A614/A6097 Major Road Network Junction Improvement Package

OUTLINE BUSINESS CASE FOR CONDITIONAL APPROVAL

December 2020

Nottinghamshire County Council

CONTENTS

INDEX OF FIGURES

INDEX OF TABLES

APPENDICES - SUPPORTING DOCUMENTS

Copies available on request and supplied separately to DfT.

A Options Appraisal Report (OAR) – December 2020, AECOM and Via East Midlands.
B Traffic and Economic Assessment Report (TEAR) December 2020, AECOM.
C Scheme Plans
D A614/A6097 Communications Plan 2020
E Appraisal Summary Table (AST)
F Project Plan
G Letters of Support
H Quantified Risk Assessment
I Environmental Worksheets and Constraints plans

1 Executive Summary

This document is the Outline Business Case (OBC) for improvements to the A614/A6097 corridor in Nottinghamshire. It has been prepared by Nottinghamshire County Council ('NCC', 'the County Council') for consideration by the Department for Transport (DfT) and explains why the scheme should receive financial support.

1.1 Scheme Description and Overview

The preferred scheme identified for the A614/A6097 Major Road Network (MRN) corridor involves improvements to the following six junctions between the A46/A6097 junction (Bingham) and the A614/A617/A6075 Ollerton roundabout as set out in Table 1.1 and shown in Figure 1.1. Detailed plans of the scheme are provided in **Appendix C**.

Table 1-1 A614/A6097 Scheme package

Junction	Description	Dependent Development
Ollerton Roundabout	Construction of an enlarged conventional roundabout	Thoresby Colliery – 800 houses and 32,375m^2 employment land. Constrained to 150 dwellings and ¼ of the employment until Ollerton roundabout is improved.
Mickledale Lane	Construction of a new traffic-signal controlled junction to replace existing priority junction	
White Post Roundabout	Maintenance and Road Safety scheme	
Warren Hill	Geometric improvements and alterations to existing gyratory	
Lowdham Roundabout	Construction of an enlarged conventional roundabout.	Teal Close – 830 houses and 18,000m^2 employment land. Constrained to 150 dwellings until Lowdham roundabout is upgraded.
Kirk Hill	Enlargement of existing traffic - signal controlled junction.	RAF Newton Requires upgrade to A6097 Kirk Hill signalised junction although no trigger specified

Figure 1-1 Location plan

1.2 Strategic Case

The Strategic Case describes the case for improving the A614/A6097 MRN corridor. It sets out the objectives for the Scheme and how the transport investment fits with wider public policy objectives and local strategies and plans. It also describes how the proposed Scheme has been identified after consideration of a full range of options and consultation with stakeholders.

The scheme is an important part of NCC's strategy to support growth and development in this part of Nottinghamshire. It will enable the MRN, Strategic Road Network (SRN) and local roads to operate more efficiently by reducing congestion, improving the reliability of journey times whilst also providing increased capacity at key junctions which will help facilitate economic growth in the area.

The scheme will also support the delivery of the NCC's Local Transport Plan 3 (2011-26), the Council Plan ''Your Nottinghamshire Your Future", the Place Departmental Strategy and NCC's Visitor Economic Strategy.

The scheme is closely aligned with the following national, regional and local transport - related plans and programmes for transport, housing and economic growth:

National Policies

- Moving Britain Ahead – Transport Investment Strategy (2017).
- Department for Transport Single Departmental plan (2019).
- National Planning Policy Framework (NPPF - 2019).

Regional Policies

- Midlands Connect – Major Road Network and Large Major Road Schemes Submission – Regional Evidence Base (July 2019).
- The Midlands Engine for Growth Prospectus and Midlands Connect Strategy (2017).
- D2N2 Strategic Economic Plan (2019).

Local Policies

- 'Your Nottinghamshire, Your Future – NCC Plan (2018).
- NCC's Departmental Place Strategy (2020).
- NCC Local Transport Plan 3 (2011-2026).
- NCC's Visitor Economic Strategy (2019).
- Newark and Sherwood District Council – Adopted Core Strategy (2011-2026).
- Rushcliffe Borough Council adopted Local Plan Part 2 (2019)
- Gedling Borough Council adopted Local Plan (2018)

The Strategic Case considers each of the above plans and programmes in turn and

explains how the scheme will support their aims and objectives. The Strategic Case shows that:

Having considered a range of options, the scheme package is the one which NCC considers the most effective choice in delivering the strategic objectives.

The **Objectives** of the Scheme package are to:

- **Reduce congestion** - A number of intersections along the A614/A6097 corridor currently suffer from significant levels of congestion, particularly at peak travel periods.
- **Support economic growth and housing delivery** - The scheme package will increase capacity along the corridor which in turn can accommodate new and additional trips arising from significant housing and employment developments that are to be constructed in future years.
- **Support the Strategic Road Network** - The scheme will add resilience to the route which will support the SRN during major works or incidents on the M1, A1, and A46.
- **Reducing journey time delays and variability**- Particularly at peak periods. Improving journey time reliability will improve economic efficiency for businesses and make the corridor as attractive as possible to visitors to the many tourist attractions located along the corridor.
- **Support all other road users** - The scheme will improve crossing facilities for pedestrians and cyclists. At present there is no positive provision at the Ollerton and Lowdham roundabout junctions.

Impacts of Doing Nothing

The impacts and issues that will continue or be exacerbated without any form of intervention includes:

- **Increasing traffic volumes** - Traffic congestion will continue to increase along the corridor without the required intervention. The modelling work undertaken to assess each junction indicates that there will be instances where junctions will have queues of many hundreds of vehicles in the peak hours. This means that the corridor will remain congested and worsening journey time reliability for all users. Increasing congestion will also have a detrimental impact on local economic activity and productivity. The corridor already has a high proportion of heavy goods vehicles so delays will have a direct impact on the logistics supply chain for industries and businesses both on and close to this corridor.

- **Lack of housing and employment delivery** – Failure to deliver the highway improvements will restrict the ability of the local district councils' to release housing and employment development. There are already development limits on some planning permissions (such as the Thorebsy colliery redevelopment

near Ollerton) until such time as junction capacities have been improved to accommodate existing and development generated traffic. It is also important to make sure that the corridor is as accessible and reliable as possible, in order to make further investment in the area attractive to prospective developers.

- **Complaints** – There are a number of lobby groups from residents in settlements adjoining the A614/A6097 demanding action. The campaign groups have the support of locally elected politicians (Local Councillors and Mark Spencer MP). The demands for action will be heightened without improvements.

A total of 12 interventions were initially identified during the option development phase which were refined and resulted in a total of 8 potential package scheme options being assessed against the scheme objectives listed above. The DfT's Early Appraisal Sifting Tool (EAST) was used at a very early stage to aid in the qualitative assessment of each package . The EAST tool has been developed by the DfT to provide an approach to the early assessment of a range of options which seek to address a known problem or meet an agreed set of objectives.

1.3 Economic Case

The Economic Case sets out details of the options appraisal that has been carried out and the economic appraisal which considers both the value of benefits and value of costs of the scheme and presents an overall Benefit to Cost Ratio (BCR).

The DfT's guidance document 'The Transport Business Case: Economic Case' has been used to inform the economic analysis carried out as part of this OBC. A separate Traffic and Economic Case Assessment Report (TEAR – December 2020) has been produced by Aecom and this gives further details of the method employed to derive the economic forecasts and provides outputs from the traffic modelling and TUBA / COBALT assessment. The TEAR has been provided separately to DfT as part of the suite of information supporting the outline business case.

The economic appraisal has been tailored to reflect the needs of the A614/A6097 MRN corridor OBC, and has specifically monetised as part of the Benefit Cost Calculation:

- Transport User and Provider benefits (including travel time and vehicle operating cost savings)
- Safety benefits
- Noise output
- Air Quality emission changes; and
- Greenhouse Gases emission changes

These form the initial Benefit Cost Ratio (BCR) for the scheme. Additional valuations of other objectives have also been monetised as part of the Economic Case, and these are included in the scheme's adjusted BCR. These additional benefits include:

- Induced Investment – Land Value Uplift & Land Amenity Value

Scheme Benefits

The Economic Case reports the sum of the above calculations. The present value of scheme benefits is estimated at **£51.493m** (in 2010 values and prices). The adjusted present value of scheme benefits is estimated at **£56.829m**, which includes induced investment benefits of **£5.336m**.

Scheme Costs for Economic Appraisal

Scheme costs used in the Economic Case are as per those developed in the Financial Case and built up from detailed construction, land, preparation and supervision costs associated with the schemes design. Risk allowances of **£2.967m** have been determined through a detailed Quantified Risk Assessment (QRA). Commuted sums covering the costs of future maintenance and operational costs have also been calculated and used as part of the appraisal process.

These calculations lead to a Present Value Cost of the scheme of **£16.702m**

The initial Benefit Cost Ratio for the scheme has been calculated on the basis of the scheme benefits and scheme costs above. The BCR (core scenario) for this package is **3.08.** The scheme will also generate an additional **£5.336m** of induced investment benefits not reported in the core BCR. With these included, the adjusted BCR is **3.40**. A Value for Money statement is presented in the Economic Case and confirms that the A614/A6097 MRN junction improvement package is High Value for Money (using DfT classification of VfM), in the most likely scenario.

The scheme is also predicted to reduce noise, air quality and greenhouse gas emissions over the 60 year appraisal period.

Sensitivity tests have been carried out to understand the impact of possible alternative economic growth forecasts.

1.4 Commercial Case

The Commercial Case provides evidence on the commercial viability of the proposal and the procurement strategy that will be used to engage the market. It provides evidence on risk allocation and transfer, contract timescales and implementation timescales as well as details of the capacity and skills of the Via East Midlands project team delivering the project on behalf of NCC.

NCC have considered a full range of procurement options to secure best value. The OBC is advocating that the entire delivery of the A614/A6097 MRN Scheme is through Via East Midlands (Via EM). It is considered a viable and appropriate route for delivery of this scheme. Self-delivery by Via EM will provide best value, cost certainty and bringing a unique local ownership and responsibility to the delivery. Delivery will include a mixed economy utilising local supply chain and sub-contractor frameworks.

As the local provider of Highway Services in Nottinghamshire with its strong, established relationship with the County Council and demonstrable successful delivery of a number of significant projects, Via EM will deliver the A614/A6097 MRN project as expected and as required.

The approach selected builds on NCC's strong track record in delivering major transport schemes, with a clear understanding between contractor and authority of how they work and what their processes are. This is not just in terms of roles, but also agreed standards, mechanisms and clarity over risk and risk allocation and transfer throughout the design and construction phases.

Other alternative procurement options are available if required. However, the use of the MHA or traditional tender routes as delivery options both carry risk related to timing of delivery, costs and certainty of hitting required deadlines. For example, a risk associated with delivery through MSF is that the transition between the existing MSF3 contract that is likely to be replaced during 2021 with MSF4 that may impact delivery and contractor selection, a situation which arose in the selection of Balfour Beatty in delivery of the Gedling Access Road. Using the MSF procurement route requires an early commitment to the preferred contractor to enable formal ECI to commence. Utilisation of NEC4 contracts triggers a requirement for the client to be in contract and pay for the ECI process, with fixed timings for provision of scoping documents to allow the contractor to begin the process of target costing.

1.5 Financial Case

The Financial Case provides a detailed cost estimate and a breakdown of how the Scheme will be funded. The scheme costs have been built up from detailed construction, land, preparation and supervision costs associated with the project. The estimated cost of the of the Scheme is approximately **£28.635 million**. This sum includes an allowance for quantified risk and inflation but excludes Optimism Bias.

A fixed sum of **£24.339 million** is being sought from the DfT, which represents 85% of the scheme package cost. The remaining contributions will be funded by NCC and third party (S106) contributions.

Although the funding bid is for a contribution towards the capital costs of delivering the scheme, the business case has also considered whole life costs. These include the costs of both operating (e.g. street lighting and traffic signal electricity costs) and maintaining the highway constructed as part of this works package. The cost of maintenance over the 60 year appraisal period will be covered by Nottinghamshire County Council's highway maintenance budget. The total value is **£3.41m** and has been included as part of the economic appraisal of the scheme. This covers commuted sums for the , operation, maintenance and renewal of any assets such as new traffic signals and lighting columns over the 60 year appraisal period.

The County Council's Policy Committee on 22nd May 2019 authorised the County Council's Section 151 officer to meet the project costs over and above the DfT contribution. The County Council has made the appropriate allowance to contribute to

the A614/A6097 project in the County Council's financial budget.

1.6 Management Case

An appropriate governance structure is essential to the delivery of the A614/A6097 MRN scheme. NCC has established a Project Board and a Project Delivery Team aligned with best practice guidance on project management. The Project Board's primary function is decision-making and review. The Project Delivery team has been established to deal with day to day planning and the delivery of the scheme.

A project programme has been developed and sets all the key project tasks and their duration, interdependencies, key milestones and gateways. It will act as a live document, with progress being monitored on a regular basis by the Project Manager. NCC recognised that effective risk management is key, and is a continuous process involving the identification and assessment of risks. A risk register has been prepared and will continue to be reviewed and updated monthly and provide up-to-date information in line with the Project Governance.

Key stakeholders have been identified and a stakeholder management plan has also been produced and is based on experiences encountered for previous major transport schemes delivered recently by NCC such as the Hucknall Town Centre Improvement Scheme (HTCIS) and the Gedling Access Road (GAR). The HTCIS project involved the pedestrianisation of the Hucknall High Street and construction of a new relief road and was completed in 2017 with a value of £13.4m. The Gedling Access Road (GAR) is currently under construction and valued at £41m.

The scheme is strongly supported locally and letters of support have been received from:

- Newark & Sherwood District Council.
- Bassetlaw District Council.
- Mansfield District Council.
- Gedling Borough Council.
- Rushcliffe Borough Council.
- D2N2 (Local Enterprise Partnership for Nottinghamshire, Nottingham, Derbyshire and Derby)

Extensive consultation has taken place over the last 18 months and there is strong support for all junctions. For example, 80% of respondents surveyed at the consultation events in the summer of 2019 thought the Ollerton roundabout proposal was a good idea and 82% strongly supported the scheme proposal at the Mickledale Lane, Bilsthorpe junction. The most recent consultation undertaken for the project was done virtually in November 2020 and specifically focused on the revised Lowdham roundabout proposal and the new junction proposal at Kirk Hill, East Bridgford. The consultation received over 10,000 views over a three week period.

The scheme is also strongly supported by the local Member of Parliament for the Sherwood constituency (Mark Spencer MP). The scheme is also strongly supported by Nottinghamshire County Council locally elected Members.

A strategy will also be developed to establish how the performance of the Scheme against objectives for project success will be monitored and assessed, to demonstrate the value for money for the funding of the Scheme. These objectives relate to changes in traffic flows, reductions in journey times and queue lengths at key junctions on the corridor and also wider economic indicators.

Risks associated with the overall delivery are included in a Risk Register and Quantified Risk Assessment. This is managed across the whole project team and maintained by the Via EM PM. Key risks are highlighted through the project reporting and be reviewed regularly as the Scheme progresses.

The Management Case also shows that NCC and Via East Midlands has a strong track record of successfully procuring and delivering projects of varied size and complexity, and in relation to the A614/A6097 MRN project, has the project management, governance and assurance systems in place to successfully deliver the works package.

2 Background and Context

2.1 Introduction

This OBC has been prepared to support the proposal to improve 6 junctions on the A614 / A6097 Major Road Network (MRN) corridor in Nottinghamshire (the 'Scheme'). It has been prepared by Nottinghamshire County Council ('NCC', 'the County Council') in conjunction with transport consultants AECOM and the NCC's design and delivery partner Via East Midlands. This OBC is to be submitted to the Department for Transport (DfT) for Conditional Approval. It is proposed that a Full Business Case (FBC) will be submitted for Full Approval in 2021.

The OBC is more than just a bid for financial support, it also explains why the County Council has decided to put the scheme forward in the form proposed. It presents the scheme as part of a wider strategy and shows that the case for action is based on a realistic analysis of the current situation, a clear vision of the transport needs for the future, a proper assessment of costs and benefits throughout the lifespan of the improvement package, and a robust plan for delivery.

NCC's proposed scheme seeks to continue the strategic development of the A614/A6097 MRN corridor to both accommodate and facilitate economic growth.

2.2 The 'Five Case' Business Case Model

This OBC has been prepared based on the HM Treasury 'five case' model and is structured in accordance with the DfT's business case guidance and 'five case' transport scheme evaluation process.

Following this introduction, the remainder of the document is arranged as follows:

- **Strategic Case** - This sets out the strategic context within which the proposed scheme has been developed. It identifies the problems that the Scheme should resolve, the core objectives of the scheme and the options considered.
- **Economic Case** – This demonstrates the impact of the Scheme on the economy, environment and society.
- **Commercial Case** - This sets out details of the procurement strategy, pricing and payment mechanisms and risk allocations.
- **Financial Case** - This sets out the overall Scheme costs, funding and affordability.
- **Management Case** - This demonstrates the deliverability of the Scheme setting out clear proposals for governance, project planning, risk management, stakeholder management and evaluation.
- **Conclusions** - This sets out the overall conclusions of the OBC and seeks conditional approval and DfT MRN Programme Entry status.

This OBC needs to be read in conjunction with a number of supporting reports and technical documents. The documents are listed in the contents page above and include the Option Appraisal Report (OAR – Appendix A) and the Traffic & Economic Assessment Report (TEAR – Appendix B). The appraisal work has been completed in accordance with the latest WebTAG Guidance.

WebTAG stresses the need for proportionality in the appraisal process, the methods used for each element of the appraisal process have been developed to provide output at a level of detail considered appropriate to inform decision making at this particular stage of the appraisal process.

2.3 Study Area

The A614/A6097 MRN corridor is an 18 mile, mainly single carriageway road that extends from the A46/A6097 junction (Bingham) to the A614/A617/A6075 Ollerton roundabout junction, see Figure 1-1. The A614 is a principal north-south route from Nottingham in the south to Worksop and Retford and beyond in the north. The A6097 provides a spur from the A614 to the A46 (which is a trunk road linking Leicester with Newark and Lincoln). Between the study area junctions, the A614 is a two-way single carriageway road.

The A6097 is a two-way single carriageway road, which has a short length of dual carriageway through Lowdham. Geographically, the A614/A6097 route sits between the A1 to the east and M1 to the west and forms a north-south spine through the centre of Nottinghamshire. The A614/A6097 route regularly acts as a diversion or alternative route during major works or incidents on the SRN.

A number of junctions along the corridor are heavily congested whilst others pose difficulties and dangers for drivers trying to access the A614 from adjoining village settlements. The existing problems and traffic delays are set to worsen considerably with planned and forecast traffic growth.

In October 2018 the A614/A6097 route was designated part of the Government's MRN, a middle tier of the country's busiest and most economically important local authority 'A' roads, sitting between the SRN and the rest of the local road network.

Figure 2-1 illustrates the recorded Annual Average Daily Traffic (AADT) flows for the corridor and surrounding major roads in Nottinghamshire. Figure 2-2 shows the number of HGVs recorded per day and highlights the importance of the route for freight movements.

Figure 2-1 AADT for Nottinghamshire

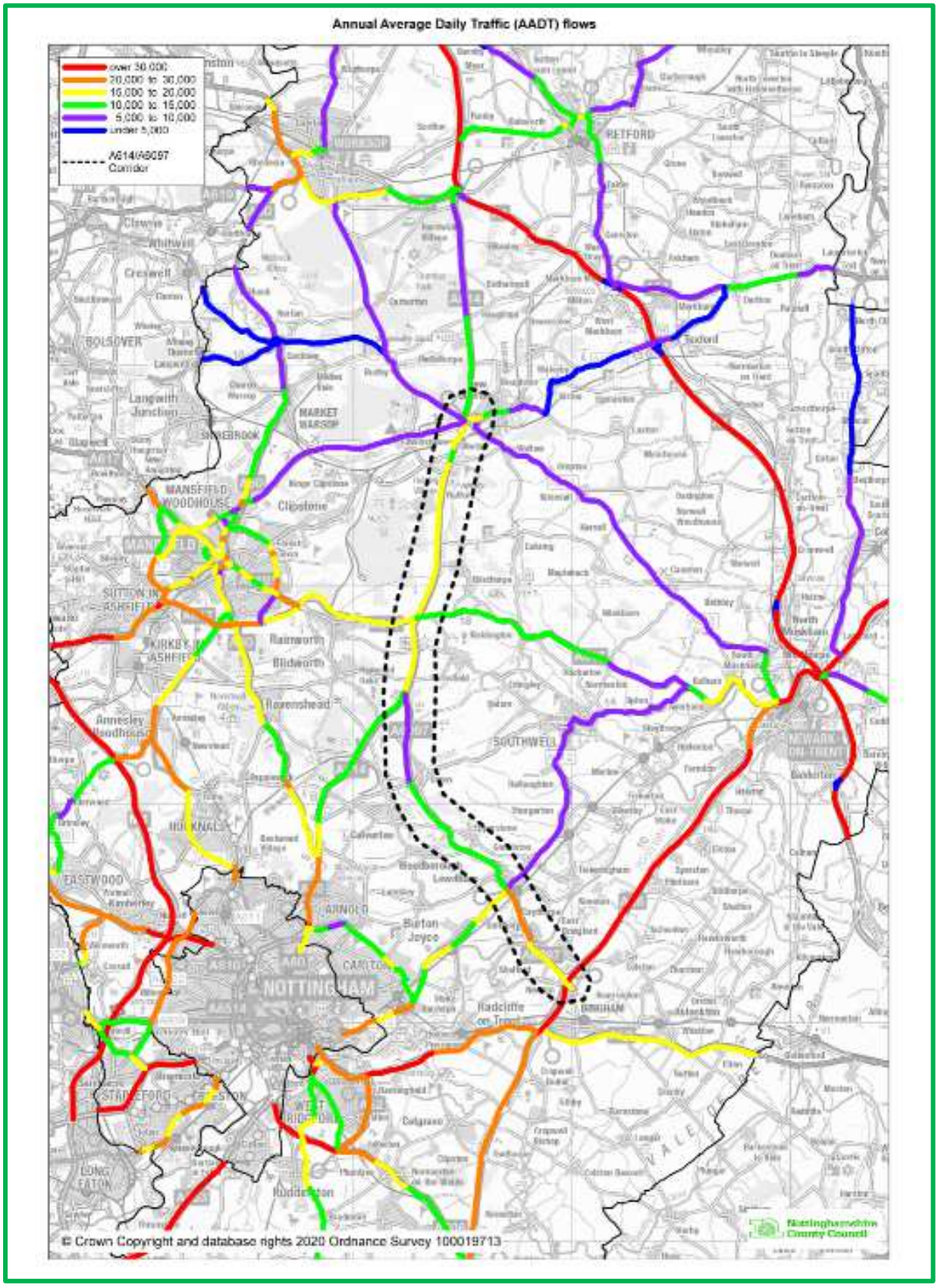
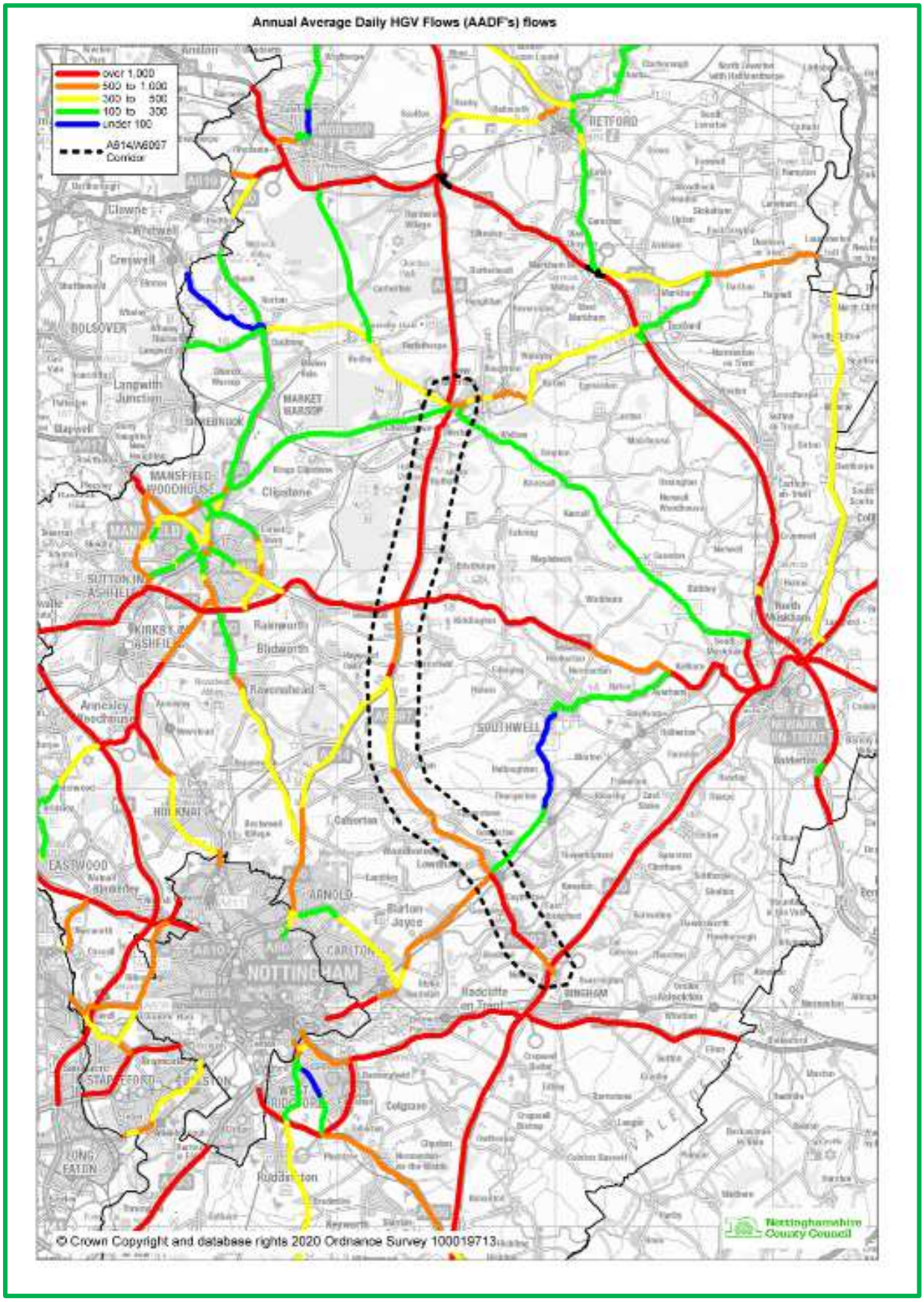


Figure 2-2 HGV movements Nottinghamshire



The AADT data presented in Figure 2-4 shows that traffic growth has increased at the permanent counter locations installed by NCC since 2014 along the corridor (count locations shown in Figure 2-3). The largest increase between 2014 and 2018 was recorded at the A6097 Epperstone Bypass with a 10% increase, with the AADT increasing from 14,150 in 2014 to 16,000 in 2018.

Table 2-1 shows the corridors importance to strategic freight movements, with HGV percentages ranging from between 12.6% and 16.5% at the five selected sites on the corridor.

Figure 2-3 Automatic Traffic Counter Locations

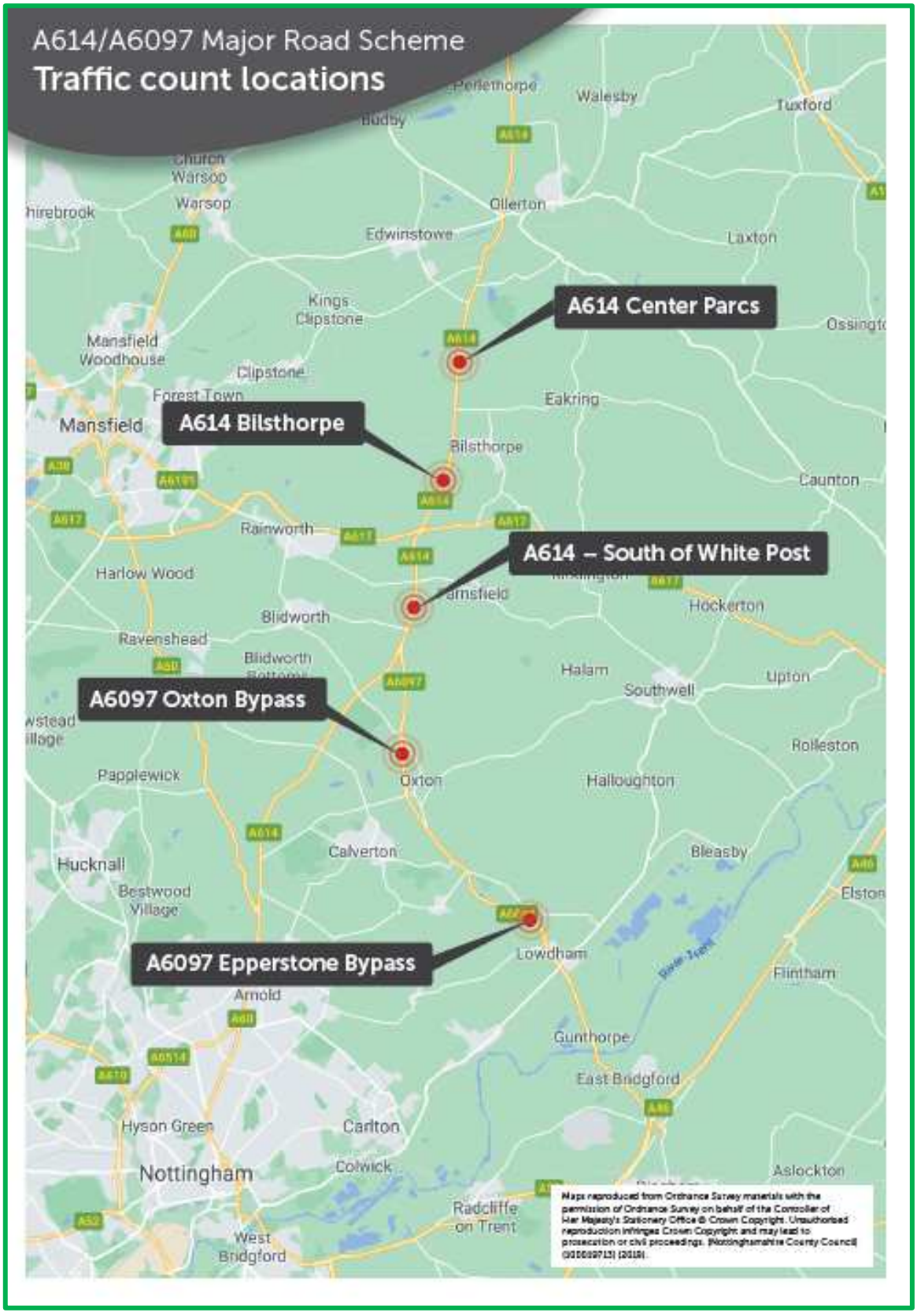


Figure 2-4 A614/A6097 AADT permanent counters

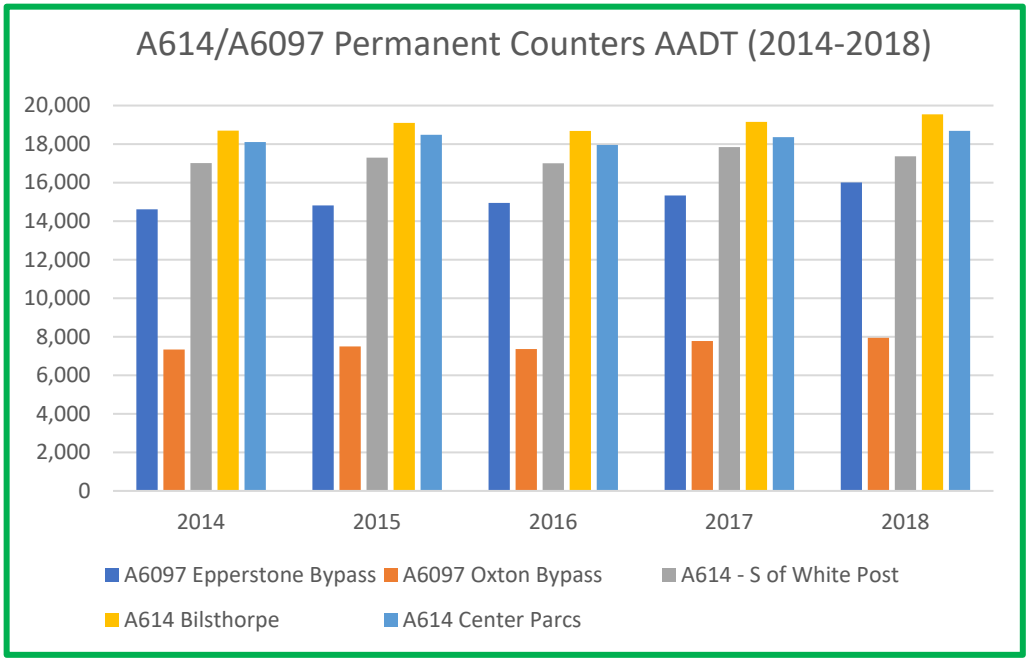


Table 2-1 HGV percentage at permanent counter locations

Permanent Counter Site	HGV % (of AADT) in 2018
A6097 Epperstone Bypass	12.6%
A6097 Oxton Bypass	16.5%
A614 – South of White Post	13.2%
A614 Bilsthorpe	14.1%
A614 Center Parcs	13.6%

At its northern end, the A614 serves a large number of tourist attractions (Figure 2-5), some of which are nationally important including: Clumber Park (National Trust), Rufford Abbey, Center Parcs Sherwood Forest, Sherwood Pines Forest Park, Go Ape, Sherwood Forest Country Park and Visitor Centre, The Major Oak, White Post Farm and Robin Hood's Wheelgate Family Theme Park.

A total of 4.5 million visitors made a trip to the area in 2019. The tourism industry is a major economic benefit to the local area, not just as a source of employment, but also because those who spend money on these attractions often originate from outside of the local area, providing an injection of finance to the local economy. The current

8,000 employees that work in the tourism sector accounts for as much of 15.7% of the workforce in Newark & Sherwood district, far exceeding the 9.3% seen across Nottinghamshire as a whole and the national average of 9.6%.

Figure 2-5 A614 corridor tourist attractions

*Separating out "Sherwood Forest" visitor numbers is difficult from information available online. Likely to be considerable o verlap between numbers given.

Around a quarter of the tourism jobs in Newark and Sherwood are at holiday centres and villages, driven by Center Parcs Sherwood Forest and the Center Parcs' UK Head Office in Ollerton.

In recognition of how important the A614 corridor is to the visitor economy, the County Council has made significant improvements to other junctions on the A614 route in recent years in order to increase traffic capacity, reduce traffic delays and improve journey time reliability:

- A614/B6034 (Rose Cottage) junction was upgraded from a priority T-

junction to a signalised junction with works complete in February 2013.

- A614/A617 Lockwell Hill roundabout junction was enlarged in September 2013.

Population and Local Economy

Five of the six junctions within the corridor are located within the district of Newark and Sherwood, with the A6097/Kirk Hill junction located in Rushcliffe district. It is important to recognise that the A614/A6097 corridor continues outside of these two local authority's areas with significant proportions of the route running through Gedling and Bassetlaw. Residents and workers in these Local authority and wider areas will also benefit from the improvement package.

At over 65,000 hectares, the district of Newark and Sherwood is the largest in Nottinghamshire and is situated in the north of the East Midlands. The Newark and Sherwood district has approximately 122,000 residents making up around 15% of Nottinghamshire's population. The district's population has grown by 16% since the year 2000, making it the fastest growing district in Nottinghamshire. Growth across the study area is expected to increase with the latest Office for National Statistics (ONS) population statistics forecasting an average 7.6% increase in the resident population across the local authorities along the A614/A6097 route over the next 10 years, this is much faster than the 4.4% expected nationally.

The Newark and Sherwood district area is largely rural in nature, with a settlement pattern that ranges from market towns and large villages to smaller villages and hamlets. According to the 2011 Census, the largest population centre along the route is Ollerton with around 10,000 residents. Lowdham, Bilsthorpe and Farnsfield lie adjacent to the route. These villages have been identified by Newark and Sherwood District Council as 'Principal Villages; in that they have an important role in the provision of day to day services to surrounding areas.

The Newark and Sherwood district's economy supported 46,000 part- and full-time jobs (2015) and has been characterised by recent structural shifts from manufacturing to service sectors and by a low skills and wage economy where household income is low. The majority of employment is focused in Newark and the western areas of the district. The Newark & Sherwood district is witness to out-commuting with a significant proportion of the district's workforce travelling outside of the district to destinations such as the City of Nottingham for work. The A614/A6097 corridor plays a key role in facilitating these travel demands.

2.4 The Scheme

2.4.1 Location of the Scheme

The A614/A6097 MRN corridor is an 18 mile, mainly single carriageway road that extends from the A46/A6097 junction at Bingham to the A614/A616/A6075 Ollerton roundabout junction. The A614 is an important north-south route from Nottingham in the south to Worksop and Retford and beyond in the north. The A6097 provides a spur from the A614 to the A46 (which is a trunk road linking Leicester with Newark and Lincoln). Between the study area junctions, the A614 is a two-way single carriageway.

The A6097 is a two-way single carriageway road which has a short length of dual carriageway through Lowdham. Geographically, the A614/A6097 route sits between the A1 to the east and M1 to the west and forms a north-south spine through the centre of Nottinghamshire. The A614/A6097 route regularly acts as a diversion or alternative route during major works or incidents on the SRN.

A number of junctions along the A614/A6097 corridor are heavily congested whilst others pose difficulties and dangers for drivers trying to access the A614 from adjoining settlements. The existing problems and traffic delays are set to worsen considerably with planned and forecast traffic growth.

The A614/A6097 corridor is rural in nature, with Ollerton acting as the main centre. The 2011 Census showed that 73% of Newark and Sherwood residents are dependent on either driving a car/van or being a passenger in one in order to travel to work. The district of Newark and Sherwood is also a net exporter of labour, with the Origin-Destination data from the 2011 Census showing that almost half (47.6%) of the resident population commute to other areas for work (approximately 20,800 people). A high proportion of these people travel to Nottingham and Mansfield for work. The high dependency on motor vehicle travel and the high number of residents commuting elsewhere means that there is an additional strain on roads such as the A614 and A6097 during the traditional commuter peak hours.

2.4.2 Scheme Description

The Scheme will involve the construction of six junction upgrades along the A614/A6097 corridor. The package includes:

- **Ollerton Roundabout:**

  The enlargement of the existing A614/A616/A6075 roundabout at Ollerton (Figure 2-5). The junction currently has six approaches, and this will be reduced to five. The Inscribed Circle Diameter (ICD) will be increased from 37.5m to 60m. The bus only link road (the sixth arm) will now realign onto the A616 Ollerton Road arm. Two of the arms would provide Toucan crossing points, due to existing land constraints (outlined below) the proposal is the largest size that can be accommodated.

  The roundabout is approximately 9 miles from Mansfield and 19 miles from Nottingham. The junction facilitates local movements from Ollerton and local

tourist attractions (The Major Oak etc) as well as strategic trips accessing the Strategic Road Network (A1 via A614).

The existing junction layout currently operates over capacity and results in development constraints on nearby development sites. A photograph of the existing junction can be found in Figure 2-6.

A McDonalds restaurant and fish restaurant (The Big Fish) have been built to the immediate south of the junction. A Public House (The Alders) was constructed to the west of the junction in 2015. Two petrol stations are also positioned on either side of the A614 Old Rufford Road.

Figure 2-5 Ollerton roundabout scheme

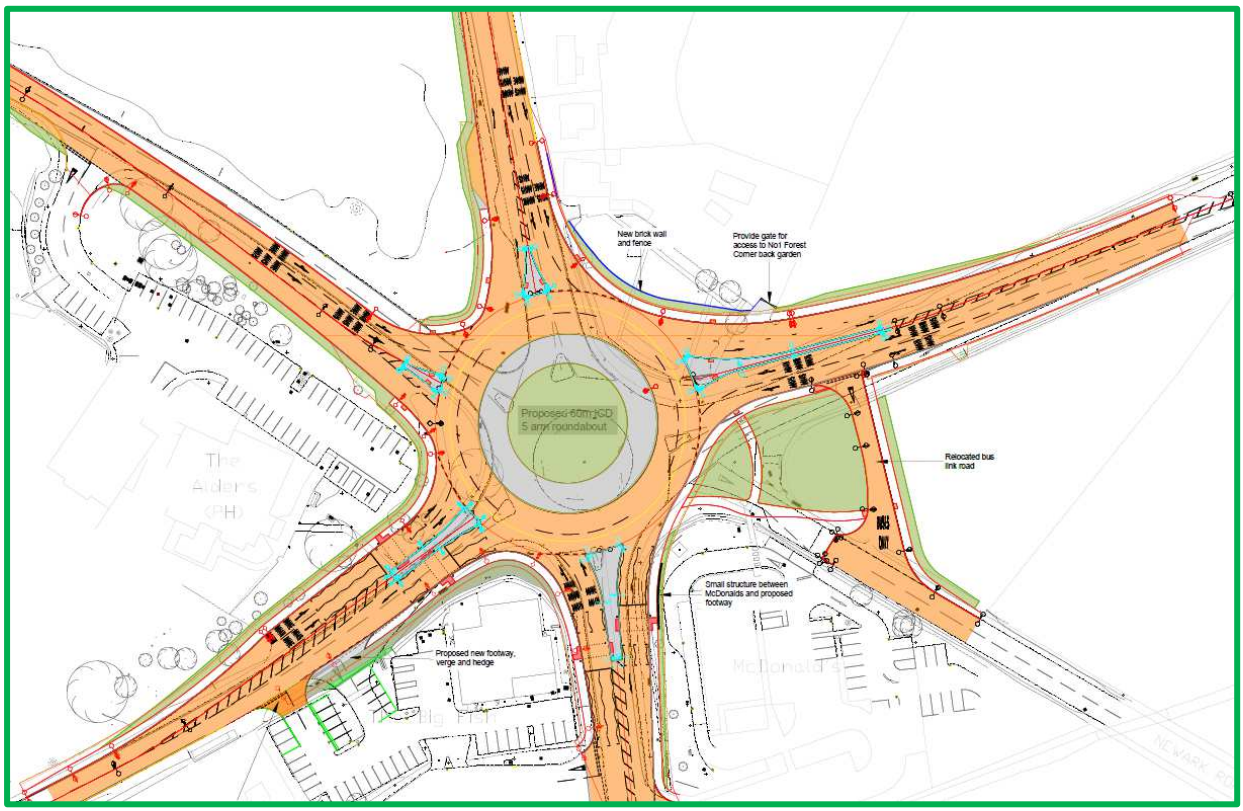


Figure 2-6 Ollerton roundabout - 2019

- **Mickledale Lane, Bilsthorpe.**

  Proposed signalisation of the A614 / Mickledale Lane junction at Bilsthorpe (Figure 2-7). The junction is currently a priority crossroads junction with right-turn harbourages provided into each of the minor arms. Four houses occupy the south-east corner of the junction, and a transport café (the Limes Café) is in the north-west quadrant.

  The existing junction is less than a mile from the village of Bilsthorpe and lies just under 15 miles to the north of Nottingham.

  The existing accident rates at the junction are below the national average for this type of junction as drivers are cautious when trying to access the A614. However, as traffic flows increase and safe gaps in traffic reduce, minor-arm traffic will experience increased driver frustration and delays. The ability to access the A614 from Mickledale Lane was a common complaint at the public consultation exhibitions held in Bilsthorpe in July 2019.

