

11.0 TRAFFIC AND TRANSPORT

Introduction

- 11.1 This section assesses the impact of the proposed development, which has been described in detail within Section 3, on the surrounding road and transportation network. Consideration is given to the routing of vehicles accessing the site and measures to mitigate the effects of site traffic. The section concludes with a summary of the assessments carried out and an overview of the mitigation measures proposed.
- 11.2 This section is prepared as a Transport Assessment, prepared in accordance with the Guidelines of Traffic Impact Assessment 1994 as published by the Institution of Highways and Transportation and also takes into account the latest Planning Policy Guidelines as directed by PPG13: Transport. This section also takes account of the Highways Agency guidance in Design Bulletin 32.

Proposed Development

Current Site Usages and Recent Use History

- 11.3 The site has historically been used in connection with the Annesley Bentinck Mine for the disposal of colliery spoil. In addition, coal was extracted from an area to the south of the active tip, with the view of extending the tip into the void. Since the closure of the mine in c. 2000 the site has been disused.

Proposed Development Usage

- 11.4 The development proposals have been described in detail within Section 3 and are summarised below: -
- The reclamation of the tip with imported inert waste;
 - The reclamation of the void by infill with non-hazardous wastes, commercial, industrial and municipal wastes within a fully engineered containment landfill;
 - The establishment of a compost maturation facility;
 - The construction of a new access road linking the site with the A608, including an underpass beneath Salmon Lane;
 - The construction of a new left in / left out junction with the A608 and the new access road; and
 - Ancillary development in the form of landfill gas infrastructure, leachate and offices / weighbridge.

Study Area

- 11.5 The site is located immediately east of the M1 between its junction with the A38 (junction 28) to the north, and the A608 (junction 27) to the south. The location of the site in the context of the surrounding transportation network is shown on Drawing BC 11/1. The site would be accessed through the construction of a new access road which would join with the A608 via a junction with the A608 incorporated into the layout of an existing lay-by.
- 11.6 The A608 provides local access to the east and access to the national road network to the M1 to the west.
- 11.7 Access to the site is available via the M1 Junction 27 interchange from the west. It is therefore estimated that the majority of HGV traffic accessing the site would be sourced from the west, with only local deliveries sourced from the east.
- 11.8 The threshold by which traffic related impact is determined is a 5% increase in baseline traffic flows, and this is detailed further within this assessment. The assessment demonstrates that the increase in baseline flow as a result of the traffic generated by the proposed development would be substantially below 5% on the A608. The Study Area for the assessment is therefore deemed to not be required to extend extensively beyond the A608, and may be summarised as follows.
- Salmon Lane between the villages of Selston and Annesley Woodhouse;
 - The A608 east from its junction with the M1 to the roundabout junction with the A611; and
 - The M1 Junction 27 interchange.

Existing Conditions

Current Transport Policy

Nottinghamshire Local Transport Plan

- 11.9 The Nottinghamshire Local Transport Plan (LTP) was published in 2001 and was prepared in line with current national guidelines developed to identify targets towards a more sustainable integrated transport system and to reduce the level of road traffic from current levels.
- 11.10 The LTP identifies the following objectives in helping to develop the plan:
- To increase sustainable accessibility to the City Centre and district centres in ways which enhance economic activity, encourage development in and reduce social exclusion from these centres;
 - To reduce traffic growth and to encourage modal change away from the private car particularly for work journeys to the City Centre;
 - To encourage safe walking and cycling for short journeys including travel to schools, shops and other local facilities;
 - To improve integration and interchange between modes;

- v. To integrate land-use and transport planning by ensuring all new major development is well connected to the public transport system and accessible on foot and by cycle;
- vi. To maintain and enhance Greater Nottingham's accessibility to regional, national and international markets, particularly by modes other than the car;
- vii. To reduce social exclusion and to improve the accessibility to transport for disadvantaged groups, particularly disabled people;
- viii. To relieve communities from the adverse effects of through traffic, particularly heavy goods vehicles;
- ix. To maximise the efficiency and maintain the structural integrity of existing transport networks;
- x. To increase transport choice in rural areas;
- xi. To improve air quality within the Plan area and to alleviate other transport impacts upon health; and
- xii. To improve road safety, particularly for vulnerable road users.

11.11 To complement the Plans objectives, a set of general area-wide and local targets have been developed. Those that are considered relevant to this assessment are listed below:

- To increase non-motorised modes' share of journeys to work by 5% by the year 2011;
- To reduce accidents (killed or seriously injured) by 33% by the year 2010;
- To reduce the percentage growth per annum of cars to below 2.5%;
- To increase the car occupancy rate by 10% by the year 2011; and
- To increase the number of bus quality routes by 1% per annum until the year 2011.

High Priority

- Remove existing central reserve gaps in dual carriageways (which allow right turning at a junction) to prevent usage by motorised users. Develop alternative means of access for users; and
- Improve the standard and safety of existing junctions. This may include replacing existing at-grade junction with grade separated junctions, restricting turning movements, providing dedicated left turn lanes, banning right turn, and improving the standard of merge and diverge lanes.

