0	0	-0	53	16	135
Car	Commuting	2023	0	0	-0	3	13	0
Car	Commuting	2037	0	0	-0	4	0	16
Car	Commuting	Total	0	0	-1	252	100	850
Car	Other	2023	0	0	-0	9	40	0
Car	Other	2037	0	0	-0	14	0	49
Car	Other	Total	0	0	-4	800	300	2552
LGV Personal	Business	2023	0	0	0	0	0	0
LGV Personal	Business	2037	0	0	0	0	0	0
LGV Personal	Business	Total	0	0	0	0	0	0
LGV Personal	Commuting	2023	0	0	0	0	0	0
LGV Personal	Commuting	2037	0	0	0	0	0	0
LGV Personal	Commuting	Total	0	0	0	0	0	0
LGV Personal	Other	2023	0	0	-0	0	1	0
LGV Personal	Other	2037	0	0	-0	0	0	1

LGV Personal Other	Total		0	0	-0	20	7	58
LGV Freight Business	2023		0	0	-0	1	5	0
LGV Freight Business	2037		0	0	-0	2	0	7
LGV Freight Business	Total		0	0	-1	118	41	350
LGV Freight Commuting	2023		0	0	0	0	0	0
LGV Freight Commuting	2037		0	0	0	0	0	0
LGV Freight Commuting	Total		0	0	0	0	0	0
LGV Freight Other	2023		0	0	0	0	0	0
LGV Freight Other	2037		0	0	0	0	0	0
LGV Freight Other	Total		0	0	0	0	0	0
OGV1 Business	2023		0	0	-0	0	1	0
OGV1 Business	2037		0	0	-0	1	0	1
OGV1 Business	Total		0	0	-0	29	6	50
OGV1 Commuting	2023		0	0	0	0	0	0
OGV1 Commuting	2037		0	0	0	0	0	0
OGV1 Commuting	Total		0	0	0	0	0	0
OGV1 Other	2023		0	0	0	0	0	0
OGV1 Other	2037		0	0	0	0	0	0
OGV1 Other	Total		0	0	0	0	0	0
OGV2 Business	2023		0	0	-0	0	1	0
OGV2 Business	2037		0	0	-0	0	0	1
OGV2 Business	Total		0	0	-0	18	5	39
OGV2 Commuting	2023		0	0	0	0	0	0
OGV2 Commuting	2037		0	0	0	0	0	0
OGV2 Commuting	Total		0	0	0	0	0	0
OGV2 Other	2023		0	0	0	0	0	0
OGV2 Other	2037		0	0	0	0	0	0
OGV2 Other	Total		0	0	0	0	0	0

MONETISED TIME BENEFITS BY TIME SAVING

Time benefits (£000s) by size of time saving

Vehicle type	Purpose	Year	< -5 mins	-5 to -2 mins	-2 to 0 mins	0 to 2 mins	2 to 5 mins	> 5 mins
Car	Business	2023	0	0	-0	3	12	0
Car	Business	2037	0	0	-0	4	0	11
Car	Business	Total	0	0	-1	183	84	439
Car	Commuting	2023	0	0	-0	18	94	0
Car	Commuting	2037	0	0	-0	24	0	87
Car	Commuting	Total	0	0	-6	1052	649	3382
Car	Other	2023	0	0	-0	29	129	0
Car	Other	2037	0	0	-0	34	0	119
Car	Other	Total	0	0	-8	1531	890	4636
LGV Personal Business	2023		0	0	0	0	0	0
LGV Personal Business	2037		0	0	0	0	0	0
LGV Personal Business	Total		0	0	0	0	0	0

LGV Personal	Commuting	2023	0	0	0	0	0	0
LGV Personal	Commuting	2037	0	0	0	0	0	0
LGV Personal	Commuting	Total	0	0	0	0	0	0
LGV Personal	Other	2023	0	0	-0	1	3	0
LGV Personal	Other	2037	0	0	-0	1	0	3
LGV Personal	Other	Total	0	0	-0	37	20	106
LGV Freight	Business	2023	0	0	-0	12	49	0
LGV Freight	Business	2037	0	0	-0	14	0	45
LGV Freight	Business	Total	0	0	-3	623	337	1755
LGV Freight	Commuting	2023	0	0	0	0	0	0
LGV Freight	Commuting	2037	0	0	0	0	0	0
LGV Freight	Commuting	Total	0	0	0	0	0	0
LGV Freight	Other	2023	0	0	0	0	0	0
LGV Freight	Other	2037	0	0	0	0	0	0
LGV Freight	Other	Total	0	0	0	0	0	0
OGV1	Business	2023	0	0	-0	4	8	0
OGV1	Business	2037	0	0	-0	4	0	7
OGV1	Business	Total	0	0	-1	179	56	289
OGV1	Commuting	2023	0	0	0	0	0	0
OGV1	Commuting	2037	0	0	0	0	0	0
OGV1	Commuting	Total	0	0	0	0	0	0
OGV1	Other	2023	0	0	0	0	0	0
OGV1	Other	2037	0	0	0	0	0	0
OGV1	Other	Total	0	0	0	0	0	0
OGV2	Business	2023	0	0	-0	2	6	0
OGV2	Business	2037	0	0	-0	2	0	6
OGV2	Business	Total	0	0	-0	109	43	224
OGV2	Commuting	2023	0	0	0	0	0	0
OGV2	Commuting	2037	0	0	0	0	0	0
OGV2	Commuting	Total	0	0	0	0	0	0
OGV2	Other	2023	0	0	0	0	0	0
OGV2	Other	2037	0	0	0	0	0	0
OGV2	Other	Total	0	0	0	0	0	0

TOTAL BENEFITS BY TIME SAVING

Total benefits (£000s) by size of time saving

Vehicle type	Purpose	Year	< -5 mins	-5 to -2 mins	-2 to 0 mins	0 to 2 mins	2 to 5 mins	> 5 mins
Car	Business	2023	0	0	-0	4	14	0
Car	Business	2037	0	0	-0	5	0	13
Car	Business	Total	0	0	-1	203	98	488
Car	Commuting	2023	0	0	-0	18	95	0
Car	Commuting	2037	0	0	-0	24	0	88
Car	Commuting	Total	0	0	-6	1052	655	3407
Car	Other	2023	0	0	-0	29	131	0

Car	Other	2037	0	0	-0	34	0	121
Car	Other	Total	0	0	-8	1531	902	4684
LGV Personal Business		2023	0	0	0	0	0	0
LGV Personal Business		2037	0	0	0	0	0	0
LGV Personal Business		Total	0	0	0	0	0	0
LGV Personal Commuting		2023	0	0	0	0	0	0
LGV Personal Commuting		2037	0	0	0	0	0	0
LGV Personal Commuting		Total	0	0	0	0	0	0
LGV Personal Other		2023	0	0	-0	1	3	0
LGV Personal Other		2037	0	0	-0	1	0	3
LGV Personal Other		Total	0	0	-0	37	20	106
LGV Freight Business		2023	0	0	-0	12	50	0
LGV Freight Business		2037	0	0	-0	14	0	46
LGV Freight Business		Total	0	0	-3	637	344	1794
LGV Freight Commuting		2023	0	0	0	0	0	0
LGV Freight Commuting		2037	0	0	0	0	0	0
LGV Freight Commuting		Total	0	0	0	0	0	0
LGV Freight Other		2023	0	0	0	0	0	0
LGV Freight Other		2037	0	0	0	0	0	0
LGV Freight Other		Total	0	0	0	0	0	0
OGV1 Business		2023	0	0	-0	4	11	0
OGV1 Business		2037	0	0	-0	5	0	9
OGV1 Business		Total	0	0	-1	204	72	350
OGV1 Commuting		2023	0	0	0	0	0	0
OGV1 Commuting		2037	0	0	0	0	0	0
OGV1 Commuting		Total	0	0	0	0	0	0
OGV1 Other		2023	0	0	0	0	0	0
OGV1 Other		2037	0	0	0	0	0	0
OGV1 Other		Total	0	0	0	0	0	0
OGV2 Business		2023	0	0	-0	3	11	0
OGV2 Business		2037	0	0	-0	3	0	9
OGV2 Business		Total	0	0	-1	138	73	325
OGV2 Commuting		2023	0	0	0	0	0	0
OGV2 Commuting		2037	0	0	0	0	0	0
OGV2 Commuting		Total	0	0	0	0	0	0
OGV2 Other		2023	0	0	0	0	0	0
OGV2 Other		2037	0	0	0	0	0	0
OGV2 Other		Total	0	0	0	0	0	0

NON MONETISED TIME BENEFITS BY DISTANCE

Time benefits (thousands of person hrs) by distance

Vehicle type	Purpose	Year	< 1 kms	1 to 5 kms	5 to 10 kms	10 to 25 kms	25 to 50 kms	50 to 100 kms	100 to 200 kms	>200 kms
Car	Business	2023	0	3	0	0	0	0	0	0
Car	Business	2037	0	3	0	0	0	0	0	0

OGV2	Business	2023	0	14	0	0	0	0	0	0
OGV2	Business	2037	0	12	0	0	0	0	0	0
OGV2	Business	Total	0	534	0	0	0	0	0	0
OGV2	Commuting	2023	0	0	0	0	0	0	0	0
OGV2	Commuting	2037	0	0	0	0	0	0	0	0
OGV2	Commuting	Total	0	0	0	0	0	0	0	0
OGV2	Other	2023	0	0	0	0	0	0	0	0
OGV2	Other	2037	0	0	0	0	0	0	0	0
OGV2	Other	Total	0	0	0	0	0	0	0	0

SENSITIVITY

Total user benefits as a percentage of total DM user costs

Modelled Years		
Mode	2023	2037
Road	11.27%	19.32%

Economy:Economic Efficiency of the Transport System (TEE)

Consumer - Commuting user benefits	All Modes	Road
Travel Time	5078	5078
Vehicle operating costs	31	31
User charges	0	0
During Construction & Maintenance	0	0
NET CONSUMER - COMMUTING BENEFITS	5109	5109

Consumer - Other user benefits	All Modes	Road
Travel Time	7213	7213
Vehicle operating costs	59	59
User charges	0	0
During Construction & Maintenance	0	0
NET CONSUMER - OTHER BENEFITS	7271	7271

Business	All Modes	Road Personal	Road Freight
Travel Time	4315	706	3609
Vehicle operating costs	405	83	322
User charges	0	0	0
During Construction & Maintenance	0	0	0
Subtotal	4720	788	3931

Private Sector Provider Impacts

Revenue	0	0
Operating costs	0	0
Investment costs	0	0
Grant/subsidy	0	0

Subtotal	0	0
----------	---	---

Other business Impacts

Developer contributions	-26	-26
NET BUSINESS IMPACT	4694	

TOTAL

Present Value of Transport Economic

Efficiency Benefits (TEE)	17074	
---------------------------	-------	--

Note: Benefits appear as positive numbers, while costs appear as negative numbers.

Note: All entries are present values discounted to 2010, in 2010 prices

Public Accounts

Local Government Funding	ALL MODES	Road
Revenue	0	0
Operating Costs	52	52
Investment Costs	1376	1376
Developer Contributions	-26	-26
Grant/Subsidy Payments	0	0
NET IMPACT	1402	1402

Central Government Funding: Transport	ALL MODES	Road
Revenue	0	0
Operating costs	0	0
Investment costs	2692	2692
Developer Contributions	0	0
Grant/Subsidy Payments	0	0
NET IMPACT	2692	2692

Central Government Funding: Non-Transport

Indirect Tax Revenues	78	78
-----------------------	----	----

TOTALS

Broad Transport Budget	4093	4093
Wider Public Finances	78	78

Note: Costs appear as positive numbers, while revenues and developer contributions appear as negative numbers.