Figure 2-7 Mickledale Lane, Bilsthorpe scheme

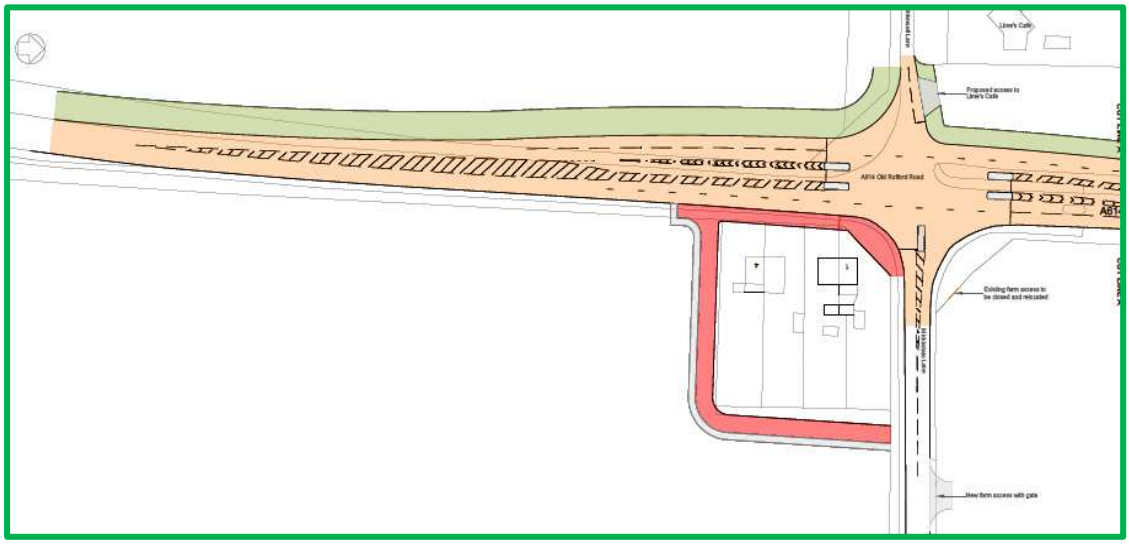


Figure 2-8 The A614/Mickledale Lane junction (photo taken from Limes Cafe access)

- **White Post Roundabout.**

  A maintenance and road safety improvement scheme at the White Post roundabout. The junction requires carriageway upgrades to ensure the route is of a suitable standard to support the SRN and provide additional network resilience.

  The roundabout is less than 8 miles away from Mansfield and is situated 12 miles from Nottingham. The Mansfield Road (west) has a children's theme park (Wheel Gate) situated 200m away from the junction and also leads to Rainworth and Mansfield.

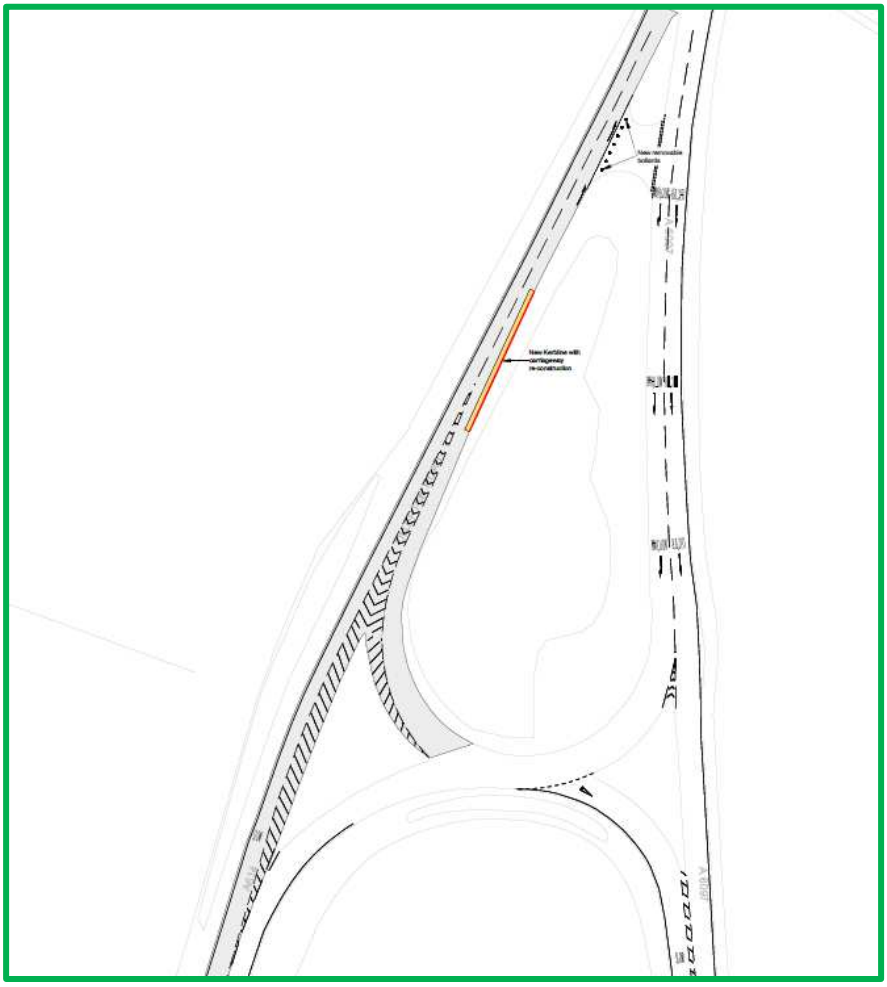
- **Warren Hill**.

  Geometric improvements to the A614 / A6097 Warren Hill junction.

  The existing junction is a priority controlled gyratory where traffic on the A6097 gives way to traffic on the A614. The junction layout is unusual in that traffic travelling from the A6097 (north west bound movements) merge onto the A614 by entering the main stream on the passenger side (rather than the driver's side). This unusual and confusing layout will be simplified.

  The existing junction layout is predicted to be a capacity constraint in future years.

Figure 2-9 Warren Hill scheme



- **Lowdham Roundabout.**

  The enlargement of the existing A6097/A612/Southwell Road roundabout at Lowdham (Figure 2-10). The existing island has an ICD of 42m and lies 9 miles from Nottingham. The A612 approach and exit arms only cater for single lane approaches and single lane exits. The entries have localised entry flaring on the immediate approaches to the roundabout. The A6097 is a dual carriageway which has two lane approaches and two lane exits on both the south east and north west arms.

  The Lowdham roundabout is a key junction on the County Council's MRN and,

as such, large volumes of traffic pass through it on a daily basis. The A6097 is a key artery linking the A46 in the south to the A614/A617 (Mansfield) in the north. The A612 provides a key route from Nottingham in the south to the towns of Southwell and Newark in the north and east.

The existing junction layout currently operates over capacity, (especially during the morning and evening peaks) and results in development constraints on nearby development sites.

Figure 2-10 Lowdham roundabout scheme

Figure 2-11 Lowdham roundabout (photo taken from village amenity area)

- **Kirk Hill, East Bridgford.**

  The enlargement of an existing traffic-signal controlled junction at the A6097/ Kirk Hill intersection in East Bridgford (Figure 2-12). The A6097 Bridgford Street runs northwest to southeast, Kirk Hill joins the A6097 from the north, providing access to East Bridgford village, and East Bridgford Road and Newton village from the south. Both A6097 approaches are characterised by two lanes, one of which is a dedicated right turn lane, with the other used for ahead and left movements. Both Kirk Hill and East Bridgford Road are single lane approaches.

  The existing junction layout currently operates over capacity which will worsen with predicted future traffic growth from adjoining development proposals.

Figure 2-12 Kirk Hill, East Bridgford scheme

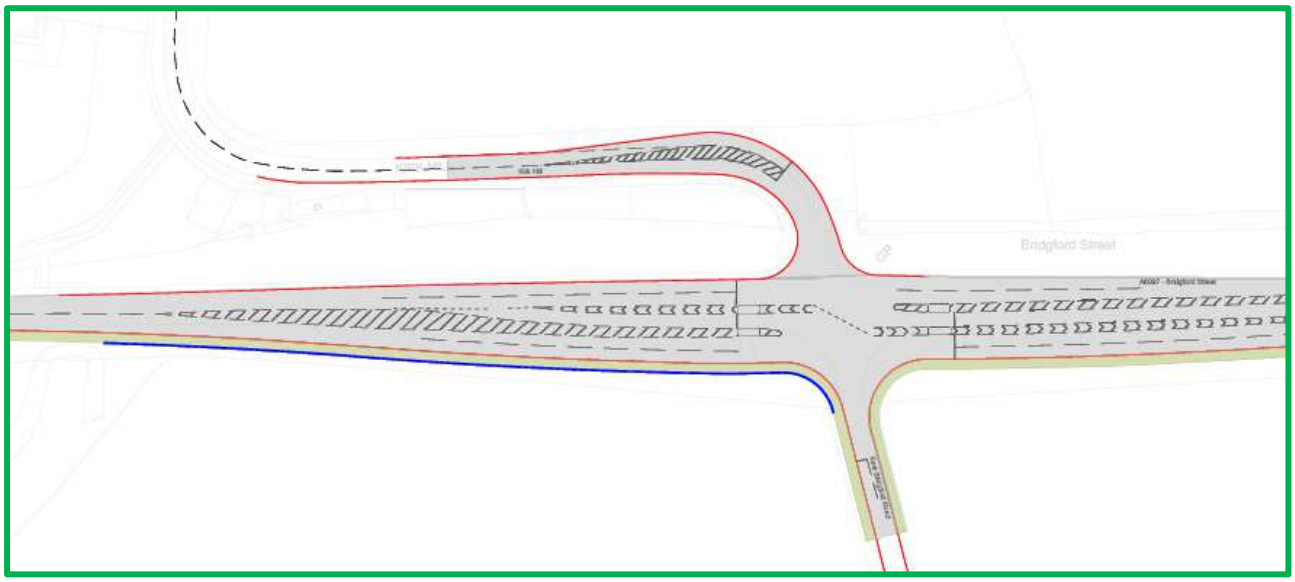


Figure 2-13 Kirk Hill junction

Provision for other Users

The Scheme also provides opportunities for more journeys to be made by cycle and on foot through the positive provision of toucan crossing facilities at Ollerton roundabout and Lowdham roundabout. Pedestrians and cyclists will also benefit from the provision of a new crossing facility at the Mickledale Lane junction.

3 Strategic Case

3.1 Introduction

The Strategic Case describes the case for improving the A614/A6097 MRN corridor. It sets out the objectives for the Scheme and how the transport investment fits with wider public policy objectives and local strategies and plans. It also describes how the proposed Scheme has been identified after consideration of a full range of options and consultation with stakeholders.

Together with the four other cases in the OBC, the Strategic Case explains why this investment is needed now for this part of Nottinghamshire – to address existing issues with congestion along the length of the corridor and to facilitate future economic growth and development

The A614/A6097 MRN transport package is a key element of NCC's strategy to support growth and development within the County. It will enable the highway network to operate more efficiently by reducing congestion at key intersections, improve the predictability of journey times and provide more traffic capacity for future growth.

Together with the other four cases in this OBC, the Strategic Case explains why this investment is needed now for Nottinghamshire. It shows how the scheme fits into a wider strategy for the A614/A6097 MRN corridor and how it addresses existing problems and capitalises on opportunities for economic growth and development.

3.2 Business Strategy

This section outlines the strategic aims of the County Council, as promoting organisation, as relevant to the scheme and includes an overview of the key policy documents that are driving change at the local, regional and national level which the A614/A6097 MRN junction improvement package supports and contributes to.

The package of measures for the A614/A6097 MRN corridor is closely aligned with the following national, regional and local transport plans and policies:

- **National Policies:**
  - Moving Britain Ahead - Transport Investment Strategy (2017).
  - DfT Single Departmental Plan (2019)
  - National Planning Policy Framework (2019).
- **Regional Policies:**
  - Midlands Connect – Major Road Network and Large Major Scheme Submission – Regional Evidence Base (July 2019)
  - The Midlands Engine for Growth Prospectus and Midlands

Connect Strategy (2017).

- D2N2 Strategic Economic Plan (2019)

- **Local Policies:**
  - 'Your Nottinghamshire, Your Future' - NCC Plan (2018).
  - NCC's Department Place Strategy 2019-2021(2019).
  - NCC's Local Transport Plan 3 (2011-2026).
  - NCC'S Visitor Economy Strategy
  - Newark and Sherwood District Council - Adopted Core Strategy (2011-2026).
  - Rushcliffe Borough Council adopted Local Plan Part 2 (2019)
  - Gedling Borough Council adopted Local Plan (2018)

3.2.1 National Policies and Guidance

Department for Transport

Transport Investment Strategy and Major Road Network (2017)

In July 2017 the DfT published the Transport Investment Strategy, "*Moving Britain Ahead*". This identified the need for an integrated network to connect communities to drive growth across the whole country. Key goals of this strategy are to:

- Create a more reliable, less congested and better-connected transport network that works for users, who rely on it.
- Build a stronger, more balanced economy by enhancing productivity and responding to local growth.
- Enhance our global competitiveness by making Britain a more attractive place to trade and invest.
- Support the creation of new housing.

The delivery of those goals will also further the government's Industrial Strategy, the objective of which is "*to improve living standards and economic growth by increasing productivity and driving growth across the whole country*". They will also meet the objectives of the Housing White Paper which recognises that "*transport investment is one of the keys to unlocking development and delivering places people want to live*."

As part of the Transport Investment Strategy, the Government committed to creating a MRN, which identified important national routes below the level of SRN (managed by Highways England). The current MRN includes both the A614 and A6097 as shown on Figure 3-1. As such, improvement of this corridor is consistent with current Government thinking on the improvement of important national 'A' roads which will:

- Reduce congestion.

- Support economic growth and rebalancing.
- Support housing delivery.
- Support all road users.
- Support the Strategic Road Network.

Figure 3-1 Major Road Network & Strategic Road Network

At a national level it is now recognised by Government that the main function of the primary road network (PRN) is to fulfil the safe and efficient movement of goods and people. The PRN designates routes between places of traffic importance and major settlements. The PRN links together the whole of England and 'a motorist making a regional or national journey should therefore be able to make all but the start and finish of their journey using the PRN'. (DfT - Guidance on Road Classification and the Primary Route Network). An efficient network supports the national and regional economies by providing certainty, improving access to markets, enabling competition, improving labour markets, enabling economies of scale and helping attract inward investment. It is within this context that improvement to the A614/A6097 Major Road Network is considered appropriate.

Department for Transport single departmental plan June 2019

The DfT has set out 6 strategic objectives for 2020 and the A614/A6097 MRN package will help deliver the following four objectives:

- Support the creation of a stronger, cleaner, more productive economy
- Help to connect people and places, balancing investment across the country.
- Make journeys easier, modern and reliable.
- Make sure transport is safe, secure and sustainable.

National Planning Policy Framework (NPPF), 2019

The NPPF outlines a focus on building a strong and competitive economy, acknowledges the role of transport in facilitating development and contributing to wider economic growth, sustainability and health objectives. Additionally, the NPPF has a focus on the support of sustainable travel, enabling a reduction in congestion.

The NPPF document confirms that the purpose of the planning system is to contribute to the achievement of sustainable development. It explains at paragraph 7 that there are three overarching objectives to achieving sustainable development which are interdependent and need to be pursued in mutually supportive ways:

- **Economic** - to help build a strong, responsive and competitive economy.
- **Social** - to support strong, healthy and vibrant communities.
- **Environmental** - contributing to protecting and enhancing the natural, built and historic environment.

It is considered that the proposed A614/A6097 MRN improvements are entirely consistent with and would contribute towards achieving the objectives of the NPPF 2019.

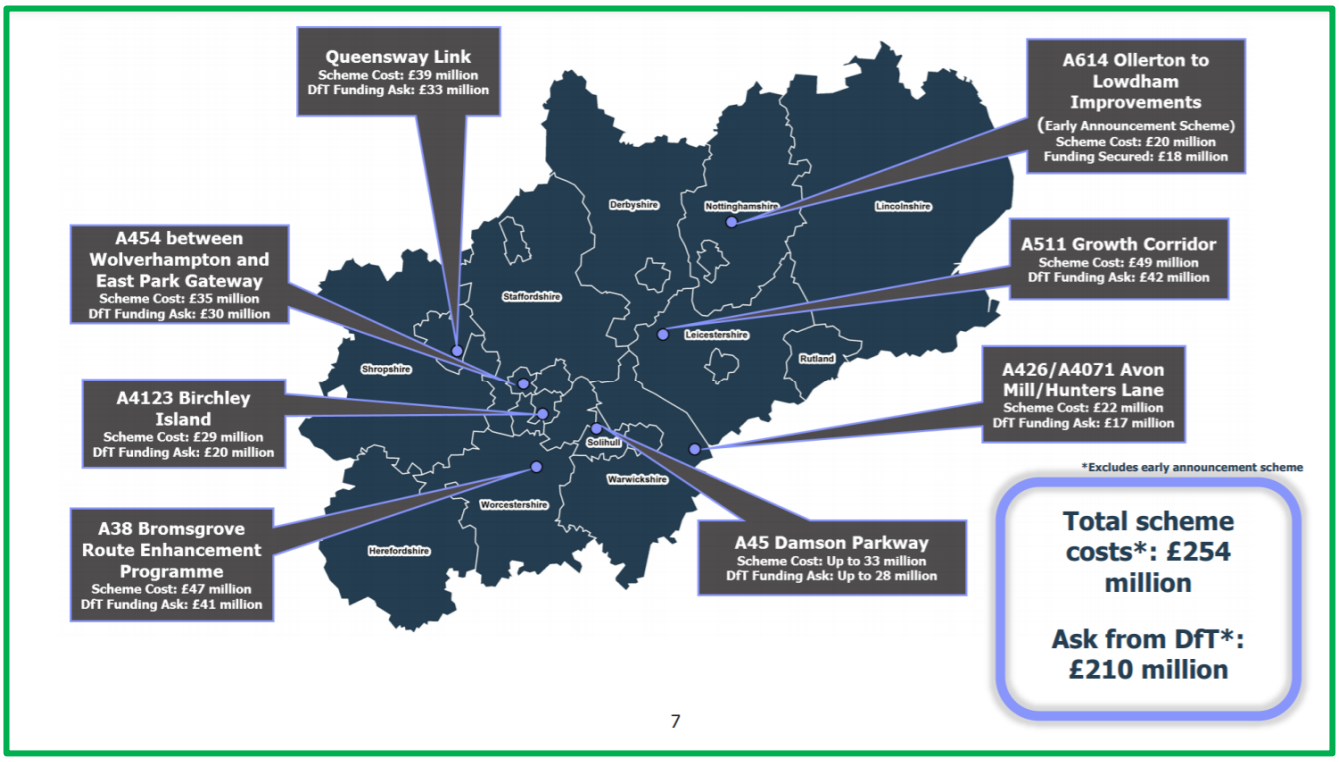
3.2.2 Regional Policies and Guidance

Midlands Connect – Major Road Network and Large Major Scheme Submission – Regional Evidence Base (July 2019)

In the Autumn Budget 2018, the Government announced that the National Roads Fund would be £28.8 billion between 2020 and 2025. This fund was expected to be spent on the SRN, which is managed by Highways England, and local roads (managed by local highway authorities). £3.5 billion is to be spent on local roads through the delivery of the MRN and Large Local Major (LLM) schemes.

MRN schemes must be located on the existing MRN itself and according to the guidance, schemes will be typically expected to cost between £20 and £50 million. In December 2018, the DfT published the Investment Planning Guidance for MRN and LLM programmes. The guidance states that Sub-National Transport Bodies (STBs) are required to submit up to 10 MRN and 2-3 LLM schemes to the DfT. Midlands Connect included the A614/A6097 corridor as one of their chosen MRN schemes. Midlands Connect submitted a total of 7 MRN schemes and 4 LLMs as part of the selection process.

Figure 3-2 Midlands Connect chosen MRN schemes (2018)



The Midlands Engine for Growth Prospectus and Midlands Connect Strategy.

The Midlands Connect Strategy was published in 2017 and aims to make the East and West Midlands an engine for growth for the UK economy. The document outlines plans to invest a further £392 million in the Midlands through the Local Growth Fund, on top of the £1.5 billion Local Growth Fund investments which have been previously

announced.

Improving connectivity in order to increase productivity is one of the Midland's Engine key objectives. Investments in local transport connections are designed to address the fragmentation of the Midlands' economy which is fairly dependent on the regions 11 cities (Nottingham, being the closest City to the A614/A6097 corridor). The funding is to target poorly connected areas which are not able to fully synergise with the region's productive areas, allowing businesses and people to make the most of their strategic position in the centre of the country.

The Midlands Connect Strategy identifies that in order to achieve ambitions of high-quality end to end journeys, further intervention is required on the local and sub-regional networks too, rather than just the SRN.

The A614/A6097 MRN corridor package of improvements will reduce travel costs, improve connectivity for local businesses, and reduce congestion at key locations on the road network. Improving transport connectivity could also allow for a greater spill over of skills from highly productive areas to less productive areas as well as allowing for increased trade and specialisation throughout the region.

The Derby, Derbyshire, Nottingham and Nottinghamshire Local Enterprise Partnership (D2N2 LEP) Strategic Economic Plan.

Sub-regionally, the whole of the A614/A6097 MRN corridor lies within the area boundaries of the D2N2 LEP. The purpose of the LEP is to provide a partnership between local authorities and businesses in order to decide local economic priorities and undertake activities which drive economic growth and create local jobs.

The D2N2 Strategic Economic Plan establishes a framework for identifying future investment priorities as well as outlining the key actions which will facilitate its vision for 2030. The plan's key focus is on driving inclusive growth through innovation, with an emphasis on improving productivity and growing businesses, delivering skills and knowledge for the future and enhancing the quality of the place where people live and work.

The D2N2 Strategic Economic Plan has seen £257 million of transport infrastructure investment since 2013, with the goal of opening up key enterprise sites within Derby, Derbyshire, Nottingham and Nottinghamshire. Continued investment from the LEP as well as the Midlands Engine's investments will help to future proof the region and encourage interconnectivity. The strategic case for the Scheme aligns well with D2N2 LEP's objectives to improve connectivity and to unlock potential areas for growth. The LEP believes that a high performing transportation network will benefit D2N2's range of high performing industries which are dependent on the transport network such as in the manufacturing, logistics and extractive sectors. These sectors are shown in the Local Economic Profile to also be important contributors to businesses located within two miles of the route, with a high number of manufacturing and trade businesses in particular.

Among other transport projects, the A614/A6097 MRN corridor is identified as one of the priorities for highway investment. As also identified in D2N2 priorities, NCC seeks continued investment in the MRN to improve connectivity around the LEP for more local trips. Greater access to Nottinghamshire's neighbouring towns and cities such as Nottingham, Derby, Leicester, Sheffield and Doncaster will help to propagate economic growth in the likes of Retford, Mansfield and Newark-on-Trent by allowing for synergies between these urban areas.

3.2.3 Local Policies

Nottinghamshire County Council

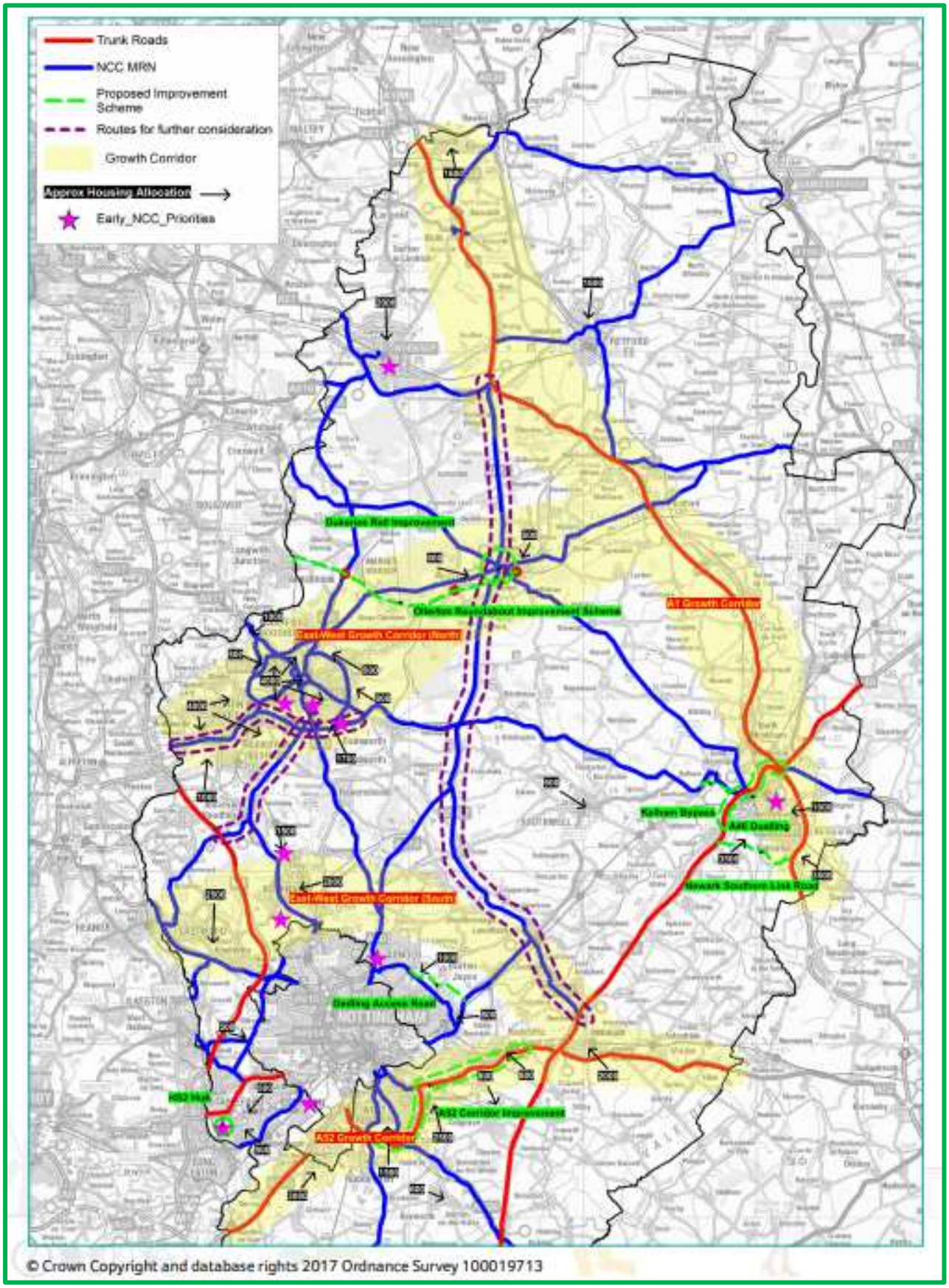
County Council's Plan and Departmental Place Strategy 2018

In January 2018 NCC adopted a new Council Plan ''*Your Nottinghamshire Your Future*'' which set out an ambitious future of Nottinghamshire in which the county is at the forefront of modern Britain. As part of this the Place Departmental Strategy was devised to support and deliver the County Council Plan. This strategy was agreed by the County Council's Policy Committee as part of its responsibility for approving, monitoring and implementing the County Council Plan.

The County Council Plan supports the Midlands Engine 'Vision for Growth' and believes that a strong Midlands economy will grow the national economy, attract more investment and help to redress the North – South divide. Investment in infrastructure to improve transport is seen as critical to creating the best conditions for unlocking housing and business growth. There are marked disparities in economic fortunes across Nottinghamshire. The south and east of Nottinghamshire are generally performing at or around the national average, but the north is below the national average. Improvements to the A614/A6097 MRN corridor will assist in building the business base for the areas lagging behind and improve productivity.

The County Council's Departmental Place Strategy 2018 recognises that the economic impact of connecting places like Worksop, Retford, Mansfield, Newark to other parts of the Midlands cannot be underestimated. The MRN and Growth Corridors as shown in Figure 3.3 (taken from the Departmental Place Strategy) demonstrates that connectivity. Working with Midlands Connect and its partners in Transport for East Midlands, the County Council will continue to press Government to not only invest in the SRN but also in key routes in the MRN linked to growth and opportunity areas. The Departmental Place Strategy includes the A614/A6097 MRN corridor as a priority for highway investment.

Figure 3-3 - MRN and Growth Corridors within Nottinghamshire



Nottinghamshire LTP 2011-2026

The Nottinghamshire Local Transport Plan (2011 to 2026) is the third Local Transport Plan (LTP) for the County of Nottinghamshire and came into effect on 1 April 2011. The document details the County Council's transport strategy for the whole of the county of Nottinghamshire for the fifteen-year period 2011-2026.

The LTP document comprises the:

- **Local Transport Plan Strategy** - which sets out how NCC aims to make transport improvements in Nottinghamshire during the plan period. Including a review at least every five years to make sure that it considers any changes in transport conditions and priorities; and to make sure that it is effective; and
- **Implementation Plan** - that runs for the same period as Central Government's capital funding allocations to ensure it takes account of realistic funding levels. The first implementation plan covered the four-year period 1 April 2011 to 31 March 2015. NCC are currently within the third implementation plan that covers the period 1 April 2018 to 31st March 2021. The current LTP Implementation Plan includes reference to pursuing '' Integrated programmes to address existing and forecast journey time delays along the A614/A6097 MRN corridor including Ollerton Roundabout improvements''.

The Nottinghamshire LTP Implementation Plan seeks to deliver proposals and measures that will help to achieve the County Council's overarching strategic objectives for transport which are to:

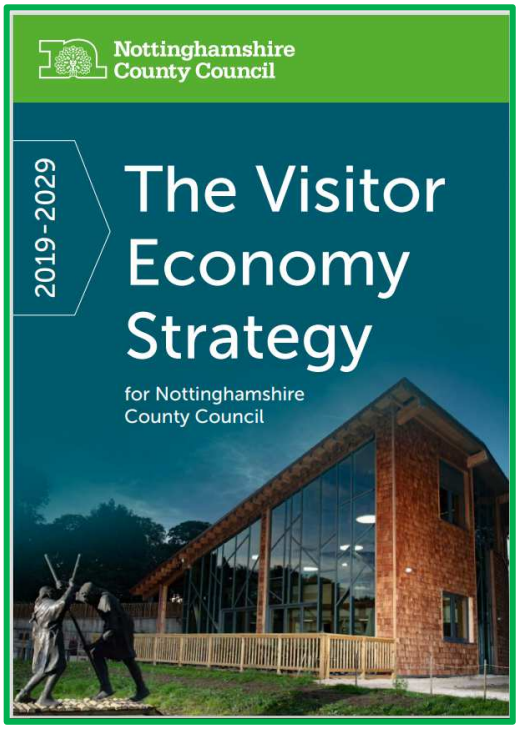
- Provide a reliable, resilient transport system which supports a thriving economy and growth whilst encouraging sustainable and healthy travel.
- Improve access to key services, particularly enabling employment and training opportunities.
- Minimise the impacts of transport on people's lives, maximise opportunities to improve the environment and help tackle carbon emissions.

The A614/A6097 MRN corridor improvements accord closely with the LTP strategic objectives in terms of supporting growth along the corridor, including the regeneration of the former Thoresby Colliery site and delivering traffic relief to adjacent roads within Ollerton Village, all of which will help to support a thriving local economy and minimise the impacts of transport on people's lives, as well as improving access to and enabling new employment opportunities.

NCC's Visitor Economy Strategy

NCC's recently approved Visitor Economy Strategy (2019 – 2029) is also looking to build on the impressive recorded tourism numbers on the A614/A6097 MRN corridor by boosting the tourism industry further across the County. The strategy is about added value and stimulating market growth through the County Council's role as leader, influencer, facilitator and investor. Delivering this strategy will contribute to achieving the County Council's objectives for Nottinghamshire to "stand out as a great place to start and grow your business and as a place people are proud to call home".

Figure 3-4 The Visitor Economic Strategy for NCC



"The County Council wants residents and visitors to explore and enjoy the Nottinghamshire countryside, market towns and villages, and enjoy the County's fascinating stories and become immersed in its experiences." Currently, the visitor economy in Nottinghamshire is worth £1.75 billion per annum and supports around 15,000 jobs.

The Visitor Economy Strategy document names the A614 as one of its key development projects and aims to strengthen the sense of place for visitors along the A614 and wants to take advantage of investment along this growth corridor. The strategy will also aim to:

- Use latest technology to create high quality, well-signed visitor route that welcomes you to the County and to Sherwood Forest.
- Create a visitor friendly bus route from Nottingham City centre to Sherwood Forest using existing services and Sherwood livery buses

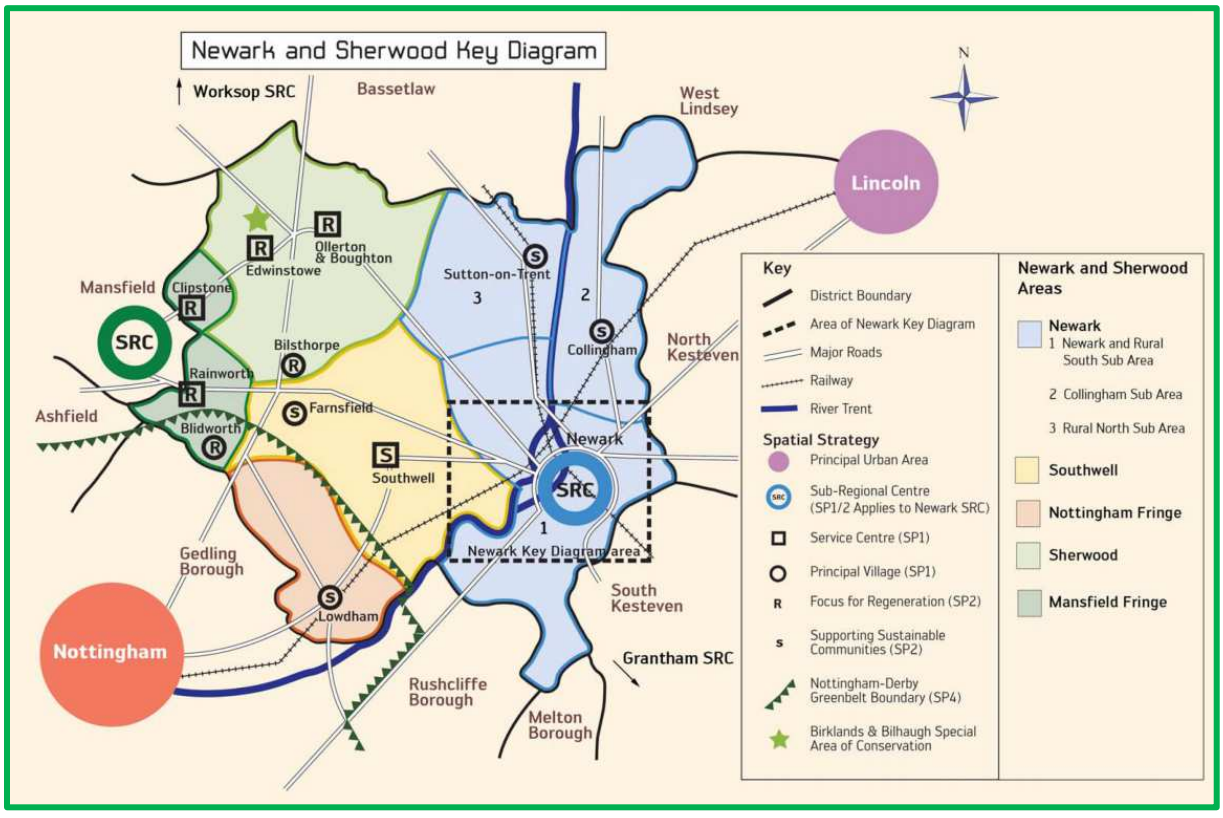
Newark and Sherwood District Council

Local Plan: Amended Core Strategy 2019-2033

The A614/A6097 MRN corridor improvement scheme lies within the Newark and Sherwood District Council (NSDC) administrative area. A key policy document used by NSDC is the Amended Core Strategy (adopted March 2019). This document sets out the big issues that the district council and the public and private sector partners need to address up to 2033 to realise NSDC's vision for the future . It sets a vision and objectives and a number of policies to help deliver the development and change identified.

Ollerton and Bilsthorpe are a focus for regeneration (as shown in Figure 3-5). Improvements to the A614/A6075/A616 Ollerton Roundabout is named as a priority to *'accommodate any additional growth in the north west of the District or significant growth elsewhere'.* NSDC state that they will '*work with Highways England, NCC, developers and other agencies to ensure delivery of the highway and public transport infrastructure required to support growth within the District'.* NSDC is keen to encourage the regeneration and redevelopment of the former mining communities of the Sherwood area by fully exploiting the opportunities presented by the Sherwood Forest Regional Park, the Sherwood Growth Zone and the skills and knowledge of the residents of the area. The former Thoresby Colliery site, between Edwinstowe and Ollerton, will play a huge role in the regeneration of the local area.

Figure 3-5 Newark and Sherwood District Council Amended Core Strategy overview map



The Newark and Sherwood District Council confirms that *'securing the infrastructure to support growth and taking advantage of the District's infrastructure strengths is recognised as being key to the attraction of inward investment'*. The public transport and highway infrastructure improvement schemes that are named in the document and required to ensure the delivery of the Newark and Sherwood Core Strategy include:

- Lowdham Roundabout
- A614 White Post Roundabout
- Mickledale Lane, Bilsthorpe junction
- A614/A6097/A616 Ollerton Roundabout

Gedling and Rushcliffe Borough Councils – Local Plans

The scheme also accords with the adopted Local Plans for Gedling Borough Council (2018) and Rushcliffe Borough Council (2019) because the scheme will help deliver high quality new housing at locations such as the Teal Close and RAF Newton development sites (both specifically named in the Local Plan documents) and assist in the creation of economic prosperity for all.

3.3 Opportunities for growth, regeneration and inward investment

There are a large number of development sites which have planning permission that are close to the A614/A6097 MRN corridor (Figure 3-6). A number of development sites on this corridor also have planning conditions attached requiring significant improvements to Ollerton roundabout, Lowdham roundabout and the Kirk Hill junction at East Bridgford before the sites can be fully developed.

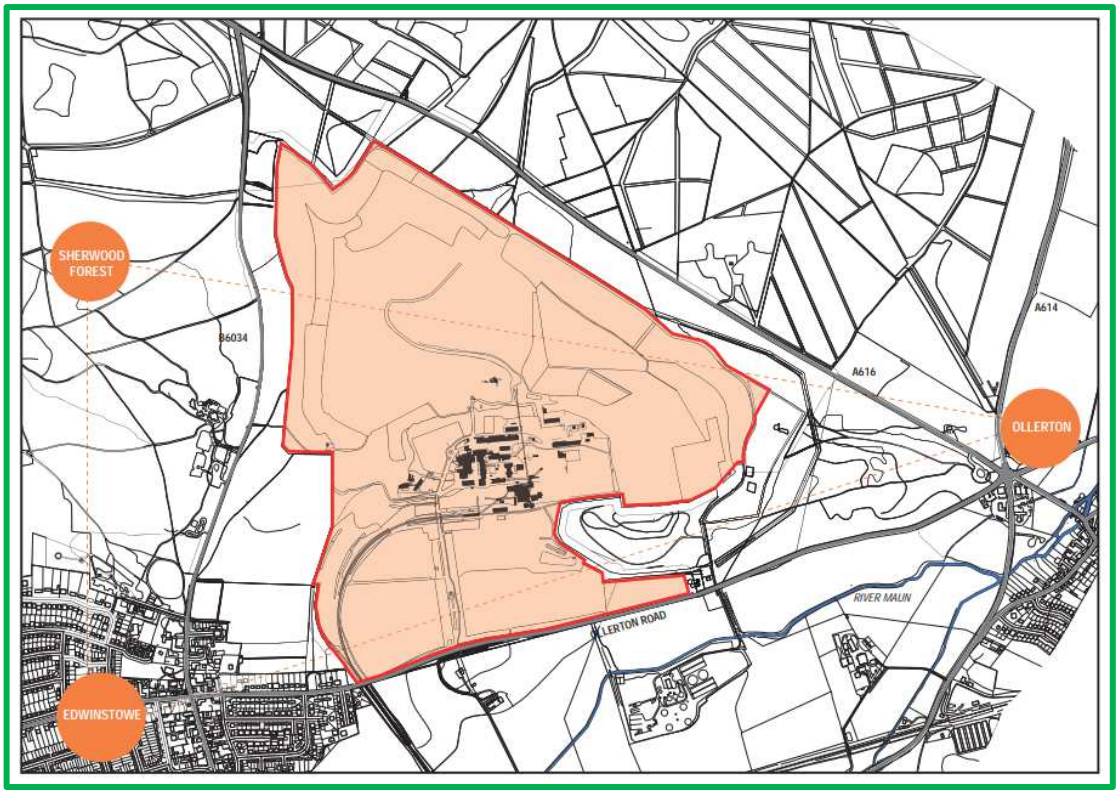
The redevelopment of the Thoresby Colliery site which lies approximately one mile from the Ollerton roundabout, comprises of up to 800 residential dwellings, a Strategic Employment Site, a new Country Park, a Local Centre, "The Heart of the New Community" containing a mix of leisure, commercial, employment, retail and a new Primary School.

The redevelopment is sited on the former Thoresby Colliery site (Figure 3-7) which closed in July 2015. The closure resulted in the loss of 400 jobs and was the last deep coal mine to close in Nottinghamshire. At its peak, the colliery could produce over two million tonnes of saleable coal per year, generating annual profits of up to £50 million and employing in excess of 650 workers.

Figure 3-6 Major Development Sites

Figure 3-7 Thoresby Colliery in operation

Figure 3-8 Thoresby Colliery redevelopment site



The closure of Thoresby Colliery came at a particularly challenging point in the context of Nottinghamshire's economy with the area historically suffering from high levels of unemployment and low wages. Bringing forward this type of economic development through job creation is therefore essential in replacing jobs lost on the site. At the same time "this development will provide an impetus for proposed transport and

infrastructure improvements that will better connect local residents and local businesses." (Thoresby Colliery Design and Access Statement). An artist's impression of the site can be found in Figure 3-9 with the Masterplan drawing presented in Figure 3-10.

The Design and Access Statement for the planning application goes on to state

"Our proposals for Thoresby Colliery include 20 acres at the front of the site adjacent to the A6075 to bring forward a number of commercial units aimed at small and medium-sized businesses in the region. Analysis from numerous Midland-based commercial property agents suggest that there is a lack of good quality units under 100,000 sq. ft locally, subsequently preventing local economic growth. We intend to plug this gap with the development of Thoresby. The employment opportunities will deliver more than 1,000 jobs on the site."

Figure 3-9 Artist impression of redeveloped Thoresby Colliery site

The site was allocated as a Strategic Urban Extension site in Newark and Sherwood District Council's Amended Core Strategy and the application submitted by Harworth Estates was granted planning approval in October 2017. The proposed development is expected to generate 1,063 new two-way traffic movements in the morning peak hour and 953 two-way movements in the evening peak hour, with a large proportion needing to pass through the A614/A616/A6075 Ollerton roundabout.

Figure 3-10 Thoresby Colliery Masterplan

The Teal Close development (Rivendell) in Stoke Bardolph, Nottinghamshire will create more than 830 homes on the 135-acre site over the coming years. The site is situated just off the A612 Colwick Loop Road between Netherfield and Stoke Bardolph. As well as the homes, there will also be a care home, primary school, community building, a trade park with 14 units and 141,000 square foot of employment space. The site once fully developed is expected to impact on the Lowdham roundabout.

The former air force base RAF Newton (Figure 3-11) will be the site of 500 new homes after being granted planning permission by Rushcliffe Borough Council. The Newton Garden Village is located just 8 miles from the City of Nottingham and will have direct access to the market town of Bingham via a brand new bridge over the A46. As well as building much needed homes for the area, there will be a new primary school and district centre. The site has excellent connections to both the A46 and the A52 and is "one of the biggest housing schemes to be created in Nottinghamshire in nearly a decade" (Innes-England).