Medium Priority

- Provide enforcement of speed limits, where justified on grounds of safety, by means of speed cameras and / or use of interactive speed responsive signage.

Existing Highway Network

- 11.12 The existing highway network within the vicinity of the application site is illustrated on Drawing BC 11/1 and is described in detail below.

Major Route Network

- 11.13 The M1 motorway provides major route access to the towns of Mansfield, Sutton in Ashfield, Alfretton and Kirkby-in-Ashfield via the A38 and A38 (T), which join with the motorway at junction 28 north of the application site.
- 11.14 To the south of the application site, the A608 joins with the M1 motorway at junction 27, providing access to the southern area of Kirkby-in-Ashfield in addition to the smaller settlements of Annesley Woodhouse and Selston.

A608 Mansfield Road

- 11.15 The A608 is a dual carriageway from its junction with the M1 east for approximately 200m to a roundabout providing access to the Sherwood Park Development. East of this roundabout, the road is a single carriageway leading to another roundabout providing an eastern access to Sherwood Park. There is then another short section of dual carriageway, before the A608 joins with the A611 at a further roundabout junction.
- 11.16 The road over this length appears to be constructed to modern standards, with a standard edge detail and drainage, forward visibility is considered adequate.
- 11.17 A lay-by and parking area is situated immediately east of the roundabout junction with the M1, on the eastbound carriageway. The private access road would join the A608 at this location.

Salmon Lane

- 11.18 Salmon Lane is a minor road which runs to the south of the main body (*i.e.* the Void and Tip) of the application site, linking Annesley Woodhouse with Selston, a settlement west of the M1. The road is approximately 6m wide, with soft raised verges. The road is subject to steep gradients and tight horizontal curves. Forward visibility is reduced in places due to the alignment of the road.
- 11.19 Salmon Lane crosses the M1 motorway south east of the site via an overbridge. There is currently a 7.5 tonne weight restriction on Salmon Lane.

Existing Traffic Flows

- 11.20 A 12-hour fully classified manual traffic count was undertaken on the A608 by The Paul Castle Consultancy on behalf of SLR Consulting Ltd on

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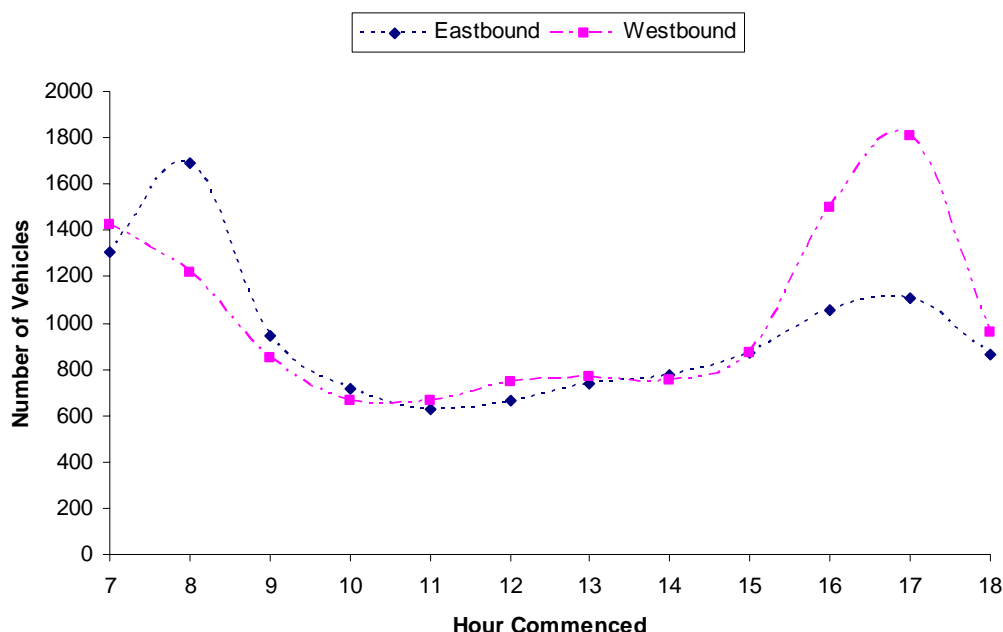
Wednesday 27 September 2006. The location of the count is shown on Drawing BC 11/1. The count was undertaken on a standard weekday outside of school holidays and weeks containing bank holidays. The data recorded are included in Appendix 11/1 and summarised in Table 11/1 below.

**Table 11/1
Existing Traffic Flows – A608 (September 2006)**

Link	Two-Way Flow			One Way Flow			
	Flow	HGVs	%HGV	Direction	Flow	HGVs	%HGV
A608	23,577	2,065	8.8%	Eastbound	11,356	1,072	9.4%
				Westbound	12,221	993	8.1%

11.21 The 12-hour traffic profile for the A608 is demonstrated in graphical form in Figure 11/1 below.

**Figure 11/1
12-Hour Profile - A608**



11.22 Figure 11/1 demonstrates a constant flow of traffic on the A608 during the day, with clear defined peaks in the morning and evening peak hours. The flow on the A608 is tidal with eastbound traffic higher in the morning and westbound traffic higher in the evening.