Note: All entries are present values discounted to 2010, in 2010 prices

Analysis of Monetised Costs and Benefits

Greenhouse Gases 91

Economic Efficiency: Consumer Users (Commuting)	5109
Economic Efficiency: Consumer Users (Other)	7271
Economic Efficiency: Business Users and Providers	4694
Wider Public Finances (Indirect Taxation Revenues)	-78
Present Value of Benefits (PVB)	17087

Broad Transport Budget	4093
Present Value of Costs (PVC)	4093

OVERALL IMPACTS

Net Present Value (NPV)	12994
Benefit to Cost Ratio (BCR)	4.175

Note: This table includes costs and benefits which are regularly or occasionally presented in monetised form in transport appraisals, together with some where monetisation is in prospect. There may also be other significant costs and benefits, some of which cannot be presented in monetised form. Where this is the case, the analysis presented above does NOT provide a good measure of value for money and should not be used as the sole basis for decisions.

TUBA Run Information

- calculations completed

File Summary

* Run Name : TUBA-6_Lowdham_FBC_OB_20_Perc_V3

* Scheme File : L:\60625845_A614 MRN DfT responses\2023_Draft_FBC\TUBA\MasterFile - 6_Lowdham_Draft_FBC_OB_20_Percent_V3.txt

* Economic File : L:\60625845_A614 MRN DfT responses\2023_Draft_FBC\TUBA\Economics_TAG_db1_20_2.txt

* Output File : L:\60625845_A614 MRN DfT responses\2023_Draft_FBC\TUBA\Lowdham\FBC_OB_V3.OUT

* Log File : L:\60625845_A614 MRN DfT responses\2023_Draft_FBC\TUBA\Lowdham\FBC_OB_V3.log

* User ID : philip.g.jones

* Computer ID : UKDBYLFHQB1T3

Elapsed time : 0hrs 0mins 1secs

Appendix R Kirk Hill TUBA – QRA

SCHEME SPECIFIC PARAMETERS

PARAMETERS

TUBA_version 1.9.17
run_name TUBA-7_Kirk Hill_15OB_V3
do_min_name DM
do_som_name DS

first_yr 2023
horizon_yr 2082
modelled_yrs 2023 2037
detail Yes
current_yr 2023
print_warn 20
P&R_car_speed 65.0
zones_as_sectors No

TIME_SLICES

*no.	duration(min)	annualisation	period	description
1	60	648	1	peak hour am 08:00-09:00
2	60	667	2	peak hour pm 17:00-18:00
3	60	2997	3	peak hour ip 10:00-16:00
4	60	4438	4	off peak hour

SCHEMES_DM

*Mode 1st Construction year Opening_yr Stage

DO_MIN_COSTS

*Type Mode Funding Cost Price RPI

DO_MIN_PROFILE

*Year Mode %Const %Land %Prep %Super %Maint %Op %Grant %Dev

DO_MIN_DELAY_COSTS

*Year Mode Business Commuting Other Freight

SCHEMES_DS

*Mode 1st Construction year Opening_yr Stage

1 2023 2026 SI

DO_SOM_COSTS

*Type	Mode	Funding	Cost	Price	RPI			
M	1		LOC	803.31	F	123.41	1.00	
P	1		CEN	329.49	F	133.39	1.00	
C	1		CEN	5913.51	F	133.39	1.00	
L	1		CEN	30.01	F	133.39	1.00	
S	1		CEN	45.93	F	133.39	1.00	
P	1		LOC	48.05	F	133.39	1.00	
C	1		LOC	968.57	F	133.39	1.00	
L	1		LOC	0.00	F	133.39	1.00	
S	1		LOC	7.53	F	133.39	1.00	
D	1		LOC	299.29	F	133.39	1.00	

DO_SOM_PROFILE

*Year	Mode	%Const	%Land	%Prep	%Super	%Maint	%Op	%Grant	%Dev
2023	1	0.58	100.00	34.71	0.00	0.00	0.00	0.00	100.00
2024	1	59.65	0.00	45.00	60.00	0.00	0.00	0.00	0.00
2025	1	39.77	0.00	20.29	40.00	0.00	0.00	0.00	0.00
2026	1	0	0	0	0	0.315	0	0	0
2027	1	0	0	0	0	0.209	0	0	0
2028	1	0	0	0	0	1.428	0	0	0
2029	1	0	0	0	0	0.209	0	0	0
2030	1	0	0	0	0	0.209	0	0	0
2031	1	0	0	0	0	0.209	0	0	0
2032	1	0	0	0	0	0.209	0	0	0
2033	1	0	0	0	0	5.292	0	0	0
2034	1	0	0	0	0	0.209	0	0	0
2035	1	0	0	0	0	0.209	0	0	0
2036	1	0	0	0	0	0.209	0	0	0
2037	1	0	0	0	0	0.209	0	0	0
2038	1	0	0	0	0	1.428	0	0	0
2039	1	0	0	0	0	0.209	0	0	0
2040	1	0	0	0	0	0.209	0	0	0
2041	1	0	0	0	0	0.209	0	0	0
2042	1	0	0	0	0	0.209	0	0	0
2043	1	0	0	0	0	18.532	0	0	0
2044	1	0	0	0	0	0.209	0	0	0
2045	1	0	0	0	0	0.209	0	0	0
2046	1	0	0	0	0	0.209	0	0	0
2047	1	0	0	0	0	0.209	0	0	0
2048	1	0	0	0	0	3.668	0	0	0
2049	1	0	0	0	0	0.209	0	0	0
2050	1	0	0	0	0	0.209	0	0	0
2051	1	0	0	0	0	0.209	0	0	0
2052	1	0	0	0	0	0.209	0	0	0

2053	1	0	0	0	0	5.292	0	0	0
2054	1	0	0	0	0	0.209	0	0	0
2055	1	0	0	0	0	0.209	0	0	0
2056	1	0	0	0	0	0.209	0	0	0
2057	1	0	0	0	0	0.209	0	0	0
2058	1	0	0	0	0	1.428	0	0	0
2059	1	0	0	0	0	0.209	0	0	0
2060	1	0	0	0	0	0.209	0	0	0
2061	1	0	0	0	0	0.209	0	0	0
2062	1	0	0	0	0	0.209	0	0	0
2063	1	0	0	0	0	40.266	0	0	0
2064	1	0	0	0	0	0.209	0	0	0
2065	1	0	0	0	0	0.209	0	0	0
2066	1	0	0	0	0	0.209	0	0	0
2067	1	0	0	0	0	0.209	0	0	0
2068	1	0	0	0	0	1.428	0	0	0
2069	1	0	0	0	0	0.209	0	0	0
2070	1	0	0	0	0	0.209	0	0	0
2071	1	0	0	0	0	0.209	0	0	0
2072	1	0	0	0	0	0.209	0	0	0
2073	1	0	0	0	0	9.773	0	0	0
2074	1	0	0	0	0	0.209	0	0	0
2075	1	0	0	0	0	0.209	0	0	0
2076	1	0	0	0	0	0.209	0	0	0
2077	1	0	0	0	0	0.21	0	0	0
2078	1	0	0	0	0	1.428	0	0	0
2079	1	0	0	0	0	0.21	0	0	0
2080	1	0	0	0	0	0.21	0	0	0
2081	1	0	0	0	0	0.21	0	0	0
2082	1	0	0	0	0	0.522	0	0	0

DO_SOM_DELAY_COSTS

*Year Mode Business Commuting Other Freight

BENEFIT_CHANGE

*% change p.a.

*Start_yr End_yr Submode ChangePer1 ChangePer2 ChangePer3 ChangePer4 ChangePer5

USER_CLASSES

*no. Veh/submode purpose person_type

1	1	1	0
2	1	2	0

3	1	3	0
4	2	3	0
5	3	1	0
6	4	1	0
7	5	1	0

INPUT_MATRICES

*no.	userclasses	timeslice	type	format	scenario	year	factor	filename
1	1	1	V	1	0	2023	0.05903	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\V_A614_Kirk_Hill_H_AM_2023_DM.txt
2	2	1	V	1	0	2023	0.32523	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\V_A614_Kirk_Hill_H_AM_2023_DM.txt
3	3	1	V	1	0	2023	0.46486	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\V_A614_Kirk_Hill_H_AM_2023_DM.txt
4	4	1	V	1	0	2023	0.01535	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\V_A614_Kirk_Hill_H_AM_2023_DM.txt
5	5	1	V	1	0	2023	0.11257	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\V_A614_Kirk_Hill_H_AM_2023_DM.txt
6	6	1	V	1	0	2023	0.00845	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\V_A614_Kirk_Hill_H_AM_2023_DM.txt
7	7	1	V	1	0	2023	0.01451	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\V_A614_Kirk_Hill_H_AM_2023_DM.txt
8	1	3	V	1	0	2023	0.05864	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\V_A614_Kirk_Hill_H_IP_2023_DM.txt
9	2	3	V	1	0	2023	0.09201	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\V_A614_Kirk_Hill_H_IP_2023_DM.txt
10	3	3	V	1	0	2023	0.66493	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\V_A614_Kirk_Hill_H_IP_2023_DM.txt
11	4	3	V	1	0	2023	0.01626	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\V_A614_Kirk_Hill_H_IP_2023_DM.txt
12	5	3	V	1	0	2023	0.11925	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\V_A614_Kirk_Hill_H_IP_2023_DM.txt
13	6	3	V	1	0	2023	0.01568	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\V_A614_Kirk_Hill_H_IP_2023_DM.txt
14	7	3	V	1	0	2023	0.03323	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\V_A614_Kirk_Hill_H_IP_2023_DM.txt
15	1	2	V	1	0	2023	0.04428	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\V_A614_Kirk_Hill_H_PM_2023_DM.txt
16	2	2	V	1	0	2023	0.28208	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\V_A614_Kirk_Hill_H_PM_2023_DM.txt
17	3	2	V	1	0	2023	0.53951	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\V_A614_Kirk_Hill_H_PM_2023_DM.txt
18	4	2	V	1	0	2023	0.01265	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\V_A614_Kirk_Hill_H_PM_2023_DM.txt
19	5	2	V	1	0	2023	0.09275	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\V_A614_Kirk_Hill_H_PM_2023_DM.txt
20	6	2	V	1	0	2023	0.00652	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\V_A614_Kirk_Hill_H_PM_2023_DM.txt
21	7	2	V	1	0	2023	0.02221	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\V_A614_Kirk_Hill_H_PM_2023_DM.txt
22	1	4	V	1	0	2023	0.03710	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\V_A614_Kirk_Hill_H_OP_2023_DM.txt
23	2	4	V	1	0	2023	0.24762	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\V_A614_Kirk_Hill_H_OP_2023_DM.txt
24	3	4	V	1	0	2023	0.57640	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\V_A614_Kirk_Hill_H_OP_2023_DM.txt
25	4	4	V	1	0	2023	0.00656	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\V_A614_Kirk_Hill_H_OP_2023_DM.txt
26	5	4	V	1	0	2023	0.04811	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\V_A614_Kirk_Hill_H_OP_2023_DM.txt
27	6	4	V	1	0	2023	0.02515	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\V_A614_Kirk_Hill_H_OP_2023_DM.txt
28	7	4	V	1	0	2023	0.05905	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\V_A614_Kirk_Hill_H_OP_2023_DM.txt
29	1	1	V	1	1	2023	0.05903	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\V_A614_Kirk_Hill_H_AM_2023_DS.txt
30	2	1	V	1	1	2023	0.32523	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\V_A614_Kirk_Hill_H_AM_2023_DS.txt
31	3	1	V	1	1	2023	0.46486	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\V_A614_Kirk_Hill_H_AM_2023_DS.txt
32	4	1	V	1	1	2023	0.01535	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\V_A614_Kirk_Hill_H_AM_2023_DS.txt