Figure 3-11 RAF Newton site area

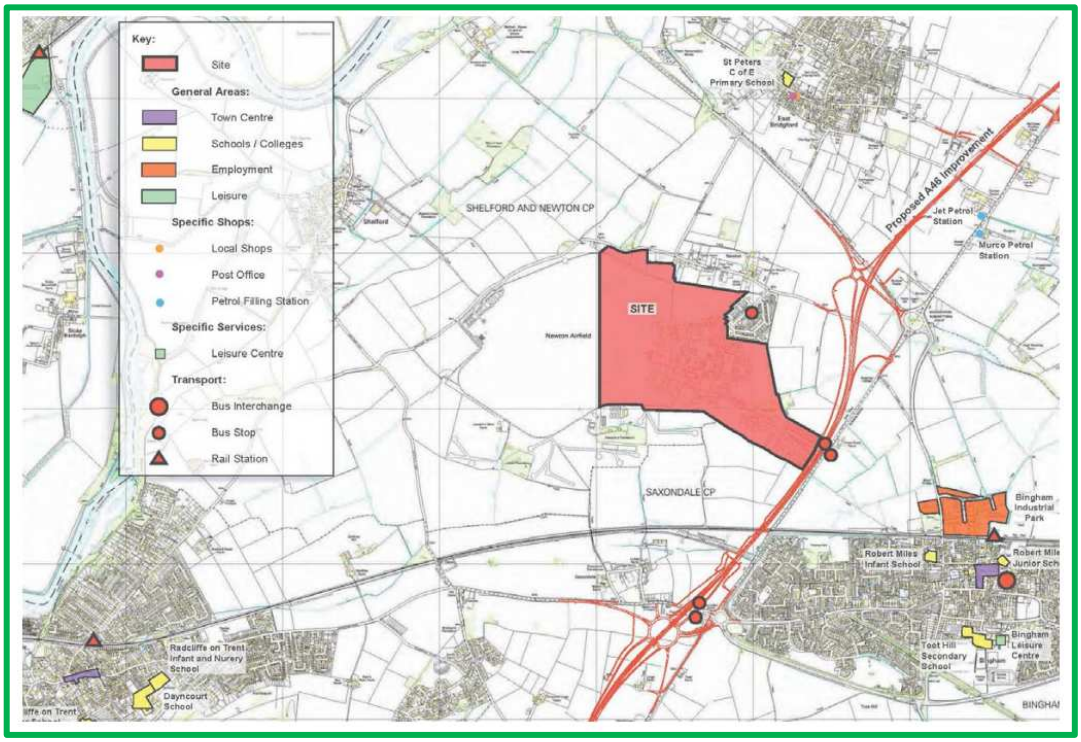


Figure 3-12 RAF Newton Masterplan

The Decision Notice for the RAF Newton site states that "no development shall take place until a Highways Delivery Scheme for the site has been submitted to and

approved in writing by the Borough Council." The submission shall provide improvements to the "The A6097 Kirk Hill signal-controlled junction".

The Wider Economic Impact assessment for the scheme (please refer to TEAR in Appendix B for more detailed analysis) package states that up to 1,048 gross direct jobs will be supported by the Thoresby Colliery development (Ollerton site), which will make a significant contribution to the local economy in Newark and Sherwood and Nottinghamshire in general. The indicative Gross Value-Added benefits are estimated to be in the region of £46.4m per annum. This would provide much needed stimulus to the local economy.

Improvements to the Lowdham roundabout will also help support the Teal Close development site, which is estimated to support 684 gross direct jobs, with associated Gross Value-Added benefits of £38.2m per annum.

In addition to direct jobs, a range of indirect and induced jobs will be supported through multiplier effects in the local economy. In total, 1153 direct, indirect and induced jobs could be supported locally by the development at Thoresby Colliery and 752 total jobs at Teal Close.

3.4 Problem Identification

This section identifies the problems which the scheme will address. It presents evidence of their severity and sets out the reasons why the intervention is needed.

The current transport related problems which the proposed scheme needs to address are:

- Traffic congestion at the Ollerton and Lowdham roundabouts and the Kirk Hill traffic signal junction, particularly during peak hours.
- Unreliable journey times and delays along the whole corridor.
- Rat running traffic on unsuitable roads in vicinity of Ollerton roundabout.
- Access issues for motorists trying to access the A614 from the two Bilsthorpe junctions (Mickledale Lane and Deerdale Lane).
- Perception from local residents that the Bilsthorpe and Warren Hill junctions are unsafe.
- Lack of network resilience.

Traffic Congestion

Traffic congestion at the junctions along the A614/A6097 MRN corridor is not a new phenomenon and has been the subject of considerable concern for many years. As already demonstrated in section 2.3 of this OBC, traffic growth has continued to increase along the corridor since 2014. The range in AADT growth at the permanent counter locations varies between 2% and 10% since 2014. This increase has compounded the delays that were already being experienced at the key junction

intersections on this corridor.

Figure 3-13 Congestion at Ollerton Roundabout

A campaign group called Ollerton Village Residents Association (OVRA) was formed over 30 years ago to help preserve and protect the historic core of the village. The group has long campaigned for action at the roundabout and in 2017 OVRA initiated a Facebook and Twitter campaign to 'Fix Ollerton Roundabout'. Banners were placed at strategic locations encouraging motorists who regularly got stuck in long queues to take action by supporting the campaign (Figure 3-14). At its peak, the Facebook page attracted 4,000 people and clear evidence of the desire for improvements at this junction.

Figure 3-14 OVRA Ollerton roundabout campaign

In order to further quantify the extent of the existing congestion, a number of baseline traffic surveys including manual classified traffic counts, automatic traffic counts and queue length surveys were undertaken. The baseline surveys and existing congestion

problems are detailed in the Traffic and Economic Appraisal Report (Appendix B).

Queue length surveys were also recorded in June 2017 at Ollerton roundabout and December 2018 for the Lowdham roundabout. Queue length surveys were recorded at the Kirk Hill arm of the junction in October 2019.

Tables 3-1 to 3-4 present the average and maximum queue lengths for each arm at both roundabouts during the AM and PM peak time periods (assumed 5.5m average distance for a vehicle which also leaves 1m for gap with vehicle in front). The longest queue recorded at the Ollerton junction was 550m (approximately 100 cars) on the A614 Old Rufford Road arm in the PM peak. The A616 Ollerton Road reached 530 metres during the same peak period.

The largest queue length recorded for the Lowdham roundabout was also in the evening peak, the A612 Nottingham Road arm reached 1,250 metres (approximately 227 vehicles). The results show that this corridor is a key commuter route, with a large number of vehicles travelling to and from Nottingham each day.

Tables 3-5 and 3-6 shows the extent of the existing congestion issue on the Kirk Hill arm at the Kirk Hill/A6097 junction. In the AM peak the queue length can reach 220 metres whilst the PM peak is 305 metres (approximately 55 cars for the maximum queue). A visual representation of the queue lengths observed at the Kirk Hill arm can be found in Figures 3-19 and 3-20.

Table 3-1 Ollerton Roundabout queue lengths AM Peak

	A614 Blyth Road	A616 Ollerton Road	A614 Old Rufford Rad	A6075 Mansfield Road	A616 Worksop Road
Average queue	79m 14 cars	36m 7 cars	**119m** **22 cars**	56m 10 cars	66m 12 cars
Maximum Queue	255m 46 cars	75m 14 cars	250m 45 cars	195m 35 cars	**275m** **50 cars**

Figure 3-15 Ollerton Roundabout queue lengths for AM peak

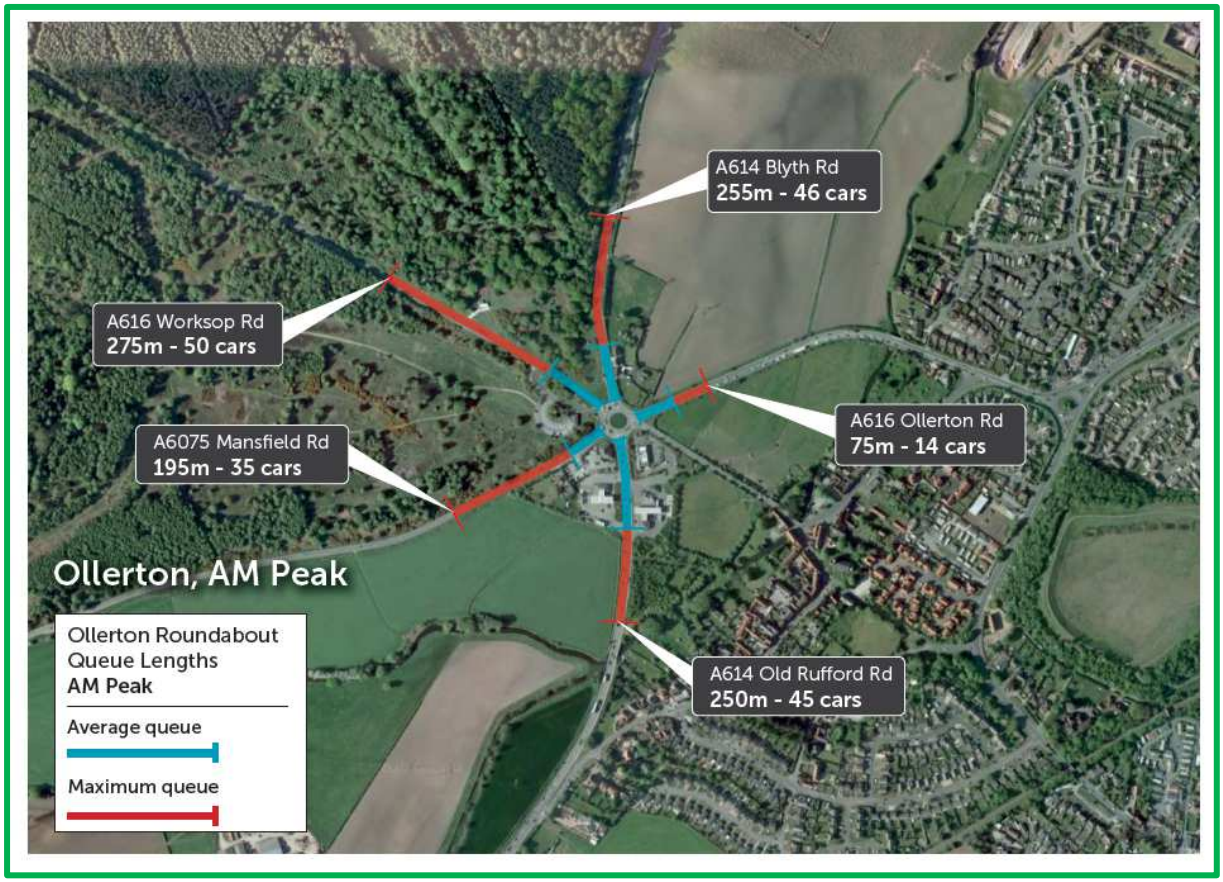


Table 3-2 Ollerton Roundabout queue lengths PM Peak

	A614 Blyth Road	A616 Ollerton Road	A614 Old Rufford Road	A6075 Mansfield Road	A616 Worksop Road
Average queue	124m 23 cars	325m 59 cars	**430m** **78 cars**	34m 6 cars	29m 5 cars
Maximum Queue	410m 75 cars	530m 96 cars	**550m** **100 cars**	90m 16 cars	150m 27 cars

Figure 3-16 Ollerton Roundabout queue lengths for PM peak

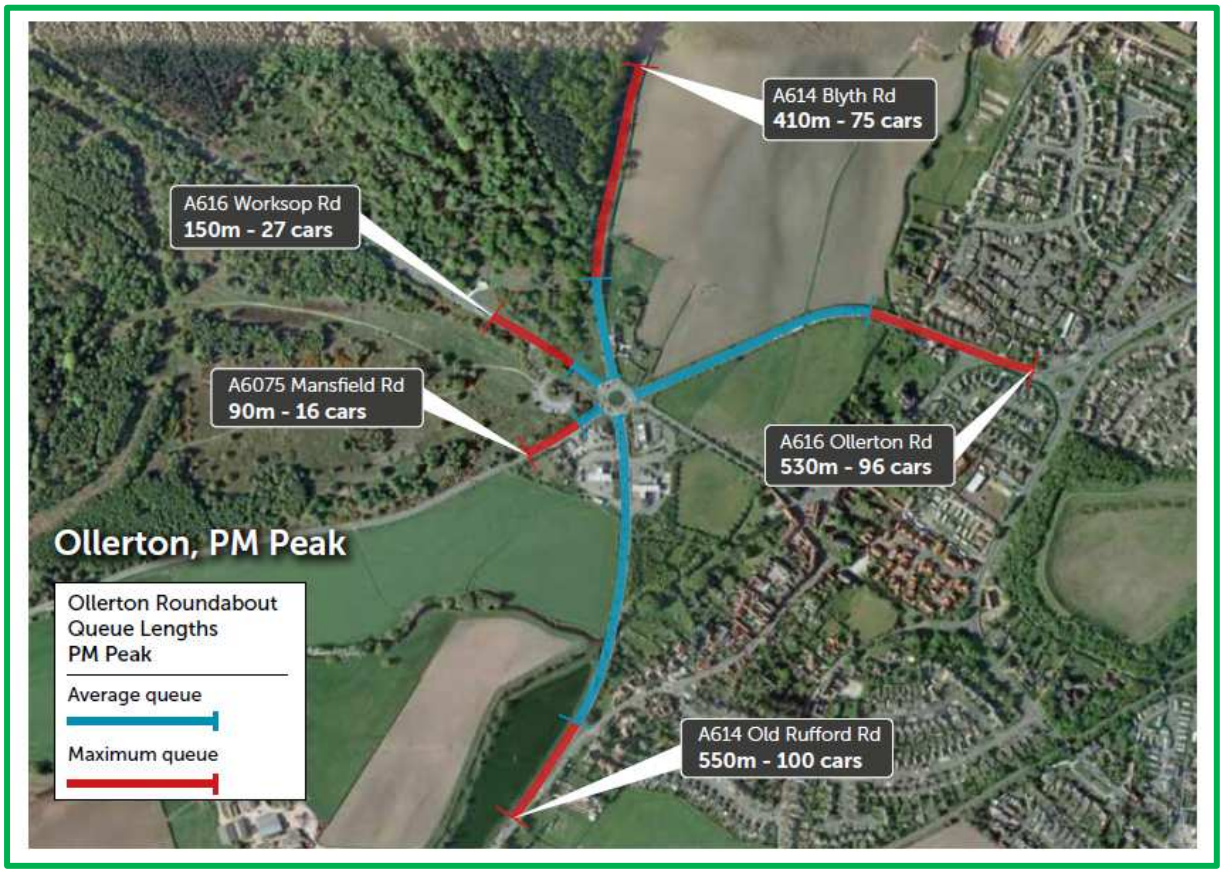


Table 3-3 Lowdham Roundabout queue lengths AM Peak

	A6097 Epperstone Bypass	Southwell Road	A6097 By Pass Road	A612 Nottingham Road
Average queue	**312m** **57 cars**	197m 36 cars	128m 23 cars	58m 11 cars
Maximum Queue	615m 112 cars	**700m** **127 cars**	300m 55 cars	450m 82 cars

Figure 3-17 Lowdham Roundabout queue lengths for AM Peak

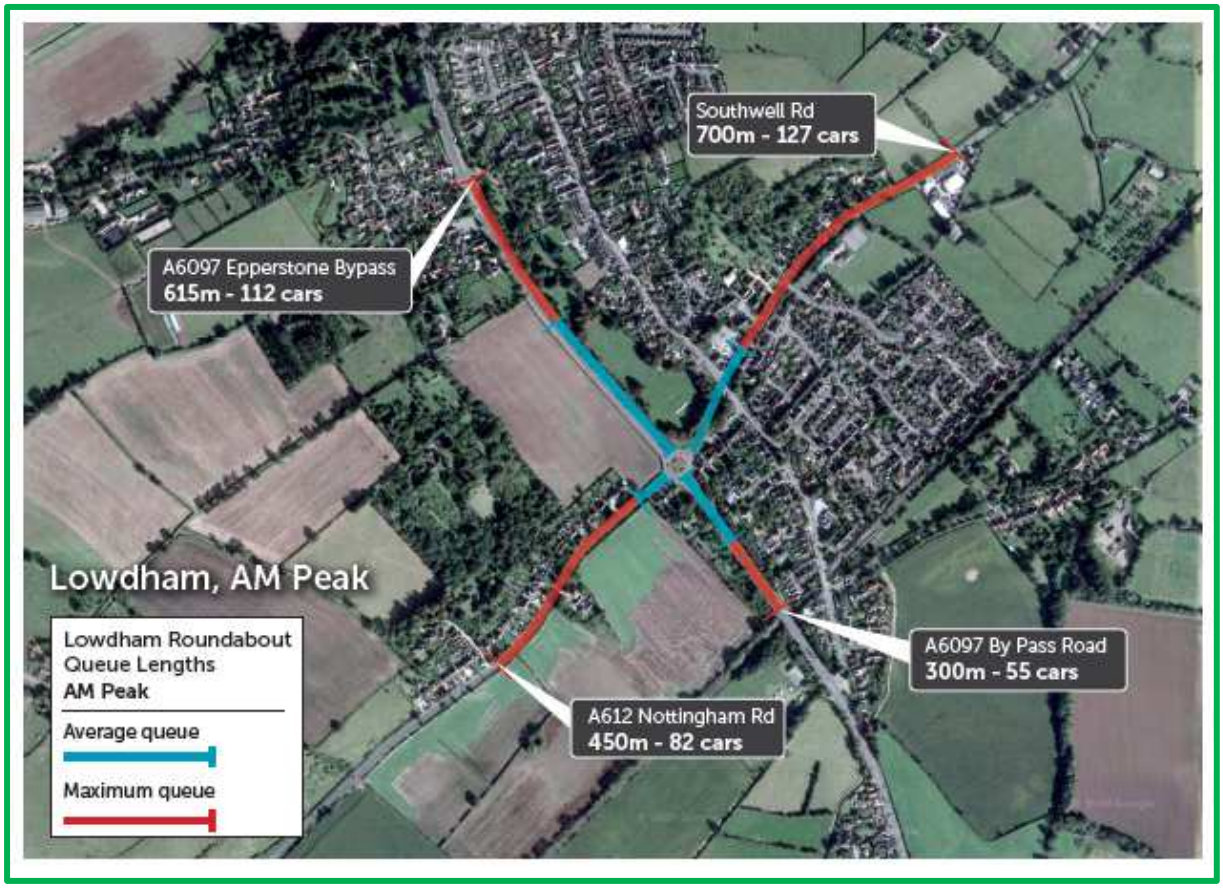


Table 3-4 Lowdham Roundabout queue lengths PM Peak

	A6097 Epperstone Bypass	Southwell Road	A6097 By pass Road	A612 Nottingham Road
Average queue	28m 5 cars	17m 3 cars	45m 8 cars	**994m** **181 cars**
Maximum Queue	125m 23 cars	110m 20 cars	290m 53 cars	**1250m** **227 cars**

Figure 3-18 Lowdham Roundabout queue lengths for PM peak

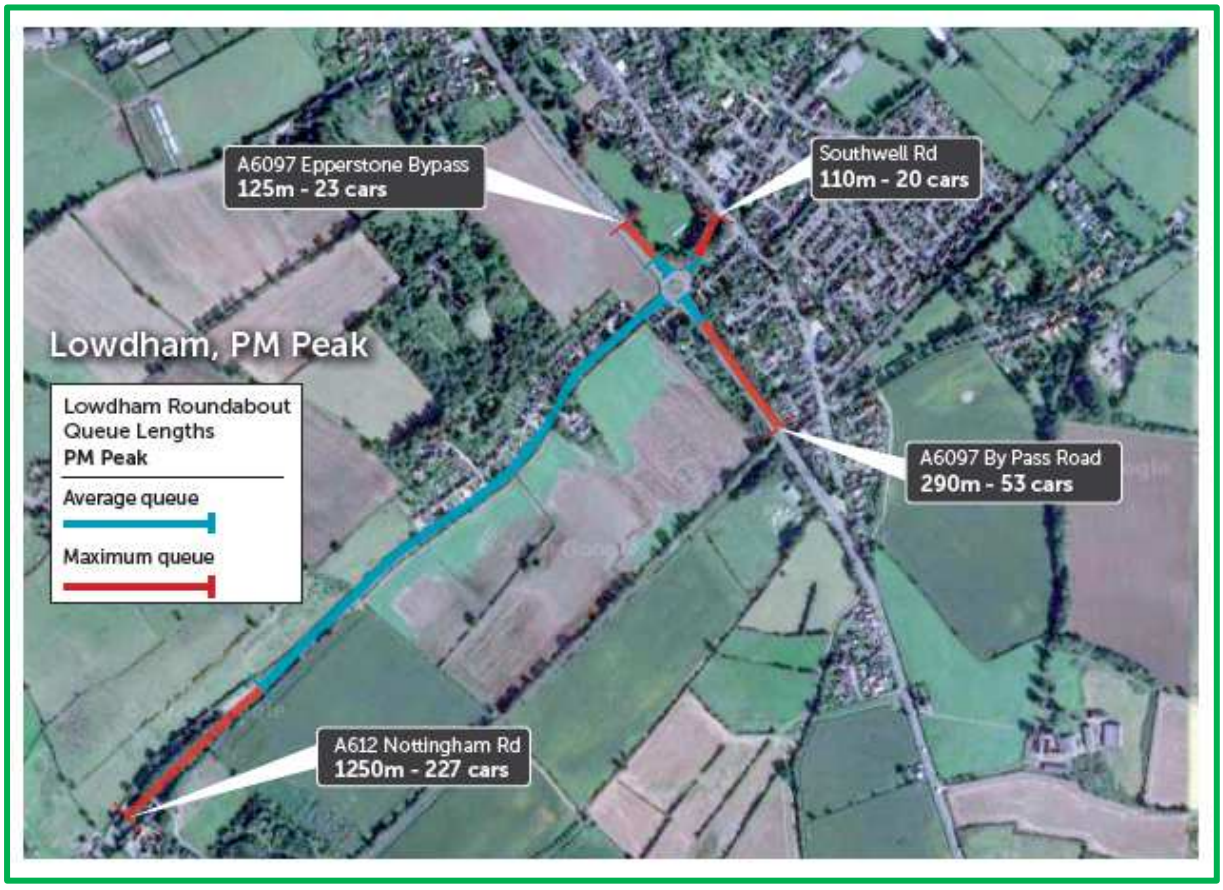


Table 3-5 Kirk Hill - Queue lengths AM Peak

	Kirk Hill arm
Average queue	83m 15 cars
Maximum Queue	220m 40 cars

Figure 3-19 Kirk Hill queue lengths for AM peak

Table 3-6 Kirk Hill - Queue lengths PM Peak

	Kirk Hill arm
Average queue	111m 20 cars
Maximum Queue	305m 55 cars

Figure 3-20 Kirk - Queue lengths PM Peak

Traffic models have been prepared by VIA East Midlands to model the existing performance of each of the six junctions proposed for improvement. The future performance of the existing junctions has been calculated for the assumed opening year (2023) and a summary is presented in Table 3-7. A more comprehensive breakdown of performance can be found in the TEAR (Appendix B).

The summary outputs show that Ollerton roundabout is noted to be well overcapacity (with a Ratio to Flow Capacity (RFC) value of over 1.0) for both the AM and PM Peak periods in the baseline scenario, whilst Lowdham is overcapacity in the PM Peak period. For existing junctions, 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).

Warren Hill and White Post junctions are noted to be approaching capacity (RFC value of over 0.85) in the baseline.

Kirk Hill , which is already a traffic signal controlled junction is also over capacity in the AM and PM peaks with a Practical Reserve Capacity (PRC) of -24.8 in the AM peak and -58.7 in the PM peak. The PRC is related the degree of saturation of a particular traffic signal junction and is calculated by LINSIG (traffic signal modelling software). A positive PRC indicates that the junction has spare capacity, a negative PRC indicates that the junction is already over capacity and is suffering from traffic congestion.

Table 3-7 Existing junction capacity performance

Junction location	AM (RFC)	PM (RFC)
Ollerton Roundabout	1.13	1.17
Mickledale Lane	0.39	0.36
White Post Roundabout	0.89	0.96
Warren Hill	0.78	0.96
Lowdham	0.90	1.32
Kirk Hill	PRC is -24.8	PRC is -58.7

Unreliable Journey Times and Delays Along the Whole Corridor

The corridor is notorious for unreliable journey times, with a number of junctions along the corridor potentially adding delays to a journey. The delays are exacerbated during the traditional morning (08:00 to 09:00) and evening (17:00 to 18:00) peak commuter hours as motorists travel to and from the City of Nottingham. Figures 3-22 to 3-27 show vehicle delay per mile (in seconds) at a number of key junctions along the

A614/A6097 corridor.

Figure 3-21 Key for Figures 4-17 to 4-22

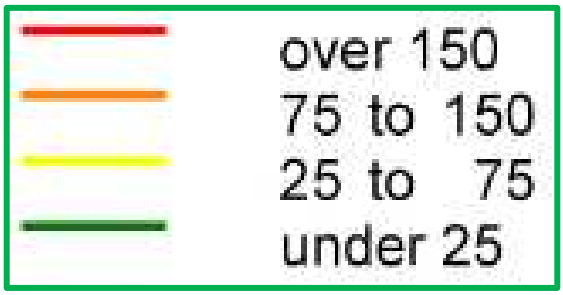


Figure 3-22 Vehicle delay per mile (seconds), AM Peak for Ollerton roundabout and Rose Cottage signalised junction.

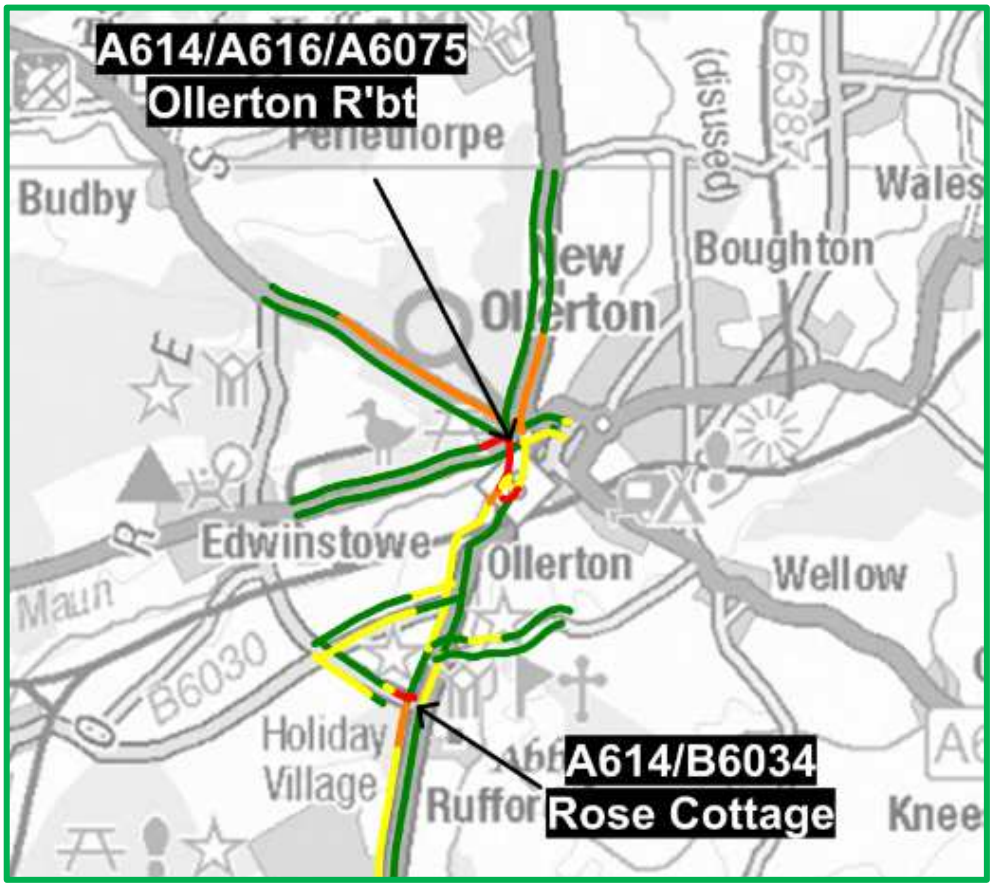


Figure 3-23 Vehicle delay per mile (seconds), AM Peak for A614 between Deerdale Lane junction and Warren Hill

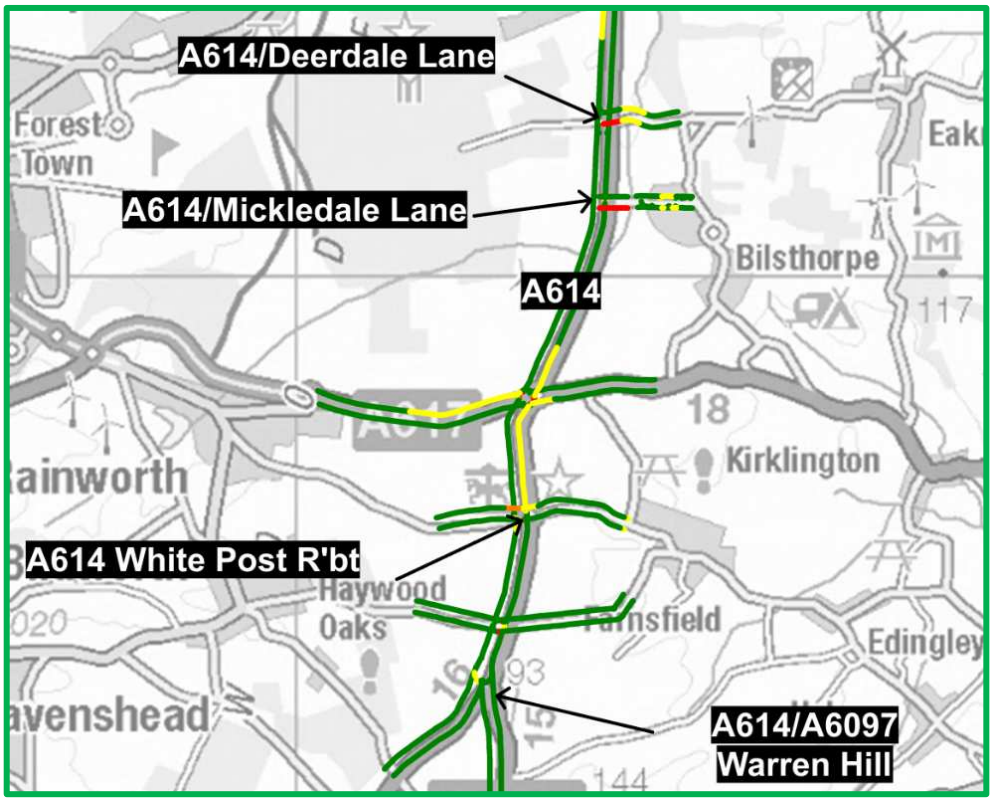


Figure 3-24 Vehicle delay per mile (seconds), AM Peak for A614 between Epperstone Bypass and A46.

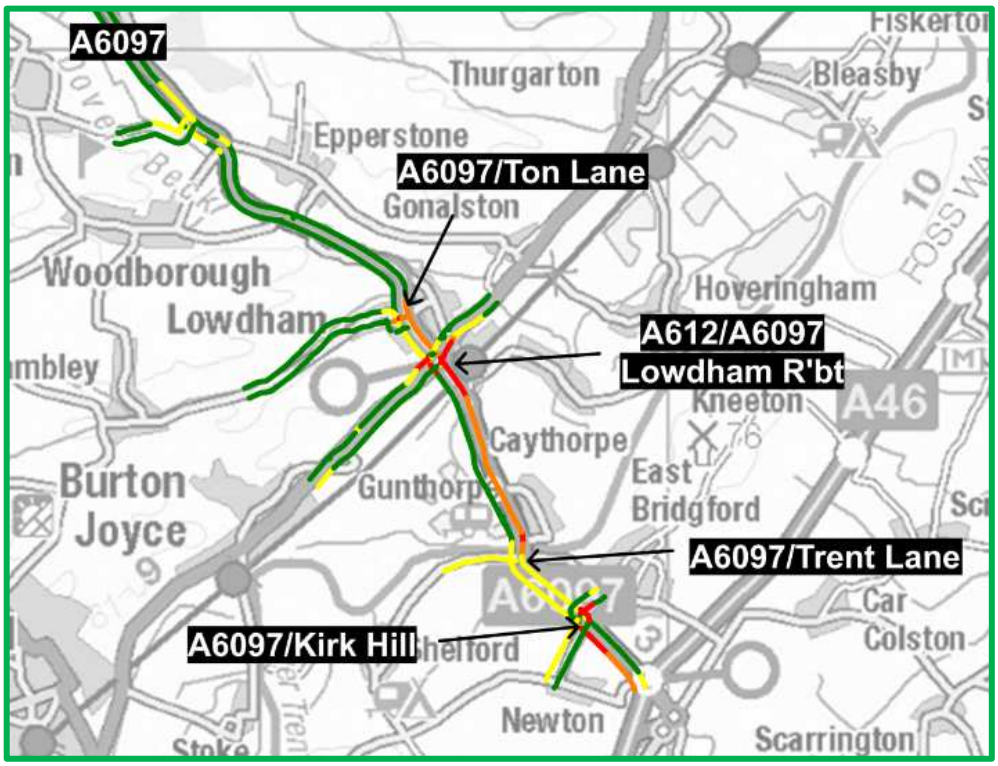


Figure 3-25 Vehicle delay per mile (seconds), PM Peak for Ollerton roundabout and Rose Cottage signalised junction.

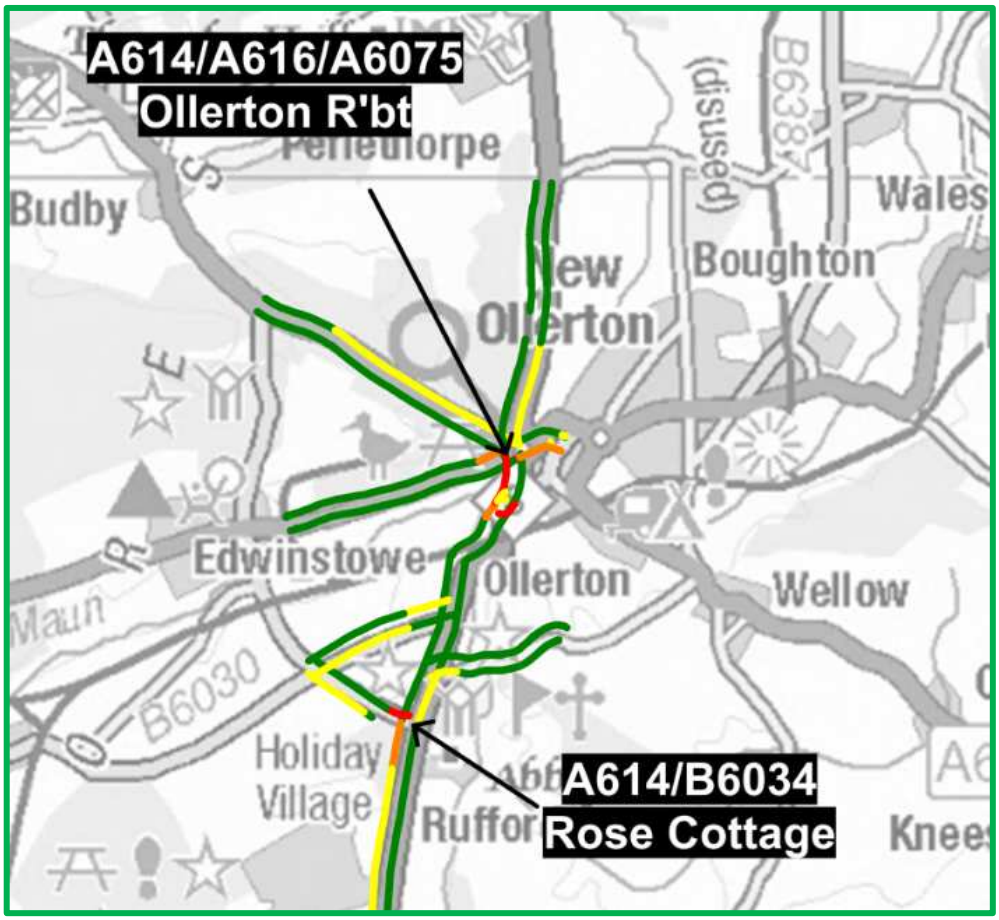


Figure 3-26 Vehicle delay per mile (seconds), PM Peak for A614 between Deerdale Lane junction and Warren Hill.

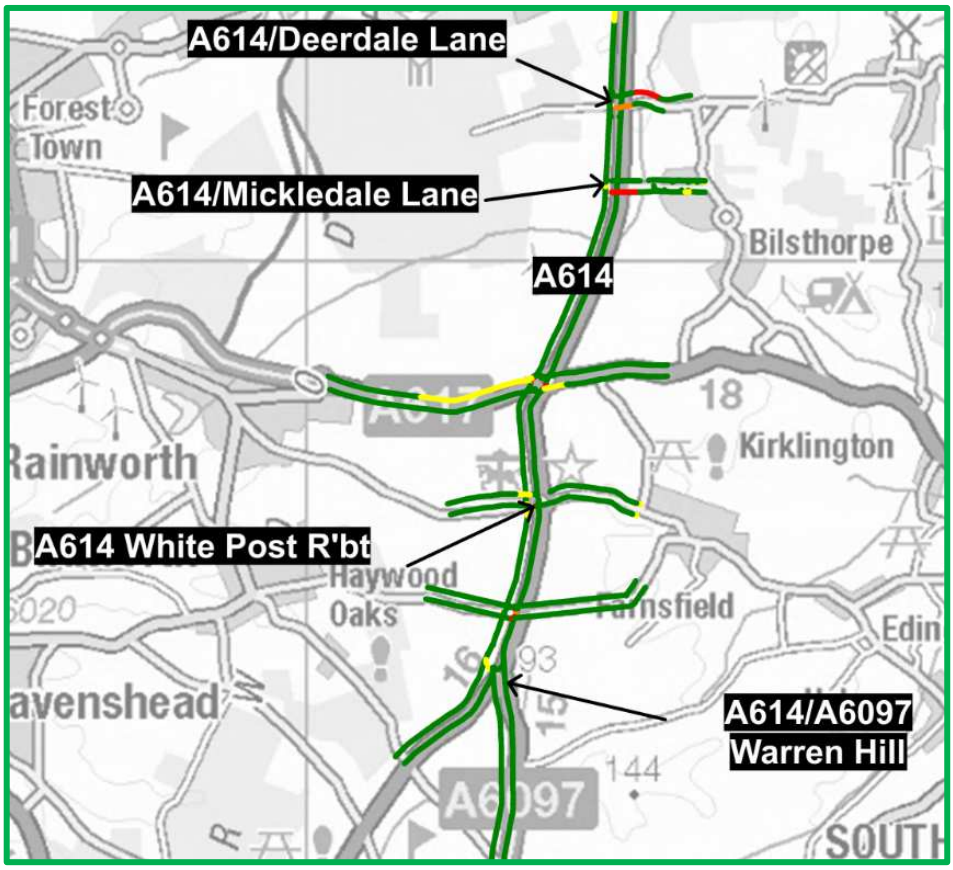
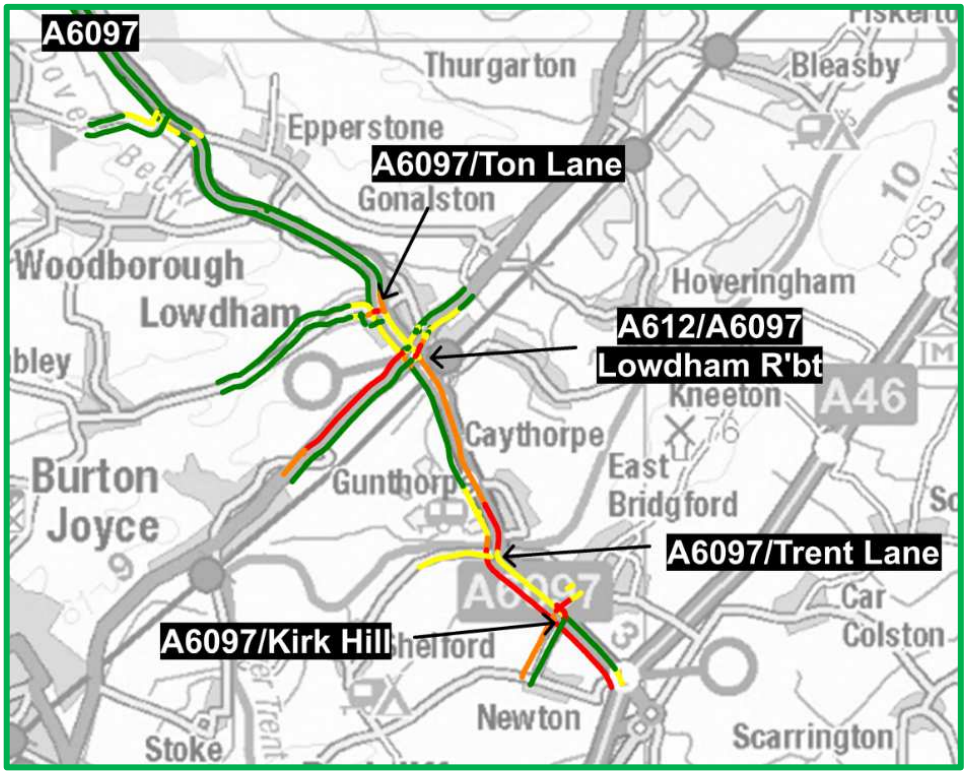


Figure 3-27 Vehicle delay per mile (seconds), PM Peak for A614 between Epperstone Bypass and A46.



The issues encountered across the whole corridor makes it extremely difficult for road users to predict the time needed for their journeys whether it is a leisure or business trip.