109	4	4	T	1	1	2023	0.00656	L:\60625845_A614 MRN DfT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\T_A614_Kirk_Hill_H_OP_2023_DS.txt
110	5	4	T	1	1	2023	0.04811	L:\60625845_A614 MRN DfT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\T_A614_Kirk_Hill_H_OP_2023_DS.txt
111	6	4	T	1	1	2023	0.02515	L:\60625845_A614 MRN DfT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\T_A614_Kirk_Hill_H_OP_2023_DS.txt
112	7	4	T	1	1	2023	0.05905	L:\60625845_A614 MRN DfT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\T_A614_Kirk_Hill_H_OP_2023_DS.txt
113	1	1	D	1	0	2023	0.05903	L:\60625845_A614 MRN DfT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\D_A614_Kirk_Hill_H_AM_2023_DM.txt
114	2	1	D	1	0	2023	0.32523	L:\60625845_A614 MRN DfT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\D_A614_Kirk_Hill_H_AM_2023_DM.txt
115	3	1	D	1	0	2023	0.46486	L:\60625845_A614 MRN DfT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\D_A614_Kirk_Hill_H_AM_2023_DM.txt
116	4	1	D	1	0	2023	0.01535	L:\60625845_A614 MRN DfT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\D_A614_Kirk_Hill_H_AM_2023_DM.txt
117	5	1	D	1	0	2023	0.11257	L:\60625845_A614 MRN DfT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\D_A614_Kirk_Hill_H_AM_2023_DM.txt
118	6	1	D	1	0	2023	0.00845	L:\60625845_A614 MRN DfT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\D_A614_Kirk_Hill_H_AM_2023_DM.txt
119	7	1	D	1	0	2023	0.01451	L:\60625845_A614 MRN DfT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\D_A614_Kirk_Hill_H_AM_2023_DM.txt
120	1	3	D	1	0	2023	0.05864	L:\60625845_A614 MRN DfT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\D_A614_Kirk_Hill_H_IP_2023_DM.txt
121	2	3	D	1	0	2023	0.09201	L:\60625845_A614 MRN DfT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\D_A614_Kirk_Hill_H_IP_2023_DM.txt
122	3	3	D	1	0	2023	0.66493	L:\60625845_A614 MRN DfT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\D_A614_Kirk_Hill_H_IP_2023_DM.txt
123	4	3	D	1	0	2023	0.01626	L:\60625845_A614 MRN DfT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\D_A614_Kirk_Hill_H_IP_2023_DM.txt
124	5	3	D	1	0	2023	0.11925	L:\60625845_A614 MRN DfT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\D_A614_Kirk_Hill_H_IP_2023_DM.txt
125	6	3	D	1	0	2023	0.01568	L:\60625845_A614 MRN DfT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\D_A614_Kirk_Hill_H_IP_2023_DM.txt
126	7	3	D	1	0	2023	0.03323	L:\60625845_A614 MRN DfT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\D_A614_Kirk_Hill_H_IP_2023_DM.txt
127	1	2	D	1	0	2023	0.04428	L:\60625845_A614 MRN DfT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\D_A614_Kirk_Hill_H_PM_2023_DM.txt
128	2	2	D	1	0	2023	0.28208	L:\60625845_A614 MRN DfT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\D_A614_Kirk_Hill_H_PM_2023_DM.txt
129	3	2	D	1	0	2023	0.53951	L:\60625845_A614 MRN DfT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\D_A614_Kirk_Hill_H_PM_2023_DM.txt
130	4	2	D	1	0	2023	0.01265	L:\60625845_A614 MRN DfT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\D_A614_Kirk_Hill_H_PM_2023_DM.txt
131	5	2	D	1	0	2023	0.09275	L:\60625845_A614 MRN DfT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\D_A614_Kirk_Hill_H_PM_2023_DM.txt
132	6	2	D	1	0	2023	0.00652	L:\60625845_A614 MRN DfT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\D_A614_Kirk_Hill_H_PM_2023_DM.txt
133	7	2	D	1	0	2023	0.02221	L:\60625845_A614 MRN DfT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\D_A614_Kirk_Hill_H_PM_2023_DM.txt
134	1	4	D	1	0	2023	0.03710	L:\60625845_A614 MRN DfT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\D_A614_Kirk_Hill_H_OP_2023_DM.txt
135	2	4	D	1	0	2023	0.24762	L:\60625845_A614 MRN DfT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\D_A614_Kirk_Hill_H_OP_2023_DM.txt
136	3	4	D	1	0	2023	0.57640	L:\60625845_A614 MRN DfT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\D_A614_Kirk_Hill_H_OP_2023_DM.txt
137	4	4	D	1	0	2023	0.00656	L:\60625845_A614 MRN DfT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\D_A614_Kirk_Hill_H_OP_2023_DM.txt
138	5	4	D	1	0	2023	0.04811	L:\60625845_A614 MRN DfT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\D_A614_Kirk_Hill_H_OP_2023_DM.txt
139	6	4	D	1	0	2023	0.02515	L:\60625845_A614 MRN DfT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\D_A614_Kirk_Hill_H_OP_2023_DM.txt
140	7	4	D	1	0	2023	0.05905	L:\60625845_A614 MRN DfT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\D_A614_Kirk_Hill_H_OP_2023_DM.txt
141	1	1	D	1	1	2023	0.05903	L:\60625845_A614 MRN DfT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\D_A614_Kirk_Hill_H AM_2023_DS.txt

142	2	1	D	1	1	2023	0.32523	L:\60625845_A614 MRN DfT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\D_A614_Kirk_Hill_H AM_2023_DS.txt
143	3	1	D	1	1	2023	0.46486	L:\60625845_A614 MRN DfT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\D_A614_Kirk_Hill_H AM_2023_DS.txt
144	4	1	D	1	1	2023	0.01535	L:\60625845_A614 MRN DfT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\D_A614_Kirk_Hill_H AM_2023_DS.txt
145	5	1	D	1	1	2023	0.11257	L:\60625845_A614 MRN DfT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\D_A614_Kirk_Hill_H AM_2023_DS.txt
146	6	1	D	1	1	2023	0.00845	L:\60625845_A614 MRN DfT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\D_A614_Kirk_Hill_H AM_2023_DS.txt
147	7	1	D	1	1	2023	0.01451	L:\60625845_A614 MRN DfT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\D_A614_Kirk_Hill_H AM_2023_DS.txt
148	1	3	D	1	1	2023	0.05864	L:\60625845_A614 MRN DfT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\D_A614_Kirk_Hill_H_IP_2023_DS.txt
149	2	3	D	1	1	2023	0.09201	L:\60625845_A614 MRN DfT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\D_A614_Kirk_Hill_H_IP_2023_DS.txt
150	3	3	D	1	1	2023	0.66493	L:\60625845_A614 MRN DfT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\D_A614_Kirk_Hill_H_IP_2023_DS.txt
151	4	3	D	1	1	2023	0.01626	L:\60625845_A614 MRN DfT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\D_A614_Kirk_Hill_H_IP_2023_DS.txt
152	5	3	D	1	1	2023	0.11925	L:\60625845_A614 MRN DfT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\D_A614_Kirk_Hill_H_IP_2023_DS.txt
153	6	3	D	1	1	2023	0.01568	L:\60625845_A614 MRN DfT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\D_A614_Kirk_Hill_H_IP_2023_DS.txt
154	7	3	D	1	1	2023	0.03323	L:\60625845_A614 MRN DfT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\D_A614_Kirk_Hill_H_IP_2023_DS.txt
155	1	2	D	1	1	2023	0.04428	L:\60625845_A614 MRN DfT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\D_A614_Kirk_Hill_H_PM_2023_DS.txt
156	2	2	D	1	1	2023	0.28208	L:\60625845_A614 MRN DfT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\D_A614_Kirk_Hill_H_PM_2023_DS.txt
157	3	2	D	1	1	2023	0.53951	L:\60625845_A614 MRN DfT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\D_A614_Kirk_Hill_H_PM_2023_DS.txt
158	4	2	D	1	1	2023	0.01265	L:\60625845_A614 MRN DfT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\D_A614_Kirk_Hill_H_PM_2023_DS.txt
159	5	2	D	1	1	2023	0.09275	L:\60625845_A614 MRN DfT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\D_A614_Kirk_Hill_H_PM_2023_DS.txt
160	6	2	D	1	1	2023	0.00652	L:\60625845_A614 MRN DfT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\D_A614_Kirk_Hill_H_PM_2023_DS.txt
161	7	2	D	1	1	2023	0.02221	L:\60625845_A614 MRN DfT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\D_A614_Kirk_Hill_H_PM_2023_DS.txt
162	1	4	D	1	1	2023	0.03710	L:\60625845_A614 MRN DfT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\D_A614_Kirk_Hill_H_OP_2023_DS.txt
163	2	4	D	1	1	2023	0.24762	L:\60625845_A614 MRN DfT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\D_A614_Kirk_Hill_H_OP_2023_DS.txt
164	3	4	D	1	1	2023	0.57640	L:\60625845_A614 MRN DfT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\D_A614_Kirk_Hill_H_OP_2023_DS.txt
165	4	4	D	1	1	2023	0.00656	L:\60625845_A614 MRN DfT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\D_A614_Kirk_Hill_H_OP_2023_DS.txt
166	5	4	D	1	1	2023	0.04811	L:\60625845_A614 MRN DfT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\D_A614_Kirk_Hill_H_OP_2023_DS.txt
167	6	4	D	1	1	2023	0.02515	L:\60625845_A614 MRN DfT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\D_A614_Kirk_Hill_H_OP_2023_DS.txt
168	7	4	D	1	1	2023	0.05905	L:\60625845_A614 MRN DfT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\D_A614_Kirk_Hill_H_OP_2023_DS.txt
169	1	1	V	1	0	2037	0.05903	L:\60625845_A614 MRN DfT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4W_A614_Kirk_Hill_H_AM_2037_DM.txt
170	2	1	V	1	0	2037	0.32523	L:\60625845_A614 MRN DfT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4W_A614_Kirk_Hill_H_AM_2037_DM.txt
171	3	1	V	1	0	2037	0.46486	L:\60625845_A614 MRN DfT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4W_A614_Kirk_Hill_H_AM_2037_DM.txt
172	4	1	V	1	0	2037	0.01535	L:\60625845_A614 MRN DfT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4W_A614_Kirk_Hill_H_AM_2037_DM.txt
173	5	1	V	1	0	2037	0.11257	L:\60625845_A614 MRN DfT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4W_A614_Kirk_Hill_H_AM_2037_DM.txt
174	6	1	V	1	0	2037	0.00845	L:\60625845_A614 MRN DfT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4W_A614_Kirk_Hill_H_AM_2037_DM.txt
175	7	1	V	1	0	2037	0.01451	L:\60625845_A614 MRN DfT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4W_A614_Kirk_Hill_H_AM_2037_DM.txt
176	1	3	V	1	0	2037	0.05864	L:\60625845_A614 MRN DfT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4V_A614_Kirk_Hill_H_IP_2037_DM.txt
177	2	3	V	1	0	2037	0.09201	L:\60625845_A614 MRN DfT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4V_A614_Kirk_Hill_H_IP_2037_DM.txt
178	3	3	V	1	0	2037	0.66493	L:\60625845_A614 MRN DfT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4V_A614_Kirk_Hill_H_IP_2037_DM.txt

179	4	3	V	1	0	2037	0.01626	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\V_A614_Kirk_Hill_H_IP_2037_DM.txt
180	5	3	V	1	0	2037	0.11925	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\V_A614_Kirk_Hill_H_IP_2037_DM.txt
181	6	3	V	1	0	2037	0.01568	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\V_A614_Kirk_Hill_H_IP_2037_DM.txt
182	7	3	V	1	0	2037	0.03323	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\V_A614_Kirk_Hill_H_IP_2037_DM.txt
183	1	2	V	1	0	2037	0.04428	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\V_A614_Kirk_Hill_H_PM_2037_DM.txt
184	2	2	V	1	0	2037	0.28208	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\V_A614_Kirk_Hill_H_PM_2037_DM.txt
185	3	2	V	1	0	2037	0.53951	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\V_A614_Kirk_Hill_H_PM_2037_DM.txt
186	4	2	V	1	0	2037	0.01265	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\V_A614_Kirk_Hill_H_PM_2037_DM.txt
187	5	2	V	1	0	2037	0.09275	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\V_A614_Kirk_Hill_H_PM_2037_DM.txt
188	6	2	V	1	0	2037	0.00652	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\V_A614_Kirk_Hill_H_PM_2037_DM.txt
189	7	2	V	1	0	2037	0.02221	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\V_A614_Kirk_Hill_H_PM_2037_DM.txt
190	1	4	V	1	0	2037	0.03710	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\V_A614_Kirk_Hill_H_OP_2037_DM.txt
191	2	4	V	1	0	2037	0.24762	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\V_A614_Kirk_Hill_H_OP_2037_DM.txt
192	3	4	V	1	0	2037	0.57640	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\V_A614_Kirk_Hill_H_OP_2037_DM.txt
193	4	4	V	1	0	2037	0.00656	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\V_A614_Kirk_Hill_H_OP_2037_DM.txt
194	5	4	V	1	0	2037	0.04811	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\V_A614_Kirk_Hill_H_OP_2037_DM.txt
195	6	4	V	1	0	2037	0.02515	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\V_A614_Kirk_Hill_H_OP_2037_DM.txt
196	7	4	V	1	0	2037	0.05905	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\V_A614_Kirk_Hill_H_OP_2037_DM.txt
197	1	1	V	1	1	2037	0.05903	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\V_A614_Kirk_Hill_H_AM_2037_DS.txt
198	2	1	V	1	1	2037	0.32523	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\V_A614_Kirk_Hill_H_AM_2037_DS.txt
199	3	1	V	1	1	2037	0.46486	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\V_A614_Kirk_Hill_H_AM_2037_DS.txt
200	4	1	V	1	1	2037	0.01535	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\V_A614_Kirk_Hill_H_AM_2037_DS.txt
201	5	1	V	1	1	2037	0.11257	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\V_A614_Kirk_Hill_H_AM_2037_DS.txt
202	6	1	V	1	1	2037	0.00845	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\V_A614_Kirk_Hill_H_AM_2037_DS.txt
203	7	1	V	1	1	2037	0.01451	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\V_A614_Kirk_Hill_H_AM_2037_DS.txt
204	1	3	V	1	1	2037	0.05864	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\V_A614_Kirk_Hill_H_IP_2037_DS.txt
205	2	3	V	1	1	2037	0.09201	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\V_A614_Kirk_Hill_H_IP_2037_DS.txt
206	3	3	V	1	1	2037	0.66493	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\V_A614_Kirk_Hill_H_IP_2037_DS.txt
207	4	3	V	1	1	2037	0.01626	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\V_A614_Kirk_Hill_H_IP_2037_DS.txt
208	5	3	V	1	1	2037	0.11925	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\V_A614_Kirk_Hill_H_IP_2037_DS.txt
209	6	3	V	1	1	2037	0.01568	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\V_A614_Kirk_Hill_H_IP_2037_DS.txt
210	7	3	V	1	1	2037	0.03323	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\V_A614_Kirk_Hill_H_IP_2037_DS.txt
211	1	2	V	1	1	2037	0.04428	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\V_A614_Kirk_Hill_H_PM_2037_DS.txt

212	2	2	V	1	1	2037	0.28208	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\W_A614_Kirk_Hill_H_PM_2037_DS.txt
213	3	2	V	1	1	2037	0.53951	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\W_A614_Kirk_Hill_H_PM_2037_DS.txt
214	4	2	V	1	1	2037	0.01265	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\W_A614_Kirk_Hill_H_PM_2037_DS.txt
215	5	2	V	1	1	2037	0.09275	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\W_A614_Kirk_Hill_H_PM_2037_DS.txt
216	6	2	V	1	1	2037	0.00652	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\W_A614_Kirk_Hill_H_PM_2037_DS.txt
217	7	2	V	1	1	2037	0.02221	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\W_A614_Kirk_Hill_H_PM_2037_DS.txt
218	1	4	V	1	1	2037	0.03710	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\W_A614_Kirk_Hill_H_OP_2037_DS.txt
219	2	4	V	1	1	2037	0.24762	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\W_A614_Kirk_Hill_H_OP_2037_DS.txt
220	3	4	V	1	1	2037	0.57640	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\W_A614_Kirk_Hill_H_OP_2037_DS.txt
221	4	4	V	1	1	2037	0.00656	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\W_A614_Kirk_Hill_H_OP_2037_DS.txt
222	5	4	V	1	1	2037	0.04811	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\W_A614_Kirk_Hill_H_OP_2037_DS.txt
223	6	4	V	1	1	2037	0.02515	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\W_A614_Kirk_Hill_H_OP_2037_DS.txt
224	7	4	V	1	1	2037	0.05905	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\W_A614_Kirk_Hill_H_OP_2037_DS.txt
225	1	1	T	1	0	2037	0.05903	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\T_A614_Kirk_Hill_H_AM_2037_DM.txt
226	2	1	T	1	0	2037	0.32523	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\T_A614_Kirk_Hill_H_AM_2037_DM.txt
227	3	1	T	1	0	2037	0.46486	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\T_A614_Kirk_Hill_H_AM_2037_DM.txt
228	4	1	T	1	0	2037	0.01535	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\T_A614_Kirk_Hill_H_AM_2037_DM.txt
229	5	1	T	1	0	2037	0.11257	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\T_A614_Kirk_Hill_H_AM_2037_DM.txt
230	6	1	T	1	0	2037	0.00845	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\T_A614_Kirk_Hill_H_AM_2037_DM.txt
231	7	1	T	1	0	2037	0.01451	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\T_A614_Kirk_Hill_H_AM_2037_DM.txt
232	1	3	T	1	0	2037	0.05864	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\T_A614_Kirk_Hill_H_IP_2037_DM.txt
233	2	3	T	1	0	2037	0.09201	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\T_A614_Kirk_Hill_H_IP_2037_DM.txt
234	3	3	T	1	0	2037	0.66493	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\T_A614_Kirk_Hill_H_IP_2037_DM.txt
235	4	3	T	1	0	2037	0.01626	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\T_A614_Kirk_Hill_H_IP_2037_DM.txt
236	5	3	T	1	0	2037	0.11925	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\T_A614_Kirk_Hill_H_IP_2037_DM.txt
237	6	3	T	1	0	2037	0.01568	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\T_A614_Kirk_Hill_H_IP_2037_DM.txt
238	7	3	T	1	0	2037	0.03323	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\T_A614_Kirk_Hill_H_IP_2037_DM.txt
239	1	2	T	1	0	2037	0.04428	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\T_A614_Kirk_Hill_H_PM_2037_DM.txt
240	2	2	T	1	0	2037	0.28208	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\T_A614_Kirk_Hill_H_PM_2037_DM.txt
241	3	2	T	1	0	2037	0.53951	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\T_A614_Kirk_Hill_H_PM_2037_DM.txt
242	4	2	T	1	0	2037	0.01265	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\T_A614_Kirk_Hill_H_PM_2037_DM.txt
243	5	2	T	1	0	2037	0.09275	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\T_A614_Kirk_Hill_H_PM_2037_DM.txt
244	6	2	T	1	0	2037	0.00652	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\T_A614_Kirk_Hill_H_PM_2037_DM.txt
245	7	2	T	1	0	2037	0.02221	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\T_A614_Kirk_Hill_H_PM_2037_DM.txt

279	6	4	T	1	1	2037	0.02515	L:\60625845_A614 MRN DfT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\T_A614_Kirk_Hill_H_OP_2037_DS.txt
280	7	4	T	1	1	2037	0.05905	L:\60625845_A614 MRN DfT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\T_A614_Kirk_Hill_H_OP_2037_DS.txt
281	1	1	D	1	0	2037	0.05903	L:\60625845_A614 MRN DfT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\D_A614_Kirk_Hill_H_AM_2037_DM.txt
282	2	1	D	1	0	2037	0.32523	L:\60625845_A614 MRN DfT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\D_A614_Kirk_Hill_H_AM_2037_DM.txt
283	3	1	D	1	0	2037	0.46486	L:\60625845_A614 MRN DfT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\D_A614_Kirk_Hill_H_AM_2037_DM.txt
284	4	1	D	1	0	2037	0.01535	L:\60625845_A614 MRN DfT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\D_A614_Kirk_Hill_H_AM_2037_DM.txt
285	5	1	D	1	0	2037	0.11257	L:\60625845_A614 MRN DfT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\D_A614_Kirk_Hill_H_AM_2037_DM.txt
286	6	1	D	1	0	2037	0.00845	L:\60625845_A614 MRN DfT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\D_A614_Kirk_Hill_H_AM_2037_DM.txt
287	7	1	D	1	0	2037	0.01451	L:\60625845_A614 MRN DfT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\D_A614_Kirk_Hill_H_AM_2037_DM.txt
288	1	3	D	1	0	2037	0.05864	L:\60625845_A614 MRN DfT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\D_A614_Kirk_Hill_H_IP_2037_DM.txt
289	2	3	D	1	0	2037	0.09201	L:\60625845_A614 MRN DfT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\D_A614_Kirk_Hill_H_IP_2037_DM.txt
290	3	3	D	1	0	2037	0.66493	L:\60625845_A614 MRN DfT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\D_A614_Kirk_Hill_H_IP_2037_DM.txt
291	4	3	D	1	0	2037	0.01626	L:\60625845_A614 MRN DfT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\D_A614_Kirk_Hill_H_IP_2037_DM.txt
292	5	3	D	1	0	2037	0.11925	L:\60625845_A614 MRN DfT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\D_A614_Kirk_Hill_H_IP_2037_DM.txt
293	6	3	D	1	0	2037	0.01568	L:\60625845_A614 MRN DfT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\D_A614_Kirk_Hill_H_IP_2037_DM.txt
294	7	3	D	1	0	2037	0.03323	L:\60625845_A614 MRN DfT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\D_A614_Kirk_Hill_H_IP_2037_DM.txt
295	1	2	D	1	0	2037	0.04428	L:\60625845_A614 MRN DfT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\D_A614_Kirk_Hill_H_PM_2037_DM.txt
296	2	2	D	1	0	2037	0.28208	L:\60625845_A614 MRN DfT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\D_A614_Kirk_Hill_H_PM_2037_DM.txt
297	3	2	D	1	0	2037	0.53951	L:\60625845_A614 MRN DfT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\D_A614_Kirk_Hill_H_PM_2037_DM.txt
298	4	2	D	1	0	2037	0.01265	L:\60625845_A614 MRN DfT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\D_A614_Kirk_Hill_H_PM_2037_DM.txt
299	5	2	D	1	0	2037	0.09275	L:\60625845_A614 MRN DfT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\D_A614_Kirk_Hill_H_PM_2037_DM.txt
300	6	2	D	1	0	2037	0.00652	L:\60625845_A614 MRN DfT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\D_A614_Kirk_Hill_H_PM_2037_DM.txt
301	7	2	D	1	0	2037	0.02221	L:\60625845_A614 MRN DfT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\D_A614_Kirk_Hill_H_PM_2037_DM.txt
302	1	4	D	1	0	2037	0.03710	L:\60625845_A614 MRN DfT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\D_A614_Kirk_Hill_H_OP_2037_DM.txt
303	2	4	D	1	0	2037	0.24762	L:\60625845_A614 MRN DfT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\D_A614_Kirk_Hill_H_OP_2037_DM.txt
304	3	4	D	1	0	2037	0.57640	L:\60625845_A614 MRN DfT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\D_A614_Kirk_Hill_H_OP_2037_DM.txt
305	4	4	D	1	0	2037	0.00656	L:\60625845_A614 MRN DfT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\D_A614_Kirk_Hill_H_OP_2037_DM.txt
306	5	4	D	1	0	2037	0.04811	L:\60625845_A614 MRN DfT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\D_A614_Kirk_Hill_H_OP_2037_DM.txt
307	6	4	D	1	0	2037	0.02515	L:\60625845_A614 MRN DfT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\D_A614_Kirk_Hill_H_OP_2037_DM.txt
308	7	4	D	1	0	2037	0.05905	L:\60625845_A614 MRN DfT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\D_A614_Kirk_Hill_H_OP_2037_DM.txt
309	1	1	D	1	1	2037	0.05903	L:\60625845_A614 MRN DfT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\D_A614_Kirk_Hill_H_AM_2037_DS.txt
310	2	1	D	1	1	2037	0.32523	L:\60625845_A614 MRN DfT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\D_A614_Kirk_Hill_H_AM_2037_DS.txt