Rat Running at Ollerton

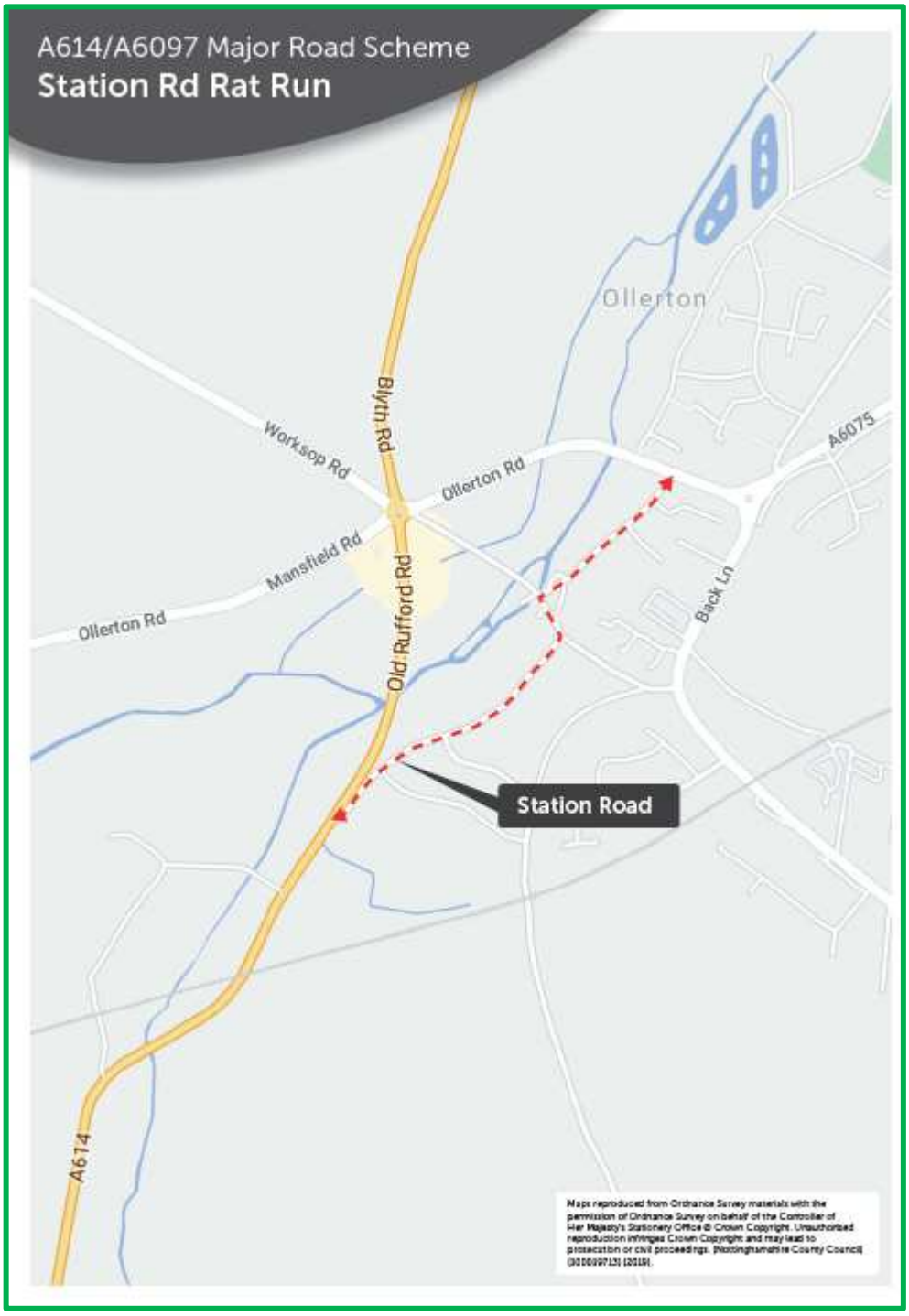
Ever increasing levels of congestion at Ollerton roundabout over the years has seen motorists using Station Road, Old Ollerton (Figures 3-28 and 3-29) as an alternative route to the A616 and A614 approaches to the roundabout, despite the road being narrow and traffic calmed. The village is historic and was recorded in the Domesday Book of 1086 and is part of the protected Sherwood Forest administrative area. The core route through the village, now called Station Road, Market Square and Main Street, is also part of the Ollerton Conservation Area, retaining its original road layout and dimensions. As such, it is narrow, with many properties built right up to the footway. A significant number of houses have no driveway or garage, meaning residents park on-street which in turn narrows the road further.

NCC introduced traffic calming measures in the form of speed-restricting humps, physical narrowing and weight restrictions but ever-increasing congestion levels at Ollerton roundabout still resulted in vehicles cutting through the village to avoid the roundabout junction altogether. Unfortunately, this can lead to confrontations between motorists, especially during the early evening peak when residents return home and park on Station Road itself.

Drivers often block themselves in (Figure 3-30), impact with wing mirrors and bumpers on parked cars, drive on the narrow pavement and this has led to verbal and occasionally physical abuse.

Figure 3-28 Station Road, Ollerton

Figure 3-29 Road network showing Station Road, Ollerton (rat run)



In 2011 NCC widened the A616 Ollerton Road approach to the roundabout to cater for a left only lane as a short-term fix to ease pressure on Station Road.

The widening scheme did initially reduce the number of vehicles cutting through the village via Station Road. Table 3.8 below shows the impact the scheme had on transferring trips back on to the A616 during the AM (0800-0900) and PM (1700-1800). The 24-hour flow fell by nearly 800 vehicles on Station Road. Unfortunately, numbers cutting through Station Road have started to creep upwards again with 243 vehicles

using Station Road (most recent count from 2017) as a cut through in the PM peak. Only the proposed capacity improvements for the Ollerton roundabout can resolve this issue once and for all.

Table 3-8 Traffic flows changes on Station Road, Ollerton and the A616 (2010 vs 2011)

	AM 2010	AM 2011	AM Diff	PM 2010	PM 2011	PM Diff	24 Hour 2010	24 Hour 2011	24 Hour Diff
A616 2-way flow	1,455	1,540	**+85**	1,316	1,574	**+258**	18,670	19,301	**+631**
Station Rd 2-way flow	270	182	**-88**	391	209	**-182**	2186	1393	**-793**

Figure 3-30 Rat running on Station Road, Ollerton during evening peak hour.

Access Issues to the A614 from the Village of Bilsthorpe.

Residents and businesses from the village of Bilsthorpe have long campaigned for improvements to the Deerdale Lane and Mickledale Lane junctions in Bilsthorpe. Over the years the County Council has intervened where feasible by making adjustments to the junction layout (ghost island constructed) and also reducing the speed limit on the A614 from 60mph to 50mph. Those changes have made some slight improvements, but safe and timely access to the A614 still remains a concern for locals.

In September 2013 the BBC news published a story (Figure 3-31) about the Mickledale Lane junction where local residents raised concerns about the perceived dangers when trying to access the A614 from the side road. The video and story was made as part of an ongoing campaign to persuade local and central government to fund traffic signals. The article goes on to state that the

"film shows traffic having problems joining the road, as well as cyclists and pedestrians struggling to cross it. The footage shows several vehicles taking evasive action to avoid collisions"

A local County Councillor was also interviewed about the junction for the article and he confirmed that the danger of the junction was the biggest issue voters had raised with him.

"Many people have said to me they are petrified trying to enter the A614. I would describe it as a blackspot. The fact is, Bilsthorpe has no safe exit on to the road."

Figure 3-31 BBC website article about Mickledale Lane, Bilsthorpe

Queue lengths and queue duration was recorded at both Bilsthorpe junctions in September 2017 for the AM, Inter and PM peak time periods to develop a better understanding of the existing situation. Motorists attempting to access the A614, from the minor side road arms of Mickledale Lane and Deerdale Lane, can experience a large variability in the time it takes to exit the side roads onto the A614 at each junction. The longest recorded delay for a motorist at the Deerdale Lane junction was 6 minutes 41 seconds in the AM peak and 7 minutes 45 seconds in the PM peak, whilst the longest delays recorded at Mickledale Lane was 9 minutes 15 seconds in

the AM and 7 minutes 55 seconds in the PM, this is summarised in Table 3-9.

Table 3-9 Delays on Mickledale Lane, Bilsthorpe

	Average delay	Longest recorded delay
AM	41 seconds	**9 minutes 15 seconds**
Inter Peak	10 seconds	54 seconds
PM	36 seconds	**7 minutes 55 seconds**

Perception that Mickledale Lane and Deerdale Junctions are unsafe.

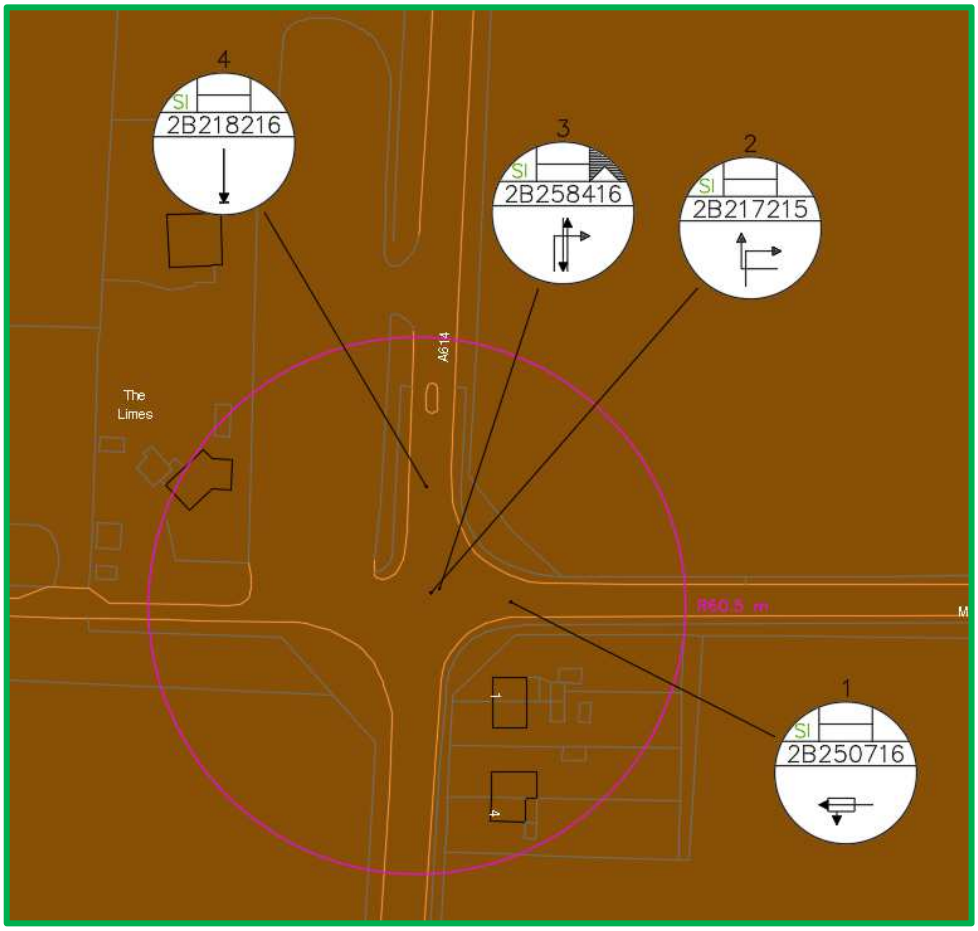
The A614/A6097 MRN corridor has historically had a poor accident record, with speeding and overtaking a particular cause for concern.

In 2011, a major safety scheme was implemented on the corridor following a fatal collision along the A614 section between the Mickledale Lane and Deerdale Lane junctions. Six people lost their lives in the accident. This saw the introduction of a new 50mph speed limit (down from 60mph) and an average speed camera system was installed in 2013 to enforce this speed limit change. Pairs of SPECS 3 time-over distance cameras now calculate the average speed of vehicles travelling in both directions.

These measures have reduced the number of collisions along the route. The 4-year 'after' monitoring study showed an overall 61% accident reduction along the corridor, with a 100% reduction in fatal accidents, a 71% decrease in accidents involving serious personal injury, and a 60% decrease in reported personal injury accidents involving 'slights' injuries.

However, as demonstrated at the two public exhibition events held in Bilsthorpe in July 2019, there is still a perception that the route is still unsafe. The vast majority of Bilsthorpe residents attending the events still had serious concerns when trying to exit the Mickledale Lane junction. There have been 4 slight accidents recorded at the junction between 1/1/2015 to 31/7/2018 (Figure 3-32). An initial investigation by the Via EM Road Safety Team following the 3 accidents in 2016 identified the location for a potential detailed investigation, but this was not taken forward due to the absence of a treatable accident pattern and no KSI casualties. The junction is already well-signed and had a right turn lane for right turners off the A614.

Figure 3-32 Accident plot for Mickledale Lane, Bilsthorpe.



Future development within the village of Bilsthorpe and further afield is likely to increase the number of vehicles using the junction. This has the potential to increase levels of driver frustration and result in motorists taking more risks when trying to access the A614.

Perception that the existing Warren Hill junction is unsafe.

The public exhibition events held in the summer of 2019 also reaffirmed that motorists using the A614 corridor on a regular basis felt that the A614/A6097 Warren Hill junction was dangerous and intimidating to use.

The existing junction is a priority controlled gyratory where traffic on the A6097 gives way to traffic on the A614 (vehicles travelling northbound) but visibility is poor, and motorists are required to look over their shoulder before joining the A614 Ollerton Road (Figure 3-33).

Figures 3-34 show a sample of the returned questionnaires that were received for this junction. The feedback confirms that motorists feel the junction has poor visibility, is confusing and dangerous. An extract of a letter received on the Warren Hill junction can be found in Figure 3-35.

Figure 3-33 Vehicles needing to give way to the A614 traffic (Google maps)

Figure 3-34 Samples of questionnaire feedback for the Warren Hill junction (July 2019)

Question 11 – Thoughts on the proposal to construct a conventional roundabout at Warren Hill?

- ☑ Good idea
- ☐ Against the proposal
- ☐ Neither for nor against

Question 12 - Comments?

Poor visibility - a proper slip road needed.
Downright dangerous,

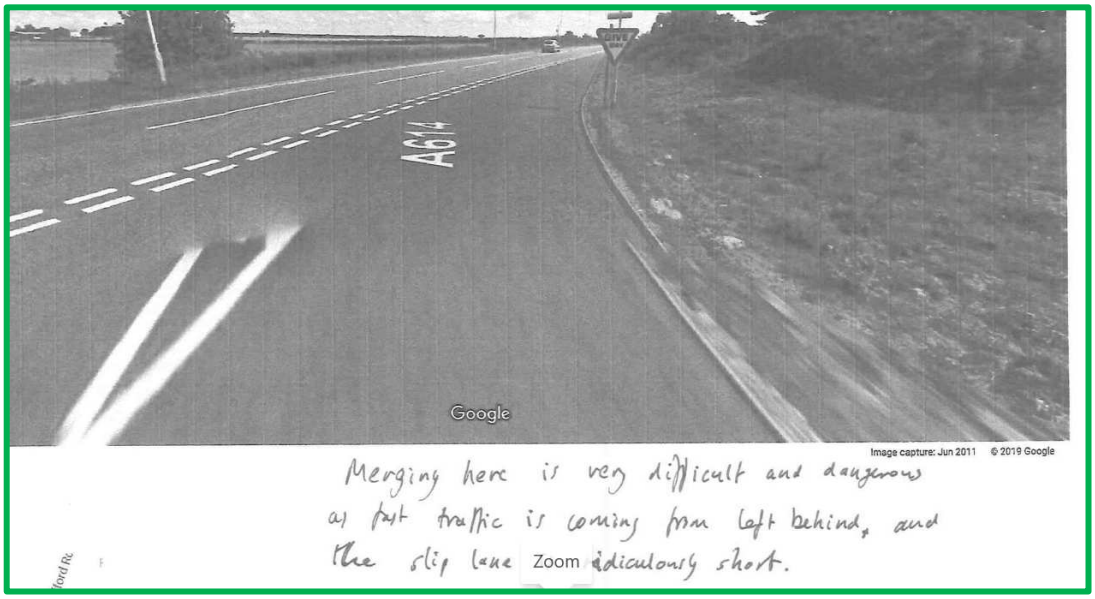
Question 11 – Thoughts on the proposal to construct a conventional roundabout at Warren Hill?

- ☑ Good idea
- ☐ Against the proposal
- ☐ Neither for nor against

Question 12 - Comments?

People get confused over how to use it

Figure 3-35 Extract of letter received on the existing issues at Warren Hill



Network Resilience

The Midlands Connect Strategy: Powering the Midlands Engine (March 2017), identifies that a 'Resiliently Connected' network will encourage productivity and provide a reliable road network; reducing costs to businesses. The Derby, Derbyshire, Nottingham and Nottinghamshire LEP (D2N2) has lower than average economic productivity when compared to the regional average.

A lack of network resilience is a problem if the local highway is unable to cope with disruptive events, such as a surge in demand because of incidents elsewhere on the highway network. The more common the event, the more important it is for the network to be able to recover quickly in order to restore an acceptable level of service.

The A614/A6097 MRN corridor is a very important part of the highway network of Nottinghamshire. It sits between the A1 to the east and M1 to the west. The route also acts as the designated emergency route for any incident or closure of the A1. A diversion card showing the route motorists are required to use following an incident on the A1 can be found in Figure 3-36.

Whilst full closures of the A46 and A1 are typically infrequent events, they can be in place for up to 12 hours, significantly worsening congestion along the A614/A6097 corridor.

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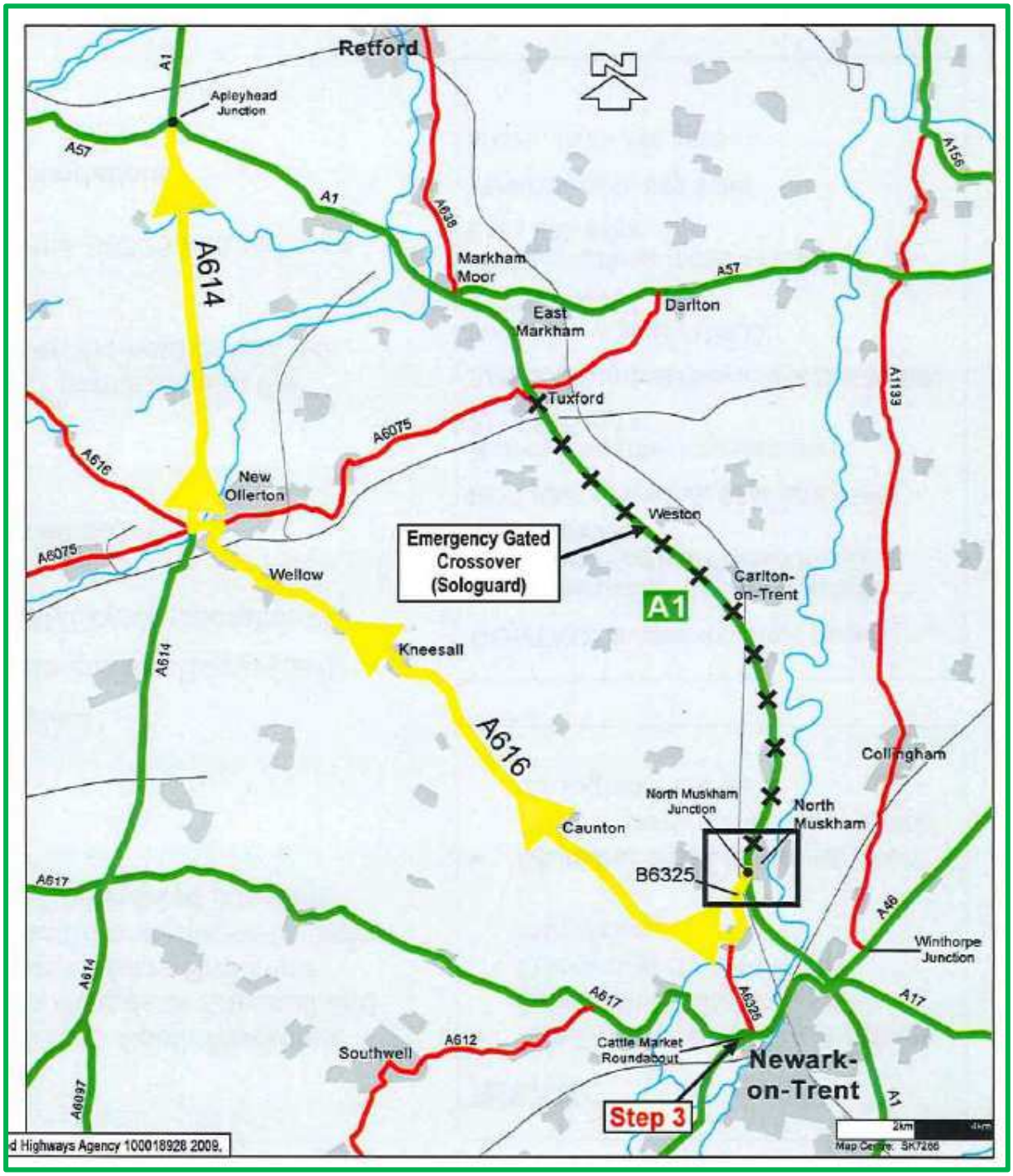
Figure 3-36 Example of diversion route for A1

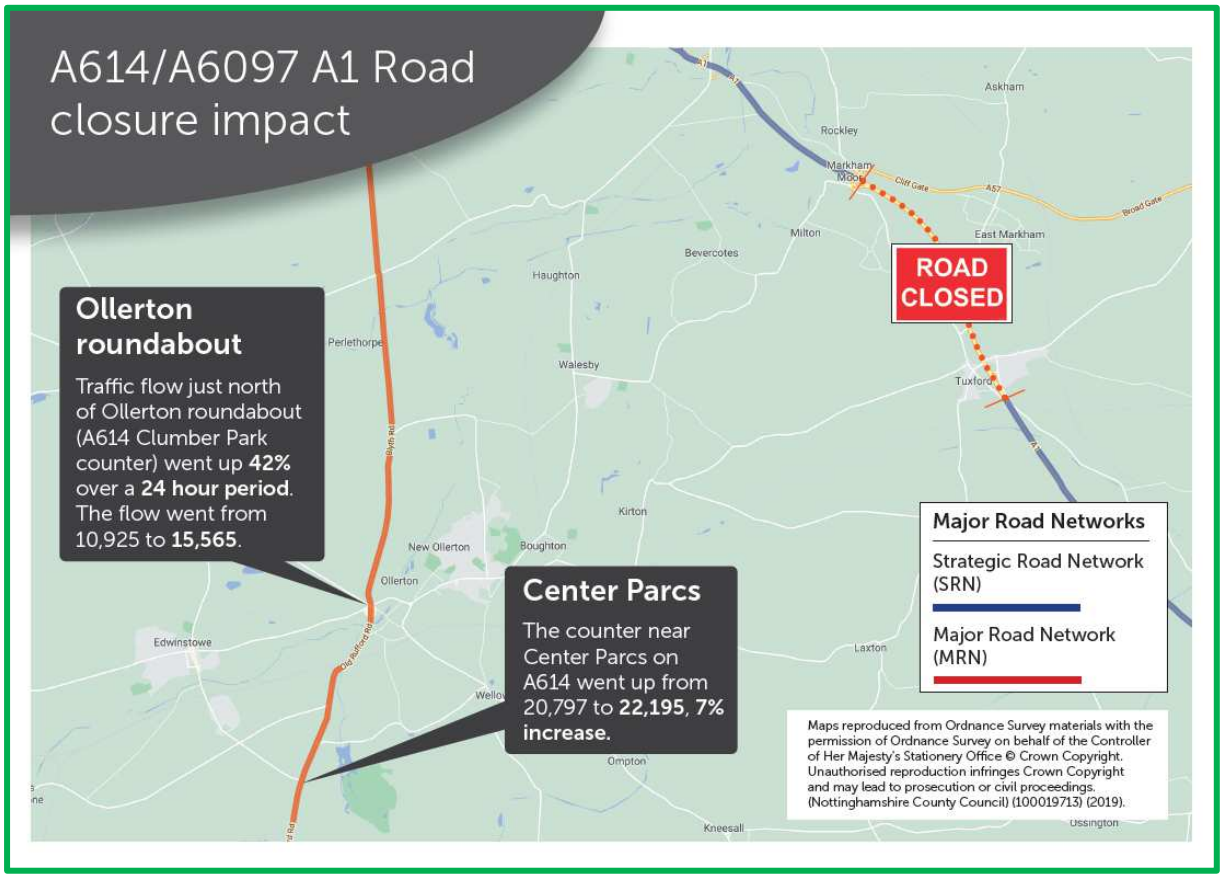


There are already a number of junctions on the corridor already over or near capacity , so the additional volume of trips diverted onto the network causes even greater delays.

Permanent NCC monitoring traffic count sites were analysed to see how certain sections of the A614/A6097 MRN corridor are affected when there is a major incident on the SRN (Figure 3-37). The incident that closed the A1 between Tuxford slip road and Markham Moor on 18th July 2018 for nearly five hours resulted in a **42% increase** in the 24-hour flow at a permanent counter just north of the Ollerton roundabout (A614 Clumber Park). 4,640 extra vehicles were diverted towards Ollerton roundabout and

the A614, this resulted in the flow increasing from 10,925 (average weekday flow for preceding two weeks at this site) to 15,565. The permanent A614 Center Parcs counter also recorded an increase in traffic by 7%. The flow increased by 1,398 vehicles on the day from 20,797 (average weekday flow preceding two weeks) to 22,195. This placed an enormous strain on the MRN.

Figure 3-37 A1 closure impact



The A614/A6097 MRN corridor scheme package will help make the highway network more resilient by increasing junction capacity, which will in turn reduce delays during a major incident in this part of Nottinghamshire.

3.5 Impact of Do Nothing

In considering whether to progress with any proposed scheme, it is important to consider what would happen if the status quo was allowed to continue and NCC did not intervene. The key issues that will continue or be exacerbated by no intervention include:

- **Increasing traffic volumes** - Traffic congestion at the key intersections on the A614/A6097 MRN corridor will continue to increase without investment. The TEAR (Appendix B) has demonstrated the scale of queues and delays that would arise with queues of many hundreds of vehicles being forecast at some of the junctions. This means that the

corridor will remain congested, worsening journey time reliability for all users. The Design Year (2037) peak hour traffic capacity assessments for the six junctions (without any intervention) is found below in Table 3-10.

This shows that the Ollerton and Lowdham junctions are predicted to operate above capacity in both the AM and PM peak periods. The Kirk Hill junction at East Bridgford is also predicted to be over capacity in the peak periods. Warren Hill is expected to be approaching capacity in the AM peak and over capacity in the PM Peak. White Post is predicted to be approaching capacity in both the AM and PM peaks.

Increasing congestion will have a negative detrimental impact on local economic activity and productivity. Considering the high proportion of heavy goods vehicles already on the A614/A6097 corridor, congestion has and will continue to have a direct impact on the logistics supply chain for industries both on and close to this corridor.

Without immediate investment, there will continue to be stop-start traffic on the A614/A6097 corridor, with subsequent implications on air quality pollution.

Finally, there is a risk of impact on the national movement of people and goods, Ever increasing delays on this corridor will compromise wider improvements made elsewhere on the national network.

Table 3-10 Design Year (2037) junction capacity assessments

Junction location	AM (RFC)	PM (RFC)
Ollerton Roundabout	1.17	1.20
Mickledale Lane	0.41	0.37
White Post Roundabout	0.93	0.99
Warren Hill	0.85	1.03
Lowdham	1.0	1.37
Kirk Hill	PRC is -37.4	PRC is -65.8

- **Lack of housing and employment delivery** - Failure to deliver the highway improvements will restrict the ability of the Local Planning Authorities (Gedling, Rushcliffe and Newark and Sherwood District

Councils) to release housing and employment development. There are already development limits imposed on some planning permissions (e.g. Thoresby colliery redevelopment) until such time as junction capacities have been improved to accommodate existing and development generated traffic.

It is also important to make sure the corridor is as accessible and reliable as possible, in order to make further investment in the area attractive to prospective developers or buyers, be they commercial or residential.

- **Complaints** - There are a number of lobby groups from residents in settlements adjoining the A614/ A6097 corridor demanding action. The campaign groups have the support of locally elected politicians and the MP Mark Spencer. The demands for action will be heightened without intervention.

3.6 Stakeholders

The scheme has a communications plan (Appendix D) which aims to:

- Raise awareness of the project with local residents and businesses.
- Communicate the benefits of the improvement scheme at every opportunity to ensure the scheme is widely welcomed.
- Secure a succession of positive media coverage with lead stories in local newspapers.
- Generate views on the County Council's A614/A6097 webpage.

Details of the communications and consultation undertaken and stakeholder support are provided in section 7.11.

Communications with affected landowners are ongoing, having commenced early in 2019. Communication has also taken place with Lowdham Cricket Club, local Parish Councils and Local County Councillors. Bruton Knowles (Property consultants) have been appointed to undertake land registry searches, land valuations and progress more detailed land negotiations where required. Detailed discussions with impacted landowners are ongoing and the County Council is pursuing some limited advanced land acquisition.

The County Council's A614/A6097 project team has also engaged with the Environment Agency, Natural England, English Heritage, Newark and Sherwood District Council, Rushcliffe Borough Council, Sports England and the relevant specialists within NCC (Ecology, Heritage, Archaeology, Land-use Planning, Highways Development Control, and Local Flood Authority).

3.7 Scheme Objectives

The scheme objectives listed are based on the evidence base collected as part of the appraisal process. The schemes objectives are thus as follows:

- **Reduce congestion and journey time delays** - A number of intersections along the A614/A6097 currently suffer from significant levels of congestion, particularly at peak time periods. The capacity improvements that are proposed along this corridor will improve journey times, lessen delays and improve journey time reliability.

- **Support economic growth and housing delivery** - The scheme package will increase capacity along the corridor which in turn can accommodate new and additional trips arising from significant housing developments that are to be constructed in future years.

  The A614/A6097 MRN corridor is a strategic priority at both the county and district level, with a commitment to overcome the adverse effects of congestion currently being observed at the major junctions. Without significant investment to address these congestion problems, the A614 / A6097 corridor will struggle to support economic growth, housing growth and new employment opportunities.

  Improved journey times on the A614/ A6097 MRN corridor is also expected to lead to increased economic efficiencies and improved competitiveness for businesses through cost savings, as well as increased certainty and ability to plan as traffic conditions on the local road network becomes more reliable. The businesses currently based in Bilsthorpe will undoubtedly benefit from improved access and reliability to the A614/A6097 MRN corridor.

- **Support the Strategic Road Network** - The scheme will add resilience to the route which will support the SRN during major works or incidents on the M1, A1 and A46.

- **Support all other road users** - The scheme will improve crossing facilities for pedestrians and cyclists. At present there is no positive provision at either the Ollerton and Lowdham roundabouts or the Mickledale Lane junction. The Scheme includes traffic signal controlled crossings (Toucan crossings- for both pedestrians and cyclists) at Lowdham, Ollerton and Mickledale Lane junctions.

3.8 Options Development

Having identified the objectives to be delivered by the scheme the next stage is to identify the potential options. These are then appraised and monetised where possible in the Economic Case.

In assessing the need for intervention, an analysis of the current and future transport problems along the A614/A6097 corridor has been considered alongside an assessment of the underlying causes. The assessment was informed by WebTAG and focused on an objective-led option sifting process to develop an options long list, a sift to produce a short list and then finally to be in a position to select a preferred option.

A substantial amount of work has previously been carried out in identifying the key issues along the corridor, which mainly focused on reducing congestion at junctions and journey time unreliability for users of the corridor. Newark and Sherwood District council commissioned a district wide transport study in 2010 which was the evidence base to support their Local Plan. This study was undertaken by WYG in collaboration with NCC and established the base line conditions district wide, but also included detailed consideration of the current and future predicted performance of both the A614 and A6097. Traffic congestion plots and stress maps were produced and these informed recommendations for capacity improvements at a series of junction along the A614/A6097 corridor.

3.8.1 Long List of Options

A long list of potential options was generated following a review of the existing evidence base (details can be found in the OAR Appendix A) with the aim of delivering the specific objectives as identified in section 3.7 above:

- Reduce congestion.
- Support economic growth and housing delivery.
- Support the Strategic Road Network.
- Reducing journey time delays.
- Support all other road users.

The intervention options were:

- **Intervention 1** – Continuation of Dual Carriageway from A6097 Epperstone Bypass to Ollerton roundabout.
- **Intervention 2** - Ollerton roundabout capacity improvement.
- **Intervention 3** - Ollerton bypass.
- **Intervention 4** – Rose Cottage (Center Parcs) Capacity Improvement.
- **Intervention 5** – Deerdale Lane, Bilsthorpe – Junction upgrade.
- **Intervention 6** – Mickledale Lane, Bilsthorpe – Junction upgrade.
- **Intervention 7** – White Post roundabout – Junction upgrade.
- **Intervention 8** – Warren Hill – Junction upgrade and reshaping.
- **Intervention 9** – Ton Lane/Lowdham Bypass junction – Capacity Improvement.
- **Intervention 10** – Lowdham roundabout – Capacity Improvement.
- **Intervention 11** – Gunthorpe Bridge – dual carriageway structure.
- **Intervention 12** – Kirk Hill, East Bridgford – Capacity Improvement.

3.9 Options Appraisal.

3.9.1 Introduction

The three stages in the Transport Appraisal Process as outlined within the Government's Transport Analysis Guidance are as follows:

Stage 1 – Option Development. This involves identifying the need for intervention and developing options to address a clear set of locally developed objectives which express desired outcomes. These are then sifted for the better performing options to be taken on to further detailed appraisal in Stage 2. Stage 1 has been covered in section 3.8 of the Strategic Case.

Stage 2 – Further Appraisal of a small number of better performing options in order to obtain sufficient information to enable decision makers to make a rational and auditable decision about whether or not to proceed with intervention. The focus of analysis is on estimating the likely performance and impact of interventions(s) in sufficient detail.

Stage 3 – Implementations, Monitoring and Evaluation.

The guidance goes on to stress that the appraisal needs to be undertaken in a proportionate manner and 'enabling a **lighter touch** approach, where appropriate'.

In summary, the following key principles should be followed through the appraisal process:
• There must be a clear rationale for any proposal and it must be based on a clear presentation of problems and challenges that establish the 'need' for a project.

• There must be consideration of genuine, discrete options, and not an assessment of a previously selected option against some clearly inferior alternatives. A range of solutions should be considered across networks and modes.

• There should be an auditable and documented process which identifies the best performing options to be taken forward for further appraisal.

• There should be an appropriate level of public and stakeholder participation and engagement at suitable points in the process. In most cases this should inform the evidence-base which establishes the 'need' for an intervention, guide the option generation, sifting and assessment steps, as well as informing further appraisal in Stage 2.

An updated OAR is provided as a standalone document in Appendix A and its content is summarised in this section.

Whilst NCC has attempted to resolve localised problems in the past on this corridor, as shown by the two junction upgrades at Rose Cottage and Lockwell Hill, this approach is now considered to be unstainable due to the level of congestion along this entire corridor route. These much needed improvements enabled very localised benefits at the junctions where they were introduced and were successful at the time they were

implemented.

The levels of congestion on this corridor is now though so widespread with many junctions approaching or even exceeding capacity that any further individual improvements will not provide value for money. These individual improvements may still provide a very localised improvement to the direct delay at the specific junction location but will force the problems on to the next junction that is already suffering, leading to more delays than the journey time savings from the initial improvement.

Currently the individual delay at each junction is acting as a throttle to hold back the traffic and actually preventing even more traffic delay chaos up or down stream on the corridor. The only alternative is to upgrade the remaining issues as a corridor wide scheme, providing capacity throughout the route to not only address the economic impact of existing delays but to provide both localised and longer distance journey time confidence to attract further development opportunities along this spine corridor through the heart of Nottinghamshire. This will not only allow the existing extant planning applications that are dependent on localised improvements at locations across this corridor to be fully developed out, but should provide future confidence for further growth on this key corridor hence providing a greater level of overall benefits than the sum of the localised benefits arising from each of the individual scheme elements.

The importance of developing a set of options which addressed corridor wide issues was evident during the Stage 1 process.

The other advantages of a corridor package solution are that there is likely to be economies of scale benefits to be gained if a contractor is working on the corridor over a relatively short period of time (2 to 3 years duration). A concentrated and co-ordinated works programme is also likely to be less disruptive long term than if the individual schemes were delivered on a piecemeal basis.

3.9.2 Further Development of Options

The 12 intervention options set out in section 3.8 of the Strategic Case were initially (early 2019) combined into a total of four scheme packages as per Table 3-11.

Table 3-11 A614/A6097 MRN package combinations

Package 1
Package 2
Package 3
Package 4

- **Package 1** – Dual carriageway from Epperstone Bypass to Ollerton and junction upgrades at all junctions (interventions 2 and 4 to 12).
- **Package 2** – Ollerton Bypass only.
- **Package 3** – Upgrade between Ollerton and Lowdham roundabouts only.
- **Package 4** – Package 3 but without Rose Cottage and Ton Lane junctions.

The Kirk Hill junction (Intervention 12) was originally omitted from consideration because there were already proposed Section 278 works scheduled to improve the junction as part of the RAF Newton development site (please refer to section 3.3 for more information). The subsequent analysis at this junction by Via East Midlands indicated that the proposal put forward by the developer was not after all suitable and would not provide the level of upgrade required to meet the forecast traffic demand from the development site and growth further afield. The existing problems at this junction were merely reinforced by comments made at the Lowdham public consultation events by regular users of the Kirk Hill junction in August 2019.

Following further examination of the developers proposed improvement at Kirk Hill junction it was decided that a more significant junction upgrade was required and that this would help deliver the Scheme objectives (reasoning and process explained in more detail in 'Initial Sift' section below). An improvement to the Kirk Hill traffic signal controlled junction was subsequently added to the package and this became package 5.

Package 5 – Package 4 + Kirk Hill junction upgrade

Table 3-12 Package 5

	1	2	3	4	5	6	7	8	9	10	11	12
Package 5												

After a further round of scheme design and costing it became evident, that following the return of significant utility diversion cost estimates for the A614 Deerdale Lane junction in October 2020, that the Deerdale Lane scheme would be disproportionately expensive to construct and the large increase in costs would have had a severe detrimental impact on the Benefit Cost Ratio for the overall A614/A6097 MRN corridor scheme. As a result, the proposed Deerdale Lane junction improvement scheme was dropped from the package of measures to improve the corridor.

- **Package 6 – Package 5 minus Deerdale Lane, Bilsthorpe junction.**

Table 3-13 Package 6

	1	2	3	4	5	6	7	8	9	10	11	12
Package 6												

Alternative Highway Solutions

Consideration was also given to low cost demand management and traffic management solutions such as speed limit changes to the A614/A6097 corridor. There was potential scope to increase and decrease the speed limit from the existing 50mph speed limit .

- **Low cost Option A – Now named Package 7 –** Increase speed limit on A614/A6097 to 60mph.
- **Low cost Option B – Now named Package 8 –** Reduce speed limit on A614/A6097 to 40 mph.

Public Transport (non-car options)

Early discussions took place with NCC's Public Transport team to seek feedback on whether there may be an obvious potential public transport solution.

The A614 corridor is served by the Sherwood Arrow service which has an hourly frequency from Ollerton to Nottingham. The route passes through Redhill, Farnsfield, Bilsthorpe, Rufford Country Park, Sherwood Forest and Ollerton. The route takes approximately 65 minutes to travel from Ollerton to Nottingham in the AM peak and 77 minutes in the PM peak. The journey times in the other direction (Nottingham to Ollerton) are 71 minutes in the AM peak and 67 minutes in the PM peak. Increasing the frequency of the service by subsidising the route during the peak time periods was unlikely to result in any noticeable shift in modal share because the journey length would still not compare favourably with car travel. A more direct express service (say from Ollerton to Nottingham only) was also dismissed because the existing service is mainly used by passengers to get to the other villages along the corridor. Unfortunately, there were no viable or feasible public transport solutions that could significantly improve travel conditions along the A614 corridor whilst also being financially sustainable in the long term.

NCC does have a safeguarded bus based park and ride scheme at the A60/ A614 Leapool roundabout and this is anticipated to start construction in 2023 (funded via the Transforming Cities Fund tranche 2) and whilst this scheme will undoubtedly be used by motorists travelling along the A614, the benefits will only be felt within Nottingham itself. A successful park and ride scheme at Leapool will reduce traffic flows on routes approaching the City Centre but will not make any difference to vehicular flows on the

A614.

The overall conclusion at this stage was that the provision of standalone non-car options would be unlikely to deliver any meaningful benefit to the A614/A6097 corridor. However, improvements to walking and cycling facilities at individual junctions on the corridor were worth further consideration once a junction package had been identified.

Table 3-14 A614/A6097 MRN non-car options

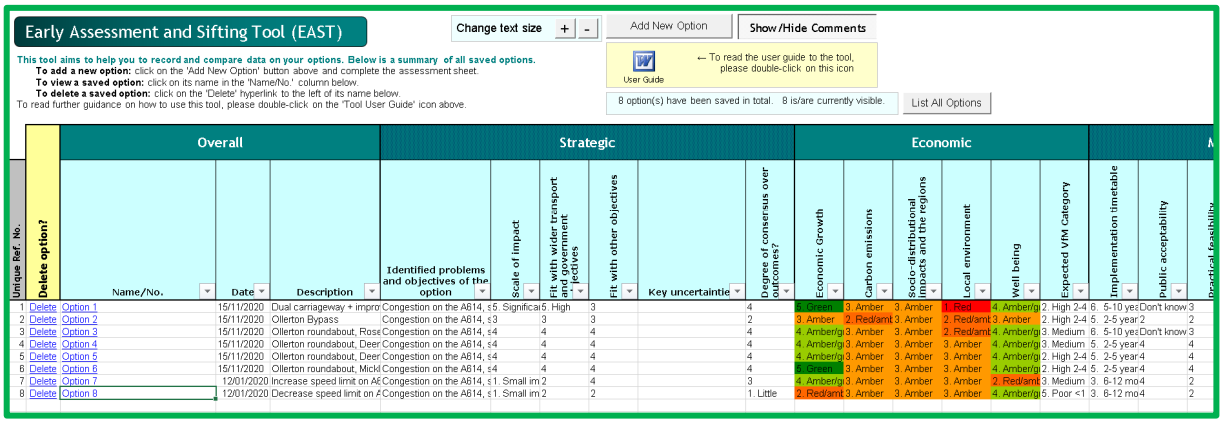
Potential Measure	Assessment	Conclusion
Improvements to the existing bus network (increase frequency, express service, bus priority at junctions etc).	This is unlikely to have any significant impact on the road network in terms of modal shift and reduced congestion / journey time reliability. Limited numbers of people travelling from Ollerton to Nottingham and vice versa	**DISMISS**
Improvements to Rail System (Dukeries Line)	Long term opportunity	**DISMISS. However, has the potential to add resilience if and when constructed in the long term (probably post 2030).**
Investment in cycling and walking infrastructure	Limited local impact anticipated. Scheme area too remote and rural to make any difference to modal shift. Would not achieve the scheme objectives on its own.	**DISMISS. However potential to improve facilities at individual junctions.**

Initial Sift

The next stage in the process was to undertake an initial sift for the packages identified to look for any potential 'showstoppers' which would prevent an option/package from progressing. The DfT's Early Appraisal Sifting Tool (EAST) was used at this very early stage to aid in the qualitative assessment of each package (Figure 3-38). The EAST tool has been developed by the DfT to provide an approach to the early assessment of a range of options which seek to address a known problem

or meet an agreed set of objectives.

Figure 3-38 Extract of EAST for A614/A6097 MRN



Early Assessment and Sifting Tool (EAST)

Change text size + -

Add New Option | Show/Hide Comments

This tool aims to help you to record and compare data on your options. Below is a summary of all saved options.
To add a new option: click on the 'Add New Option' button above and complete the assessment sheet.
To view a saved option: click on its name in the 'Name/No.' column below.
To delete a saved option: click on the 'Delete' hyperlink to the left of its name below.
To read further guidance on how to use this tool, please double-click on the 'Tool User Guide' icon above.