311	3	1	D	1	1	2037	0.46486	L:\60625845_A614 MRN DfT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\	D_A614_Kirk_Hill_H_AM_2037_DS.txt
312	4	1	D	1	1	2037	0.01535	L:\60625845_A614 MRN DfT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\	D_A614_Kirk_Hill_H_AM_2037_DS.txt
313	5	1	D	1	1	2037	0.11257	L:\60625845_A614 MRN DfT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\	D_A614_Kirk_Hill_H_AM_2037_DS.txt
314	6	1	D	1	1	2037	0.00845	L:\60625845_A614 MRN DfT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\	D_A614_Kirk_Hill_H_AM_2037_DS.txt
315	7	1	D	1	1	2037	0.01451	L:\60625845_A614 MRN DfT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\	D_A614_Kirk_Hill_H_AM_2037_DS.txt
316	1	3	D	1	1	2037	0.05864	L:\60625845_A614 MRN DfT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\	D_A614_Kirk_Hill_H_IP_2037_DS.txt
317	2	3	D	1	1	2037	0.09201	L:\60625845_A614 MRN DfT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\	D_A614_Kirk_Hill_H_IP_2037_DS.txt
318	3	3	D	1	1	2037	0.66493	L:\60625845_A614 MRN DfT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\	D_A614_Kirk_Hill_H_IP_2037_DS.txt
319	4	3	D	1	1	2037	0.01626	L:\60625845_A614 MRN DfT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\	D_A614_Kirk_Hill_H_IP_2037_DS.txt
320	5	3	D	1	1	2037	0.11925	L:\60625845_A614 MRN DfT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\	D_A614_Kirk_Hill_H_IP_2037_DS.txt
321	6	3	D	1	1	2037	0.01568	L:\60625845_A614 MRN DfT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\	D_A614_Kirk_Hill_H_IP_2037_DS.txt
322	7	3	D	1	1	2037	0.03323	L:\60625845_A614 MRN DfT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\	D_A614_Kirk_Hill_H_IP_2037_DS.txt
323	1	2	D	1	1	2037	0.04428	L:\60625845_A614 MRN DfT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\	D_A614_Kirk_Hill_H_PM_2037_DS.txt
324	2	2	D	1	1	2037	0.28208	L:\60625845_A614 MRN DfT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\	D_A614_Kirk_Hill_H_PM_2037_DS.txt
325	3	2	D	1	1	2037	0.53951	L:\60625845_A614 MRN DfT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\	D_A614_Kirk_Hill_H_PM_2037_DS.txt
326	4	2	D	1	1	2037	0.01265	L:\60625845_A614 MRN DfT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\	D_A614_Kirk_Hill_H_PM_2037_DS.txt
327	5	2	D	1	1	2037	0.09275	L:\60625845_A614 MRN DfT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\	D_A614_Kirk_Hill_H_PM_2037_DS.txt
328	6	2	D	1	1	2037	0.00652	L:\60625845_A614 MRN DfT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\	D_A614_Kirk_Hill_H_PM_2037_DS.txt
329	7	2	D	1	1	2037	0.02221	L:\60625845_A614 MRN DfT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\	D_A614_Kirk_Hill_H_PM_2037_DS.txt
330	1	4	D	1	1	2037	0.03710	L:\60625845_A614 MRN DfT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\	D_A614_Kirk_Hill_H_OP_2037_DS.txt
331	2	4	D	1	1	2037	0.24762	L:\60625845_A614 MRN DfT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\	D_A614_Kirk_Hill_H_OP_2037_DS.txt
332	3	4	D	1	1	2037	0.57640	L:\60625845_A614 MRN DfT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\	D_A614_Kirk_Hill_H_OP_2037_DS.txt
333	4	4	D	1	1	2037	0.00656	L:\60625845_A614 MRN DfT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\	D_A614_Kirk_Hill_H_OP_2037_DS.txt
334	5	4	D	1	1	2037	0.04811	L:\60625845_A614 MRN DfT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\	D_A614_Kirk_Hill_H_OP_2037_DS.txt
335	6	4	D	1	1	2037	0.02515	L:\60625845_A614 MRN DfT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\	D_A614_Kirk_Hill_H_OP_2037_DS.txt
336	7	4	D	1	1	2037	0.05905	L:\60625845_A614 MRN DfT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\	D_A614_Kirk_Hill_H_OP_2037_DS.txt
337	1	X	R	1	X	XXXX	1.00000	L:\60625845_A614 MRN DfT responses\08_Models\TUBA\7-Kirk Hill\Outputs\	D_A614_Kirk_Hill_OP_2037_DS.txt
338	2	X	R	1	X	XXXX	1.00000	L:\60625845_A614 MRN DfT responses\08_Models\TUBA\7-Kirk Hill\Outputs\	D_A614_Kirk_Hill_OP_2037_DS.txt
339	3	X	R	1	X	XXXX	1.00000	L:\60625845_A614 MRN DfT responses\08_Models\TUBA\7-Kirk Hill\Outputs\	D_A614_Kirk_Hill_OP_2037_DS.txt
340	4	X	R	1	X	XXXX	1.00000	L:\60625845_A614 MRN DfT responses\08_Models\TUBA\7-Kirk Hill\Outputs\	D_A614_Kirk_Hill_OP_2037_DS.txt
341	5	X	R	1	X	XXXX	1.00000	L:\60625845_A614 MRN DfT responses\08_Models\TUBA\7-Kirk Hill\Outputs\	D_A614_Kirk_Hill_OP_2037_DS.txt
342	6	X	R	1	X	XXXX	1.00000	L:\60625845_A614 MRN DfT responses\08_Models\TUBA\7-Kirk Hill\Outputs\	D_A614_Kirk_Hill_OP_2037_DS.txt
343	7	X	R	1	X	XXXX	1.00000	L:\60625845_A614 MRN DfT responses\08_Models\TUBA\7-Kirk Hill\Outputs\	D_A614_Kirk_Hill_OP_2037_DS.txt

SECTORS

*mode Sector_file_name

SCHEME SPECIFIC PARAMETERS

PARAMETERS

TUBA_version 1.9.17
run_name TUBA-7_Kirk Hill_15OB_V3
do_min_name DM
do_som_name DS

first_yr 2023
horizon_yr 2082
modelled_yrs 2023 2037
detail Yes
current_yr 2023
print_warn 20
P&R_car_speed 65.0
zones_as_sectors No

TIME_SLICES

*no.	duration(min)	annualisation	period	description
1	60	648	1	peak hour am 08:00-09:00
2	60	667	2	peak hour pm 17:00-18:00
3	60	2997	3	peak hour ip 10:00-16:00
4	60	4438	4	off peak hour

SCHEMES_DM

*Mode 1st Construction year Opening_yr Stage

DO_MIN_COSTS

*Type Mode Funding Cost Price RPI

DO_MIN_PROFILE

*Year Mode %Const %Land %Prep %Super %Maint %Op %Grant %Dev

DO_MIN_DELAY_COSTS

*Year Mode Business Commuting Other Freight

SCHEMES_DS

*Mode 1st Construction year Opening_yr Stage

1 2023 2026 SI

DO_SOM_COSTS

*Type	Mode	Funding	Cost	Price	RPI				
M	1		LOC	803.31	F	123.41	1.00		
P	1		CEN	406.99	F	133.39	1.00		
C	1		CEN	5864.42	F	133.39	1.00		
L	1		CEN	54.59	F	133.39	1.00		
S	1		CEN	53.47	F	133.39	1.00		
P	1		LOC	75.18	F	133.39	1.00		
C	1		LOC	1171.51	F	133.39	1.00		
L	1		LOC	5.73	F	133.39	1.00		
S	1		LOC	10.69	F	133.39	1.00		
D	1		LOC	299.29	F	133.39	1.00		

DO_SOM_PROFILE

*Year	Mode	%Const	%Land	%Prep	%Super	%Maint	%Op	%Grant	%Dev
2023	1	0.7	100.0	34.7	0.0	0.0	0.0	0.0	100.0
2024	1	59.6	0.0	45.0	60.0	0.0	0.0	0.0	0.0
2025	1	39.7	0.0	20.3	40.0	0.0	0.0	0.0	0.0
2026	1	0	0	0	0	0.315	0	0	0
2027	1	0	0	0	0	0.209	0	0	0
2028	1	0	0	0	0	1.428	0	0	0
2029	1	0	0	0	0	0.209	0	0	0
2030	1	0	0	0	0	0.209	0	0	0
2031	1	0	0	0	0	0.209	0	0	0
2032	1	0	0	0	0	0.209	0	0	0
2033	1	0	0	0	0	5.292	0	0	0
2034	1	0	0	0	0	0.209	0	0	0
2035	1	0	0	0	0	0.209	0	0	0
2036	1	0	0	0	0	0.209	0	0	0
2037	1	0	0	0	0	0.209	0	0	0
2038	1	0	0	0	0	1.428	0	0	0
2039	1	0	0	0	0	0.209	0	0	0
2040	1	0	0	0	0	0.209	0	0	0
2041	1	0	0	0	0	0.209	0	0	0
2042	1	0	0	0	0	0.209	0	0	0
2043	1	0	0	0	0	18.532	0	0	0
2044	1	0	0	0	0	0.209	0	0	0
2045	1	0	0	0	0	0.209	0	0	0
2046	1	0	0	0	0	0.209	0	0	0
2047	1	0	0	0	0	0.209	0	0	0
2048	1	0	0	0	0	3.668	0	0	0
2049	1	0	0	0	0	0.209	0	0	0
2050	1	0	0	0	0	0.209	0	0	0
2051	1	0	0	0	0	0.209	0	0	0
2052	1	0	0	0	0	0.209	0	0	0

2053	1	0	0	0	0	5.292	0	0	0
2054	1	0	0	0	0	0.209	0	0	0
2055	1	0	0	0	0	0.209	0	0	0
2056	1	0	0	0	0	0.209	0	0	0
2057	1	0	0	0	0	0.209	0	0	0
2058	1	0	0	0	0	1.428	0	0	0
2059	1	0	0	0	0	0.209	0	0	0
2060	1	0	0	0	0	0.209	0	0	0
2061	1	0	0	0	0	0.209	0	0	0
2062	1	0	0	0	0	0.209	0	0	0
2063	1	0	0	0	0	40.266	0	0	0
2064	1	0	0	0	0	0.209	0	0	0
2065	1	0	0	0	0	0.209	0	0	0
2066	1	0	0	0	0	0.209	0	0	0
2067	1	0	0	0	0	0.209	0	0	0
2068	1	0	0	0	0	1.428	0	0	0
2069	1	0	0	0	0	0.209	0	0	0
2070	1	0	0	0	0	0.209	0	0	0
2071	1	0	0	0	0	0.209	0	0	0
2072	1	0	0	0	0	0.209	0	0	0
2073	1	0	0	0	0	9.773	0	0	0
2074	1	0	0	0	0	0.209	0	0	0
2075	1	0	0	0	0	0.209	0	0	0
2076	1	0	0	0	0	0.209	0	0	0
2077	1	0	0	0	0	0.21	0	0	0
2078	1	0	0	0	0	1.428	0	0	0
2079	1	0	0	0	0	0.21	0	0	0
2080	1	0	0	0	0	0.21	0	0	0
2081	1	0	0	0	0	0.21	0	0	0
2082	1	0	0	0	0	0.522	0	0	0

DO_SOM_DELAY_COSTS

*Year Mode Business Commuting Other Freight

BENEFIT_CHANGE

*% change p.a.

*Start_yr End_yr Submode ChangePer1 ChangePer2 ChangePer3 ChangePer4 ChangePer5

USER_CLASSES

*no. Veh/submode purpose person_type

1 1 1 0

2	1	2	0
3	1	3	0
4	2	3	0
5	3	1	0
6	4	1	0
7	5	1	0

INPUT_MATRICES

*no.	userclasses	timeslice	type	format	scenario	year	factor	filename
1	1	1	V	1	0	2023	0.05903	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\V_A614_Kirk_Hill_H_AM_2023_DM.txt
2	2	1	V	1	0	2023	0.32523	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\V_A614_Kirk_Hill_H_AM_2023_DM.txt
3	3	1	V	1	0	2023	0.46486	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\V_A614_Kirk_Hill_H_AM_2023_DM.txt
4	4	1	V	1	0	2023	0.01535	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\V_A614_Kirk_Hill_H_AM_2023_DM.txt
5	5	1	V	1	0	2023	0.11257	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\V_A614_Kirk_Hill_H_AM_2023_DM.txt
6	6	1	V	1	0	2023	0.00845	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\V_A614_Kirk_Hill_H_AM_2023_DM.txt
7	7	1	V	1	0	2023	0.01451	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\V_A614_Kirk_Hill_H_AM_2023_DM.txt
8	1	3	V	1	0	2023	0.05864	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\V_A614_Kirk_Hill_H_IP_2023_DM.txt
9	2	3	V	1	0	2023	0.09201	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\V_A614_Kirk_Hill_H_IP_2023_DM.txt
10	3	3	V	1	0	2023	0.66493	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\V_A614_Kirk_Hill_H_IP_2023_DM.txt
11	4	3	V	1	0	2023	0.01626	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\V_A614_Kirk_Hill_H_IP_2023_DM.txt
12	5	3	V	1	0	2023	0.11925	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\V_A614_Kirk_Hill_H_IP_2023_DM.txt
13	6	3	V	1	0	2023	0.01568	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\V_A614_Kirk_Hill_H_IP_2023_DM.txt
14	7	3	V	1	0	2023	0.03323	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\V_A614_Kirk_Hill_H_IP_2023_DM.txt
15	1	2	V	1	0	2023	0.04428	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\V_A614_Kirk_Hill_H_PM_2023_DM.txt
16	2	2	V	1	0	2023	0.28208	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\V_A614_Kirk_Hill_H_PM_2023_DM.txt
17	3	2	V	1	0	2023	0.53951	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\V_A614_Kirk_Hill_H_PM_2023_DM.txt
18	4	2	V	1	0	2023	0.01265	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\V_A614_Kirk_Hill_H_PM_2023_DM.txt
19	5	2	V	1	0	2023	0.09275	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\V_A614_Kirk_Hill_H_PM_2023_DM.txt
20	6	2	V	1	0	2023	0.00652	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\V_A614_Kirk_Hill_H_PM_2023_DM.txt
21	7	2	V	1	0	2023	0.02221	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\V_A614_Kirk_Hill_H_PM_2023_DM.txt
22	1	4	V	1	0	2023	0.03710	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\V_A614_Kirk_Hill_H_OP_2023_DM.txt
23	2	4	V	1	0	2023	0.24762	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\V_A614_Kirk_Hill_H_OP_2023_DM.txt
24	3	4	V	1	0	2023	0.57640	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\V_A614_Kirk_Hill_H_OP_2023_DM.txt
25	4	4	V	1	0	2023	0.00656	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\V_A614_Kirk_Hill_H_OP_2023_DM.txt
26	5	4	V	1	0	2023	0.04811	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\V_A614_Kirk_Hill_H_OP_2023_DM.txt
27	6	4	V	1	0	2023	0.02515	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\V_A614_Kirk_Hill_H_OP_2023_DM.txt
28	7	4	V	1	0	2023	0.05905	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\V_A614_Kirk_Hill_H_OP_2023_DM.txt
29	1	1	V	1	1	2023	0.05903	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\V_A614_Kirk_Hill_H_AM_2023_DS.txt
30	2	1	V	1	1	2023	0.32523	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\V_A614_Kirk_Hill_H_AM_2023_DS.txt
31	3	1	V	1	1	2023	0.46486	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\V_A614_Kirk_Hill_H_AM_2023_DS.txt

109	4	4	T	1	1	2023	0.00656	L:\60625845_A614 MRN DfT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\T_A614_Kirk_Hill_H_OP_2023_DS.txt
110	5	4	T	1	1	2023	0.04811	L:\60625845_A614 MRN DfT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\T_A614_Kirk_Hill_H_OP_2023_DS.txt
111	6	4	T	1	1	2023	0.02515	L:\60625845_A614 MRN DfT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\T_A614_Kirk_Hill_H_OP_2023_DS.txt
112	7	4	T	1	1	2023	0.05905	L:\60625845_A614 MRN DfT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\T_A614_Kirk_Hill_H_OP_2023_DS.txt
113	1	1	D	1	0	2023	0.05903	L:\60625845_A614 MRN DfT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\D_A614_Kirk_Hill_H_AM_2023_DM.txt
114	2	1	D	1	0	2023	0.32523	L:\60625845_A614 MRN DfT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\D_A614_Kirk_Hill_H_AM_2023_DM.txt
115	3	1	D	1	0	2023	0.46486	L:\60625845_A614 MRN DfT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\D_A614_Kirk_Hill_H_AM_2023_DM.txt
116	4	1	D	1	0	2023	0.01535	L:\60625845_A614 MRN DfT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\D_A614_Kirk_Hill_H_AM_2023_DM.txt
117	5	1	D	1	0	2023	0.11257	L:\60625845_A614 MRN DfT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\D_A614_Kirk_Hill_H_AM_2023_DM.txt
118	6	1	D	1	0	2023	0.00845	L:\60625845_A614 MRN DfT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\D_A614_Kirk_Hill_H_AM_2023_DM.txt
119	7	1	D	1	0	2023	0.01451	L:\60625845_A614 MRN DfT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\D_A614_Kirk_Hill_H_AM_2023_DM.txt
120	1	3	D	1	0	2023	0.05864	L:\60625845_A614 MRN DfT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\D_A614_Kirk_Hill_H_IP_2023_DM.txt
121	2	3	D	1	0	2023	0.09201	L:\60625845_A614 MRN DfT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\D_A614_Kirk_Hill_H_IP_2023_DM.txt
122	3	3	D	1	0	2023	0.66493	L:\60625845_A614 MRN DfT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\D_A614_Kirk_Hill_H_IP_2023_DM.txt
123	4	3	D	1	0	2023	0.01626	L:\60625845_A614 MRN DfT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\D_A614_Kirk_Hill_H_IP_2023_DM.txt
124	5	3	D	1	0	2023	0.11925	L:\60625845_A614 MRN DfT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\D_A614_Kirk_Hill_H_IP_2023_DM.txt
125	6	3	D	1	0	2023	0.01568	L:\60625845_A614 MRN DfT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\D_A614_Kirk_Hill_H_IP_2023_DM.txt
126	7	3	D	1	0	2023	0.03323	L:\60625845_A614 MRN DfT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\D_A614_Kirk_Hill_H_IP_2023_DM.txt
127	1	2	D	1	0	2023	0.04428	L:\60625845_A614 MRN DfT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\D_A614_Kirk_Hill_H_PM_2023_DM.txt
128	2	2	D	1	0	2023	0.28208	L:\60625845_A614 MRN DfT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\D_A614_Kirk_Hill_H_PM_2023_DM.txt
129	3	2	D	1	0	2023	0.53951	L:\60625845_A614 MRN DfT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\D_A614_Kirk_Hill_H_PM_2023_DM.txt
130	4	2	D	1	0	2023	0.01265	L:\60625845_A614 MRN DfT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\D_A614_Kirk_Hill_H_PM_2023_DM.txt
131	5	2	D	1	0	2023	0.09275	L:\60625845_A614 MRN DfT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\D_A614_Kirk_Hill_H_PM_2023_DM.txt
132	6	2	D	1	0	2023	0.00652	L:\60625845_A614 MRN DfT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\D_A614_Kirk_Hill_H_PM_2023_DM.txt
133	7	2	D	1	0	2023	0.02221	L:\60625845_A614 MRN DfT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\D_A614_Kirk_Hill_H_PM_2023_DM.txt
134	1	4	D	1	0	2023	0.03710	L:\60625845_A614 MRN DfT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\D_A614_Kirk_Hill_H_OP_2023_DM.txt
135	2	4	D	1	0	2023	0.24762	L:\60625845_A614 MRN DfT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\D_A614_Kirk_Hill_H_OP_2023_DM.txt
136	3	4	D	1	0	2023	0.57640	L:\60625845_A614 MRN DfT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\D_A614_Kirk_Hill_H_OP_2023_DM.txt
137	4	4	D	1	0	2023	0.00656	L:\60625845_A614 MRN DfT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\D_A614_Kirk_Hill_H_OP_2023_DM.txt
138	5	4	D	1	0	2023	0.04811	L:\60625845_A614 MRN DfT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\D_A614_Kirk_Hill_H_OP_2023_DM.txt
139	6	4	D	1	0	2023	0.02515	L:\60625845_A614 MRN DfT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\D_A614_Kirk_Hill_H_OP_2023_DM.txt
140	7	4	D	1	0	2023	0.05905	L:\60625845_A614 MRN DfT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\D_A614_Kirk_Hill_H_OP_2023_DM.txt
141	1	1	D	1	1	2023	0.05903	L:\60625845_A614 MRN DfT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\D_A614_Kirk_Hill_H AM_2023_DS.txt