User Guide ← To read the user guide to the tool, please double-click on this icon

8 option(s) have been saved in total. 8 is/are currently visible. List All Options

		Overall			Strategic						Economic									
Unique Ref. No.	Delete option?	Name/No.	Date	Description	Identified problems and objectives of the option	Scale of impact	Fit with wider transport and government objectives	Fit with other objectives	Key uncertainties	Degree of consensus over outcomes?	Economic Growth	Carbon emissions	Socio-distributional impacts and the regions	Local environment	Well being	Expected VfM Category	Implementation timetable	Public acceptability	Practical feasibility
1	Delete	Option 1	15/11/2020	Dual carriageway + impro	Congestion on the A614, s	5. Significa	5. High	3		4	5. Green	3. Amber	3. Amber	1. Red	4. Amber/g	2. High 2-4	6. 5-10 yea	Don't know	3
2	Delete	Option 2	15/11/2020	Ollerton Bypass	Congestion on the A614, s	3	3	3		2	3. Amber	2. Red/amb	3. Amber	2. Red/amb	3. Amber	2. High 2-4	5. 2-5 year	2	2	
3	Delete	Option 3	15/11/2020	Ollerton roundabout, Rose	Congestion on the A614, s	4	4	4		4	4. Amber/g	3. Amber	3. Amber	2. Red/amb	4. Amber/g	3. Medium	6. 5-10 yea	Don't know	3	
4	Delete	Option 4	15/11/2020	Ollerton roundabout, Deer	Congestion on the A614, s	4	4	4		4	4. Amber/g	3. Amber	3. Amber	3. Amber	4. Amber/g	3. Medium	5. 2-5 year	4	4	
5	Delete	Option 5	15/11/2020	Ollerton roundabout, Deer	Congestion on the A614, s	4	4	4		4	4. Amber/g	3. Amber	3. Amber	3. Amber	4. Amber/g	2. High 2-4	5. 2-5 year	4	4	
6	Delete	Option 6	15/11/2020	Ollerton roundabout, Mick	Congestion on the A614, s	4	4	4		4	4. Amber/g	3. Amber	3. Amber	3. Amber	4. Amber/g	2. High 2-4	5. 2-5 year	4	4	
7	Delete	Option 7	12/01/2020	Increase speed limit on A6	Congestion on the A614, s	1. Small im	2	4		3	4. Amber/g	3. Amber	3. Amber	3. Amber	2. Red/amb	3. Medium	3. 6-12 mo	4	2	
8	Delete	Option 8	12/01/2020	Decrease speed limit on A	Congestion on the A614, s	1. Small im	2	2		1. Little	2. Red/amb	3. Amber	3. Amber	3. Amber	4. Amber/g	5. Poor <1	3. 6-12 mo	4	2	

Following the initial EAST assessment, the original 4 package options was then assigned a simplistic RAG score (red, amber and green) against the following key categories:

- Whether the scheme/package meets overall objectives for the corridor.
- Whether the scheme/package fits with local, regional and national strategies.
- Likely impact on the environment.
- Whether the package is financially affordable.
- Likely acceptability to stakeholders.
- Whether the package is likely to deliver economic benefits.

If a package was deemed to fully meet the identified category it scored green, partially met was assigned an amber colour with red showing an adverse impact.

Table 3-15 A614/A6097 MRN Package summary

	Meets scheme objectives	Fits with local, regional and national strategies	Environmental Impacts	Financially affordable	Acceptable to stakeholders	Economic Benefits
Package 1						
Package 2						
Package 3						
Package 4						

The process resulted in Package 4 being selected as the preferred option. At the time, the package delivered on all the key objectives for the scheme and also provided a positive BCR. The next step in the process was to develop each junction option in further detail to help establish the likely cost, benefits and impacts of each element of the package.

Discussions took place with representatives from the County Council, AECOM and Via East Midlands to examine each site location and to come up with potential solutions at each junction. DfT guidance describes how a broad range of potential options should be considered in order to ensure that the most appropriate solution to an identified problem is pursued. The method is detailed in the OAR (Appendix A). A matrix of potential options to improve junction performance is provided in Table 3-16 below and provides a useful guide to ensure the full range of options is considered.

Table 3-16 Matrix of scheme options

Options Considered	Existing Control			Link Options
	Priority	**Signals**	**Roundabout**	
	Widen minor arm	Review signal timings	Increase entry widths	Provide additional lanes
	Provide right-turn harbourage	Review stage arrangement	Increase circulating carriageway	Accept congestion & prioritise users (i.e. public transport priority)
	Ban Movements	Stagger pedestrian provision / Consider on-crossing detection	Provide segregated traffic lanes	Improve pedestrian / cyclist provision
	Change priority	Ban Movements	Signalise roundabout	Provide Bypass
	Convert to signals	Extend flares[1]	Replace with signalled junction	Review speed limit
	Convert to roundabout / mini-roundabout	Provide additional lanes	Accept congestion & prioritise users (i.e. public transport priority)	Road Closures (with diversions)
	Improve pedestrian / cyclist provision	Accept congestion & prioritise users (i.e. public transport priority)		Grade Separation
	Accept congestion & prioritise users (i.e. public transport priority)	Convert to roundabout / mini-roundabout		
		Provide segregated traffic lanes		

A "flare" is a short additional lane on the approach to a junction.

Following the A614/A6097 consultation events in the summer of 2019 and further analysis of the existing issues at Kirk Hill it was felt that Package 5 offered the best combination of measures to meet all scheme objectives whilst also delivering an even better BCR. As a result, Table 3-15 was revised to take into account those latest developments. The economic benefits scored green for Package 5 because of the decongestion benefits resulting from the upgrade at Kirk Hill. This is presented in Table 3-17.

Table 3-17 Revised Package summary (Packages 1 to 5)

	Meets scheme objectives	Fits with local, regional and national strategies	Environmental Impacts	Financially affordable	Acceptable to stakeholders	Economic Benefits
Package 1						
Package 2						
Package 3						
Package 4						
Package 5						

As mentioned previously within this chapter, the final package (Package 6) was added late to the scheme development phase following the return of significant utility diversion costs at the Deerdale Lane junction in October 2020. The large increase in costs at this location had a severe detrimental impact on the Benefit Cost Ratio for the A614/A6097 scheme and this resulted in further changes to the summary table (Table 3-18) to reflect the latest situation with respect to overall economic benefits and affordability. As a result, the scheme was dropped from the package of measures to improve the corridor.

Table 3-18 Scheme package summary (Nov 2020)

	Meets scheme objectives	Fits with local, regional and national strategies	Environmental Impacts	Financially affordable	Acceptable to stakeholders	Economic Benefits
Package 1						
Package 2						
Package 3						
Package 4						
Package 5						
Package 6						

The low-cost options for the corridor which involved changing the speed limit of the corridor scored poorly as shown in Table 3-19.

Table 3-19 Low cost options

	Meets scheme objectives	Fits with local, regional and national strategies	Environmental Impacts	Financially affordable	Acceptable to stakeholders	Economic Benefits
Package 7						
Package 8						

The preferred package (number 6) arising from this detailed review consists of the following junction design options:

- **Ollerton Roundabout** - Enlarged conventional roundabout.
- **Mickledale Lane** - Traffic signal-controlled junction.
- **White Post** - Traffic management scheme.
- **Warren Hill** – Amended gyratory layout to a more conventional form.
- **Lowdham Roundabout** - Enlarged conventional roundabout.
- **Kirk Hill** – Enlarged Traffic signal-controlled junction

The scheme plans for each junction can be found in Appendix C

3.10 Conclusion on the Strategic Case

The Strategic Case demonstrates the existing issues and problems along the A614/A6097 MRN corridor. The preferred scheme is shown to be the most effective at tackling issues such as congestion, journey time unreliability, rat running, access issues for motorists trying to access the A614 from Bilsthorpe and allaying perception fears of using the Warren Hill gyratory and the Mickledale Lane junction at Bilsthorpe.

Without intervention, these issues will remain and continue to worsen over time. This will have severe economic consequences for the local and wider area.

The A614 and A6097 routes through Nottinghamshire are included in the Government's newly designated MRN. Improvement to the A614/ A6097 MRN is being promoted by Midlands Connect in the Growth Prospectus and Strategy and by the D2N2 LEP Strategic Economic Plan. Both the Newark and Sherwood District Council Adopted Local Plan and the County Council's third Nottinghamshire Local Transport Plan specifically reference the A614/A6097 MRN corridor as requiring improvement. The proposed A614/A6097 MRN corridor improvements would support national (NPPF), regional (Midlands Connect and D2N2) and local aspirations (Nottinghamshire Place Plan, LTP and NSDC Local Plan).

The scheme is an important part of the NCC's strategy to support growth and development in this part of Nottinghamshire. It will enable the MRN and local roads to operate more efficiently by reducing congestion, improving the reliability of journey times whilst also providing increased capacity at key junctions which will help facilitate economic growth in the area.

4 Economic Case

4.1 Introduction

The Economic Case sets out details of the options appraisal that has been carried out and the economic appraisal which considers both the value of benefits and value of costs of the scheme and presents an overall Benefit to Cost Ratio (BCR). The DfT's guidance document '*The Transport Business Case: Economic Case*' has been used to inform the economic analysis carried out as part of this OBC. A separate Traffic and Economic Assessment Report (TEAR – December 2020) has been produced by Aecom and this gives further details of the method employed to derive the economic forecasts and provides outputs from the traffic modelling and TUBA / COBALT assessment. The TEAR has been provided separately to DfT as part of the suite of information supporting the outline business case.

4.2 Options Appraised

The scheme option development process and the approval of options was presented in section 3.9 and also discussed in the Options Appraisal Report (Appendix A). The assessment of these options, and the refinement of the preferred option has made use of analytical tools wherever possible.

4.3 Economic Appraisal

4.3.1 Methodology

There are 3 approaches that could be taken to determining the economic assessment of this scheme:

- Using a macroscopic model such as SATURN; or
- Using a microsimulation model; or
- Using the outputs from isolated junction models.

No suitable existing macro or microscopic models are available for the study area. The models that do cover the geographic region are strategic in nature and are not suitable for the assessment of modest junction improvements with local connections. Highways England's Midlands Regional Transport Model (MRTM) covers the geographic area of the scheme and Nottingham City Council's East Midlands Gateway Model (EMGM) covers the A614 between the A614/A617 Lockwell Hill junction and A6097 but excludes the Deerdale Lane, Mickledale Lane and Ollerton junctions. Both models would require significant work to disaggregate the coarse zoning systems around the scheme to enable suitable representation of peak hour turning movements at the scheme junctions to provide robust assessment. Both models would also require extensive network updates to represent the local highway network and loading points. The model updates would require a new Base Year calibration and validation against TAG criteria. Local development assumptions in the area surrounding the scheme would need to be incorporated into the bespoke forecasting procedures.

The work identified to update the MRTM and EMGM is not considered proportionate and could not be delivered within the deadlines for this funding round.

Whilst the distance between the northern and southern most junctions is 18 miles, there is little route choice involved for which macroscopic models are most often deployed. Route choice comparisons are presented in Appendix A of the TEAR. The development of a new macroscopic model would require the collection of new trip demand data at a disaggregate level to ensure local trip patterns are reflected appropriately. The development of a new macroscopic model is not considered proportional to the size of the scheme, in accordance with TAG Unit M1, (sections 2.3 to 2.4).

Similarly, the development of a new 18-mile long micro-simulation corridor model, is not considered to be proportionate.

TAG unit M2 – Variable Demand Modelling, May 2019, section 2.2 discusses the requirement for Variable Demand Modelling. Paragraph 2.2.1 states:

It may be acceptable to limit the assessment of a scheme to a fixed demand assessment if the following criteria are satisfied:

- *The scheme is quite modest either spatially or financially and is also quite modest in terms of its effect on travel costs. Schemes with a capital cost of less than £5 million can generally be considered as modest; or the following two points:*
- *There is no congestion or crowding on the network in the forecast year (10 to 15 years after opening), in the absence of the scheme; and*
- *The scheme will have no appreciable effect on travel choices (e.g. mode choice or distribution) in the corridor(s) containing the scheme.*

TAG unit M2 – Variable Demand Modelling, paragraph 2.2.4 notes that:

In order to establish a case for omitting variable demand in the model, preliminary quantitative estimates of the potential effects of variable demand on both traffic levels and benefits should be made.

TAG unit M2 – Variable Demand Modelling, paragraph 2.2.5 also notes that:

An existing variable demand model of the area should be used for the purpose of testing if one is available.

Of the three criteria identified in TAG M2, paragraph 2.2.1, the cost of the combined improvement package is well in excess of £5m. There is predicted to be journey time delays at several of the scheme junctions in the forecast scenarios. However, the scheme is unlikely to have appreciable effect on travel choice given the limited public transport options along the corridor and the lack of route choice (detailed in TEAR

Appendix A). The preliminary estimates of the potential effects of variable demand set out TAG M2, paragraphs 2.24 and 2.2.5 is dependent on a suitable variable demand model of the area. As discussed above, the two available models that cover the geographic area of the scheme do not have a suitable level of detail to reflect the potential variable demand effects resulting from the scheme. To upgrade the existing models to a suitable standard would require significant work. The use of a fixed trip assessment is considered the most appropriate assessment approach, particularly given the lack of a suitable macro transport model.

The distance between the scheme junctions mean that the delay at each junction is considered independent of the adjacent junction and given, the lack of alternative route choice, the preferred and proportionate methodology would be to assess each junction in isolation before combining the costs and benefits to present an overall package of improvements.

A limitation of this approach is that the full trips lengths are not modelled within the isolated junction models meaning the economic assessment may overestimate benefits relating to the change in fuel consumption (vehicle operating costs, greenhouse gases and indirect taxes). So as not to overestimate, assessments based on the change in fuel consumption have been excluded from the economic appraisal, providing a robust assessment.

The use of isolated junction models and a fixed trip assessment will not capture the effects of rerouting but as noted above, there is limited route choice along the corridor (as presented in the TEAR) meaning the effects of reassignment in both the Do Minimum and Do Something scenarios is expected to be minimal.

To provide additional assurance to the decision to use a fixed trip assessment, sensitivity testing was undertaken using the Midlands Connect Highway Model (MCHM). This work, presented in the TEAR (Appendix B), used the MCHM to look at potential Variable Demand and reassignment impacts, noting the model does not represent the A614/A6097 corridor in sufficient detail to support detailed scheme appraisal (The MCHM contains representation of only three of the scheme junctions).

The work concludes that:

- Fixed demand assignment testing of the improvements produces minor re-routing responses along the scheme corridor, principally due to the lack of other routing options to cross the River Trent.
- Increases in demand along the scheme corridor arising from the fixed demand assignments are small, but most prominent on the A6097 Oxton Bypass.
- VDM elicits minimal change in either the matrices or the assignment, when the pre and post VDM matrices are assigned and the model outputs compared.
- The reassignment and VDM impacts are not considered material in either the

economic or environmental appraisal. As such, a fixed-trip assessment is considered appropriate.

The approach to scheme appraisal has therefore been to:

- Confirm the feasibility of options at each junction location via initial assessment using isolated junction modelling (i.e. ARCADY, PICADY and LINSIG) – reported in the OAR - Appendix A;
- Prepare indicative design drawings of the preferred option – reported in the OAR – Appendix A;
- Use the indicative design drawings to prepare a construction cost estimate (including an allowance for land, utilities and services);
- Apply local future growth to existing Manual Classified Turning Counts and Queue Surveys at each of the scheme junctions to produce an Opening Year and Design Year traffic forecasts;
- Use isolated junction models (i.e. ARCADY, PICADY and LINSIG) to identify:
    - Baseline delays;
    - Future years Do Minimum delays (i.e. without scheme);
    - Future years Do Something (i.e. with option delays)
- Monetise delays from the isolated junction models using the values of time in the WebTAG databook and expand over a 60 year assessment period using the DfT's latest TUBA software (version 1.9.12, January 2019).
- Use existing accident records to inform a COBALT accident appraisal at each junction.
- The Present Value of Benefits and Present Value of Costs (assuming a 2010 base year) has been calculated to identify the scheme BCR. Whilst each junction has been assessed individually, the PVB and PVC from each junction have been combined to present an overall economic appraisal of the A614/A6097 Improvements package.

This approach was discussed with the Department for Transport in a project inception meeting held on 14th November 2018 and subsequently agreed following meetings and correspondence with the DfT throughout 2020.

4.3.2 Overview of Economic Appraisal

The DfT's Transport User Appraisal (TUBA) software has been used to assess the economic benefits associated with the preferred scheme package. TUBA estimates

the transport user benefits (changes in time and vehicle operating costs) and changes in tax revenue as a result of the proposed scheme being constructed.

The Value for Money assessment is a staged process which includes appraisal of the scheme's economic, environmental, social, distributional and fiscal impacts using qualitative, quantitative and monetised information. Value for money is one of the key considerations of any decision involving the use of public funds across government. It is considered in the Economic Case of the 'Five Case Model' of decision-making recommended in the 'Green Book' methodology by Her Majesty's Treasury (HMT) and adopted by the DfT in the "Transport Business Case".

This DfT document notes that some methods for identifying outcomes, impacts and estimating their monetary values are more widely accepted than others, as they are well-researched, tried-and-tested, and robust. To reflect this in a way which is useful for decision-making, the DfT distinguishes between three 'types' of monetised impacts: established, evolving, and indicative monetised impacts. These are treated differently in the value for money assessment and presented separately in Value for Money Statements.

Table 4-1 below summaries the typical impacts of a transport scheme as set out in Box 4.4 of the Value for Money Framework document.

Table 4-1 Typical impacts of a Transport Scheme (DfT VfM Framework 2017)

Established Monetised Impacts	Evolving Monetised Impacts	Indicative Monetised Impacts	Non-monetised Impacts
Included in initial and adjusted metrics	*Included in adjusted metrics*	*Considered after metric using switching values approach*	
Journey time savings	Reliability	Moves to more/less productive jobs	Security
Vehicle operating costs	Static clustering	Induced Investment	Severance
Accidents	Output in imperfectly competitive markets	Supplementary Economy Modelling	Accessibility
Physical Activity	Labour Supply		Townscape
Journey Quality			Historic Environment
Noise			Landscape
Air Quality			Biodiversity
Greenhouse Gases			Water environment
Indirect Tax			Affordability
			Access to services
			Option and non-use values

The value for money process starts with the analysis of monetised costs and benefits and ultimately provides the initial BCR of the scheme.

An adjusted BCR is then calculated by adding the monetised benefits from those aspects with lower assurance such as wider economic benefits.

The economic assessment of the scheme has been undertaken in accordance with the following WebTAG units:

- TAG Unit A1 cost-benefit analysis
- TAG Unit A2 economic impacts
- TAG unit A3 environmental impact appraisal (for noise, air quality and greenhouse gases)

4.3.3 Scheme Costs and Public Accounts

In line with DfT guidance, the Value for Money assessment starts with the calculation of those impacts that can be assessed in monetary terms. These monetised impacts are summed to construct an initial BCR, that is the amount of benefit being realised for every £1 spent on the project.

The summary of the monetised information along with the BCR is presented in the Analysis of Monetised Costs and Benefits (AMCB) Table. The estimate for the scheme costs includes both the actual costs of the scheme during its construction, as well as the capital cost of operating the new assets and maintenance in future years.

Via East Midlands has estimated the cost of delivering the six junctions improvements within the scheme. The scheme cost estimates at 2020 prices for each junction are set out in Table 4-2 below. The scheme costs include an allowance for risk but exclude Optimism Bias (please refer to section 4.7 for Optimism Bias).

Table 4-2 Scheme Cost Estimates (2020 prices)

	Construction	Preparation	Land	Supervision	Total
Ollerton Roundabout	£9,393,758	£527,597	£459,966	£318,247	**£10,699,568**
Lowdham Roundabout	£5,967,119	£260,000	£127,204	£68,247	**£6,422,570**
Warren Hill	£241,875	£0	£25,000	£0	**£266,875**
Mickledale Lane	£5,327,626	£250,000	£204,296	£50,000	**£5,831,922**
White Post Roundabout	£268,750	£0	£0	£0	**£268,750**
Kirk Hill	£4,637,356	£190,000	£250,000	£68,247	**£5,145,603**

A more detailed breakdown of the forecast expenditure profile at each junction on a year by year basis can be found in the TEAR (Section 3). The funding for the scheme

is comprised of various financial contributions, including the DfT and NCC as the main contributors. More details are set out in the Financial Case.

The Present Value of Cost (PVC) in 2010 market prices, discounted to a 2010 present value year, has been calculated as:

- Ollerton: £5,918,000
- Mickledale Lane: £3,769,000
- White Post: £160,000
- Warren Hill: £170,000
- Lowdham: £3,689,000
- Kirk Hill: £2,996,000
- **Total: £16,702,000**

Maintenance

Via East Midlands prepared an estimate of the ongoing maintenance costs for the scheme. The estimate of estimate of maintenance costs represents the increase in maintenance costs, above existing commitments to maintain and update the new junction. This estimate included items such as traffic signal and lighting column replacements.

Table 4-3 shows a summary of the estimated operation and maintenance cost over the 60 year appraisal period (undiscounted and 2020 prices).

Table 4-3 Maintenance Estimates (2020 prices)

Scheme	Maintenance
Ollerton Roundabout	£1,058,629
Lowdham Roundabout	£502,856
Mickledale Lane	£1,045,667
Kirk Hill	£803,309
Total	**£3,410,461**

Delays during construction

An economic assessment of delays during construction has also been undertaken. The cost to road users of delays caused by the scheme construction was assessed and factored to the longest construction phase length at each junction undergoing construction activities. 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 -£15.809 million as seen in Figure 4-1. A Technical Note detailing the full results can be found within the TEAR (Appendix B).

Figure 4-1 Delays during construction

Number of weeks/months at each junction	20mo	20w	36w	30w	
	Results output from TUBA - per junction				
	Ollerton	**Mickledale**	**Lowdham**	**Kirkhill**	**Total**
Economic Efficiency: Consumer Users (Commuting)	-852	7	-2,468	-352	-3,665
Economic Efficiency: Consumer Users (Other)	-1,220	15	-5,339	-1,243	-7,788
Economic Efficiency: Business Users and Providers	-748	12	-3,601	-19	-4,357
Present Value of Benefits (PVB)	**-2,820**	**33**	**-11,409**	**-1,614**	**-15,809**

The Mickledale Lane junction results as seen in Figure 4-1 presents a positive benefit. During construction the minor arms of the 4-arm priority junction are closed, therefore, the junction acts as a free-flowing carriageway with a speed restriction imposed which results in a slight positive benefit during construction. More details of the Mickledale Lane traffic management arrangements and modelling are given in the Technical Note in the TEAR (Appendix B).

The large disbenefits forecast at Lowdham roundabout during construction predominately occur in phases 2 and 3 of the construction arrangements when four-stage temporary traffic signals are currently planned. Given the very large disbenefits indicated here, it is anticipated that with more detailed consideration of the traffic signal arrangement during the construction phase that the current value of delays during construction at Lowdham roundabout can be significantly reduced.

Public Accounts

The costs associated with the scheme are presented and discussed in the Financial Case. The generation of the Present Value of Costs (PVC) applies the appropriate DfT Web TAG guidance to treatment of costs in appraisal in order to generate the PVC in the Public Accounts. Table 4-4 summarises the Public Accounts values (all junction schemes) feeding into the Scheme appraisal.

Table 4-4 Public Accounts (£ thousands) - all junctions

Funding	All modes	Road
Local Government		
Revenue	0	0
Operating Costs	0	0
Investment Costs	1,341	1,341
Developer Contributions	-976	-976
Grant/Subsidy Payments	0	0
NET IMPACT	**365**	**365**
Central Government Funding: Transport		
Revenue	0	0
Operating Costs	0	0
Investment Costs	16,337	16,337
Developer Contributions	0	0
Grant/Subsidy Payments	0	0
NET IMPACT	**16,337**	**1,6337**
Central Government Funding: Non Transport		
Indirect Tax	Not Assessed	
Totals		
Broad Transport Budget	**16,702**	**16,702**
Wider Public Finances	**0**	**0**

4.3.4 Scheme Benefits – TUBA Assessment

Computer models of both the existing junction layouts and proposed improved junction layouts have been prepared and this software produces outputs in terms of overall vehicle delay. This is the main output than has been used in the Transport Economic Efficiency (TEE) calculations contained in this report.

The TEE consists of the following benefits (where applicable):

- Travel time
- Vehicle operating costs
- User charges
- User benefits during construction & maintenance
- Private sector provider impacts
- Other business impacts

The economic appraisal has been calculated for 60 years, as required by the DfT (TAG Unit 3.5.4). The appraisal period is from 2023 to 2082. As the opening years of the proposed six junction improvement schemes do not occur in a single year (Table 3.1 of the TEAR gives details of the proposed opening of each junction improvement) for the purposes of the TUBA assessment a common Opening Year of 2023 has been used. The performance of each of the junctions in an assumed Design Year of 2037 has also been calculated. The TUBA assessment uses both modelled years, 2023 and 2037, benefits accrued in the years between the two modelled years are interpolated whilst benefits accrued after 2037 are capped at the same level as 2037. Benefits/ disbenefits are discounted at a rate of 3.5% for the first 30 years of appraisal and 3.0% thereafter. The full TUBA output data is available in the appendices of the TEAR.

In monetary terms the change in travel times due to the Do Something schemes relative to the Do Minimum scenario has been computed and summed across all six junctions. The results are given in the following TEE Table in 2010 market prices and discounted to a 2010 present value year.

Table 4-5 TEE Table (£ thousands) – All junctions combined

	With Scheme
Consumer- Commuting – Travel Time	21,663
Consumer - Commuting – VOC	Not Assessed
Consumer - Commuting – During Construction	-3,665
NET CONSUMER IMPACT - COMMUTING	**17,998**
Consumer - Other – Travel Time	35,680
Consumer - Other – VOC	Not Assessed
Consumer - Other – During Construction	-7,788
NET CONSUMER IMPACT - OTHER	**27,892**
Business – Travel Time	10,636
Business - VOC	Not Assessed
Business – During Construction	-4,357
Operating Costs	0
Other Business – Developer contributions	-976
NET BUSINESS IMPACT	**5,303**
PRESENT VALUE OF TRANSPORT ECONOMIC EFFICIENCY BENEFITS	**51,194**

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

The TEE table shows a Present Value of the Transport Economic Efficiency Benefits, annualised and discounted for the 60-year appraisal period, of £51.194m showing that as a combined package the scheme delivers significant positive TEE benefits. The TEAR includes the forecast TEE benefits at each of the individual junctions.

Road Safety

The purpose of the road safety assessment is to calculate the monetary benefits of the scheme arising from the change in road accident collision costs between the Do Minimum and the Do Something. This has been undertaken using the software COBALT (Cost and Benefit to Accidents -Light Touch) appraisal programme (version 2013.02). Observed reported personal injury accident data was obtained for the period January 2015 to December 2017. This data was used to calculate the observed collision rate for each junction for the Do Minimum. For the Do Something accident assessment default COBALT rates were applied (except for the Mickledale Lane junction where an alternative approach was adopted -see TEAR section 7 for further details).

The following table presents the collision risk and valuation of collisions from COBALT for a 60-year appraisal period for all junctions.

Table 4-6 COBALT forecast accident changes over 60 years - all junctions

	Accidents	Casualties			Accident Costs (£, 000's)
		Fatal	Serious	Slight	
Without-Scheme (DM)	398.5	2.6	34.6	553.6	14,154
With-Scheme (DS)	473.5	1.2	28.6	629.3	15,023
Difference	**-75**	**1.4**	**5.9**	**-76.0**	**-869**

This data shows that the overall scheme is expected to lead to fewer 'fatal' and 'serious' collisions but an increase in the number of collisions classified as involving 'slight' injuries. The COBALT assessment shows that the value of the predicted change in total accidents over a 60-year period (valued in 2010 market prices and discounted to the 2010 present value year) is -£0.869m i.e. a disbenefit.

Upon closer inspection of the results on a junction by junction basis, see Table 4-7 below, it is clear that the largest predicted accident disbenefits are associated with the proposed improvements at Ollerton and Lowdham roundabouts. This is principally because the observed accident rates used in the Do Minimum at these two junctions are much lower than the COBALT default accident rate values used in the Do Something calculations. 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 considered a large change from the existing and as such it is unlikely that the scheme will lead to a large increase in accidents at these two roundabouts i.e. to the level predicted by COBALT.

Table 4-7 Total accidents costs/savings by junction

Junction	Do Minimum (DM) cost (£millions)	Do Something (DS) cost (£millions)	Change in cost (£millions)
Ollerton	3,502.3	5,146.2	1,643.9
Mickledale Lane	4,341.2	1,532.3	-2,808.9
Lowdham	3,629.8	5,663.5	2,033.7
Total	**11473.3**	**12342**	**868.7**

There are alternate assessment approaches that could be used to assess the safety impacts at Ollerton and Lowdham. However, for the purpose of a robust assessment default Do Something accident rates at Ollerton and Lowdham roundabouts have been retained in this economic appraisal. As such this is considered to represent a 'worst case' road safety assessment.

Environmental Impacts – Monetised

Noise - The Net Present Value of the change in traffic noise calculated by the TAG workbook is £285,879 (in 2010 prices and values) and represents a net benefit.

A total of 1838 residential buildings within the study area were assessed in the DMRB detailed noise assessment.

Two residential receptors (0.01%) both located near the Lowdham junction experience a 3dB band level increase in daytime traffic noise ($L_{Aeq,16hr}$) in the Opening Year (2023). A total of 3 receptors (0.016%) located near the Ollerton, Mickledale, and Kirk Hill junctions experience a 3dB band level increase in daytime traffic noise ($L_{Aeq,16hr}$) in the forecast Design Year (2037). A total of 45 residential households (2.4%) experience a 3dB band level decrease in daytime noise ($L_{Aeq,16hr}$) in the Opening Year (2023), increasing to 85 residential households (4.6%) in the Design Year (2037).

One residential receptor (0.005%) located near to the Kirk Hill junction, experiences a 3dB band level increase in night-time traffic noise (L_{night}), in the Design Year (2037). 20 receptors (1.1%) experience a 3dB band level decrease in night-time noise (L_{night}) in the Opening Year (2023), increasing to 40 residential households (2.2%) in the Design Year (2037).

Table 4-8 summarises the number of residential households which change 3dB band with the proposed scheme in place, in both the opening and design years. The assessment concludes that a significant number of noise-sensitive receptors remain in the same dB band with the introduction of the proposed scheme with 1750 residential households (95.2%) with no change in noise band for daytime noise ($L_{Aeq,16hr}$), and 1796 residential households (97.7%) with no change in noise band for the night period

(L_{night}).

Table 4-8A614/A6097 MRN Noise Impacts Summary

Change in 3dB noise level band between do-minimum and do-something scenarios		Number of residential households	
		$LA_{eq,16hr}$	L_{night}
2023	Increase of a 3dB band	2	0
	Decrease of a 3dB band	45	20
	No Change	1791	1818
2037	Increase of a 3dB band	3	1
	Decrease of a 3dB band	85	40
	No Change	1750	1796

Greenhouse Gases - The Net Present Value of carbon dioxide equivalent emissions for the proposal is £869,552 which represents a net benefit i.e. CO2E emissions reduction. There is a carbon dioxide equivalent reduction of 19,777 tonnes over the 60 year appraisal with a reduction of 377 tonnes in the opening year.

Air Quality – The total value of change in air quality is valued at £12,100 so there is a minor air quality improvement (net benefit) as a result of the scheme package. For $PM_{2.5}$ there is a beneficial change in concentration, a benefit from other impacts, and an overall net beneficial change as a result of the scheme. For NO_2 there is also a beneficial change in concentration, a benefit from other impacts, and a net beneficial change as a result of the scheme.

4.4 Economic Appraisal Summary Results and Initial Benefit Cost Ratio (BCR)

The summary economic appraisal for the scheme presented here has been undertaken in line with conventional WebTAG appraisal guidance. A summary of the total economic costs and benefits is tabulated below;

Table 4-9 Analysis of Monetised Costs and Benefits (AMCB)

Impact	With Scheme
Greenhouse Gases	870
Local Air Quality	13
Noise	286
Travel Time Savings - Business	5,303
Travel Time Savings – Commuting & Other	45,890
Collisions	-869
Vehicle Operating Costs	Not Assessed
Indirect tax Revenue	Not Assessed
PVB	**51,493**
PVC	**16,702**
NPV	**34,791**
BCR	**3.08**

Notes: Note: Costs appear as positive numbers. All entries are discounted to 2010 present values, in 2010 market prices; except for the BCR figures. Summary does not include monetised journey time reliability benefits.

The preferred scheme generates a PVB of £51.493m and a PVC of £16.702m which generates a Net Present Value of £34.791m (i.e. PVB minus PVC). The scheme generates an expected Benefit to Cost Ratio (PVB divided by PVC) of 3.08, so £3.08 worth of benefits generated for every £1 invested in the project. A more detailed breakdown of the costs and benefits on a junction by junction basis is given in section 8 of the TEAR (Appendix B).

The Department for Transport's 'Value for Money Guidance' (2017, www.dft.gov.uk) describes how value for money can be categorised in six classes as set out in the Figure 4-2 below.

Figure 4-2 DfT Value for Money Guidance Categories

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.*

The BCR summarised in the AMCB Table 4.8 shows that the proposed Scheme of improvements should deliver a positive economic case (core scenario) and that this represents a 'High Value' for money rating, i.e. a BCR between 2 and 4. However, other appraisal objectives which have not been monetised should be taken into account during the decision-making process.

4.5 Economic Assessment Risk and Sensitivity Testing

4.5.1 High Growth

Table 4-10 shows the Analysis of Monetised Costs and Benefits (AMCB) summary table showing the PVB, PVC, NPV and BCR for the 60-year scheme analyses under a High Growth Scenario.

Table 4-10 High Growth Scenario - AMCB

Impact	With Scheme
Greenhouse Gases	870
Local Air Quality	13
Noise	286
Travel Time Savings - Business	31,354
Travel Time Savings – Commuting & Other	97,802
Collisions	-869
Vehicle Operating Costs	Not Assessed
Indirect tax Revenue	Not Assessed
PVB	**129,456**
PVC	**16,702**
NPV	**11,274**
BCR	**7.75**

Notes: Note: Costs appear as positive numbers. All entries are discounted to 2010 present values, in 2010 market prices; except for the BCR figures. Summary does not include monetised journey time reliability benefits.

The BCR of 7.75 (so £7.75 worth of benefit for every £1 invested) shows that the proposed Scheme of improvements would deliver a positive economic case and represents 'Very High' value for money under a High Growth Scenario.

4.5.2 Low Growth

The BCR summarised in Table 4-11 below, shows that the improvements deliver a negative economic case and represents Very Poor value for money under a Low Growth Scenario.

Table 4-11 Low growth scenario

Impact	With Scheme
Greenhouse Gases	870
Local Air Quality	13
Noise	286
Travel Time Savings - Business	-4,028
Travel Time Savings – Commuting & Other	-1,541
Collisions	-869
Vehicle Operating Costs	Not Assessed
Indirect tax Revenue	Not Assessed
PVB	**-5,269**
PVC	**16,702**
NPV	**-21,971**
BCR	**-0.32**

4.5.3 OBR Sensitivity Test

The DfT recently published updated versions of both the TAG Data Book (v1.14) and the Wider Impacts Dataset. These versions are consistent with the July 2020 Office for Budget Responsibility forecasts and are intended for use as a sensitivity test in scheme appraisals.

The Forthcoming Change notice “TAG Data Book, appraisal software and TAG appraisal worksheets” states the requirement for scheme promoters to conduct sensitivity tests in modelling and appraisal using TAG Data Book v1.14. This requirement is in place until February 2021, when the updated OBR projections will be incorporated into formal guidance.

It is important to note that this appraisal-only sensitivity testing is likely to understate the full impact of the OBR updates, because no account is taken of the impact on demand.

Sensitivity testing has been undertaken by using the DfT’s TUBA software (Version 1.9.14) and applying the economic parameters file ‘Economics_TAG_db1_14_0.txt’ which is consistent with TAG Data Book v1.14 July 2020.

Tables 4-12 to 4-14 show, in monetary terms, the change due to the Do-Something, relative to the Do-Minimum scenario for the Low Growth, Core and High Growth scenarios across all junctions. All values in the TEE tables are in 2010 market prices and discounted to a 2010 present value year.

Table 4-12 Low Growth Scenario – TEE Table

Impact	Total	Personal	Freight
Consumer- Commuting – Travel Time	4,030		
Consumer - Commuting – VOC	Not Assessed		
Consumer - Commuting – During Construction	-3,665		
NET CONSUMER IMPACT - COMMUTING	**365**		
Consumer - Other – Travel Time	4,516		
Consumer - Other – VOC	Not Assessed		
Consumer - Other – During Construction	-7,788		
NET CONSUMER IMPACT - OTHER	**-3,272**		
Business – Travel Time	1,139	254	886
Business - VOC	Not Assessed		
Business – During Construction	-4,357		
Operating Costs	0		
Other Business – Developer contributions	-976		
NET BUSINESS IMPACT	**-4,194**		
PRESENT VALUE OF TRANSPORT ECONOMIC EFFICIENCY BENEFITS	**-7,100**		

Table 4-13 Core Scenario TEE Table (£thousands) All junctions

Impact	Total	Personal	Freight
Consumer- Commuting – Travel Time	18,506		
Consumer - Commuting – VOC	Not Assessed		
Consumer - Commuting – During Construction	-3,665		
NET CONSUMER IMPACT - COMMUTING	**14,841**		
Consumer - Other – Travel Time	30,483		
Consumer - Other – VOC	Not Assessed		
Consumer - Other – During Construction	-7,788		
NET CONSUMER IMPACT - OTHER	**22,695**		
Business – Travel Time	9,083	1,512	7,570
Business - VOC	Not Assessed		
Business – During Construction	-4,357		
Operating Costs	0		
Other Business – Developer contributions	-976		
NET BUSINESS IMPACT	**3,750**		
PRESENT VALUE OF TRANSPORT ECONOMIC EFFICIENCY BENEFITS	**41,287**		

Table 4-14 High Growth Scenario – TEE Table (£ thousands) All Junctions

Impact	Total	Personal	Freight
Consumer- Commuting – Travel Time	38,891		
Consumer - Commuting – VOC	Not Assessed		
Consumer - Commuting – During Construction	-3,665		
NET CONSUMER IMPACT - COMMUTING	**35,226**		
Consumer - Other – Travel Time	53,565		
Consumer - Other – VOC	Not Assessed		
Consumer - Other – During Construction	-7,788		
NET CONSUMER IMPACT - OTHER	**45,777**		
Business – Travel Time	30,981	5,036	25,944
Business - VOC	Not Assessed		
Business – During Construction	-4,357		
Operating Costs	0		
Other Business – Developer contributions	-976		
NET BUSINESS IMPACT	**25,648**		
PRESENT VALUE OF TRANSPORT ECONOMIC EFFICIENCY BENEFITS	**106,652**		

Table 4-15 shows the Analysis of Monetised Costs and Benefits (AMCB) summary table under a Low Growth, Core and High Growth scenario showing the PVB, PVC, NPV and BCR for the 60-year scheme analyses.

Table 4-15 Analysis of Monetised Cost and Benefits (AMCB)

Impact	Low Scenario-With Scheme	Core Scenario-With Scheme	High Scenario-With Scheme
Greenhouse Gases	870	870	870
Local Air Quality	13	13	13
Noise	286	286	286
Travel Time Savings - Business	-4,194	3,750	25,648
Travel Time Savings – Commuting & Other	-2,907	37,536	81,003
Collisions	-869	-869	-869
Vehicle Operating Costs	Not Assessed	Not Assessed	Not Assessed
Indirect tax Revenue	Not Assessed	Not Assessed	Not Assessed
PVB	**-6,801**	**41,586**	**106,951**
PVC	**16,702**	**16,702**	**16,702**
NPV	**-23,503**	**24,884**	**90,249**
BCR	**-0.41**	**2.49**	**6.40**

Notes: Note: Costs appear as positive numbers. All entries are discounted to 2010 present values, in 2010 market prices; except for the BCR figures. Summary does not include monetised journey time reliability benefits.

Under the OBR sensitivity tests the PVB and BCR summarised in the tables above, would reduce slightly in all scenarios. The BCR summarised in the AMCB table above, shows that the improvements deliver a Very Poor value for money under a Low Growth Scenario, High value for money under a Core Scenario and Very High value for money under a High Growth Scenario.

4.6 Induced Investment

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.

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).

4.6.1 Land Value Uplift

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 (LVU) associated with Dependent Development sites identified in Section 2 is in accordance with TAG Unit A2.2, Appendix D, Derivation of Land Value Uplift.

The Wider Economic Impacts Report (December 2020) contained in the TEAR (Appendix B) details:

- 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.

As noted in Table 4-1, 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 but are presented to support the value for money case.

The Scheme is estimated to deliver £21.5m gross LVU, which is equivalent to £13.3m net additional Land Value Uplift.

Table 4-16 Land Value Uplift Summary (£millions)

	Gross impact of Scheme	Net impact of Scheme
Residential Land Value Uplift	£21.0m	£13.0m
Commercial Land Value Uplift	£0.5m	£0.3m
Total LVU	**£21.5m**	**£13.3m**

As noted, Land Value Uplift Benefits are excluded from the initial Analysis of Monetised Costs and Benefits but are presented in section 4.6.3 to inform the value for money case.

4.6.2 Transport External Costs

Transport External Costs (TEC) 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.

The Dependent Development demand forecasts are detailed in Section 2.

The assessment of transport external costs of the dependent development requires two transport model runs:

- Scenario S - without the new housing but with the transport scheme; and
- Scenario R - with the new housing and with the transport scheme

The TEC assessment, in accordance with TAG Unit A2.2, paragraph 3.3.10 consisted:

- Scenario S – Core Scenario Demand assigned on to the Do Something junction models
- Scenario R –Dependent Development Demand assigned onto the Do Something junction models

A TEC analysis was undertaken using the Ollerton and Lowdham ARCADY models as detailed above. Outputs from the junction models for the 2023 opening year (Scenario S and R in 2023), 2037 non-dependent growth (Scenario S) and 2037 dependent growth scenarios (Scenario R).

The methodology as detailed in TAG guidance unit A2.2 (May 2020) and the Department for Transport TUBA software V1.9.14 was used to undertake this analysis, with the TUBA economic parameters file (23/08/2020 v2, TAG Data Book v1.13.1 July 2020).

The TEC are summarised for each junction in Table 4-17 below.

Table 4-17 A614 Transport External Costs (£millions)

	Ollerton TEC	Lowdham TEC	Combined TEC
Consumer User Benefits - Commuting	-0.868	-0.754	-1.622
Consumer User Benefits - Other	-2.652	-0.961	-3.613
Business User Benefits	-1.830	-0.641	-2.471
Net Present Value of Benefits (PVB)	**-5.350**	**-2.356**	**-7.706**
Notes: All entries are in market prices, at present values discounted to 2010, at 2010 market prices, in £ millions.			

The TAG assessment of Transport External Costs disbenefits with Present Value of Benefits of -£7.706m.

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.

As noted in Table 4.1, 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 to support the value for money case.

4.6.3 Land Amenity Value (LAV)

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. 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.

The LAV assessment is presented in the Wider Economic Impacts Report (Dec 2020) contained in the TEAR (Appendix B).

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. 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 (2010 prices).

Induced Investment Summary

TAG Unit A2.2, Table 2 sets out the formula for valuing the benefits of Dependent Development:

$$Total\ Benefits = LVU_D + Other - TEC - LAV - NTCI$$

Where:

LVU_D: Land Value Uplift adjusted for displacement;

Other: This includes Environmental Impacts, and Social and Distributional Impacts – TAG units A3 and A4 respectively (Not assessed);

TEC: Transport External Costs;

LAV: Land Amenity Value; and

NTCI: This refers to the costs associated with Non-Transport Complementary Interventions – the benefits are assumed to be captured by the land value uplift (no further assessment).

On this basis the total benefits of Dependent Development associated with the A614 Improvements are:

Table 4-18 A614 Induced Investment Benefits (£millions)

Induced Investment Benefits	Benefit (£m)
Land Value Uplift	£13.300m
Transport External Costs	-£7.706m
Land Amenity Value	-0.258m
Other	Not Assessed
Non-Transport Complementary Interventions	Not Assessed
Total Induced Investment	**£5.336m**
Notes: All entries are in market prices, at present values discounted to 2010, at 2010 market prices, in £ millions.	

4.6.4 Analysis of Monetised Costs and Benefits – Induced Investment

As noted in Table 4-1, the inclusion of indicative monetised impacts such as Induced Investment should be considered after the presentation of established and evolving monetised impacts.

Table 4-19 shows 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. The BCR is 3.40 and represents High value for money. The BCR ratio for high growth with induced investment taken into consideration is 8.07, whilst the BCR for low growth with inducement taken into consideration is 0.00.