142	2	1	D	1	1	2023	0.32523	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\D_A614_Kirk_Hill_H AM_2023_DS.txt
143	3	1	D	1	1	2023	0.46486	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\D_A614_Kirk_Hill_H AM_2023_DS.txt
144	4	1	D	1	1	2023	0.01535	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\D_A614_Kirk_Hill_H AM_2023_DS.txt
145	5	1	D	1	1	2023	0.11257	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\D_A614_Kirk_Hill_H AM_2023_DS.txt
146	6	1	D	1	1	2023	0.00845	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\D_A614_Kirk_Hill_H AM_2023_DS.txt
147	7	1	D	1	1	2023	0.01451	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\D_A614_Kirk_Hill_H AM_2023_DS.txt
148	1	3	D	1	1	2023	0.05864	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\D_A614_Kirk_Hill_H_IP_2023_DS.txt
149	2	3	D	1	1	2023	0.09201	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\D_A614_Kirk_Hill_H_IP_2023_DS.txt
150	3	3	D	1	1	2023	0.66493	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\D_A614_Kirk_Hill_H_IP_2023_DS.txt
151	4	3	D	1	1	2023	0.01626	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\D_A614_Kirk_Hill_H_IP_2023_DS.txt
152	5	3	D	1	1	2023	0.11925	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\D_A614_Kirk_Hill_H_IP_2023_DS.txt
153	6	3	D	1	1	2023	0.01568	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\D_A614_Kirk_Hill_H_IP_2023_DS.txt
154	7	3	D	1	1	2023	0.03323	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\D_A614_Kirk_Hill_H_IP_2023_DS.txt
155	1	2	D	1	1	2023	0.04428	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\D_A614_Kirk_Hill_H_PM_2023_DS.txt
156	2	2	D	1	1	2023	0.28208	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\D_A614_Kirk_Hill_H_PM_2023_DS.txt
157	3	2	D	1	1	2023	0.53951	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\D_A614_Kirk_Hill_H_PM_2023_DS.txt
158	4	2	D	1	1	2023	0.01265	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\D_A614_Kirk_Hill_H_PM_2023_DS.txt
159	5	2	D	1	1	2023	0.09275	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\D_A614_Kirk_Hill_H_PM_2023_DS.txt
160	6	2	D	1	1	2023	0.00652	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\D_A614_Kirk_Hill_H_PM_2023_DS.txt
161	7	2	D	1	1	2023	0.02221	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\D_A614_Kirk_Hill_H_PM_2023_DS.txt
162	1	4	D	1	1	2023	0.03710	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\D_A614_Kirk_Hill_H_OP_2023_DS.txt
163	2	4	D	1	1	2023	0.24762	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\D_A614_Kirk_Hill_H_OP_2023_DS.txt
164	3	4	D	1	1	2023	0.57640	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\D_A614_Kirk_Hill_H_OP_2023_DS.txt
165	4	4	D	1	1	2023	0.00656	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\D_A614_Kirk_Hill_H_OP_2023_DS.txt
166	5	4	D	1	1	2023	0.04811	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\D_A614_Kirk_Hill_H_OP_2023_DS.txt
167	6	4	D	1	1	2023	0.02515	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\D_A614_Kirk_Hill_H_OP_2023_DS.txt
168	7	4	D	1	1	2023	0.05905	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\D_A614_Kirk_Hill_H_OP_2023_DS.txt
169	1	1	V	1	0	2037	0.05903	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4W_A614_Kirk_Hill_H_AM_2037_DM.txt
170	2	1	V	1	0	2037	0.32523	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4W_A614_Kirk_Hill_H_AM_2037_DM.txt
171	3	1	V	1	0	2037	0.46486	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4W_A614_Kirk_Hill_H_AM_2037_DM.txt
172	4	1	V	1	0	2037	0.01535	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4W_A614_Kirk_Hill_H_AM_2037_DM.txt
173	5	1	V	1	0	2037	0.11257	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4W_A614_Kirk_Hill_H_AM_2037_DM.txt
174	6	1	V	1	0	2037	0.00845	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4W_A614_Kirk_Hill_H_AM_2037_DM.txt
175	7	1	V	1	0	2037	0.01451	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4W_A614_Kirk_Hill_H_AM_2037_DM.txt
176	1	3	V	1	0	2037	0.05864	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4V_A614_Kirk_Hill_H_IP_2037_DM.txt
177	2	3	V	1	0	2037	0.09201	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4V_A614_Kirk_Hill_H_IP_2037_DM.txt
178	3	3	V	1	0	2037	0.66493	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4V_A614_Kirk_Hill_H_IP_2037_DM.txt

179	4	3	V	1	0	2037	0.01626	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\V_A614_Kirk_Hill_H_IP_2037_DM.txt
180	5	3	V	1	0	2037	0.11925	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\V_A614_Kirk_Hill_H_IP_2037_DM.txt
181	6	3	V	1	0	2037	0.01568	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\V_A614_Kirk_Hill_H_IP_2037_DM.txt
182	7	3	V	1	0	2037	0.03323	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\V_A614_Kirk_Hill_H_IP_2037_DM.txt
183	1	2	V	1	0	2037	0.04428	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\V_A614_Kirk_Hill_H_PM_2037_DM.txt
184	2	2	V	1	0	2037	0.28208	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\V_A614_Kirk_Hill_H_PM_2037_DM.txt
185	3	2	V	1	0	2037	0.53951	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\V_A614_Kirk_Hill_H_PM_2037_DM.txt
186	4	2	V	1	0	2037	0.01265	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\V_A614_Kirk_Hill_H_PM_2037_DM.txt
187	5	2	V	1	0	2037	0.09275	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\V_A614_Kirk_Hill_H_PM_2037_DM.txt
188	6	2	V	1	0	2037	0.00652	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\V_A614_Kirk_Hill_H_PM_2037_DM.txt
189	7	2	V	1	0	2037	0.02221	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\V_A614_Kirk_Hill_H_PM_2037_DM.txt
190	1	4	V	1	0	2037	0.03710	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\V_A614_Kirk_Hill_H_OP_2037_DM.txt
191	2	4	V	1	0	2037	0.24762	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\V_A614_Kirk_Hill_H_OP_2037_DM.txt
192	3	4	V	1	0	2037	0.57640	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\V_A614_Kirk_Hill_H_OP_2037_DM.txt
193	4	4	V	1	0	2037	0.00656	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\V_A614_Kirk_Hill_H_OP_2037_DM.txt
194	5	4	V	1	0	2037	0.04811	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\V_A614_Kirk_Hill_H_OP_2037_DM.txt
195	6	4	V	1	0	2037	0.02515	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\V_A614_Kirk_Hill_H_OP_2037_DM.txt
196	7	4	V	1	0	2037	0.05905	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\V_A614_Kirk_Hill_H_OP_2037_DM.txt
197	1	1	V	1	1	2037	0.05903	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\V_A614_Kirk_Hill_H_AM_2037_DS.txt
198	2	1	V	1	1	2037	0.32523	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\V_A614_Kirk_Hill_H_AM_2037_DS.txt
199	3	1	V	1	1	2037	0.46486	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\V_A614_Kirk_Hill_H_AM_2037_DS.txt
200	4	1	V	1	1	2037	0.01535	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\V_A614_Kirk_Hill_H_AM_2037_DS.txt
201	5	1	V	1	1	2037	0.11257	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\V_A614_Kirk_Hill_H_AM_2037_DS.txt
202	6	1	V	1	1	2037	0.00845	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\V_A614_Kirk_Hill_H_AM_2037_DS.txt
203	7	1	V	1	1	2037	0.01451	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\V_A614_Kirk_Hill_H_AM_2037_DS.txt
204	1	3	V	1	1	2037	0.05864	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\V_A614_Kirk_Hill_H_IP_2037_DS.txt
205	2	3	V	1	1	2037	0.09201	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\V_A614_Kirk_Hill_H_IP_2037_DS.txt
206	3	3	V	1	1	2037	0.66493	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\V_A614_Kirk_Hill_H_IP_2037_DS.txt
207	4	3	V	1	1	2037	0.01626	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\V_A614_Kirk_Hill_H_IP_2037_DS.txt
208	5	3	V	1	1	2037	0.11925	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\V_A614_Kirk_Hill_H_IP_2037_DS.txt
209	6	3	V	1	1	2037	0.01568	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\V_A614_Kirk_Hill_H_IP_2037_DS.txt
210	7	3	V	1	1	2037	0.03323	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\V_A614_Kirk_Hill_H_IP_2037_DS.txt
211	1	2	V	1	1	2037	0.04428	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\V_A614_Kirk_Hill_H_PM_2037_DS.txt

212	2	2	V	1	1	2037	0.28208	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\W_A614_Kirk_Hill_H_PM_2037_DS.txt
213	3	2	V	1	1	2037	0.53951	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\W_A614_Kirk_Hill_H_PM_2037_DS.txt
214	4	2	V	1	1	2037	0.01265	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\W_A614_Kirk_Hill_H_PM_2037_DS.txt
215	5	2	V	1	1	2037	0.09275	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\W_A614_Kirk_Hill_H_PM_2037_DS.txt
216	6	2	V	1	1	2037	0.00652	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\W_A614_Kirk_Hill_H_PM_2037_DS.txt
217	7	2	V	1	1	2037	0.02221	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\W_A614_Kirk_Hill_H_PM_2037_DS.txt
218	1	4	V	1	1	2037	0.03710	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\W_A614_Kirk_Hill_H_OP_2037_DS.txt
219	2	4	V	1	1	2037	0.24762	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\W_A614_Kirk_Hill_H_OP_2037_DS.txt
220	3	4	V	1	1	2037	0.57640	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\W_A614_Kirk_Hill_H_OP_2037_DS.txt
221	4	4	V	1	1	2037	0.00656	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\W_A614_Kirk_Hill_H_OP_2037_DS.txt
222	5	4	V	1	1	2037	0.04811	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\W_A614_Kirk_Hill_H_OP_2037_DS.txt
223	6	4	V	1	1	2037	0.02515	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\W_A614_Kirk_Hill_H_OP_2037_DS.txt
224	7	4	V	1	1	2037	0.05905	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\W_A614_Kirk_Hill_H_OP_2037_DS.txt
225	1	1	T	1	0	2037	0.05903	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\T_A614_Kirk_Hill_H_AM_2037_DM.txt
226	2	1	T	1	0	2037	0.32523	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\T_A614_Kirk_Hill_H_AM_2037_DM.txt
227	3	1	T	1	0	2037	0.46486	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\T_A614_Kirk_Hill_H_AM_2037_DM.txt
228	4	1	T	1	0	2037	0.01535	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\T_A614_Kirk_Hill_H_AM_2037_DM.txt
229	5	1	T	1	0	2037	0.11257	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\T_A614_Kirk_Hill_H_AM_2037_DM.txt
230	6	1	T	1	0	2037	0.00845	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\T_A614_Kirk_Hill_H_AM_2037_DM.txt
231	7	1	T	1	0	2037	0.01451	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\T_A614_Kirk_Hill_H_AM_2037_DM.txt
232	1	3	T	1	0	2037	0.05864	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\T_A614_Kirk_Hill_H_IP_2037_DM.txt
233	2	3	T	1	0	2037	0.09201	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\T_A614_Kirk_Hill_H_IP_2037_DM.txt
234	3	3	T	1	0	2037	0.66493	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\T_A614_Kirk_Hill_H_IP_2037_DM.txt
235	4	3	T	1	0	2037	0.01626	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\T_A614_Kirk_Hill_H_IP_2037_DM.txt
236	5	3	T	1	0	2037	0.11925	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\T_A614_Kirk_Hill_H_IP_2037_DM.txt
237	6	3	T	1	0	2037	0.01568	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\T_A614_Kirk_Hill_H_IP_2037_DM.txt
238	7	3	T	1	0	2037	0.03323	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\T_A614_Kirk_Hill_H_IP_2037_DM.txt
239	1	2	T	1	0	2037	0.04428	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\T_A614_Kirk_Hill_H_PM_2037_DM.txt
240	2	2	T	1	0	2037	0.28208	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\T_A614_Kirk_Hill_H_PM_2037_DM.txt
241	3	2	T	1	0	2037	0.53951	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\T_A614_Kirk_Hill_H_PM_2037_DM.txt
242	4	2	T	1	0	2037	0.01265	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\T_A614_Kirk_Hill_H_PM_2037_DM.txt
243	5	2	T	1	0	2037	0.09275	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\T_A614_Kirk_Hill_H_PM_2037_DM.txt
244	6	2	T	1	0	2037	0.00652	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\T_A614_Kirk_Hill_H_PM_2037_DM.txt
245	7	2	T	1	0	2037	0.02221	L:\60625845_A614 MRN DFT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\T_A614_Kirk_Hill_H_PM_2037_DM.txt

279	6	4	T	1	1	2037	0.02515	L:\60625845_A614 MRN DfT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\T_A614_Kirk_Hill_H_OP_2037_DS.txt
280	7	4	T	1	1	2037	0.05905	L:\60625845_A614 MRN DfT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\T_A614_Kirk_Hill_H_OP_2037_DS.txt
281	1	1	D	1	0	2037	0.05903	L:\60625845_A614 MRN DfT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\A614_Kirk_Hill_H_AM_2037_DM.txt
282	2	1	D	1	0	2037	0.32523	L:\60625845_A614 MRN DfT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\A614_Kirk_Hill_H_AM_2037_DM.txt
283	3	1	D	1	0	2037	0.46486	L:\60625845_A614 MRN DfT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\A614_Kirk_Hill_H_AM_2037_DM.txt
284	4	1	D	1	0	2037	0.01535	L:\60625845_A614 MRN DfT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\A614_Kirk_Hill_H_AM_2037_DM.txt
285	5	1	D	1	0	2037	0.11257	L:\60625845_A614 MRN DfT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\A614_Kirk_Hill_H_AM_2037_DM.txt
286	6	1	D	1	0	2037	0.00845	L:\60625845_A614 MRN DfT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\A614_Kirk_Hill_H_AM_2037_DM.txt
287	7	1	D	1	0	2037	0.01451	L:\60625845_A614 MRN DfT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\A614_Kirk_Hill_H_AM_2037_DM.txt
288	1	3	D	1	0	2037	0.05864	L:\60625845_A614 MRN DfT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\A614_Kirk_Hill_H_IP_2037_DM.txt
289	2	3	D	1	0	2037	0.09201	L:\60625845_A614 MRN DfT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\A614_Kirk_Hill_H_IP_2037_DM.txt
290	3	3	D	1	0	2037	0.66493	L:\60625845_A614 MRN DfT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\A614_Kirk_Hill_H_IP_2037_DM.txt
291	4	3	D	1	0	2037	0.01626	L:\60625845_A614 MRN DfT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\A614_Kirk_Hill_H_IP_2037_DM.txt
292	5	3	D	1	0	2037	0.11925	L:\60625845_A614 MRN DfT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\A614_Kirk_Hill_H_IP_2037_DM.txt
293	6	3	D	1	0	2037	0.01568	L:\60625845_A614 MRN DfT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\A614_Kirk_Hill_H_IP_2037_DM.txt
294	7	3	D	1	0	2037	0.03323	L:\60625845_A614 MRN DfT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\A614_Kirk_Hill_H_IP_2037_DM.txt
295	1	2	D	1	0	2037	0.04428	L:\60625845_A614 MRN DfT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\A614_Kirk_Hill_H_PM_2037_DM.txt
296	2	2	D	1	0	2037	0.28208	L:\60625845_A614 MRN DfT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\A614_Kirk_Hill_H_PM_2037_DM.txt
297	3	2	D	1	0	2037	0.53951	L:\60625845_A614 MRN DfT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\A614_Kirk_Hill_H_PM_2037_DM.txt
298	4	2	D	1	0	2037	0.01265	L:\60625845_A614 MRN DfT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\A614_Kirk_Hill_H_PM_2037_DM.txt
299	5	2	D	1	0	2037	0.09275	L:\60625845_A614 MRN DfT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\A614_Kirk_Hill_H_PM_2037_DM.txt
300	6	2	D	1	0	2037	0.00652	L:\60625845_A614 MRN DfT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\A614_Kirk_Hill_H_PM_2037_DM.txt
301	7	2	D	1	0	2037	0.02221	L:\60625845_A614 MRN DfT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\A614_Kirk_Hill_H_PM_2037_DM.txt
302	1	4	D	1	0	2037	0.03710	L:\60625845_A614 MRN DfT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\A614_Kirk_Hill_H_OP_2037_DM.txt
303	2	4	D	1	0	2037	0.24762	L:\60625845_A614 MRN DfT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\A614_Kirk_Hill_H_OP_2037_DM.txt
304	3	4	D	1	0	2037	0.57640	L:\60625845_A614 MRN DfT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\A614_Kirk_Hill_H_OP_2037_DM.txt
305	4	4	D	1	0	2037	0.00656	L:\60625845_A614 MRN DfT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\A614_Kirk_Hill_H_OP_2037_DM.txt
306	5	4	D	1	0	2037	0.04811	L:\60625845_A614 MRN DfT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\A614_Kirk_Hill_H_OP_2037_DM.txt
307	6	4	D	1	0	2037	0.02515	L:\60625845_A614 MRN DfT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\A614_Kirk_Hill_H_OP_2037_DM.txt
308	7	4	D	1	0	2037	0.05905	L:\60625845_A614 MRN DfT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\A614_Kirk_Hill_H_OP_2037_DM.txt
309	1	1	D	1	1	2037	0.05903	L:\60625845_A614 MRN DfT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\A614_Kirk_Hill_H_AM_2037_DS.txt
310	2	1	D	1	1	2037	0.32523	L:\60625845_A614 MRN DfT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\A614_Kirk_Hill_H_AM_2037_DS.txt

311	3	1	D	1	1	2037	0.46486	L:\60625845_A614 MRN DfT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\	D_A614_Kirk_Hill_H_AM_2037_DS.txt
312	4	1	D	1	1	2037	0.01535	L:\60625845_A614 MRN DfT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\	D_A614_Kirk_Hill_H_AM_2037_DS.txt
313	5	1	D	1	1	2037	0.11257	L:\60625845_A614 MRN DfT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\	D_A614_Kirk_Hill_H_AM_2037_DS.txt
314	6	1	D	1	1	2037	0.00845	L:\60625845_A614 MRN DfT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\	D_A614_Kirk_Hill_H_AM_2037_DS.txt
315	7	1	D	1	1	2037	0.01451	L:\60625845_A614 MRN DfT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\	D_A614_Kirk_Hill_H_AM_2037_DS.txt
316	1	3	D	1	1	2037	0.05864	L:\60625845_A614 MRN DfT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\	D_A614_Kirk_Hill_H_IP_2037_DS.txt
317	2	3	D	1	1	2037	0.09201	L:\60625845_A614 MRN DfT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\	D_A614_Kirk_Hill_H_IP_2037_DS.txt
318	3	3	D	1	1	2037	0.66493	L:\60625845_A614 MRN DfT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\	D_A614_Kirk_Hill_H_IP_2037_DS.txt
319	4	3	D	1	1	2037	0.01626	L:\60625845_A614 MRN DfT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\	D_A614_Kirk_Hill_H_IP_2037_DS.txt
320	5	3	D	1	1	2037	0.11925	L:\60625845_A614 MRN DfT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\	D_A614_Kirk_Hill_H_IP_2037_DS.txt
321	6	3	D	1	1	2037	0.01568	L:\60625845_A614 MRN DfT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\	D_A614_Kirk_Hill_H_IP_2037_DS.txt
322	7	3	D	1	1	2037	0.03323	L:\60625845_A614 MRN DfT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\	D_A614_Kirk_Hill_H_IP_2037_DS.txt
323	1	2	D	1	1	2037	0.04428	L:\60625845_A614 MRN DfT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\	D_A614_Kirk_Hill_H_PM_2037_DS.txt
324	2	2	D	1	1	2037	0.28208	L:\60625845_A614 MRN DfT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\	D_A614_Kirk_Hill_H_PM_2037_DS.txt
325	3	2	D	1	1	2037	0.53951	L:\60625845_A614 MRN DfT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\	D_A614_Kirk_Hill_H_PM_2037_DS.txt
326	4	2	D	1	1	2037	0.01265	L:\60625845_A614 MRN DfT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\	D_A614_Kirk_Hill_H_PM_2037_DS.txt
327	5	2	D	1	1	2037	0.09275	L:\60625845_A614 MRN DfT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\	D_A614_Kirk_Hill_H_PM_2037_DS.txt
328	6	2	D	1	1	2037	0.00652	L:\60625845_A614 MRN DfT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\	D_A614_Kirk_Hill_H_PM_2037_DS.txt
329	7	2	D	1	1	2037	0.02221	L:\60625845_A614 MRN DfT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\	D_A614_Kirk_Hill_H_PM_2037_DS.txt
330	1	4	D	1	1	2037	0.03710	L:\60625845_A614 MRN DfT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\	D_A614_Kirk_Hill_H_OP_2037_DS.txt
331	2	4	D	1	1	2037	0.24762	L:\60625845_A614 MRN DfT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\	D_A614_Kirk_Hill_H_OP_2037_DS.txt
332	3	4	D	1	1	2037	0.57640	L:\60625845_A614 MRN DfT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\	D_A614_Kirk_Hill_H_OP_2037_DS.txt
333	4	4	D	1	1	2037	0.00656	L:\60625845_A614 MRN DfT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\	D_A614_Kirk_Hill_H_OP_2037_DS.txt
334	5	4	D	1	1	2037	0.04811	L:\60625845_A614 MRN DfT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\	D_A614_Kirk_Hill_H_OP_2037_DS.txt
335	6	4	D	1	1	2037	0.02515	L:\60625845_A614 MRN DfT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\	D_A614_Kirk_Hill_H_OP_2037_DS.txt
336	7	4	D	1	1	2037	0.05905	L:\60625845_A614 MRN DfT responses\08_Models\TUBA\7-Kirk Hill\Outputs V4\	D_A614_Kirk_Hill_H_OP_2037_DS.txt
337	1	X	R	1	X	XXXX	1.00000	L:\60625845_A614 MRN DfT responses\08_Models\TUBA\7-Kirk Hill\Outputs\	D_A614_Kirk_Hill_OP_2037_DS.txt
338	2	X	R	1	X	XXXX	1.00000	L:\60625845_A614 MRN DfT responses\08_Models\TUBA\7-Kirk Hill\Outputs\	D_A614_Kirk_Hill_OP_2037_DS.txt
339	3	X	R	1	X	XXXX	1.00000	L:\60625845_A614 MRN DfT responses\08_Models\TUBA\7-Kirk Hill\Outputs\	D_A614_Kirk_Hill_OP_2037_DS.txt
340	4	X	R	1	X	XXXX	1.00000	L:\60625845_A614 MRN DfT responses\08_Models\TUBA\7-Kirk Hill\Outputs\	D_A614_Kirk_Hill_OP_2037_DS.txt
341	5	X	R	1	X	XXXX	1.00000	L:\60625845_A614 MRN DfT responses\08_Models\TUBA\7-Kirk Hill\Outputs\	D_A614_Kirk_Hill_OP_2037_DS.txt
342	6	X	R	1	X	XXXX	1.00000	L:\60625845_A614 MRN DfT responses\08_Models\TUBA\7-Kirk Hill\Outputs\	D_A614_Kirk_Hill_OP_2037_DS.txt
343	7	X	R	1	X	XXXX	1.00000	L:\60625845_A614 MRN DfT responses\08_Models\TUBA\7-Kirk Hill\Outputs\	D_A614_Kirk_Hill_OP_2037_DS.txt

SECTORS

*mode Sector_file_name

[aecom.com](https://www.aecom.com)