Table 4-19 Core Scenario with Induced Investment - AMCB

Impact	With Scheme
Greenhouse Gases	870
Local Air Quality	13
Noise	286
Economic Efficiency – Business	5,303
Economic Efficiency – Commuting & Other	45,890
Collisions	-869
Induced Investment	5,336
Vehicle Operating Costs	Not Assessed
Indirect tax Revenue	Not Assessed
PVB	**56,828**
PVC	**16,702**
NPV	**40,127**
BCR	**3.40**

4.7 Optimism Bias

The issue of optimism bias has been considered in accordance with Web TAG unit A1.2 – Scheme Costs. Optimism bias is the demonstrated systematic tendency for appraisers to be overly optimistic about

key parameters and in this section on potential cost overruns. The HM Treasury Green Book suggests that appraisers should make explicit, empirically based adjustments to the estimates of a project's costs and benefits and that the potential impacts on the value for money should be examined using sensitivity tests.

This DfT optimism bias guidance is only applicable to the economic case. 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 most applicable when the cost estimate is immature, i.e. when there are significant elements of the project that are not defined or understood, and/or when there is evidence that the QRA is systematically underestimating costs. As a project develops, the Department expects the scheme cost estimate to be refined based on better quality data and greater definition of project elements. As project-specific risks become better understood,

quantified and valued, it should be possible to better capture the factors that contribute to optimism bias within the risk management process, leading to 'cost maturity'. Therefore, as risk analysis improves as a scheme develops, it is expected that the analysis feeding into the quantified risk assessment will become more certain, reducing the reliance on optimism bias uplifts as reflected in the uplifts above.

The allowance for optimism bias should be largest at the initial stage of the life of a transport project (e.g. Strategic Outline Business Case); to decrease in a more detailed business case (e.g. Outline Business Case); and smallest in the presence of a fully detailed business case (e.g. Full Business Case). Table 8 of TAG unit A1.2 gives recommended optimism bias uplifts for a typical road scheme at different stages in the life cycle of a project. The A614/A6097 project has undergone a considerable amount of detailed design and a rigorous examination of likely scheme costs, including detailed examination of likely land and utilities costs. This has culminated in a detailed QRA. In light of this it is suggested that this Scheme has reached 'Stage 2' in so far as allocating an level of optimism bias is concerned. A recommended optimism bias uplift of 15 % to the project costs is examined here.

Table 4-20 Recommended optimism bias uplifts (TAG Unit A1.2)

TAG Unit A1.2
Scheme Costs

Table 8 Recommended optimism bias uplifts for different projects at different stages of the life of a transport project

Category	Types of projects	Stage 1	Stage 2	Stage 3
Roads	Motorway, Trunk roads, Local roads, Bicycle facilities, Pedestrian facilities, Park and ride, Bus lane schemes, Guided buses on wheels	44%**	15%	3%**

The PVC of the A614/A6097 scheme costs excluding optimism bias is £16.702m, after allowing for a 15% optimism bias uplift this gives a revised PVC of £19.207m. The impact of this on the value for money category is as follows;

Table 4-21Optimism Bias assessment

Scenario	PVB	PVC	NPV	BCR	VfM
Core Scenario	£51,493m	£16,702m	£34,791m	3.08	High
Core Scenario plus 15% OB	£51,493m	£19,207m	£32,286m	2.68	High
Core scenario with induced investment	£56,828m	£16,702m	£40,126m	3.40	High
Core scenario with induced investment plus 15% OB	£56,828	£19,207m	£37,621m	2.96	High

Table 4-21 shows that even with the application of a 15% optimism bias uplift to project cost the forecast BCR remains above 2 and the Scheme would still represent High Value for Money either with or without the addition of induced investments.

4.8 Appraisal Summary Table

A standard approach to the assessment of costs and benefits relating to the scheme has been adopted, informed by DfT guidance and requirements. The Appraisal Summary Table (AST) is designed to provide decision takers with a concise overview of impacts of the scheme against the following three objectives defined in WebTAG:

- Environment.
- Society.
- Economy.

For each of these factors, benefits are ranked on a seven-point scale depending on their level of impact and benefit. The ranking system is as follows:

- Strong beneficial.
- Moderate beneficial.
- Slight beneficial.

- Neutral.
- Slight adverse.
- Moderate adverse.
- Strong adverse.

The AST is included in **Appendix E**.

4.8.1 Conclusion on the Economic Case

The A614/A6097 MRN junction improvement scheme offers 'High' Value for Money. As expected, the majority of the benefits generated by the scheme are associated with travel time savings for businesses and non-business road users, and which is line with scheme objectives.

The Core growth forecast TUBA appraisal produced an overall Net Present Value of **£34.791 million**. The BCR is **3.08**, which would represent 'High value' for money. For the High growth forecast, the BCR is **7.75** which would be categorised as Very High value for money. The Low Growth forecast had a negative BCR which would represent 'Very Poor' value for money.

Induced investment has also been assessed and taking this into consideration results in a BCR of **3.40** for the Core scenario.

The scheme will also reduce noise, air quality and greenhouse gas emissions over the appraisal period.

5 Commercial Case

5.1 Introduction

The Commercial Case shows that the A614/A6097 MRN Scheme can be successfully procured, implemented and operated to ensure that the best deal from the market is achieved by adopting the right commercial approach.

This chapter outlines the proposed commercial requirements including:

- Output Based Specification.
- Procurement Options.
- Procurement Strategy.
- Payment Mechanisms.
- Pricing Framework and Charging Mechanisms.
- Potential for Risk Transfer.
- Contract Length.
- Contract Management

NCC is the 'client' for the Scheme and has the overall responsibility for its delivery covering the whole project lifecycle from option appraisals, business case approvals, land acquisition, design, procurement, construction, operation and maintenance.

Collectively, the project team across the County Council and Via EM, has extensive experience working on and delivering major transport projects of a similar nature. NCC and Via EM have a long, successful, collaborative relationship established prior to the formation of Via EM, having delivered a number of schemes funded and assessed / audited by the DfT including the Hucknall Town Centre Improvement Scheme (HTCIS), A612 Gedling Transport Improvement Scheme and the Mansfield Public Transport Interchange.

HTCIS was successfully opened in June 2017 with the High Street in the town centre being pedestrianised following the opening of a new road, named Torkard Way six months earlier. As reported to the DfT in the one-year Post Opening Project Evaluation (POPE) report the completed project is bringing significant benefit to the town and achieving the intended project outcomes.

More recently, the most notable scheme is the Gedling Access Road (GAR). This £41m project is under construction. Whilst not receiving funding through DfT, a key funding provider is the D2N2 Local Enterprise Partnership (LEP). As such, the project was subject to business case approvals and assessments in line with WebTAG guidelines. The GAR is currently under construction and due to be opened in Autumn 2021. Despite uniquely challenging circumstances the construction is going well and the collaborative approach to delivery is a real asset for NCC in terms of timing and

cost assurance.

The HTCIS was managed by Via EM on behalf of NCC and Via EM is currently undertaking the same role on GAR. Construction is being delivered through the Medium Schemes Framework (MSF) provided by the Midlands Highway Alliance (MHA), of which the County Council is a member authority. The construction delivery route was the preferred delivery method for the scale and nature of the both these schemes at that time.

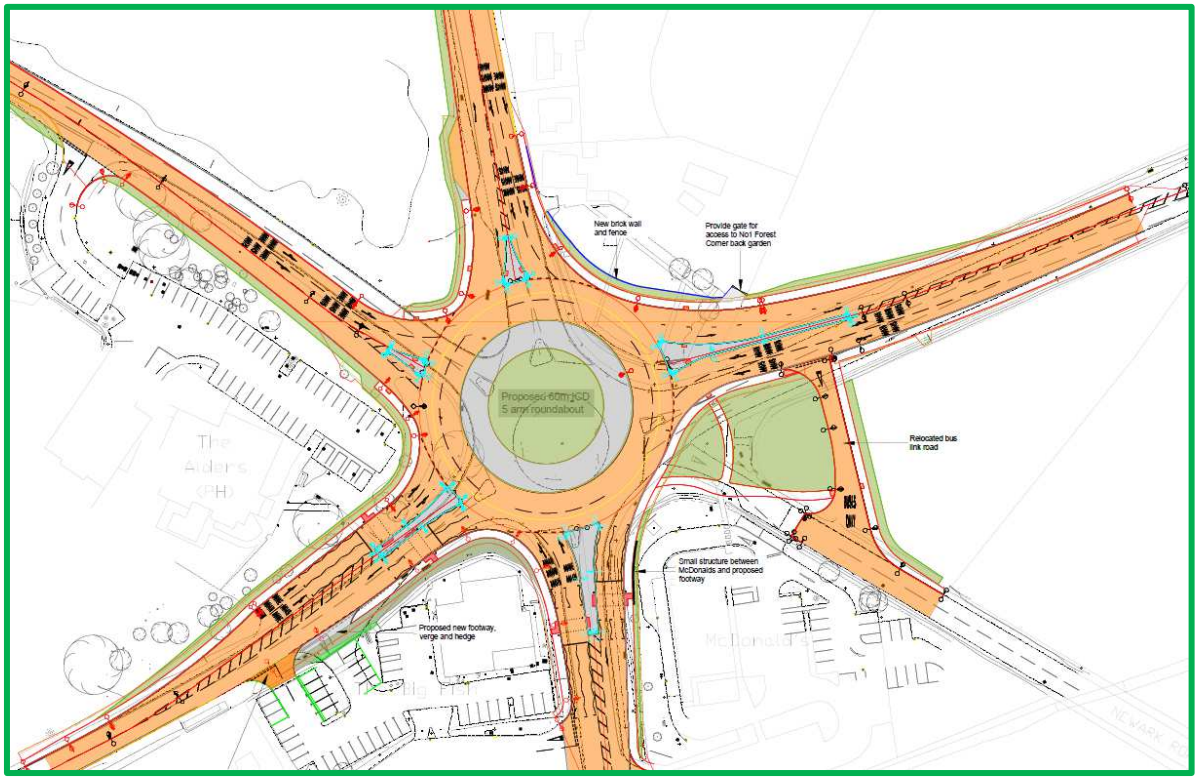
The role of Via EM in these projects is to provide NCC with a full Project Management service acting on behalf of NCC as client. This includes initial and detailed design services, securing planning consent, land acquisition (and as appropriate preparation for public inquiry) and contract management service working with preferred contractor up to and throughout construction. The relationship with NCC is transparent and accountable with very close working across the organisations and regular formal reporting channels.

5.2 Scheme Description

The Scheme will involve the construction of six junction upgrades along the A614/A6097 corridor. The package includes the works summarised below:

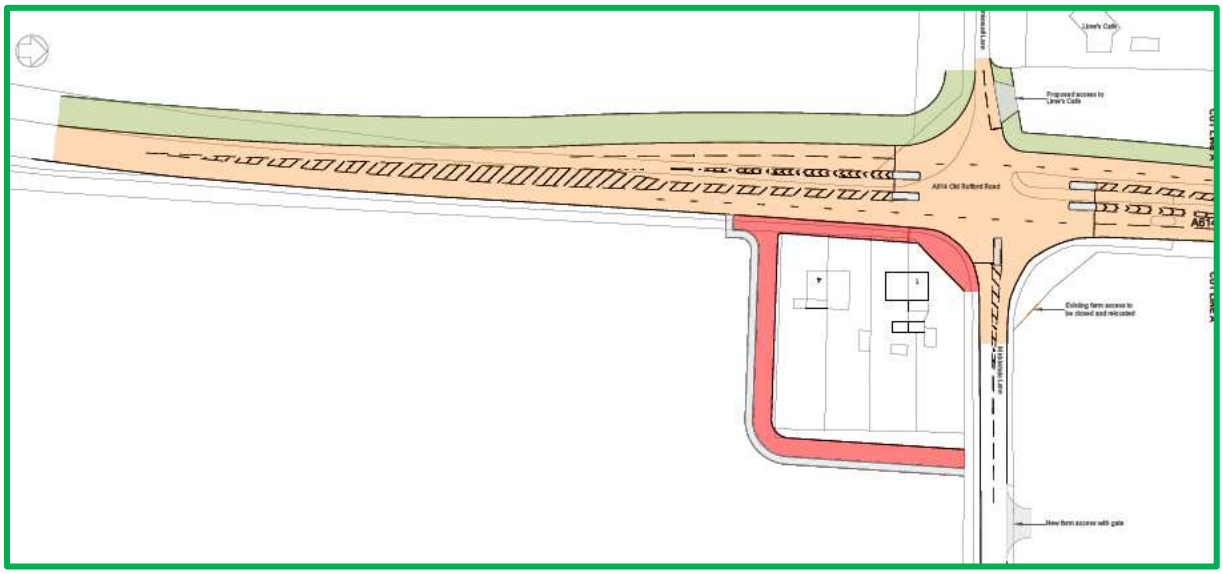
- **Ollerton Roundabout -** The enlargement of the existing A614 / A616 / A6075 roundabout at Ollerton. The junction currently has six approaches, and this will be reduced to five. The Inscribed Circle Diameter (ICD) will be increased from 37.5m to 60m.

Figure 5-1 Ollerton roundabout scheme



- **Mickledale Lane, Bilsthorpe -** Proposed signalisation of the A614 / Mickledale Lane junction at Bilsthorpe. The junction is currently a priority crossroads junction with right-turn harbourages provided into each of the minor arms.

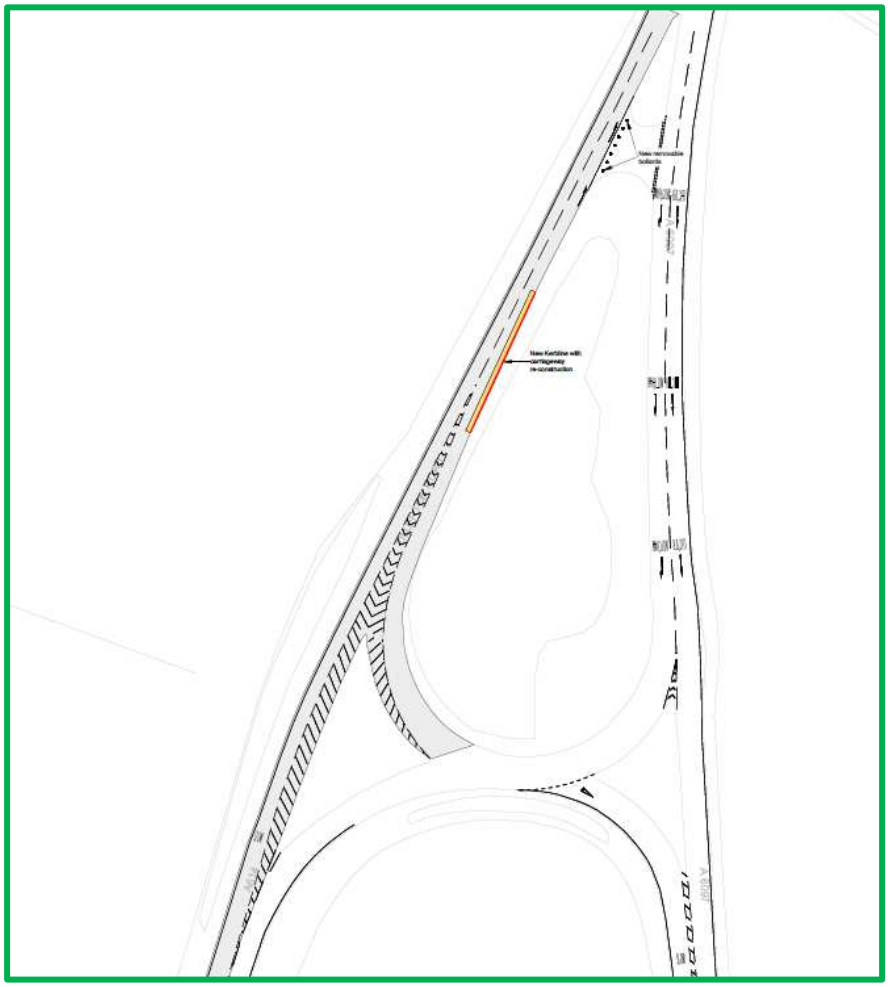
Figure 5-2 Mickledale Lane, Bilsthorpe scheme



- **White Post Roundabout -** A maintenance and road safety improvement scheme at the White Post roundabout. The junction requires carriageway upgrades to ensure the route is of a suitable standard to support the SRN and provide additional network resilience.

- **Warren Hill** - Geometric improvements to the A614 / A6097 Warren Hill junction. The existing junction is a priority controlled gyratory where traffic on the A6097 gives way to traffic on the A614. This unusual and confusing layout will be simplified.

Figure 5-3 Warren Hill scheme



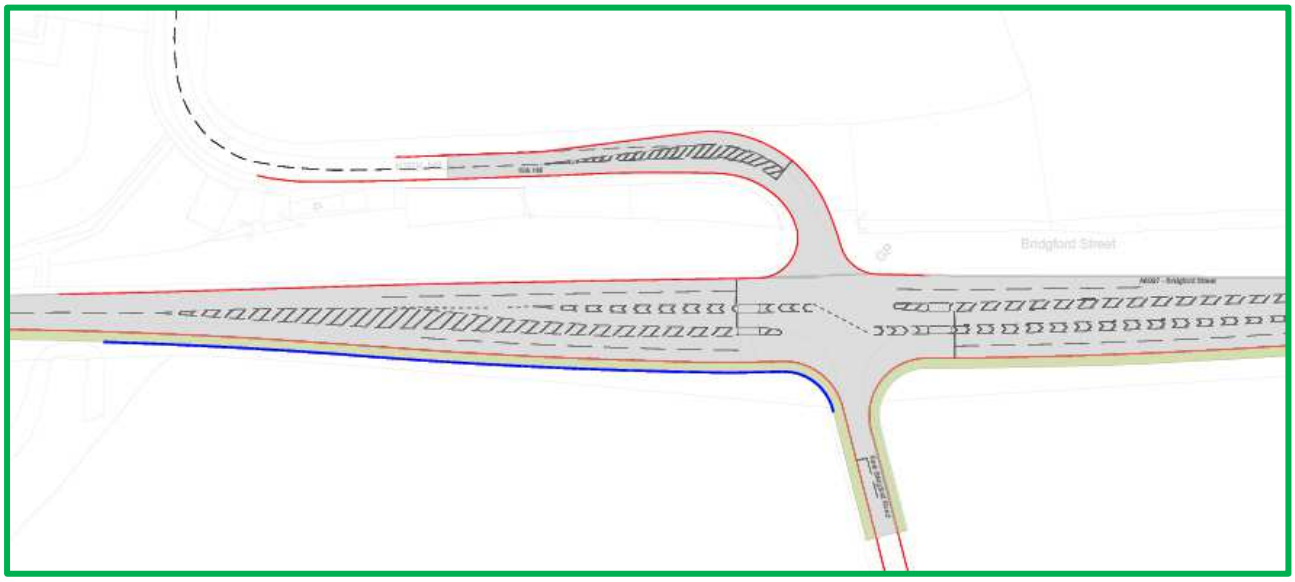
- **Lowdham Roundabout -** The enlargement of the existing A6097 / A612 / Southwell Road roundabout at Lowdham. The existing island has an ICD of 42m.

Figure 5-4 Lowdham roundabout scheme

- **Kirk Hill, East Bridgford -** The enlargement of an existing traffic-signal controlled junction at the A6097 / Kirk Hill intersection in East Bridgford.

  The existing junction layout currently operates over capacity which will worsen with predicted future traffic growth from adjoining development proposals.

Figure 5-5 Kirk Hill, East Bridgford scheme



5.3 Output Based Specification

The outcomes of the procurement strategy must include certainty that the scheme can be delivered within the funding constraints, that preparation costs are minimised whilst ensuring the appropriate level of quality is maintained.

The following outputs will have to be sourced by the County Council:

- Highway design and construction of six junction improvements along the A614/A6097 MRN corridor.
- Other professional and technical services in support of the above, including specialist quantity surveying, legal, public consultation, project management and other services.

In January 2019, Via EM were briefed by NCC to provide project support, technical design expertise, engage specialist external consultants (for matters relating to land, property and hydrology among others), prepare planning applications, and advise on procurement and delivery issues.

This brief followed approval at a meeting of the NCC Policy Committee on 12th September 2018 which established a working budget to advance necessary design work on major improvement schemes. Subsequent approvals were given by NCC Communities and Place Committee on 4th April 2019 to appoint land agents and solicitors for the project.

The project brief included scheme development involving Contractor input to the construction programme, risk management and mitigation measures at the earliest opportunity to ensure that the management of the scheme is achievable, and risk is minimised.

Given Via EM's position in providing highways services to the County Council, its major projects, network management, operational and estimating teams have already been engaged to provide input into the programme as proposed and to the build-up of a very well developed risk register.

5.4 Procurement Options

Procurement is an integral part of the project management process. The County Council's procurement strategy is designed to ensure:

- **Value for Money -** The County Council is duty bound to secure best value and its Financial Regulations and Standing Orders govern arrangements for the procurement of goods and services by the authority.
- **Compliance with legislation -** A wide range of UK and European Union statutes and regulations apply to procurement and these have been adhered to.
- **Avoidance of fraud and corruption -** Procurement must be visible and tightly controlled to limit the potential for fraud and avoid any suggestion

of corruption.

To support this, four potential procurement options have been identified for the delivery of the Scheme. The most likely contract would be the NEC Engineering and Construction Contract (ECC) Option C – this is a Target Cost contract with activity schedule. The EEC form of contract is an industry standard that is favoured by central and local government. Procurement options are as follows:

1. Via EM – Construction through an NCC Task Order.
2. Medium Scheme Framework 3 (MSF3).
3. SCAPE Civil Engineering Framework.
4. OJUE Procurement Single Stage.

These options are discussed in more detail below.

1. Via EM – Construction through a Task Order

In July 2016, Via EM was formed to deliver highway services on behalf of the County Council. Via EM is wholly owned by the County Council and the scope of services are defined within a Highway Services Contract (HSC). The contract started on 1st July 2016 with an initial term of 10 years with an option for both Parties (being NCC and Via EM) to agree to extend for a further five.

Via EM by virtue of its 'Teckal status' is protected from State Aid issues and this status provides a legal background as to how the package of work to design and procure directly is a legitimate route to project delivery. The Teckal compliance is EU case law, subsequently codified by reg 12 of the Public Contract Regulations 2015. Via EM is Teckal (or Reg 12) compliant.

The HSC is an existing contract between NCC and Via EM based on the NEC Term Service Contract (TSC) which incorporates target costing. The construction works can be issued by the County Council under the contract as a 'Task Order' which is a defined mechanism within the HSC.

The established relationship of Via EM with NCC is transparent and accountable but most importantly, collaborative across both organisations with regular formal and informal reporting channels. This partnership approach to scheme development and construction delivery is proven to have been successful as illustrated in section 5.1 and is considered a real asset for NCC, as the client, in terms of timing and cost assurance.

Via EM have an existing sub-contractor framework in place, this was procured in accordance with the Public Contracts Regulations 2015. As part of the evaluation, submissions were evaluated to establish the most economically advantageous tender on a Price (70%) / Quality (30%) split.

Depending upon complexity, the selection of sub-contractors is either based on the lowest price for items priced at time of sub-contractor framework award or by

undertaking a mini competition if more complex (with the lowest price selected. It is intended that for this scheme a mini-competition will be used to test the market and gain economies of scale across the multiple sites to get the best prices. All sub-contractors meet the necessary quality standards through the framework selection.

In addition to the Via EM sub-contractor framework, Via EM has operational teams to specialise in areas around civil engineering ground works, traffic signal and lighting installations, arboricultural works etc. For target costing of direct delivery, rates will be based around first principles taking into account site constraints and estimated outputs for plant, labour and material. Through the ECI period, the market will be tested to demonstrate value for money.

2. Medium Scheme Framework 3 (MSF3)

MSF3 is a procurement route available through the Midlands Highways Alliance (MHA) of which NCC is a member. The scope of the MSF3 is for the execution of highway, civil and municipal engineering works.

MSF3 uses the NEC ECC4 – Option C. The Contract includes the Secondary Option Clause X22 (Early Contractor Involvement), thus dividing the project into two stages: Stage One and Stage Two. Stage one involves further project development including the design of the Contractor designed elements of the project. It is also during this stage that the County Council and the Contractor will seek to agree a Target Cost. Once a Target Cost is agreed and the County Council wishes to proceed to Stage Two (i.e. the construction phase) where the County Council's project manager issues a notice to proceed to Stage Two. This has been successfully implemented for the GAR; committee approval was sought confirming construction costs which gave approval for the project manager to issue this notice to proceed.

There are a number of things to consider when using MSF3. The first is timing of selecting and appointing a Contractor, a number of options are available to NCC as client, these are:

- **Option 1: Direct Call-off Selection** - This is based on quality criteria weighted to suit the Works Order, with price based on tendered Prices for a similar Model Project or a selection of Model Projects.
- **Option 2: Mini-Competition** - Selection based on Mini-Competition (i.e. work is not sufficiently similar to one or more Model Projects or by *Client's* choice).
- **Option 3: Sub-Regional Call-off** - Selection based on a Model Project for a geographical location, providing for evidence based continuous improvement.

Further information is available through https://www.mhaweb.org.uk/work-streams/medium-schemes/a-new-project/.

In all cases of procurement through MSF3, NCC will have to produce a Scope of work

document for Stage One (Early Contractor Involvement) and also for Stage Two (Construction) which will need to be accurate and robust to avoid Compensation Events generated by the Contractor to complete work that is considered outside of the agreed Scope.

During Stage One, the Contractor is in effect paid on a cost plus basis. The NEC ECC contract defines the costs the Contractor is entitled to be paid (set out in the Schedule of Cost Components) and which is known as "Defined Cost". These costs include the Contractor's own labour costs. The Contractor is paid these costs plus his "Fee" which is a percentage uplift.

If this option is used it is important for NCC to manage these costs during Stage One as the costs are uncapped. However, the NEC ECC Contract seeks to assist the employer (in this case NCC) to manage these costs by requiring the Contractor to provide detailed forecasts of the future incurred costs. The Contractor is not entitled to be paid the cost of any work that is not included in a forecast that is accepted by the project manager.

The second factor to consider with MSF3 is the expiration of the contract. The anticipated total value of MSF3 was published in the Official Journal of the European Union (OJEU) in 2017 as £500 million. Given the value of projects currently under discussion with MSF3 clients and contractors it is considered probable that the total value of Works Orders will exceed the published figure before the end date of the contract (July 2022).

To mitigate this risk the MHA Executive Board (November 2019) have requested that a business case be prepared for the potential replacement of MSF3. Currently the MHA is considering the procurement of MSF4, the replacement of MSF3 and this could be in place during 2021.

For MSF3 to be used, a contract and Works Order will need to be in place with on the framework contractors prior to it expiring. Given the status of business case approvals, planning permissions and subsequent statutory orders it is considered that this is a potential issue. This is also similar to the GAR scenario, which started within MSF2, but ended up being within MSF3 as unable to agree a Works Order prior to the expiring of MSF2.

3. SCAPE Civil Engineering Framework

Available to any public body across England, Wales and Northern Ireland, the direct award framework offers a fast route to market and is designed to drive collaboration, efficiency, time and cost savings. Balfour Beatty are the sole Contractor for the SCAPE Civil Engineering Framework.

The latest framework uses NEC ECC4 and has both Option A (Prices contract with activity schedule prepared by the Contractor) and Option C (Target Cost contracts with activity schedule or Bill of Quantities).

The County Council is currently using the SCAPE framework to deliver two junction improvements on the A611 as part of the Top Wighay Farm development in Hucknall. The works are being overseen by Arc Partnership on behalf of NCC and Via EM have supported in undertaking the detailed design and providing technical liaison and site supervision through the construction phase. The current highway infrastructure work, due to be completed Spring 2021, includes the expansion of a roundabout on the A611/Annesley Road and a new signal-controlled junction incorporating controlled crossing points, new street lighting and new, shared use footway/cycle lane along the northern side of the A611 north of Hucknall and to the west of Linby.

The latest SCAPE Civil Engineering Framework started in January 2019 for four years, replacing the previous framework that had operated from 2015. This means that this framework will be changing again during the proposed construction period which is proposed to commence in September 2022.

If used, careful consideration would need to be given to timing and which junctions were included.

4. OJEU Procurement Single Stage

If this was the preferred procurement route taken by NCC, using ECC3 the Secondary Option Clause X22 (Early Contractor Involvement) could still be exercised, similar to MSF3. However, the design would have to be 100% complete, would have no Contractor buy in, and there would be no early estimate of Target Cost.

This option leaves uncertainty of the construction cost for the client until late in the programme, a risk that it is unviable. It also removes the benefit of contractor input into programme and advice on buildability etc.

5.5 Procurement Strategy

All the procurement options explained at section 5.4 are viable and available to be used. The County Council has successfully used MSF3 in the delivery of the GAR that is currently under construction and its predecessor MSF2 for HTCIS. In addition, on separate contracts, Balfour Beatty through the SCAPE contract is also currently constructing two new junctions on the Top Wighay Farm development.

The County Council's preferred construction route for the six junctions forming the A614 / A6097 MRN Scheme is through Via EM, utilising the existing HSC as described in the procurement options in section 5.4 It is considered that utilising the HSC between NCC and Via EM is the most appropriate route for delivery on this Scheme. The improvements at the of six junction need to be planned and programmed as one but each can stand alone. The approach provides best value, cost certainty and brings a unique local ownership and responsibility to its delivery. Via EM is currently in Year 4 of a 10 year contract and the construction programme is well within this period.

Risks are detailed in the Risk Register and as scheme promotor the financial implications of project overspend will be underwritten by NCC. In section 7.13 risk

allocation and transfer is discussed. The project will be based on an agreed Target Cost, this will be reported to the Project Board before being considered for approval at a meeting of a future NCC Finance and Major Projects Committee. Throughout the ECI process, elements of risk transfer opportunities will be highlighted and discussed with NCC.

Via EM will procure any sub-contractors in accordance with the ISO 14001: Quality Management System, this market testing will help demonstrate Value for Money (VfM) and be realistic of the market conditions at the time of procurement. A number of contract options for sub-contractor works will be considered through ECI, the chosen route will depend on the type of works and risk, all sub-contractor appointments will be agreed with NCC as client through its nominated representatives.

The sub-contractor framework is based on the NEC Term Service Contract Option A. Option A is a priced contract with a price list where the risk of carrying out the work at the agreed prices is largely borne by the contractor. This provides a fixed cost for the defined package of work unless it is a genuine change under the contract, any change is managed through Via EM's project change control process.

Via EM are also considering implementing additional frameworks that will bolster partnership delivery and would be available for use on this Scheme.

Under the HSC, the NCC Contract Manager team provides client oversight and contract governance for capital schemes delivered by Via EM for NCC. It is intended that the same process is adopted for this Scheme, with additional independent assurance sought as required, this will be agreed prior to construction and reported through the Full Business Case and Project Board.

The approach described above, subject to formal approvals, will be endorsed at the NCC Communities and Place Committee meeting on 7th January 2021. Further update reports will be taken as the Scheme develops and this will include formal 'go / no go' point to confirm target costs.

Once all approvals are in place the construction works would be instructed by the NCC Service Manager through a series of Task Orders to Via EM for each individual junction. This will limit the overall risk profile over multiple financial years.

Further narrative about Via EM and how the contract will be delivered is described below.

5.5.1 Via East Midlands

Since its establishment, Via EM has developed an excellent reputation for service delivery and has developed the skills and expertise necessary to thrive as a stand-alone commercial organisation. In 2019, NCC recognised this achievement bringing the company under its sole ownership, with all profits made benefiting Nottinghamshire residents.

Via EM is identified as a local provider of Highway Services and has very strong existing associations with NCC. Through the use of in-house skill and expertise, as well as a local mixed economy through existing sub-contractor frameworks and established supply chain, will deliver the project as expected and on budget. Via EM's sub-contractor framework covers a range of services including traffic management, surfacing, earthworks etc.

In addition to working with NCC in delivery of the major projects cited previously alongside the more traditional highway programmes, NCC and Via EM's partnership has been key in the successful delivery of significant projects on behalf of other local authorities such as Bassetlaw District Council evidenced in the upgrade and improvements to the A57/Gateford Rd/Woodsetts Road Roundabout at Shireoaks Common, Worksop.

This design and construction of the £1.8m project was delivered in its entirety by Via EM. This included Via EM acting as Principal Contractor using a mixed economy utilising existing framework agreements to support in specialist areas such as traffic management and earthworks. This is another good example of collaborative delivery of a quality product.

The partnership approach enabled Via EM to meet the client's challenging programme and the demands associated with external funding, all through the use of in house skills allowing Via Operations to provide early input into the buildability of the scheme throughout design including identification of efficiencies and innovation (value engineering) at all stages of delivery.

The upgrade to the A60 Trent Bridge Inn Junction (West Bridgford, Nottinghamshire), originally programmed as a stand-alone traffic signal upgrade scheme was ultimately delivered as an overall junction improvement scheme, with a combination of different schemes including traffic signals and lighting upgrade schemes and carriageway surfacing schemes to provide both time and cost efficiencies. The project had an original estimated value of £308,000 and actual cost of £299,000 due to value engineering, innovation and efficiencies in delivery (reduced the programme by two weeks, which also meant less disruption to the public.

This was achieved through the use of Via EM's internally developed tool, 'One Programme', which provides a strategic view of all schemes across the County included in Via EM's forward programme. The tool enables efficient coordination of scheme delivery. By maximising the options for road space sharing it brings a 'whole project' feel to a collection of schemes. It encourages 'a one team' approach to delivery across Via EM's specialist teams encouraging close collaboration to reach the same strategic objective: the right solution for the asset, delivered on time and on budget.

The structure of Via EM is unique allowing ECI to commence at the earliest possible opportunity (in this case, during Outline Business Case development), without having to enter into a costly contract. Under the existing contract this collaborative approach

and key benefits include involving the contractor in the design process with key suppliers and sub-contractors also being involved in decisions at a much earlier stage. Via EM, as the preferred contractor can also carry out value engineering and assist in the management of risk whilst also fixing a target price for the overall package of works.

Whilst the proposed works would be undertaken in accordance with the HSC, the following sections highlight some key areas of work that Via EM are undertaking to demonstrate commitment to the A614/A6097 MRN Improvement Scheme.

To do this, Via EM is proposing a local mixed economy approach using in-house operational teams and sub-contractors. This approach draws on the extensive skills and expertise of in-house skilled specialist across Consultancy and Operations: As local provider to NCC, Via EM has demonstrable experience in successful delivery of traffic signals, street lighting and electrical installations, civils and drainage work while also having the ability to draw on existing established frameworks for expertise in the delivery of specialist areas, such as pavements and traffic management.

A number of workshops have been held with input from across the business, to gain a strategic understanding of the required delivery programme for the A614 / A6097 MRN Scheme alongside delivery of other major projects including Tranche Two of the Transforming Cities Fund packages.

This informed approach, with real ECI and advice from the Network Management Team has allowed Via EM to produce a construction phasing plan which minimises the impacts on the network but allows a core team to progress through the delivery of package in its entirety.

Essentially, the A614/A6097 MRN project can be broken down into separate junctions for the purpose of construction, with a realistic construction programme based on the earliest achievable start dates informed by statutory timescales associated with planning and land acquisition. Via EM can flexibly adapt its resource to maximise output but minimise network impacts, working within the existing and pipeline programme of work.

Early benefits of working with existing framework sub-contractors have already been realised for the A614/A6097 MRN project. Via Operations have been working with a framework traffic management contractor to inform the potential construction phasing and TM requirements to feed into the OBC submission. A package-wide drainage survey has been completed to inform the drainage design requirements at each junction. This piece of work required extensive TM which was tendered for through Via EM's existing framework. The appointed Contractor was significantly cheaper than others because of their existing involvement in the project working with Via Operations, as well as having already completed TM sketches which delivered an additional saving for the drainage survey work.

Via EM will continue to operate in partnership with NCC to deliver its promises to the

people of Nottinghamshire, in line with the Council Plan 2017-2021 "Your Nottinghamshire Your Future", the commitments made in their Place Department Strategy, whilst continuing to grow as an independent company with its five-year goal as:

"To be the partner of choice for engineering services across the East Midlands"

The following sub-sections provide further information relating to target costing performance, company accreditations and commitments relating to the Scheme delivery that will help determine the wider impact in the community and support training and development in the local area.

5.5.2 Target Costing

One of the Key Performance Indicators (KPIs) within the HSC reported through the County Council is to Target Cost a % of programmed schemes within a 3% pain / gain range. A positive value shows the programmed schemes overall were a gain share. Reported quarterly, the most recent Target Cost figures are as follows in Table 5.1:

Table 5-1 Via EM's HSC KPIs

2018-19	2019-20	2020-21
3.9% (Year End)	3.4% (Year End)	4.25% (Reported at Q2 – YTD figure)

The figures in Table 5.1. show that across the programme of works, Via EM are consistently delivering schemes with a final outturn within a very small percentage of the Target Cost returning a gain share in each of the years from 2018/19. In 2019/20 this was across 24 individual schemes with a total construction value exceeding £1.1m. Within 2020/21 the number of schemes has increased to 38.

5.5.3 Accreditation

Via EM has the following accreditations in place demonstrating its commitment to the environment, quality, health and safety:

- Quality Management System which complies with the requirements of ISO 9001: 2015.
- Environmental Management System which complies with the requirements of ISO 14001: 2015.
- Occupational Health and Safety Management System which complies with the requirements of ISU 45001: 2018.

5.5.4 Considerate Constructors Scheme

As with all contractors on the MSF3 framework, Via EM will register the delivery of the A614/A6097 MRN schemes with the Considerate Constructors Scheme (CCS). As such, the Scheme will be delivered in compliance with the CCS's Code of Considerate Practice. The CCS will score the Scheme to help to determine the impact and management of the project on the community. This score, together with the site monitoring report and certificates, would be reported through the County Council's agreed governance procedures.

5.5.5 Building Social Value

Social value is not just about employment. Via EM is committed to delivering local economic growth, by using local labour and a local supply chain to ensure that money is put back into the local economy. Other elements include the environmental legacy following completion of a scheme, and subsequent improvements to community wellbeing through improved air quality, noise and access to services.

When registering with the CCS, Via EM will also include a Building Social Value (BSV) assessment. In conjunction with NCC, the project team should use the BSV checklist to help develop a clear understanding of the Scheme's social value aspirations. The Scheme is visited by a BSV assessor where the actual results will be collated and reported to its stakeholders, evidencing and demonstrating the Scheme's social value. This BSV Assessment Report will be submitted to the County Council and the costs relating to the implementation of a BSV assessment shall be included in the Target Price.

5.5.6 Employment and Skills Plan

The National Skills Academy for Construction, facilitated by CITB, supports public sector bodies and organisations with responsibility for procuring construction work, to embed employment and skills interventions into planning and procurement contracts. Known as the Client-Based Approach, this end-to-end guidance is designed to be used for construction procurement and planning to aid the creation of employment and skills interventions, including apprenticeships, work placements, job creation and upskilling opportunities that are relevant and proportionate to the construction activity being procured. The Client-Based Approach ensures that all tiers of the construction and built environment supply chain can grow their business by supporting employment, skills and apprenticeships.

It is proposed that through the delivery of the A614/A6097 MRN scheme, an Employment and Skills Plan is developed using the framework set out by the National Skills Academy for Construction. This approach is similar to that adopted within MSF3.

Via EM will develop benchmarks based around band 5 shown in Figure 5.6.

Figure 5-6 Extract of CITB Benchmarks

4.0 Infrastructure		band 1	band 2	Band 3	band 4	band 5	band 6	band 7	band 8	band 9	band 10	band 11	band 12	band 13
		£1-3.5m	£3.6 – 6m	£6.1 - 10m	£10.1 - £15m	£15.1 £20m	£20.1 – 30m	£30.1 - 40m	£40.1 – 50m	£50.1 – 60m	£60.1 - £70m	£70.1 – 80m	£80.1 – 90m	£90.1 - £100m
1	Work Placements - persons	1	2	2	3	3	4	5	5	6	6	6	6	6
2	Jobs created by NSAfC projects	0	3	4	5	7	8	9	10	11	12	13	14	14
3	Construction Careers Information, Advice & Guidance (CCIAG) Events	0	1	2	2	3	3	4	5	5	5	5	6	6
4	Training Weeks on site	21	45	76	118	166	237	332	426	521	616	711	806	901
5	Qualifying the Workforce – project workforce *Total of 5(a) plus 5(b)plus 5(c) plus 5(d)*	5	7	11	13	15	18	20	23	25	28	28	31	32
5(a) 5(b)	• Qualifications gained (equiv. NVQ2 and above)	1	1	3	4	5	6	8	9	10	11	11	12	13
5(c) 5(d)	• Industry certification gained	4	6	8	9	10	12	12	14	15	17	17	19	19
6	Training Plans	1	1	2	2	2	2	2	2	2	2	2	2	2
7	Case Studies	Project Specific – to be agreed pre-approval												

Source:
https://www.citb.co.uk/global/nsacademy2019/english_client_based_approach_guidance_-_final_updated_july_2017.pdf

As of December 2020, Via EM currently have 51 people on active apprenticeships across a range of departments within the business spanning levels 2-7. This includes Via EM's second yearly intake of Highways Apprentices which is a programme that Via EM intends to continue to run year on year. Via EM actively recruit apprentices from the local area and utilise Nottingham Jobs Hub as well as connections with local schools and colleges to support local employment.

Apprentices all gain formal qualifications, each have a workplace mentor and they gain experience working on live projects to help them build the skills, experience and behaviours required to be successful in their careers.

Via EM are also a member of the 5% club and such have pledged commitment to supporting the countries growth agenda, addressing youth unemployment and UK skills shortages. This also includes a pledge to working toward having a minimum of 5% of our UK workforce enrolled on formalised apprentice, sponsored student and/or graduate development schemes. Via EM currently have 8% of its UK workforce enrolled on such schemes and are:

- Employing gap year students from local universities, recently a previous gap year student joined Via EM as an Assistant Project Engineer within Consultancy.
- Via EM promotes the business and projects across the East Midlands, including through the Institution of Civil Engineers (ICE), providing technical presentations and webinars to share best practice and experience in project delivery.
- Building on established links with local universities such as Nottingham Trent University promoting civil engineering and the work Via EM

undertakes in the local area.

5.6 Sourcing Options

Design and managing delivery - The County Council employs locally based, skilled and experienced resources in design, project planning, management, and works delivery within its highways company Via EM. These activities are frequently tested for value for money through external benchmarking and market testing and each element of the service has a proven track record of delivery, on internal and externally funded projects and on projects delivered for external clients.

Via Consultancy is the lead division within Via EM for this Scheme and will undertake the following:

- Project management and acting as representative for the Client.
- Lead on civil engineering design including earthworks and drainage design.
- Take on role Principal Designer under the most recent CDM regulations (2015).
- Lead on design of street lighting, electrical and traffic signal design.
- Provide environmental consultancy and design services associated with the project such as landscaping and ecology survey and mitigation, ground investigation and contamination advice.
- Data collection and manipulation through provision of topographical and Ground Penetration Radar (GPR) surveys and setting out, ground investigation and contamination advice.
- Work with appointed legal and property advisors to lead on production of planning applications and land acquisitions, including the preparation of documentation for Compulsory Purchase Order and Side Roads Orders (together these are the Orders).

Any additional specialist design support is provided either through the Professional Services Partnership (PSP) through the MHA.

The appointed legal advisors are Weightmans LLP. This legal company works on behalf of NCC but are managed by Via EM. Appointment has been through the EM Law Share Framework which is available for the County Council to use. Weightmans LLP have worked with the Via EM and NCC team on successfully securing land and making and implementing the Statutory Orders required to deliver the GAR.

The appointed property advisor is Bruton Knowles (BK). This company works on behalf of NCC but are managed by Via EM. Appointment has been through an existing property framework which is available for the County Council to use. BK has worked with the Via EM and NCC team on successfully undertaking land negotiations and

supporting the securing land and making and implementing the Statutory Orders required to deliver the GAR. BK will also be supporting Via EM and Weightmans LLP in the land referencing exercise that is required to prepare the Orders for the A614/A697 MRN scheme.

It is important to note that all Statutory Orders are made by the County Council as these powers have not been delegated to Via EM, the executing of Orders requires Committee resolution which will be sought at the appropriate stage.

Via Network Management will support the project delivery in the following areas:

- Road space coordination advice and support in the planning of traffic management activities.
- Whole life maintenance and costing advice.
- Road Safety advice and NCC Road Safety Audits process.
- Taking over maintenance and managing the asset once the Scheme is implemented.

If confirmed as the preferred procurement option and subject to issuing of a Task Order and agreeing a Target Price, Via Operations will provide the following:

- Principal Contractor under CDM regulations 2015.
- Site management.
- Civils and drainage work.
- Electrical and traffic signal installation.
- Estimating and sub-contractor award.

Via Operations are currently providing ECI through the existing Task Order to support robust cost estimates, programming and buildability advice.

Via EM has existing Sub-contractor Frameworks that it will use to support the project delivery. Currently, specialist traffic management advice is be obtained to support and inform construction methods and phasing options, understand anticipated impacts on journey time reliability and expected delays during construction.

Procurement of any sub-contractor or supplier will follow the local processes developed as part of Via EM's accredited BSI Quality Management System – ISO 9001: 2015. All of which are available upon request and include:

- VLP-FI-001 Purchasing Process.
- VLP-FI-002 Contract Procedure Rules Summary.
- VLP-FI-014 Intermediate Value Procurement.
- VLP-FI-013 Low Value Procurements – up to £25,000.
- VLP-CO-007 Sub-Contractor Framework.

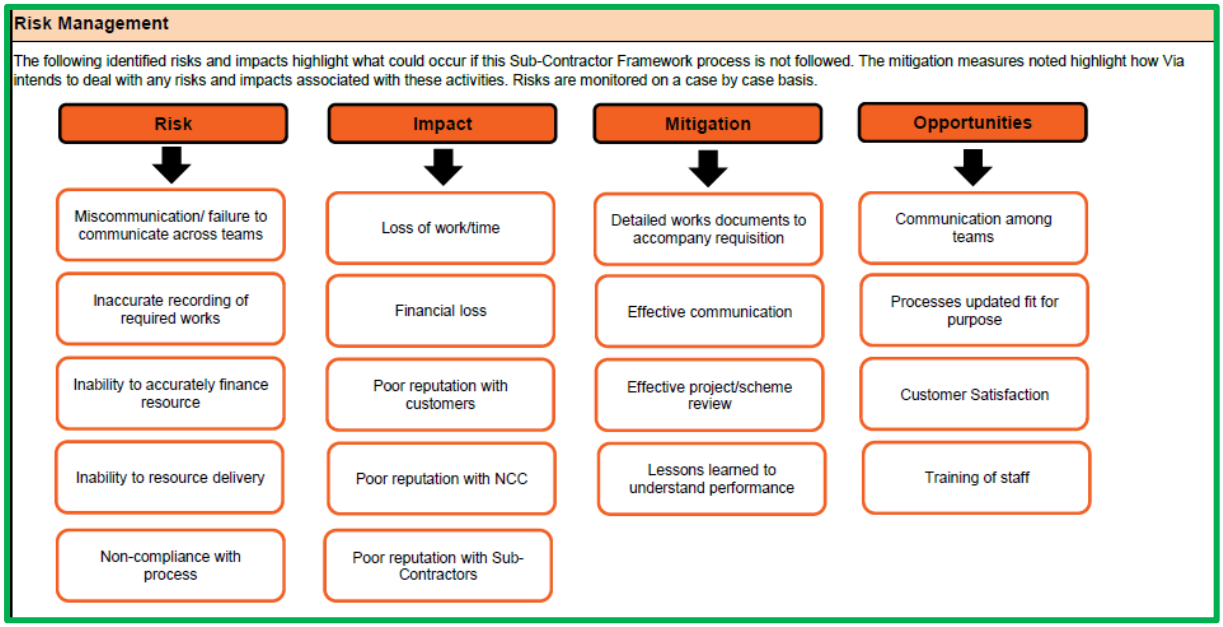
Via EM resources will support the project and ensure contract compliance and provide financial monitoring and information.

The project will be managed within the approved Quality Management System. The use of the existing or future sub-contractor framework is fundamental in providing a mixed economy and supporting local businesses. As part of VLP-CO-007 it is important that processes are followed and adhered to, to provide fair and consist approach. Figure 5.7 is an extract from the risk management section of VLP-CO-007.

The award of any individual sub-contractor orders will include constraints that follow through from the Scheme construction scope produced by Via EM consultancy team. Individual sub-contractor performance is the responsibility of Via EM as principal contractor and will be managed in line with the sub-contractor framework.

All procurement is undertaken in compliance with Section 12 the Public Contract Regulations 2015, otherwise known as Teckal compliance. This arrangement provides for NCC to contract directly with Via EM for the delivery of services, subject to function and control tests being met.

Figure 5-7 Extract from VLP-CO-007



5.7 Payment Mechanism

The payment mechanism depends upon the procurement strategy used. By using Via EM as the preferred Contractor, the payment mechanism is detailed within Schedule of the HSC. The HSC is based upon the NEC Term Service Contract and is bespoke between NCC and Via EM. However, if the MSF3 was used then the payment mechanism would be in accordance with the ECC4 contract.

Currently, throughout scheme development and design, Via EM has collaborated closely with NCC and operated an open book policy, whereby spend to date and forecast costs are openly shared with the Client.

The approach will continue into scheme construction. Via EM, as Principal Contractor, will provide monthly breakdowns of costs with a set of KPIs which will be used to assess service delivery and performance.

Regular applications for payment will be made to NCC by Via EM and all payments from the County Council to Via EM shall be made on a Target Cost basis in accordance with Part 3 of this Schedule 3 (Payment and Invoicing Mechanism) of the HSC.

The use of a Target Costing approach encourages positive behaviours, efficiencies and minimises costs. Applications for payment will align with monthly forecast amounts, assessed and certified as part of the Capital Programme Assessment Report submitted by Via EM to the NCC Service Manager.

It is the intention that the contract management will be carried out by Via EM on behalf of NCC using accredited NEC4 Project Managers and Supervisors to guarantee compliance and quality. These positions will work independently of other Via EM teams engaged in the delivery of the project. The onsite Project Manager will report changes and ensure that the works are delivered in accordance with the contract and reporting through the Service Manager.

If further independent assurances are required by the County Council this will be developed during the preparation and agreement of the Target Cost.

Should an alternative procurement option for construction be used, such as MSF3, Via EM will carry out the contract management duties on behalf of NCC as is the case on the GAR.

5.8 Pricing Framework and Charging Mechanisms

The pricing framework in all cases is recommended to be Option C. This is available through the HSC with Via EM, MSF3, SCAPE and if a specific tender option was used.

This is either a priced activity schedule or a priced bill of quantities. Payment is made to the Contractor based on their application for the price of works done to date, and will be made on a monthly basis.

5.9 Risk Allocation and Transfer

The ECC Contract promotes a collaborative approach to project delivery and the use of an agreed Target Cost is a mechanism to share risk and indeed, opportunity.

Via EM understands that construction is a high-risk activity, therefore risk management is integral to successful project delivery.

Using a Quantified Risk Assessment (QRA) developed through the early phases of scheme design, Via EM will continue to work through all identified risks throughout the design phase to focus on key challenges and identify appropriate and proportional mitigation measures. The ultimate aim of this exercise is to reduce the amount of risk

transferred into the construction phase of the project, thus increasing opportunity to deliver the project on time and budget.

A poorly defined project scope leads to change and compensation events. Via Operations' ECI enhances that understanding of the project intricacies and aims – this deep rooted understanding of the project and the local area, its people and the benefits likely to be realised through project implementation, will strengthen Via EM's ability to delivery on time and budget.

During ECI, there are opportunities to consider offsetting or transferring risk as part of the target price. Within the QRA, a number of risks have been indentured as contractor risk, these can be included in the target costs and will be subject of agreement between parties as to which ones and the values included. If risks are included within the target price and they materialise then then would not be subject to a compensation event and adjustment to the target price, although it would affect to total price of the works. Through the procurement of sub-contractors, the transfer of risk will be considered taking into account cost of transferring risks versus the likelihood and probability of it occurring.

Prior to proceeding to construction, Via EM shall submit to the NCC Service Manager a Target Cost for each junction comprising the Scheme. These will also be confirmed through a Committee report seeking approval to proceed.

The Target Cost share is as defined in Schedule 3 of the HSC and shown in Table 5-2.

Table 5-2 Outline Construction Phasing

Share Range	County Council Share	Via EM Share
Less than 50%	100%	0%
From 50% to Less than 80%	75%	25%
From 80% to 110%	50%	50%
Greater that 110% to 120%	25%	75%
Greater than 120%	0%	100%

As an example, if the Target Cost is £1million but project total is £1.1m then the extra costs of £100,000 would be split equally between NCC and Via EM.

The Via EM Project Manager will be responsible for managing and reporting through

the Highway Infrastructure and Major Projects Board on the wider risks, including managing planning consent, road space bookings, programme conflicts, demands from businesses and residents etc.

5.10 Contract Length

The HSC between NCC and Via EM contract started on 1st July 2016 with an initial term of 10 years with an option for both Parties (being NCC and Via EM) to agree to extend for a further five years. If construction is undertaken by Via EM, as identified as the preferred procurement strategy, this time period fully covers the proposed construction contract of 41 months commencing in September 2022 at the Ollerton junction, proposed construction phasing is shown in the Table 5-3.

Table 5-3 Outline Construction Phasing

Junction	Start Date	End Date
Ollerton	September 2022	May 2024
Mickledale	March 2025	December 2025
White Post	January 2025	January 2025
Warren Hill	August 2023	August 2023
Lowdham	June 2024	December 2024
Kirk Hill	April 2023	December 2023

If alternative procurement routes are adopted such as MSF3 or SCAPE, the contract length would be defined in the Scope and depend if the construction works included all six junctions or specific isolated junctions. As it is expected that the Secondary Option Clause X22 would be used then the contract period would include the period covered in Stage 1.

5.11 Human Resource Issues

There are no TUPE or other Human Resource issues resulting from the A614/A6097 MRN scheme as no public sector staff will be transferring to a different organisation during delivery.

5.12 Conclusion on the Commercial Case

It is recommended that the approach for the entire delivery of the A614/A6097 MRN scheme is through Via EM. It is considered a viable and appropriate route for delivery of this scheme. Self-delivery by Via EM will provide best value, cost certainty and bringing a unique local ownership and responsibility to the delivery. Delivery will include a mixed economy utilising local supply chain and sub-contractor frameworks. As the local provider of Highway Services in Nottinghamshire with its strong, established relationship with the County Council and demonstrable successful delivery of a number of significant projects, Via EM will deliver the A614/A6097 MRN project as expected and as required.

Other alternatives are available if required. However, the use of the MHA or traditional tender routes as delivery options both carry risk related to timing of delivery, costs and certainty of hitting required deadlines. For example, a risk associated with delivery through MSF is that the transition between the existing MSF3 contract that is likely to be replaced during 2021 with MSF4 that may impact delivery and contractor selection, a situation which arose in the selection of Balfour Beatty in delivery of the GAR project. Using the MSF procurement route requires an early commitment to the preferred contractor to enable formal ECI to commence. Utilisation of NEC4 contracts triggers a requirement for the client to be in contract and pay for the ECI process, with fixed timings for provision of scoping documents to allow the contractor to begin the process of target costing.

In the case of the A614/A6097 MRN project this contractual requirement carries risk and less flexibility as there are key milestones relating to statutory processes for planning and land acquisition that still needs to be completed.

The use of traditional tender routes will require completion of planning and land acquisition to be completed in advance of commencement of the tender process, to provide project certainty, and also does not allow the benefit of early contractor involvement that is offered through the MHA or Via EM delivery.

6 Financial Case

6.1 Introduction

The Financial Case identifies the likely costs of the scheme and sets out the affordability position of the County Council. The chapter will describe how much the preferred package is expected to cost, identify risks that could affect the cost and how the scheme will be paid for and by whom.

6.2 Costs

The latest scheme cost estimates for the six-junction package of measures is currently **£28.635 million** and can be broken down on a junction by junction basis as per table 6-1 below. This cost estimate excludes any allowance for Optimism Bias

Table 6-1 Scheme costs by junction (2020 prices)

Junction	Civils (£)	Land (£)	Fees (£)
Ollerton Roundabout	£9,393,758	£1,066,466	£1,732,338
Mickledale Lane	£5,327,626		
White Post	£268,750		
Warren Hill	£241,875		
Lowdham Roundabout	£5,967,119		
Kirk Hill	£4,637,356		
Sub Total	£25,836,484	£1,066,466	£1,732,338
Scheme Total		**£28,635,288**	

The construction scheme cost estimates are provided at 2020 prices and have been produced by Via East Midlands commercial team. The costs, rates and allowances included in this estimate are derived from several estimating methods. Some are based upon composite rates with others calculated from 'first principles' resource-based costing. The costs for labour, plant, material and composite rates used in the estimate come from internal (Via) cost databases, recent similar highway construction projects, supplier cost information and published cost data.

The total cost has also been broken into the following spend categories (Table 6-2). This shows that the vast majority of the cost is attributed to construction costs (90%), with the other expenditure spent on land acquisition (4%), preparation (4%) and supervision (2%).

Preparation costs include all costs spent on detailed design, the Environmental Impact appraisal work, planning and fees associated with the anticipated Compulsory Purchase Order (CPO) for the scheme.

Land cost estimates have been provided by Bruton Knowles (property consultants) who have been appointed by the project team to manage all property acquisitions and transactions on behalf of NCC.

Table 6-2 Scheme category breakdown

Category	Total	% spend
Preparation	£1,227,597	4%
Construction	£25,836,484	90%
Supervision	£504,741	2%
Land	£1,066,466	4%

6.3 Uncertainty and Risk

The estimate of the scheme cost at its current stage of delivery includes an allowance for risk and uncertainty. The latest scheme estimate includes a total risk value of £2.967m. Further details on risk identification, the management of risk and the Quantified Risk Assessment can be found in section 7.13. Likely cost inflation forms part of the quantified risk assessment

6.4 Budget / Funding Cover

The latest cost estimate for the package of measures is currently £28.635 million. The project requires a total contribution of £24.34 million (85%) from the DfT, with the remaining sum of £4.295 million (15%) being funded by both County Council capital and developer contributions.

Discussions are ongoing with developers and district council partners regarding possible developer and Community Infrastructure Levy (CIL) contributions to help meet the 15% local financial contribution i.e. any costs over and above the requested DfT contribution. Harworth Group Plc (the promoter of the Thoresby Colliery redevelopment site at Edwinstowe) for example has already paid a financial contribution of £1.198m. This contribution is based on an agreed proportion of the cost of the Ollerton roundabout element of the improvement package. All future developer contributions would be index linked. Nottinghamshire County Council has agreed to underwrite any shortfall in local funding in order to deliver the 15% local contribution in full towards the proposed package of works.

The total value from S106/CIL contributions comes to £1.746m. The County Council's

contribution to the project is valued at £2.549m towards the total project cost.

The proposed funding spend by year and contributor is found in Table 6-3.

Table 6-3 Funding profile for the A614/A6097 MRN scheme

Funding source	2020	2021	2022	2023	2024	2025	Total
NCC	£510,198	£450,000	£490,034	£579,018	£251,000	£268,750	**£2,549,000**
3rd party		£450,000	£798,000	£399,293	£99,000	-	**£1,746,293**
Central (DfT)	-	£50,000	£2,192,913	£11,890,695	£10,206,388	-	**£24,339,996**
Total by year	510,198	£950,000	£3,480,947	£12,869,006	£10,556,388	£268,750	**£28,635,289**

The County Council's Policy Committee on 22nd May 2019 approved the submission of the Outline Business Case to DfT and the County Council's Section 151 officer (Financial Director) has agreed to meet the County capital funds towards this project. The County Council has also agreed to allocate a working budget towards advanced design work, undertaking economic assessments, commence land valuations and progress the planning and Orders preparation. All costs incurred prior to OBC approval are done so at the County Council' expense and risk.

Utilising Via EM provides an opportunity for the project team to engage and work collaboratively with Via's commercial and operations team at a very early stage to carry out value engineering and fix a target price (ECI). If the target price is less than current estimates, then it reduces the risk of costs being incurred above the current contributions. In the case of the target cost being above current scheme estimates then through robust project governance arrangements this information would be taken to partners to seek additional contributions and a subsequent report brought to the appropriate County Council Finance Committee to advise on the next steps required to deliver the project.

6.5 Whole Life Costs

Although the funding bid is for a contribution towards the capital costs of delivering the scheme, the business case has also considered whole life costs. These include the costs of both operating (e.g. street lighting and traffic signal electricity costs) and maintaining the highway constructed as part of this works package. The cost of maintenance over the 60 year appraisal period will be covered by Nottinghamshire County Council's highway maintenance budget. The total value is £3.41m and has been included as part of the economic appraisal of the scheme. This covers commuted sums for the , operation, maintenance and renewal of any assets such as new traffic signals and lighting columns over the 60 year appraisal period.

6.6 Affordability

The DfT require NCC to confirm that NCC accept responsibility for meeting any costs over and above the DfT contribution, this amount currently stands at £3.997 million. However, S106 contributions already committed reduce the local authority contribution to £2.549m. The County Council's Policy Committee on 22nd May 2019 authorised the County Council's Section 151 officer to meet the project costs over and above the DfT contribution. The County Council has made the appropriate allowance to contribute to the A614/A6097 project in the County Council's financial budget.

6.7 Financial Risk

In view of the County Council's undertaking to meet any shortfall in project funding all the financial risk is vested with the scheme promoter NCC. There is no financial risk to the Department for Transport. Equally there are not considered to be any balance sheet issues for the Department for Transport. Responsibility for accounting for DfT grant and any assets purchased as part of the A614/A6097 MRN improvement scheme will rest with the County Council.

6.8 Conclusion on the Financial Case

The cost of delivering the A614/A6097 MRN package is **£28.635m**.

The project requires a total contribution of **£24.34 million** from the DfT, with the remaining sum being funded by developer contributions and County Council capital contributions.

The County Council's Policy Committee on 22nd May 2019 authorised the County Council's Section 151 officer to meet the project costs over and above the DfT contribution. The County Council has made the appropriate allowance to contribute to the A614/A6097 project in the County Council's financial budget.

A robust management strategy is in place to identify, quantify, manage and review risk. Details of risk and contract management are included in the commercial and management cases of this OBC respectively.

7 Management Case

7.1 Introduction

The Management Case presents the proposed delivery plan for the Scheme to ensure its successful outcome. This chapter provides assurance that a robust delivery process is in place including details of the project planning, governance structure, risk management, communications and stakeholder management, benefits realisation and assurance.

7.2 Evidence of Previous Projects

NCC has delivered a number of successful significant and major transport schemes in Nottinghamshire, working alongside their internal and external partners. Since July 2016, Via EM have been fundamental working on behalf of NCC for key major projects that have included the Hucknall Town Centre Improvement Scheme (HTCIS) and the Gedling Access Road projects.

Hucknall TCIS – With an overall project value of £13.433m this was a transport improvement project promoted by NCC made up of a new 0.5km long single carriageway road which enabled the pedestrianisation of Hucknall High Street. The scheme also included a mini roundabout and carriageway realignment to allow for an additional new traffic signal junction to replace existing double mini roundabouts, improving pedestrian connectivity to the town centre and local transport links including the tram, bus and train stations.

The scheme was funded by the DfT (£8.489m), Ashfield District Council (£1.350m), NCC (£3.144m) and the Flood Defence Grant in Aid (£0.5m FDGiA).

After the opening of Torkard Way (the name of the new inner relief road), phase two of the works involved pedestrianisation of a section of the Hucknall High Street started in December 2016 and completed in June 2017. The completion of this section of works, enabled the existing weekly market (established in 1875) to be relocated to the pedestrianised area to take advantage of the traffic free environment.

Gedling Access Road – With an overall project value of £41m the GAR is a new 3.8km single carriageway 'bypass' link road, the main aims of which are to enable sustainable redevelopment of a former colliery and to provide a safer, less congested and faster north-south route to the east of Nottingham. Key features of the scheme include:

- Seven new junctions: two traffic signal controlled, two roundabouts, a mini roundabout and two T-junctions, new street lighting.
- Extensive landscaping.
- New street lighting.
- A continuous off carriageway shared use facility for pedestrians and

cyclists with a mixture of controlled and uncontrolled crossing points at various points to continue and improve connectivity to local centres and recreation and amenity areas, including a Country Park.

- Significant accommodation work was also undertaken for the scheme including building demolition and extensive ecological mitigation work such as the construction of a bat house.

The GAR is currently under construction and is programmed for completion (open to traffic) in Autumn 2021. The scheme is funded by Homes England (£7.17m), NCC (£5.4m), D2N2 Local Enterprise Partnership (£10.8m), developer funding including Community Infrastructure Levy contributions of £17m and Section 106 developer contributions (£0.529m).

The construction of the two projects described were procured and delivered through the Medium Schemes Framework (MSF) route provided by the Midlands Highway Alliance (MHA). Via EM managed this on behalf of the County Council and prepared all works information following detailed design, contract documentation and managed the construction onsite this included fulfilling the formal roles of Project Manager and Supervisor defined under the NEC Engineering and Construction Contract (ECC).

The role of Via EM in these projects has been to provide the County Council with a full Project Management service acting on behalf of NCC tasks have included:

- Scheme options and business case development.
- Feasibility and detailed design services.
- Securing planning consent.
- Land acquisition including management / preparation of documentation for Compulsory Purchase Order and Side Roads Orders (and as appropriate preparation for public inquiry).
- Public consultations throughout the process including reporting through agreed governance protocols and preparing / presenting reports through the County Council committee system.
- Contract management including procurement and production of scope working closely with the preferred contractor through pre-construction and throughout the construction phase.
- NEC project management site supervision and engineering/technical support to the contractors on site.
- Handover to client and asset teams.

Via EM in partnerships with NCC has delivered significant transport projects on behalf of other local authorities including the major upgrade/rebuild of the A57 Shireoaks roundabout at Worksop in 2019 for Bassetlaw District Council. This £1.8m contract was delivered from start to finish by Via EM including construction acting as principal contractor but using a mixed economy from existing framework bringing in specialist

sub-contractors in areas including earthworks, traffic management and surfacing to supplement internal civil engineer, electrical and traffic signal labour.

7.3 Project Planning and Dependencies

The delivery of this Scheme is to be staggered across a three-year period from 2022 through to 2025 as it would not be practical or feasible to deliver improvements at all of the junctions in the package, along the same corridor, all at the same time.

It is anticipated that the earliest that main construction works could commence is September 2022 following completion of the statutory procedures, this could be earlier, depending if a Public Inquiry is required to consider Compulsory Purchase Orders (CPO).

The construction phasing proposed considers the implication on the wider network management and duties under the Traffic Management Act (2004) to co-ordinate all highway works and minimise disruption. The phasing has been put forward by teams at Via EM working collaboratively across the business (Major Projects, Highway Design, Co-ordination and Operations) together with Via's established traffic management framework partner, in this case TSM Ltd (Traffic Safety & Management) to inform plans for construction.

A number of collaborative workshops have been held to look strategically across the business to ascertain the best approach to delivery of the Scheme and to best consider network management and road space planning needs. This approach has meant early consideration to the interdependencies of the junctions within the package but also relating to other planned infrastructure projects on the adjacent local road network. This includes Tranche 2 of the Transforming Cities Fund programme to be delivered along the A60 corridor into Nottingham between 2021 and 2023. Early consideration will also need to be given to work programmed on the Strategic Road Network (SRN), relating specifically to the A46 and A1 as both corridors utilise the A614 and A6097 as planned and reactive diversion routes.

In addition, the programming of the works will need to pay attention to any over run of the Gedling Access Road (GAR) construction programme so that wider network performance is not compromised. However, based on the latest programme, the GAR will be open to traffic by September 2021 so it is not anticipated that this will be an issue.

Table 7-1 provides the latest proposed construction dates, the junctions are listed in geographic order from north to south.

Table 7-1 A614/A6097 provisional construction dates

Junction	Start Date	End Date
Ollerton	Sep-22	May-24
Mickledale	Mar-25	Dec-25
White Post	Jan-25	Jan-25
Warren Hill	Aug-25	Aug-25
Lowdham	Jun-24	Dec-24
Kirk Hill	Apr-23	Dec-23

NCC's Place Strategy, highlights the importance of growth to Nottinghamshire and identifies a number of key corridors, including the A614/A6097 corridor as being key contributors to successful growth. The Scheme proposed supports this strategy and is a priority for the County Council.

It is considered that a Compulsory Purchase Order (CPO) will be required to acquire the land and rights necessary for the construction and maintenance of the Scheme and ensure the necessary improvements are made to the local highway network. Land acquisition by negotiation is being run in tandem with the formal CPO process (including Side Roads Order). Where possible land will be acquired by negotiation and there are a number of plots that NCC will pursue as advanced acquisition.

The CPO process is associated with a number of statutory timescales, which impact and influence the programme. The case for CPO is predicated on the interdependence between the junction improvements and a single CPO will be sought for the project and package of work in its entirety i.e. all of the junctions.

A key project dependency is the link between the CPO and planning permissions. A reliance on the use of permitted development, with an absence of a planning application for each junction, the CPO could be open to challenge, increasing the risk of objections and subsequent Public Inquiry, in turn resulting in an elongated project programme. The planning application will use a strategic, overarching Environmental Impact Assessment together with a strategic Transport Assessment, to stress the interdependency of the junctions.

NCC will be both the applicant and determining planning authority.

7.4 Governance, Organisational Structures and Roles

7.4.1 Governance

The scheme is being project managed by Via EM on behalf of NCC. The project is being run using PRINCE2 principles. The Via EM project delivery team have a proven track record of procuring and delivering major transport schemes won on behalf of NCC, the most recent examples being the DfT funded HTCIS (completed 2017) and the GAR, which is currently under construction.

A number of other significant transport schemes have more recently been undertaken in conjunction with both the D2N2 and Sheffield City Region Local Enterprise Partnerships. Recent examples of these are improvements to the A57/A60 roundabout in Worksop, A614/A1 junction in Blyth and the A611/Rolls Royce business park access roundabout in Hucknall.

The governance structure for the A614/A6097 MRN Improvement Scheme is shown in Figure 7.1 This structure is based on best practice in its application by NCC and Via EM using a model adopted for the successful delivery of other major projects.

The A614/A6097 MRN Scheme is one of the projects reported through the Highways and Infrastructure Board meeting that acts as the 'Project Board' held on a bi-monthly basis together with other schemes such as GAR. Additional meetings can be called to consider exceptional items or events as deemed necessary, but the 'ordinary' meetings require the completion and submission of a report focusing on the following:

- Overall Status Summary with 'risk rating' linked to cost, timeline, scope etc.
- Project overview with updates on percentage progress against key project milestones, deliverable, timescales and narrative status.
- Project Change.
- Early Warnings including key issues and emerging risks.
- Communications.

The Highway Infrastructure and Major Project Board is chaired by Derek Higton the Service Director for Place and Communities at NCC who acts as Project Executive. Other members will include the following:

- Matthew Neal, Service Director Investment and Growth, NCC.
- Gary Wood, Group Manager Highways and Transport, NCC.
- Sally Gill, Group Manager Planning, Policy, Planning and Corporate Services, NCC.
- Kevin Sharman, Team Manager, Transport Planning and Programme Development, NCC.

- Martin Carnaffin, Service Manager Highways, NCC.
- Doug Coutts, Managing Director, Via EM.
- Neil Hodgson, Head of Consultancy, Via EM.
- Naomi Cook, Major Projects and Improvements Manager, Via EM. representing scheme as Project Manager (PM).
- Katherine Smith, Programme Manager, NCC.

A representative from Via Operations will also be invited to attend once the contract moves into construction in 2022. Other representatives from key user groups such as Newark and Sherwood District Council and Rushcliffe Borough Council can be invited if required.

The Project Board will inform senior personnel within NCC including the Senior Responsible Officer, who is Nigel Stevenson, Service Director Finance and Procurement. The Senior Responsible Officer is the County Council's Section 151 Officer and together with the Project Executive ensure that the project meets its objectives, delivers the projected benefits, maintains its business focus and is managed with clear authority, context and control of risk.

The Outline and Full Business Case submissions will be signed off by the County Council's Section 151 Officer together with all quarterly monitoring reports when submitted to the DfT.

The Project Board will agree progression to the next agreed work stage and also take key decisions that affect the programme, quality or cost of the scheme. Where required, key decisions are reported, and progress updates provided through the County Council's committee structure.

Issues from this Board can also be escalated to the Major Programme Board meeting, chaired by Adrian Smith, Corporate Director Place at NCC. This Board covers the portfolio of major projects within the County Council's Place Department.

The PM oversees delivery, risk, programming and budget control is authorised to make decisions on a day to day basis. Design changes or issues/risks above a value of £50,000 are reported to the Project Board by the PM. Lower values will be discussed by the PM with the NCC Service Manager with exact thresholds agreed through the ECI period.

Other meetings include:

- Project Progress Meetings – held on a bi-weekly basis and led by the Via EM PM and attended by NCC client representative (project sponsors).
- Design Progress Meetings – held on a bi-weekly basis and led by the Via EM PM and attended by representatives from highway design, landscape architecture, street lighting and traffic signal design. On a monthly basis

the design progress meeting is extended to include representatives from Via EM's Environmental Consultancy.

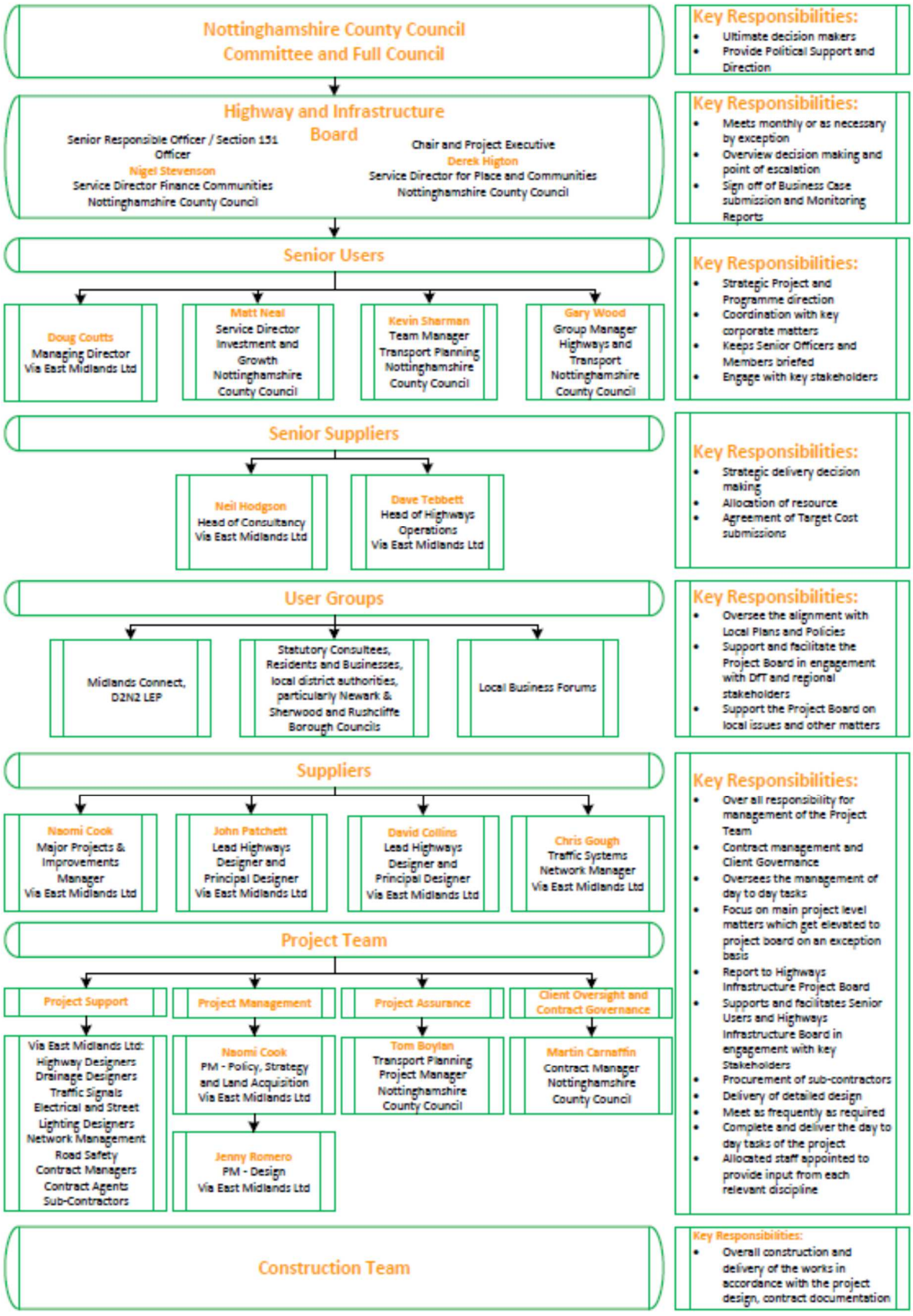
- Environmental Impact Meetings – held on a bi-weekly basis and led by Via EM PM and attended by representatives from Via EM's Environmental Consultancy and third parties providing outsourced specialist services.
- Land Acquisition Meetings – held on a bi-weekly basis and led by the Via EM PM and attended by the Scheme's legal representatives and land agent. This is an opportunity to keep conversations and negotiations flowing with direct impacted parties. These conversations enable the concerns of directly impacted parties to be considered and mitigated (where possible) in the proposed designs. On a monthly basis, these meetings are attended by a Solicitor from the firm appointed to support NCC and Via EM in provision of legal services.

All key and formal go / no go decisions are through reports presented and considered by the appropriate Committee at the County Council in line with the County Council's constitution. Those relevant to this project are:

- Policy Committee: Overall project sign-off and approvals for acquisition and disposal of land.
- Finance and Major Contracts Committee: Financial assurances and sign-off any budget changes.
- Communities and Place Committee: Project updates and approvals for making and implementing the CPO and SRO.

The proposed governance structure allows for flexibility in decision making, and if considered appropriate by the Project Board, external auditing and project scrutiny could be sought. Midlands Connect already offer this role on other major transport projects in the Midlands and have offered to act as a 'critical friend' on the A614/ A6097 MRN improvement scheme as deemed necessary by the Project Board.

Figure 7-1 A614/A6097 MRN Governance Structure



7.4.2 Organisation Structures and Roles

Within NCC, the Senior Users consist of the following areas:

- Investment and Growth – The Service Director is Matthew Neal, the Transport Planning team within this division provides strategic and programme direction, co-ordination with key corporate matters, keeps senior officers and Members briefs and engages with key stakeholders. The Transport Planning team will support the case for making the statutory Orders and provides expert evidence on transport matters at a Public Inquiry.
- Place and Communities – The Service Director is Derek Higton who chairs the Highway Infrastructure and Major Projects Board providing an overview of decision making and acts as a point of escalation. The Contract Manager team will provide the client oversight and contract governance. The role of Service Manager under the Highway Service Contract (HSC) between NCC and Via EM is undertaken by Martin Carnaffin. Gary Wood is the Senior User in this Division and acts as client lead on highway matters.

Within Via EM, Neil Hodgson is one of the Senior Suppliers of the project and is Head of Consultancy. The Design Consultancy group consists of the following teams:

- **Major Projects and Improvements Team (Naomi Cook)** - Taking the project lead and project management of the overall A614/A6097 MRN Improvement Scheme, Naomi Cook, supported by Jennifer Romero, provides the day to day role of Project Manager and will fulfil the NEC4 contractually role onsite during the construction phase. This team is responsible for:
    - Generating and submission of reports to Full Council and relevant Committees.
    - Dealing with Statutory processes including planning applications, Compulsory Purchase Orders, Traffic Regulation Orders etc.
    - Provision of all financial quarterly monitoring reports to the DfT.
    - Management of activities being delivered by other teams at Via EM and third-party resource on behalf of the County Council for planning, design, legal and property services.
    - Management of all public consultation events (by virtual and traditional means), taking on the outward facing role acting as the County Council's representative to the wider public.
    - Act as Project Manager.
- **Highway Design Team (John Patchett)** - Taking the lead on the civil engineering, highways and structures design, this team also takes on the

role of Principal Designer under CDM regulations (2015).

- **Traffic Signals and Street Lighting Team (Chris Gough)** - This team provides all traffic signal engineering expertise and is also producing the street lighting and all electrical designs.
- **Environmental Consultancy (David Collins)** - Within the Environmental arm of the consultancy, Via EM have expertise covering landscaping design, biodiversity, ecology, noise assessments and air quality. All site survey work including topography, Ground Penetration Radar and Ground Investigation/material testing not being undertaken by the Contractor also sits within this arm.
- **Framework Management Team (Rachel Clayton)** - This team leads on procurement of sub-contractors' activities let as part of the established sub-contractor framework internal to Via EM and other frameworks such as PSP3 (via MHA).
- **Highway Assets Team (Ian Patchett)** - Highway Asset Maintenance will provide advice and support relating to planned and preventative asset maintenance. Within this team we have extensive site supervision expertise who will advise on key aspects of the design relating to long term maintenance of the highway asset.
- **Traffic Manager Team (Peter Goode)** - Within this team, the road space booking and coordination team have extensive knowledge of the NCC highway network, approved diversion routes and network need.
- **Road Safety (Simon Taylor)** - The Road Safety team undertake the formal Road Safety Audit process throughout the life of the project. The team also provide independent support and advice throughout design development relating to speed limit changes, enforcement and provision for all users.

As Head of Consultancy at Via EM, Neil Hodgson, is authorised to make decisions regarding resource allocation within the consultancy division. Scheme issues and risks are highlighted directly to Neil Hodgson by the Scheme Project Manager.

Within Via EM, Dave Tebbett is one of the Senior Suppliers of the project assuming Via EM carry out the main construction works. Details of the roles of individual teams and work areas will be provided in the full business case if this is confirmed as the preferred procurement route as detailed in the Commercial Case.

Using a risk management system, dependent on severity the need for mitigation is then escalated to Doug Coutts, Managing Director of Via EM for approval and sign off through the Via Leadership Team (VLT).

Key decisions around contracts depending upon value may need to be escalated to the Via Board, of which Doug Coutts is a member.

7.5 Programme and Project Plan

A full Project Plan is included in **Appendix F**. This identifies the key milestones in developing and delivering this project. The key dates to note are shown at Table 7-2:

Table 7-2 Project Programme Key Activities

Task	Date
Formal land negotiations commence	June 2019
Submission of Final Options Assessment Report and Outline Business Case to the DfT	December 2020
Anticipated award of MRN Funding	March 2021
Additional Consultation Events at Lowdham and Kirk Hill	November 2020
Detailed Design Commences	October-December 2020
Procurement process and ECI Commences	April 2021
Submission of Planning Application	March 2021
Planning Determination	June 2021
Making of CPO and SRO	June 2021
Public Inquiry (if required - latest start date)	February 2022
Confirmation of Order	July 2022
Vesting of Land (3-month process)	July-22 to Oct-22
Full Approval Submission to the DfT	June 2022
Notification of Proceed to Contract (enables mobilisation)	June 2022
Construction commences – Ollerton to be first project	September 2022

7.6 Assurance and Approvals Plan

NCC are the promotor and applicant for the scheme. Throughout the development of options and production of the Outline Business Case, advice has been sought to produce the necessary information including specialist areas such as traffic modelling, economic assessment, risk management and project management. This has been provided by NCC owned company Via EM and AECOM employed through PSP.

NCC are providing the overall assurance role and will ensure that:

- All decisions and activities comply with legal requirements.
- External legal advisors have been employed to support this and the in-house NCC legal team will comment on constitutional matters.
- The use of all funds is accounted for and reported.
- Monthly financial monitoring will be undertaken, and all costs incurred are available to view through 'open book' accounting. All information is available for any internal and external audits required by NCC and the DfT.
- Appropriate records of decisions and proceedings are published.
- All committee papers are published online at www.nottinghamshire.gov.uk one week in advance of the meetings. Any formal board meetings are minuted and information is available under the Freedom of Information Act 2000.
- The assurance framework is adhered to.
- Through the governance structure key decision and approvals are formally recorded and it is the responsibility of those involved in the Project Board to ensure compliance.

In advance of submission, the Full Business Case to the DfT, NCC and Via EM will develop and agree the Assurance and Approvals Plan. This will be agreed at the Project Board and included in a future NCC Committee Report. Gateways likely to include:

- Pre-planning.
- Planning application submission.
- Award of Planning Consent.
- Making of Compulsory Purchase and Side Roads Order.
- Confirmation of Compulsory Purchase and Side Roads Order.
- Confirmation of construction costs and approval to proceed to Contract.
- Completion of the Scheme.
- Post Opening Monitoring and Evaluation.

At each of the key stages identified above, appropriate resolutions will be sought to move to the next stage. These are required for making of Compulsory Purchase and Side Roads Order and confirming construction costs.

Section 5.7 on payment mechanism within the Commercial Case, describes the approach to be adopted for undertaking the contract management role onsite. Change control will be managed within the defined 'Project Change Control' process that forms part of the ISO 14001: Quality Management System. Change will need to be authorised by the Service Manager or delegated representative under the HSC.

7.7 Programme / Project Reporting

The project governance structure and responsibilities for reporting are detailed in 7.4.1.

The Via EM PM is required to update the Highway Infrastructure Board as part of a bi-monthly project reporting process. This report updates the client and wider project team on the spend to date and highlights any early warning of changes in cost/scope that might impact budget. The update report also includes monitoring of key risks and reports progress towards meeting the programme timetable.

The Via EM PM in conjunction with NCC will complete the quarterly monitoring reports to the DfT that require signing off by the SRO once Outline Business Case approvals have been given and throughout the lifetime of the project.

Formal committee reports will be produced for the key decision go / no go decisions identified in the Management Case.

Post Opening Project Evaluation (POPE) reports will be produced, made available to the DfT and published on the project's website at intervals of 12 months and five years after the scheme has been fully open to traffic.

Any other, interim reporting requirements are to be discussed and agreed with the DfT at the Full Business Case approval stage.

7.8 Implementation of Work Streams

The key work streams are as follows:

- **Outline Business Case** – This is to be submitted to the DfT in December 2020 and being led by the Transport Planning team at NCC supported by Via EM and AECOM (economic and transport benefits assessments).
- **Risk Management –** Risk Register and Quantified Risk Assessment will be submitted to DfT as part of the Outline Business Case. This is a live document, maintained by Via EM on behalf of NCC and updated using skills and expertise from across the business including construction teams and the County Council.

- **Detailed Design** – Junction options are finalised and detailed within the Options Appraisal Report submitted as part of the Outline Business Case. Via EM have been briefed to undertake this work and this has commenced with the Ollerton roundabout being the most advanced.
- **Planning** – Via EM are leading on the detailed planning applications for each junction are being prepared with an overarching planning statement, which includes a strategic Transport Assessment, an Environmental Statement and Environmental Impact Assessment for the package in its entirety to demonstrate cumulative impacts of each of the junction included in the Scheme. The planning application is due to be submitted in March 2021 to the Local Planning Authority (who in this case is NCC), Via EM will be acting as agent on behalf of the Transport Planning team as applicant.
- **Land Acquisition** – Ongoing, approval granted by Communities and Place Committee meeting at its meeting on 4th April 2019 to commence negotiations. This work stream is lead by Via EM and supported by Bruton Knowles. Any acquisitions will be subject to property valuations and approvals through the County Council's Policy Committee.
- **Statutory Orders** – This is the preparation of the Compulsory Purchase Order and Sides Roads Orders required to deliver the land and rights required to deliver the Scheme. This is ongoing and approval granted by Communities and Place Committee meeting at its meeting on 4th April 2019 to commence preparation of these. Further approvals will be required with final order maps and schedules prior to making these Orders once planning is obtained.
- **Early Contractor Involvement** – Via EM operational teams are supporting in providing early contractor involvement, this has included supporting the production of robust estimates for the Outline Business Case, risk management, programme / construction phasing and buildability. This ECI has already secured a number of improvements both financial and logistically. Via EM operational teams will continue to be involved irrespective of chosen procurement strategy described in the Commercial Case until a formal decision and instruction is issued by NCC.
- **Construction** – Procurement strategy is discussed within the Commercial Case. This will progress formally once either a Task Order is issued to Via EM or an alternative contract is put in place. Via EM can undertake any advanced enabling works through the HSC and approvals will be sought by the Via EM PM to NCC to authorise these works.

7.9 Key Issues for Implementation

The key issues relating to implementation relate to approval of funding and securing planning permissions. Both of which are required to make and subsequently achieve

confirmation of the CPO and SRO to obtain the land and rights to deliver the Scheme.

As described in the previous sections, all of the appropriate work streams are ongoing. Regular progress is reported through the Project Board and key milestones included on the programme.

7.10 Contract Management

The NCC Service Manager within the Contract Management team is responsible for managing the HSC. This team will ensure that any works are undertaken in accordance with contract in terms of quality and cost.

The NCC Transport Planning team is responsible for issuing the specific Tasks Orders and managing the outputs relating to business case preparation, land acquisitions, detailed design etc.

Representatives from both teams are on the Project Board.

Close working within Via EM, being led by its PM, will ensure that the design and operational teams work closely to ensure value for money and enable a flexible approach to delivery.

It is the intention that the contract management will be carried out by Via EM on behalf of NCC using accredited NEC4 Project Managers supported by accredited NEC4 Site Supervisors to guarantee compliance and quality. These positions will work independently of other Via EM teams engaged in the delivery of the project.

However, if further independent assurances are required by the County Council this will be developed during the preparation and agreement of the Target Cost.

Should alternative procurement options for construction be used such as MSF3, then Via EM will carry out the contract management duties on behalf of NCC as is the case on the GAR.

All construction works will be undertaken using NEC EEC, irrespective of the contractor. A stated objective of the NEC EEC is to stimulate good management. The principles upon which it is based are that foresight applied collaboratively mitigated problems and shrinks risks and that clear division of function and responsibility helps accountability. The contract places particular emphasis on the important of planning / programming and a transparent and collaborative approach to risk management.

7.11 Communications and Stakeholder Management

NCC has a robust stakeholder engagement and communications process which is used on all significant projects. It is essential to ensure that the various aspirations of the general public and key stakeholders are taken into account throughout the life cycle of the A614 / A6097 MRN Scheme, enabling the project team to understand key issues and maximise scheme benefits. It also aids in mitigation of potential objections to ensure a smoother scheme delivery.

A managed approach is applied to customer and stakeholder engagement. Via EM has developed a robust Communication Plan, in close collaboration with the County Council's Communications and Marketing Department.

The objectives of the Communication Plan are:

- To raise awareness of the project with local residents and businesses alike.
- To inform and empower stakeholders and local residents such that they are positively involved and aware of the benefits of scheme.
- Communicate the benefits of the improvement scheme at every opportunity to ensure the scheme is widely welcomed.
- Secure a succession of positive media coverage with lead stories in Nottingham Post, other print titles, and interviews with broadcast media.
- Generate views and feedback on the scheme web page.
- Effectively utilise all relevant available NCC communication channels to support the project.

All landowners and property owners directly impacted by the proposed Improvement scheme, have been notified by Via EM about the County Council's proposals. An experienced land agent has been appointed and a face to face meetings have taken place, supplemented by virtual meetings.

In addition to public information exhibitions a comprehensive public consultation strategy will be pursued with continued dedicated public events where possible, use of social media and printed press. NCC have a dedicated webpage associated with the project: www.nottinghamshire.gov.uk/transport/roads/a614.

The dedicated project website will be used to provide additional scheme specific information as well as more general supporting information such as 'How To' guides with respect to compensation, and a regularly updated FAQ section. A dedicated email address has been established (fully utilised during the consultation events) which is regularly monitored by the Via EM project team.

It is anticipated that there will be various press releases linked to the project, again providing further opportunity for the community and stakeholders to be kept informed with progress and key milestones. These will also be shared through social media platforms by the County Council and Via EM's marketing teams.

A schedule of communications activities is included in the approved Communications Plan. The Communications Plan is used to guide the level and type of communications required at different stages in the project's life cycle and to ensure stakeholder involvement and input is included at appropriate times.

The Communications Plan recognises the importance of timely communications and

this will be particularly important immediately before the start and during construction works on site, so that all road users are aware of likely disruption to traffic and travel conditions, are notified of signed diversion routes and have details of who to contact in the project team so that issues can be dealt with as quickly as possible.

All media enquires related to the project will be directed to the County Council's dedicated press office. Proactive press releases are scheduled for key communication points in the project including the public consultation events. The press office will take a proactive approach to releasing timely, accurate and comprehensive project information.

In addition to the County Council's dedicated press office, Via EM have a Communications and Marketing Manager who will assist the team in managing any operational issues that arise once construction commences.

7.12 Consultation & Strength of Support for Scheme

7.12.1 Consultation with wider public

Public exhibitions have been the main element of the consultation strategy in showcasing the Scheme proposals. There have been two major consultation events held so far. The first took place in the summer of 2019, with six consultation exhibition dates showcasing the original A614/A6097 scheme package. Leaflets were distributed throughout each village near the A614/A6097 corridor informing them of the events which were held at:

- **Ollerton – Thursday 11th July 2019**, 4-8pm at Hop Pole Hotel, NG22 9AD and **Saturday 13th July 2019**, 10am-2pm at Boughton Town Council.
- **Bilsthorpe – Thursday 18th July 2019**, 4-8pm July at Bilsthorpe Miners Welfare, NG22 8QX and **Saturday 20th July 2019**, 10am-2pm at Bilsthorpe Village Hall, NG14 7BD.
- **Lowdham – Thursday 1st August 2019**, 4-8pm at Magna Carta Public House, NG14 7DQ and **Saturday 3rd August 2019**, 10am-2pm at Lowdham Village Hall, NG14 7BD.

All events were well attended with a few hundred people attending each consultation venue. A total of 281 questionnaires were completed and returned. In general, responses were in strong agreement that improvements were required across the corridor. A summary of the questionnaire results from the 2019 consultation can be found below in Tables 7-3 to 7-6.

Figure 7-2 Ollerton Consultation event July 2019

Figure 7-3 Bilsthorpe Consultation Event July 2019

Table 7-3 Questionnaire results for Ollerton (2019)

	Yes	No	
Existing problem at Ollerton?	93%	7%	
	Good idea	**Against the proposal**	**Neither for nor against**
Thoughts on Ollerton proposal?	80%	6%	14%

Table 7-4 Questionnaire results for Mickledale Lane junction (2019)

	Yes	No	
Existing problem Mickledale Lane?	93%	7%	
	Good idea	**Against the proposal**	**Neither for nor against**
Thoughts on Mickledale Lane proposal?	82%	4%	14%

Table 7-5 Questionnaire results for Warren Hill (2019)

	Yes	No
Existing problem at A614/A6097 Warren Hill junction?	78%	22%

	Good idea	Against the proposal	Neither for nor against
Thoughts on Warren Hill proposal?	75%	9%	16%

Table 7-6 Questionnaire results for Lowdham (2019 - original proposal)

	Yes	No
Existing problem at A614/A6097 Lowdham junction?	68%	32%

	Good idea	Against the proposal	Neither for nor against
Thoughts on Lowdham proposal?	52%	29%	19%

However, there was some local concern connected to the original Lowdham roundabout design which resulted in the loss of a number of mature trees on the boundary of the Lowdham cricket club, and 29% of respondents were against the proposal. The County Council's project team pledged to review the scheme, investigate new options and reconsult once an alternative design had been identified. The revised design incorporated an elyptical shaped roundabout which avoided the village cricket pitch and surrounding green space and avoided impacting any mature trees.

The original consultation also highlighted the need for action along the A6097 between Lowdham roundabout and the A46. The Kirk Hill junction had previously been considered at the option appraisal phase but was omitted because there were already proposed Section 278 works scheduled to improve the junction as part of the RAF Newton development site (please refer to section 4.2 for more information). The subsequent analysis at this junction by Via East Midlands indicated that the proposal put forward by the developer was not after all suitable and would not provide the level of upgrade required to meet the forecast traffic demand from the development site and

growth further afield. The existing problems at this junction were merely reinforced by comments made at these Lowdham consultation events. A feasibility study was subsequently undertaken by Via East Midlands to investigate this junction and the A6097 corridor in general and this recommended that improvements be made to the Kirk Hill/A6097 junction at East Bridgford. This resulted in the junction being added to the corridor package.

The second consultation event for the A614 corridor focused on the revised Lowdham roundabout proposal and the introduction of the new Kirk Hill junction to the A614/A6097 funding bid. Unfortunately, COVID-19 meant face to face interaction with the public was not feasible, so a virtual consultation room (Figure 7-4) was set up which went 'live' on Monday 2nd November 2020 for a total of three weeks. The consultation website had over 8,000 views. Visualisations were also produced for both the revised Lowdham and the Kirk Hill junctions, see Figures 7-5 and 7-6 below.

Figure 7-4 Virtual consultation room for the A614/A6097 project

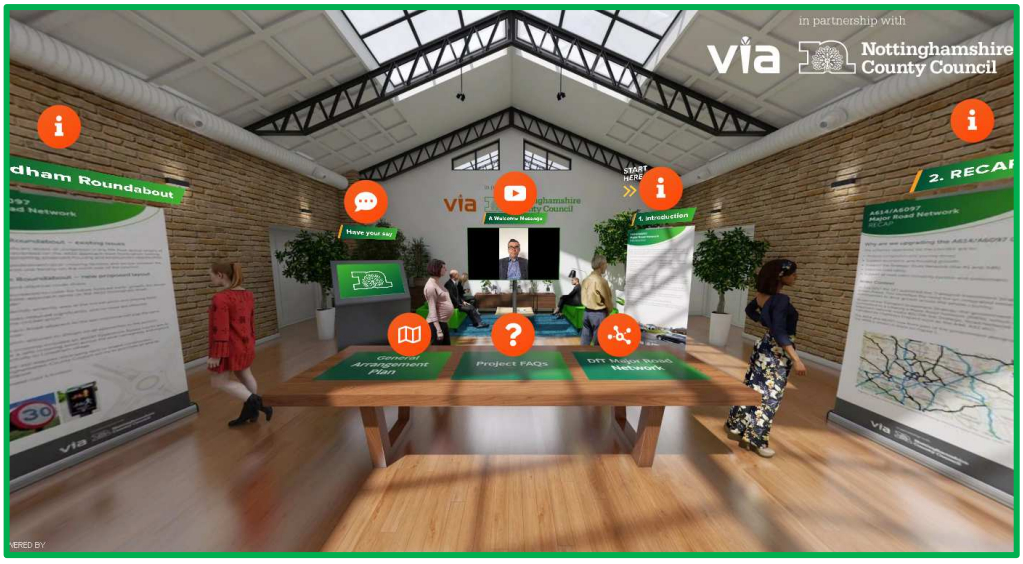


Figure 7-5 Visualisation of proposed Lowdham roundabout junction

Figure 7-6 Visualisation of Kirk Hill junction improvement

The feedback from the latest round of consultation included 78% of respondents agreeing that there is a problem with the existing Lowdham roundabout, with 73% either in favour/neutral and 27% against the proposal. A total of 76% of respondents thought that there is an existing issue at the Kirk Hill junction, with 79% in favour/neutral and 21% against the scheme proposed at this location.

7.12.2 Support from NCC

The scheme is strongly supported by NCC, with the following resolutions agreed at Committee:

Report to Communities and Place Committee 4 April 2019, which approved the requirement to progress negotiations with landowners affected by the scheme and the

necessary approvals to compulsorily acquire land and rights to deliver the A614/A6097 scheme when required.

Report to Policy Committee 22 May 2019, which approved the submission of the Outline Business Case to the DfT and endorsed the requirement for NCC to underwrite the OBC submission and to meet costs incurred and any subsequent project overspend.

7.12.3 Support from District Council's

The scheme is also strongly supported by every affected and adjacent District Council within the County and letters of support confirming the importance of this scheme to the whole of Nottinghamshire were received from.

- Newark & Sherwood District Council.
- Bassetlaw District Council.
- Mansfield District Council.
- Gedling Borough Council.
- Rushcliffe Borough Council.

Extracts from the letters of each show of support can be found below. Copies of the letters themselves can be found in **Appendix F**.

Newark and Sherwood District Council (Figure 7-7) confirm that the corridor connects a number of settlements identified within their Core Strategy Development Plan (2019). The scheme will also support the regeneration of the local area, with a number of sites of key sites such as the Harworth redevelopment of the former colliery site at Thoresby. The site has restrictions in place which is reliant on upgrades being made to the Ollerton roundabout.

The connectivity of the route reinforces the Newark and Sherwood District Council's view of the strategic importance of this corridor and the role it can play in helping to level-up Newark and Sherwood's economic prosperity. This connectivity is "highlighted by the fact that a significant number of the County's most popular leisure and tourism attractions are located along the corridor."

Figure 7-7 Extract from Newark & Sherwood District Council's letter of support for the A614/A6097 project.

I am writing on behalf of Newark & Sherwood District Council to offer our full support for your funding bid and its ambition to deliver improvements to this important and strategic element of the District's road network. It will deliver important benefits to the Major Road Network in Nottinghamshire, support regeneration and economic growth and have safety and environmental benefits for the communities along the route.

The A614 and A6097 transport corridor is essential for north-south road travel throughout Nottinghamshire, facilitating commuting and commercial vehicle movements to and from Nottingham, Mansfield and beyond, to the likes of Leicester, Worksop and Doncaster. Connectivity with the A1 to the north and the A46 to the south reinforces the District Council's opinion of the strategic importance of this corridor and the role it can play in helping to level-up Newark & Sherwood's economic prosperity. This connectivity is highlighted by the fact that a significant number of the County's most popular leisure and tourism attractions are located along the corridor, including the Sherwood Forest Visitor Centre, Sherwood Pines, Centre Parcs, Rufford Abbey, Whitepost Farm, Wheelgate Park and Thoresby Hall.

The corridor connects a number of the settlements identified in Newark & Sherwood's Amended Core Strategy Development Plan Document (2019) as centres for housing and employment growth. These settlements, including Ollerton & Boughton, Edwinstowe, Bilsthorpe, Rainworth, Blidworth, Farnsfield and Lowdham, provide important services and employment opportunities both to their own communities and to the wider hinterland, covering Sherwood Forest and the eastern Mansfield and Nottingham fringes. As part of the development of the Amended Core Strategy improvements along the corridor are identified as important to support this growth.

With many of the settlements former mining communities the proposed road improvements will boost their ongoing regeneration. This is of particular importance to Harworth Estates' redevelopment of the former Thoresby Colliery (including up to 800 new homes) which is currently subject to development restrictions until junction capacities have are improved to accommodate existing and development-related traffic flows. Delivering the proposed highway improvements and increasing road capacity will therefore serve to enhance the future growth potential of this area, with reduced congestion contributing to improved economic productivity and better accessibility for much of the District's rural west.

Locally, these roads are important to the connectivity of Newark & Sherwood. The proposed upgrade of the A614 in particular aligns with the ambition to develop Ollerton as a transport hub and interchange point for the conventional bus network along with proposed Demand Responsive Travel services and the potential extension of the Robin Hood Line rail service.

The communities along this important route have long identified improvements not only as a necessary element of growth and regeneration but also as a way of providing significant safety improvements. This will be achieved by making junctions safer and removing traffic from residential streets seeking alternatives to busy junctions.

The scheme will also have important environment and nature conservation benefits at Ollerton Roundabout, as improvements to the junctions will reduce standing traffic and the exhaust emissions which negatively impact on the Sherwood Forest National Nature/Birklands & Bilhaugh Special Area of Conservation.

Newark & Sherwood District Council is committed to working in partnership with the County Council to secure improvements to the capacity and safety of the major road network in this area and to maximising the strategic and local benefits this investment can help deliver.

An extract from the letter of support from Bassetlaw District Council can be found below in Figure 7-8. The letter stresses how important the A614 and A6097 roads are for north-south movements and this is despite none of the junctions falling within the

Bassetlaw District itself. The scheme is still expected to provide regeneration and economic growth for Bassetlaw.

Figure 7-8 Extract from Bassetlaw District Council's letter of support for the A614/A6097 project

Whilst no works are proposed within Bassetlaw itself, the linkages that the A614/A6097 provide support regeneration and economic growth in the Bassetlaw Council area and have safety and environmental benefits for our residents and businesses.

The A614 and A6097 roads are essential for north-south road linkages throughout Nottinghamshire, creating significant access opportunities to the wider strategic road network.

Bassetlaw's position in the north of the county means that access to the rest of Nottinghamshire is dependant upon a robust and effective road network which this corridor plays a significant part in delivering. The corridor provides a link for businesses and commuters as well as allowing access to leisure and tourism facilities in the north of the county which employ a large number of Bassetlaw residents,

As an authority we have aspirations to increase visitor numbers to the many attractions in the area to support the local economy, particular in rural areas, and it is therefore important that these facilities are easily accessible and these proposals will be a major benefit to these aspirations.

We are also aware of the proposals for significant growth to the south of the Bassetlaw District around this corridor and therefore the ability to provide improved highway capacity will be important to ensure that this growth can be accommodated and congestion concerns addressed.

Mansfield District Council provided the following letter of support which again emphasised the importance this route plays in connecting the County to the wider SRN. (Figure 7-9).

Figure 7-9 Extract from Mansfield District Council's letter of support for the A614/A6097 project

The A614 and A6097 transport corridor; which is linked to the Mansfield District via the a number of roads including the A617, A6075 and B6030, is essential for north-south road travel throughout Nottinghamshire. It facilitates commuting and commercial vehicle movements to and from Mansfield, Nottingham, and beyond, to the likes of Leicester, Worksop and Doncaster. Connectivity with the A1 to the north and the A46 to the south reinforces the District Council's opinion of the strategic importance of this corridor and the role it can play in helping to improve Mansfield's economic prosperity. This connectivity is highlighted by the fact that a significant number of the County's most popular leisure and tourism attractions are located along the corridor, including the Sherwood Forest Visitor Centre, Sherwood Pines, Centre Parcs, Rufford Abbey, Whitepost Farm, Wheelgate Park and Thoresby Hall.

Mansfield is the second largest settlement within Nottinghamshire and plays a vital role as a sub-regional centre for the north of the County and parts of Derbyshire. It also lies in a strategic location between the M1 and A1. The District Council's Corporate Strategy; "Making Mansfield: Towards 2030" sets out our vision and ambitions and the priorities we will focus on going forward. This is built around four themes which are supported by a detailed delivery plan:

Gedling Borough Council also offered full support for the funding bid (Figure 7-10). The letter highlighted the importance of the project in terms of unlocking the Teal Close development and also goes on to state that there are a number of other sites that will indirectly benefit from this package of improvements.

Figure 7-10 Extract from Gedling Borough Council's letter of support for the A614/A6097 PROJECT

I am writing on behalf of Gedling Borough Council to offer our full support for your funding bid and its ambition to deliver improvements to the A614.

The A614 serves a dual-economic function: facilitating regular commuter/ business trips and longer distance traffic movements, and also being an important corridor for the tourist economy. Furthermore, the A614 and A6097 transport corridor is essential for north-south road travel throughout the county, facilitating commuting and commercial vehicle movements to and from Nottingham, Mansfield and beyond, to the likes of Leicester, Worksop and Doncaster.

Although the planned improvements are not within the Borough, there is a planning condition which limits the scale of development at Teal Close to 325 dwellings until the s278 works at Lowdham roundabout are completed. Therefore, the proposed A614/A6097 corridor improvement would unlock this significant development for Gedling. There are a number of large developments which will also indirectly benefit from these improvements, such as Gedling Colliery which is a development of up to 1050 houses.

With this in mind, we are confident that some of the expected economic and associated regeneration benefits from this planned set of road improvements will be felt within the Borough. As this proposal will also deliver important safety and environmental improvements, this will also bring further benefits to users of this route, including our residents and visitors to the Borough.

Officers are currently working on identifying further growth locations as part of the Greater Nottingham Strategic Plan. These improvements to the Strategic Road Network north of the area could also assist with unlocking further growth potential within the Borough.

Rushcliffe Borough Council also fully support the scheme as shown in Figure 7-11. The Council confirms that the A614.A6097 corridor is one of the most important roads in the County. The improvements at Kirk Hill will directly impact on the Rushcliffe District area and the improvements would “help support major housing delivery, regeneration and economic growth both locally and more widely across Rushcliffe.

Figure 7-11 Extract from Rushcliffe Borough Council's letter of support for the A614/A6097 project.

Rushcliffe Borough Council fully supports the funding bid which will deliver improvements to one of the County's most important road corridors, part of which runs through Rushcliffe. In addition to safety and environmental benefits for road users and communities along the route, the improvements would help support major housing delivery, regeneration and economic growth both locally and more widely across Rushcliffe.

The A614 and A6097 form an important north to south road corridor within Nottinghamshire for both private and commercial vehicle movements. This is especially so because Gunthorpe Bridge which takes the A6097 across the River Trent is the only road crossing of the river between Nottingham and Newark – a distance covering around 16 miles. This contributes to it being a heavily used route, with Gunthorpe Bridge forming a particular pinch point that suffers from regular traffic congestion during and outside the peak traffic hours. Measures to improve the route's capacity, the flow of traffic and its safety would therefore be very much welcomed by the Borough Council.

The corridor connects with the town of Bingham and a number of nearby villages within this part of Rushcliffe, including East Bridgford and Newton which are both located close to the A6097/Kirk Hill junction. The proposed improvements to this junction will have direct benefits for residents of both villages. This will be achieved by making the junction safer and reducing the extent of queuing traffic on the roads approaching it. Furthermore, East Bridgford and also the roads between the Kirk Hill junction and Radcliffe on Trent are known to suffer from rat running by drivers seeking to avoid congestion on both the major and strategic road networks locally. Therefore measures to increase the flow of traffic on the A614 and A6097 should hopefully help to alleviate this situation.

7.12.4 Support from Local Enterprise Partnership (LEP)

The scheme has also received a letter in support of the scheme from the D2N2. The D2N2 goes on to state that " We are extremely supportive of this development and it aligns with our strategic aims to deliver a strong economy and connectivity to Nottinghamshire and the D2N2 region". An extract from the letter can be found below in Figure 7-12.

Figure 7-12 Extract from D2N2 letter of support

I write in support of the Outline Business Case from Nottinghamshire County Council for the A614/A6097 corridor improvements. As part of the Major Road Network the A614/A6097 plays a vital role in the economic sustainability and growth of our region linking major urban settlements in our area and providing connectivity to local people and businesses. This corridor plays an important role in the LEP areas North-South connectivity and needs to be as reliable and safe for users as possible in the future.

In order to be able to sustain the importance of this corridor, investment is needed along the route to be able to mitigate the factors of planned growth along the route as well as increases in traffic flows. The A614 serves an important purpose for the economy of the area including being the main route of passage for various major visitor attractions in the area as well as facilitating commuter and business trips. With major future economic growth planned along the corridor the issues that have arisen will only amplify and therefore intervention is required to solve the issues that are present.

We are extremely supportive of this development and it aligns with our strategic aims to deliver a strong economy and connectivity to Nottinghamshire and the D2N2 region. The proposal is key to supporting growth and providing economic benefits to the wider area, therefore we support the call for much needed investment to facilitate improved infrastructure to the region. Please accept this letter as a confirmation of our support and we would be grateful if we could be kept up to date with progress on the application.

7.12.5 Support from Local Member of Parliament (MP)

Mark Spencer, MP for Sherwood has expressed strong support for the scheme and has also set up a campaign for the A614/A6097 corridor, calling on action from NCC and Central Government to fund the improvements at Ollerton roundabout and Mickledale Lane.

Figure 7-13 Mark Spencer MP A614 Campaign video

The A614 improvement scheme was also his number 1 priority for his Sherwood constituency. He demonstrated his support by attending one of the public consultation

events held at Ollerton in July 2019.

Figure 7-14 Priorities for Sherwood.

The scheme is also supported by private developers. A number of developers will be required to pay a financial contribution towards the project based on the number of houses/employment delivered on their respective development sites.

7.13 Risk Management Strategy

The purpose of this section is to confirm the approach to the risk review process for the Scheme and present a strategy for the management of risks as the scheme progresses.

The report sets out the process adopted to identify, assess and manage the risks associated with the following two areas:

1. **Project Risks:** Those affecting the delivery and cost of the Scheme; and
2. **Strategic Risks:** Those affecting the ability of the County Council to get the Scheme to the delivery stage.

7.13.1 Risk Review Process

The risk management, assessment and identification processes outlined are continuous and all mitigation measures are regularly reviewed. The following table details the stages in the life of the project where risks will be formally assessed and reviewed - to date the Scheme risks have been reviewed during Stage 1.

Table 7-7 Project Life Cycle Risk Review Stages

Project Stage	Description
1	Business Case Development / Delivery Strategy
2	Investment decision (statutory procedures and powers stage)
3	Investment decision (pre-construction)
4	Construction
5	Review and benefits realisation

7.13.2 Project Risk Identification

A **Project Risk Register** has been developed to consider the risks associated with the delivery of the Scheme. The register logs risks identified throughout the lifecycle of project delivery and outline and unrealised issues that have the potential to adversely impact the scheme delivery programme and costs.

The Risk Register is a live document. It was initially updated on an ad hoc basis and then through more formal risk workshops undertaken during November 2020. This involved technical experts from across the Via EM business experienced in project delivery, representatives were from teams in Co-ordination, Estimating, Construction, Design and Project Management. The aims of the risk workshop and future ones are as follows:

- To update the Risk Register.
- To agree the probability, cost and time impacts of risks including mitigation.
- Where possible, to assign responsibility to risks.

During the risk workshop, the probability, cost and time impacts (delay) were reviewed for each existing risk and the register amended accordingly. The workshop also enabled the project team to collectively identify the appropriate mitigation measures for each risk, which once applied, informed the level of residual risk.

Throughout the process risks are discussed regularly with the client team at the County Council. The Risks Register will be actively reviewed at design team meetings on a monthly basis. This process allows risks to be ‘closed out’ where appropriate with an aim of reducing the amount of risk transferred into the construction phase of the project. This will continue throughout the project lifecycle.

Risk owners are allocated to each identified risk and the owner is accountable for eliminating risks where feasible or identifying mitigation measures for residual risks. The adopted risk strategy is designed to deliver the Scheme as well as meeting the

scheme objectives in full with quality delivery on budget and on time.

After the risk workshop undertaken in November 2020, the Risk Register was developed into a quantified risk assessment (QRA) for the Scheme (see section 7.13.5).

7.13.3 Project Risk Assessment

All risks within the Risk Register are assessed and classified across the probability of the risk occurring and the consequence which would arise if the risk did occur. A four point rating is applied to the 'probability', (1 for very unlikely to 4 for extremely likely) and a similar 4 point rating to the 'consequence' (with 1 as low impact in terms of time and cost impacts to 4 for very high impact) and this produces an overall risk rating.

The evaluation scale is shown in the table below.

Table 7-8 Risk Register Evaluation Scale

RISK SEVERITY MATRIX			RISK RATING			
	Probability	Consequence - Cost/Time				
4	4 = Very high or extremely likely	4 = Very High: > £200K and/or > 1 month lost time	4	8	12	16
3	3 = High or likely	3 = High: £50K - £200K or 2 - 4 weeks lost time	3	6	9	12
2	2 = Medium or unlikely	2 = Medium: £10K - £50K and/or >1 week lost time	2	4	6	8
1	1 = Low or very unlikely	1 = Low: < £10K or < 1 week lost time	1	2	3	4

The Risk Register then quantifies each of the risks based on the combination of the likelihood of occurrence and the impact. The evaluation scale shown at Table 7.8 determines if the risk category is low, medium or high based on the red-amber-green (RAG) assessment.

7.13.4 Project Risks

The Risk Register contains seventy-three current risks, as of December 2020. The table below summaries those risks with a residual risk ranking of 'High' (score of 12) or 'Very High' (score of 16). These are contained within the QRA, found in Appendix H.

Table 7-9 Risk Summary

Risk Id	Risk Event	Residual Probability	Residual Consequence	Residual Rating	Mitigation
L15	Changes in the law after works completed will be a change in compensation event.	3	5	15	Keep up to date with national picture regarding legislation
A2	Inflation leads to increased scheme cost	3	4	12	Maintain cost estimates by experienced QS team Engage with supply chain and sub-contractors early Regularly review
B15	Statutory Undertakers Apparatus – Failure to meet the Accepted Programme	4	3	12	Ongoing dialogue with Statutory Undertakers throughout the design process Appointment of specialist consultant to support Undertake SU workshop with designers and Utilities companies as part of design and pre-construction phases with allocated roles and accountabilities Include early notice milestones on programme to ensure utilities have works planned in their programmes with follow-up on pre works meeting etc Wherever possible provide float in programme to accommodate Develop alternative plans for work to continue whilst waiting on SUs
C1	Insufficient attention paid to local conservation and heritage areas at Planning	3	4	12	Early collaboration with NCC Historic Buildings Leader
V5	Tar bound material identified in existing pavement (design)	3	4	12	Survey / cores to enable inclusion in costing Identify opportunity for in situ recycling Explore whether tar bound material can be recycled within the scheme Disposal - recycling plant in locality - Boughton (all year) - Tarmac recycling

Risk Id	Risk Event	Residual Probability	Residual Consequence	Residual Rating	Mitigation
					is seasonal
L2	SHE - Identification of materials containing asbestos	3	4	12	Survey work to understand ACMs Agree strategy for dealing with ACMs Ensure all training is up to date / in place for ACM awareness Potential for additional training for gangs to enable in-house specialist removal
L6	Legislation changes - SHE	3	4	12	
L8	Unknown buried archaeology	3	4	12	Early collaboration with NCC County Archaeologist Archaeology surveys - scope issued for fee estimates Watching brief during topsoil strip during construction.
L14	Unplanned / planned diversions from the Strategic Road Network	3	4	12	Early engagement with Highways England RSB team Process to be created in event of unplanned diversions during construction Resilience plan in place for major unplanned event on SRN with communications plan in place. Implementation of advanced signing.

7.13.5 Quantified Risk Assessment (QRA)

All risks contained within the Risk Register have been quantified to produce an informed risk-adjusted project cost estimate. Consideration has been given to the combined risk of both delay (time and associated anticipated cost) and direct costs of each risk, over and above assumed base costs.

Each risk was identified as being scheme wide, or at a specific junction within the package, and classified by type into one of the following areas:

- Strategic.
- Delivering the asset.
- Operating the asset.
- Project.
- Demand and revenue.

The above grouping has been taken from the DfT document Tag Unit A1.2: Scheme

Costs. The risks have then been subsequently grouped into the following areas:

- A - Funding / Third Parties.
- B - Programme / Contract.
- C – Scope.
- D – Weather.
- E – Environmental.
- F - Third Party Stats.
- G – Flooding.
- H – Resources.
- I - Tender / Contract.
- K – Approvals.
- L – Construction.

The impacts of each risk in terms of cost and delay, are based predominantly on experience and evidence of similar schemes, such as the GAR.

Where there is a scheme wide risk, an appropriate percentage (level of risk/risk rating) has been applied to each of the junctions to enable a calculation to be made informing the overall level of risk for each individual junction, which is reflected in the costs input into the TUBA assessment. Percentages have been applied thus:

Table 7-10 Residual Probability Rating

Residual Probability Rating	Probability Percentage
1	5%
2	25%
3	50%
4	75%

The direct cost is based on costs incurred where third party involvement is required i.e. cost of land agent, legal advice or specific construction activities not included in scope of works.

The delay costs are calculated differently depending on the phase of the project:

- Pre-construction phase: delay costs are based on incurred fees (assumed £15,000 per month (multiplied by the number of weeks of delay.
- Construction phase: delay costs are based on assumed costs of preliminaries (i.e. traffic management) multiplied by the number of weeks of delay.

The direct cost plus the delay cost provides a total cost of the risk. This is then multiplied by the probability percentage to obtain the likely cost. The scope of the QRA is to include all risks associated with the planning, funding, design and construction of the A614/A6097 improvement scheme and the calculated likely cost is within the assumed risk percentages included in the cost estimate.

Within the Risk Register, there are five risks with a likely cost estimated at greater than £100,000, these are shown in the table below:

Table 7-11 Risks greater than £100,000

Risk Id	Risk Event	Residual Probability	Residual Consequence	Residual Rating	Mitigation	Likely Cost
L8	Unknown buried archaeology	4	3	12	Early collaboration with NCC County Archaeologist Archaeology surveys - scope issued for fee estimates Watching brief during topsoil strip during construction.	£370,500
A2	Inflation increases real cost of scheme and variation in construction cost	3	4	12	Maintain cost estimates by experienced QS team Engage with supply chain and sub-contractors early Regularly review	£297,000
L24	Missing or incorrect information for Scope	3	3	9	ECI throughout design period Scope peer review and check upon completion Use of framework contractors where required and early engagement	£283,394
D1	Weather and flooding < 1:10 events	2	1	2	Ensure business continuity / resilience plan is in place to restore 'normality' as quickly as possible Actively monitor daily forecast On receipt of Severe Weather Warnings, prepare necessary site protections i.e. temp signing, sandbags	£101,268
L5	Safety issues for HGVs access and	2	3	6	Early conversations with affected parties and landowners Investigate alternate mitigation strategies	£100,000

Risk Id	Risk Event	Residual Probability	Residual Consequence	Residual Rating	Mitigation	Likely Cost
	egress at Limes Café				Temporary improvements to northern car park access during construction Temporary road construction for Inkersall Lane access	

However, within the QRA, Via EM has translated the probability and impact of the risk into a measurable quantity using an apportioned monetary value. The total value of each risk in the project has been used to inform and apply an appropriate contingency level which has been applied to future scheme development and delivery costs.

Via EM have successfully demonstrated their ability of managing risks on numerous other transport projects and the management of risk and uncertainty will be key to successful delivery of the A614 / A6097 MRN improvement scheme.

As confirmation, the latest scheme estimate includes a total risk value of £2.967m.

As Risk Register develops new risks may emerge and risks will be 'closed' and not some realised. In this case, the value of the risk pot will remain unchanged but the balance can be set against any other unforeseen risks that develop throughout the delivery period.

Example – No objections are received to the CPO and therefore no Public Inquiry is needed. So, Risks A5, B7 and B12 would be closed and calculated likely cost of approximately £24,000 not materialised.

The financial implications of any project overspend will be underwritten by NCC as the promoting authority. This undertaking was included in the report approved at the County Council's Communities and Place Committee meeting on 4th April 2019.

7.14 Benefits Realisation and Monitoring Plan

7.14.1 Objectives

The objectives of the package of junction improvements are aligned closely with the objectives set out in the MRN programme to:

- Reduce congestion.
- Support economic growth and housing delivery.
- Support the Strategic Road Network.

- Reducing journey time delays, particularly at peak periods.
- Supporting all road users.

The purpose of a benefits realisation plan is to track the expected benefits to be accrued over the lifetime of the Scheme It will set out the overall approach and framework that will be used to manage the realisation and delivery of the benefits.

7.14.2 Monitoring and evaluation

DfT required monitoring and evaluation to demonstrate that funding provided for the Scheme in Nottinghamshire represents value for money to the taxpayer. Additionally, this exercise is intended to ensure the scheme meets its core strategic and economic objectives of its business case. In so doing this will allow the DfT and County Council to understand what has worked well and what hasn't and why this might be the case, so that good practice can be replicated across the country and mistakes and poor outcomes avoided in the future.

Initially the six junction improvements across the A614/A6097 corridor will deliver immediate transport user benefits to commuters, business travellers and drivers on other journey purposes, as quantified in the Economic Case. These journey time and reliability benefits will translate into inward investment and the build out of housing and employment sites alongside and adjacent to the A614 / A6097 corridor. It is only when these sites are developed that the second wave of benefits on the local economy will be fully realised.

The County Council and Via EM will prepare and submit to the DfT a Monitoring and Evaluation Plan using the DfT Guidance for 'standard monitoring'. This will focus on both the scheme's construction and scheme objectives. Scheme construction monitoring will concentrate on issues around build quality and out turn costs. Scheme objectives monitoring will relate to traffic demand, journey time and reliability changes, roads safety impacts, carbon emissions and impacts on the delivery of houses and employment sites in the corridor. Consideration would also be given to background effects that are not directly related to the scheme.

It is usual practice for the reporting of impacts in the Monitoring and Evaluation Plan to take place both 12 months after opening and five years post opening, however as the project involves a phased implementation of improvements at different locations across the corridor, over a three-year period, the monitoring and reporting programme will need to be carefully considered and agreed with the DfT. It may be necessary to identify and agree an interim monitoring programme as well as the normal post completion project evaluation exercise.

The County Council and Via EM have considerable experience in undertaking monitoring and evaluation of major transport projects, including those funded by the DfT. Most recently a 'one year after' Post Opening Project Evaluation report was submitted to the Department for Transport for the Hucknall Town Centre Improvement Scheme. The DfT response was that '' this was a high-quality, well-drafted and well-

evidenced report in line with our expectations for Standard Monitoring reports''.

NCC has identified a provisional budget of £30,000 to undertake the monitoring and evaluation work for the scheme. There is a requirement to estimate the specific costs of the activities proposed in this plan and review the provisional budget. This will need to be finalised in advance of the Full Business Case (FBC) submission for Full Approval.

7.15 Contingency Plan

The whole project team are working collaboratively to manage risks and report through the governance structure to ensure that decisions are transparent and made in a timely manner to ensure project success.

It is considered that the following areas are key to the project implementation together with a summary of the outline arrangements to manage in the case of delays:

- **Approvals of Outline Business Case** – The Outline Business Case will be submitted as agreed during December 2020. Teams have been working collaboratively with the DfT to ensure that methodologies, approaches and data used is acceptable to minimise further being required to successfully achieve approval. Resource will be made available to respond to any DfT queries.
- **Planning** – Early and ongoing discussions are taking place with Planning Officers to ensure the submission meets all requirements and can be considered. This includes a robust communications and stakeholder strategy to ensure that local communities, elected members and those affected are kept up to date to minimise objections. Securing planning permission is required in order to make and confirm the Orders required to deliver the Scheme. Regular project team meetings are held to discuss planning requirements and ensure that all data is produced and submitted in a timely manner. Resource will be made available to respond to any planning queries.

  Delays to either a planning decision or submitting the application are included in the risk register and will be closely monitored until a successful decision has been achieved.

- **Statutory Orders** – Funding approvals and planning is required to make and confirm the Orders required to deliver the Scheme. The project programme considers this and also includes timescales associated with the advertisement and publication of the orders and a resultant Public Inquiry. Appropriate advice is being sought throughout this process in order to ensure it is carried out correctly but also to demonstrate that there is a compelling case in the public interest to implement. Queens Counsel advice will be sought in advance of making the orders to challenge and validate the evidence produced and will continue to provide

support should objections be received and

- **Funding** – Robust estimates have been produced to update the updated cost / benefit analysis required as part of the Outline Business Case. Construction and estimating teams are inputting into the design and development of formal target costs in parallel to planning and other statutory processes.

  Should future cost estimates be over the budget available prior to construction commencing then additional funding sources will be sought. Through the County Council, procedures are available to request funding through the 'Capital Asset Management Group', depending upon the value this may then need to be ratified by the Finance and Major Contracts Committee or Full Council.

  Funding can be considered through the County Council's Integrated Transport Measures funding as a contribution. In addition to this, Newark and Sherwood District Council collect Community Infrastructure Levy (CIL) from developments across the District that may be available.

7.16 Conclusion on the Management Case

The Scheme will be managed in line with the principles of PRINCE2.

A project specific governance structure has been created. This structure is based on established and operational governance arrangements for other major schemes currently being delivered by NCC including the Gedling Access Road.

A delivery programme for the Scheme has been created. The key go / no go decisions will be reported through the County Council's Committee structure and linked around making of the CPO/SRO, construction costs etc.

Risks associated with the overall delivery are included in a Risk Register and Quantified Risk Assessment. This is managed across the whole project team and maintained by the Via EM PM. Key risks are highlighted through the project reporting and will be reviewed regularly as the Scheme progresses.

The success of the Scheme and the associated benefits will be measured against a set of identified metrics by the County Council and reported in future DfT monitoring reports.

8 Overall Conclusions

In summary this OBC sets out that the scheme has been assessed against and meets the requirements of the 'five-case' model required by the DfT, as follows:

- **Strategic Case** - The scheme meets strategic objectives both locally (Nottinghamshire LTP / Place Plan), regionally (Midlands Connect) and nationally, in that the scheme will improve journey times and reliability, improve network resilience encouraging productivity and reducing costs to business. Commercially the package of improvements will drive economic growth by facilitating and enabling planned housing and creating jobs (improvements at these junctions would enable 1,330 dwellings and over 24,000 m2 of employment growth). The proposed A614/A6097 improvements support The Midlands Connect Strategy outcome 'Regionally Connected: Powering the East Midlands Engine' by improving access to markets, supply chains and labour markets. The Midlands Connect Strategy identifies that in order to achieve ambitions of high-quality end-to-end journeys, further intervention is required on the local and sub-regional networks too, i.e. the Major Road Network of which the A614 / A6097 is an integral part.
- **Economic Case** - The project represents 'High' value for money in economic terms as defined in DfT investment guidance notes. The combined package of junction improvements delivers a Present Value of Benefits (PVB) of £51.493 million, a Present Value of Costs (PVC) of £16.702 million, a Net Present Value (NPV) of £34.791 million and a Benefit Cost Ratio (BCR) of 3.08. If induced investment is also considered then the BCR would be 3.40.
- **Commercial Case** - In terms of procurement strategy, pricing and payment mechanisms and risk allocation, the County Council and its transport consultancy and design partners Via East Midlands are well placed and experienced in successfully delivering schemes of this nature, including those funded by both the D2N2 and SCR LEPs and the DfT.
- **Financial Case** - The financial cost of the scheme is £28.635m and the County Council is committed to meeting all costs over the DfT fixed contribution of a maximum of £24.339m. The County Council (S151 Officer) has given an undertaking that the County Council would underwrite any project overspend, should this arise.
- **Management Case** - With clear proposals for governance, project planning, risk management, stakeholder management and project evaluation it is considered that there is sufficient project direction and assurance that NCC can deliver the A614/A6097 MRN package of junction improvements to the DfT specified deadline, and that these improvements will deliver wide ranging economic benefits in accordance

with the DfT MRN funding requirements.

Appendices

A.	Options Appraisal Report (OAR) – December 2020, AECOM and Via East Midlands.
B.	Traffic and Economic Assessment Report (TEAR) December 2020, AECOM
C.	Scheme Plans
D.	A614/A6097 Communications Plan 2020
E.	Appraisal Summary Table (AST)
F.	Project Plan
G.	Letters of Support
H.	Quantified Risk Assessment
I	Environmental Worksheets and Constraints maps.