11.23 Traffic counts undertaken at the same location in October 2004 recorded an average 12-hour two-way flow of 22,685 vehicles. Traffic growth on the A608

over the 2-year period therefore equals 3.9%, which is roughly in line with the National Road Traffic Forecast (NRTF) medium growth rate for 2004 to 2006 of 3.4%.

Accidents Records

- 11.24 Road traffic accident statistical data for the five year period May 1999 to May 2004 within the study area was obtained from Nottinghamshire County Council. The data received are included in Appendix 11/2 and the location of the accidents and their severity are shown on Drawing BC 11/2.
- 11.25 Of the 34 personal injury accidents recorded, 26 were classified as slight and 8 were classified as serious. There were no fatal accidents recorded within the study area.
- 11.26 The locations and causes of recorded accidents are given further consideration in paragraphs 11.90 *et seq* below.

Non-Car Transport

- 11.27 There is currently one bus service that travels along the A608 and Sherwood Business Park within the vicinity of the application site. The available service is: -
- Black Cat (BC), operated by Trent Barton, and running between Mansfield, Heanor, Ilkeston and Derby.
- 11.28 The Black Cat service operates from Monday to Saturday, with inbound and outbound services passing the site approximately once every hour from 05:46 to 18:49.
- 11.29 The closest bus stop to the application site is located within the Sherwood Business Park to the east.

Proposed Site Access Arrangements

- 11.30 Historically, the main access to the Tip was off Park Lane to the north of the application site, and was used in connection with the importation of solid colliery wastes.
- 11.31 As previously stated, the development proposals include the construction of a private access road linking the application site directly with the A608. This access road would pass beneath Salmon Lane via an under bridge and enter the main site in cutting at an elevation of approximately 140 metres AOD, some 6 metres below existing ground levels. The haul road would join the A608 via a priority junction incorporated within the layout of an existing lay-by. The proposed configuration of the junction has been discussed with the highway authority and the layout conforms to their requirements. The junction would be restricted to left in/left out movements from/to the A608.

The preliminary layout of the haul road is shown in outline on Drawing BC 11/1, with a more detailed design shown on Drawing BC 3/14.

- 11.32 Dependant on the design of the under bridge, the total construction period could take between 6 to 16 weeks. All efforts would be made to maintain traffic flows on Salmon Lane for the period of the works; it is envisaged that traffic signal controlled single lane operation would be necessary for some weeks. It may also be necessary for Salmon Lane to be temporarily closed to all through traffic at certain times during the construction period. A diversion route would be signed, which would direct traffic travelling between Annesley Woodhouse and Selston to the north via the B6018 – Park Lane.

Future Road Improvements

M1 Widening Junction 21 to 30

- 11.33 The Highways Agency (HA) proposes to improve approximately 85 km of the M1 between Leicester and Chesterfield by widening those sections that are dual 3-lane to dual 4-lane motorway. This would affect the motorway in Leicestershire, Nottinghamshire and Derbyshire between junctions 21 to 30. At junctions the HA would consider a range of measures to alleviate congestion where this occurs.
- 11.34 The scheme would be carried out in two phases at an estimated total cost of £1.9billion. The current programme indicates that Phase 1 construction would commence in 2007 and Phase 2 would commence in 2009.
- 11.35 Phase 1 would make improvements to the existing highway boundary enabling relief to some of the more congested lengths of the M1. Phase 2 would involve works requiring additional land which would be taken through a Statutory Orders process.

Modal Choice / Trip Attraction

Existing Trip Generation

- 11.36 The application site at present is a disused colliery tip and as such does not generate any significant existing trips.

Future Trip Generation

Reclamation of the Landfill Void

- 11.37 The development proposals seek to infill the void with waste imported at a rate of approximately 341,000 tpa. The majority of waste would be imported directly by refuse collection vehicles (average 10 tonne loads) and in bulk form by articulated HGVs (average 23 tonne loads). A small amount of waste would be imported by roll on / roll off vehicles (average 8 tonne

loads). Allowing for the site being operational for 275 working days per year, it is estimated that the landfill void would generate 105 HGV trips per day (210 movements).

- 11.38 In addition to the trips detailed above, there would be around 10 HGV service trips per day (20 movements).

Reclamation of the Tip

- 11.39 The development proposals seek to reclaim the Tip with inert waste imported at a rate of approximately 230,000 tonnes per annum. 22,000 tonnes per annum of compost material would also be imported for final maturation and subsequently used on site for restoration.
- 11.40 The inert waste would be screened and oversize material crushed. The inert waste would be comprised predominantly of soils/ clay and overburden, and would be sourced mainly from “muck-shifting” contracts.
- 11.41 A small percentage of this inert waste would be recovered for re-use and exported off site. For the purposes of this assessment, the amount recovered is assumed to be in the region of 20% of the total mass imported.
- 11.42 Allowing for the site being operational for 275 working days per year, and for an average load of 20 tonnes per vehicle, it is estimated that the operations associated with reclaiming the tip would generate 54 HGV trips per day (108 movements).
- 11.43 The proposed volume of HGV trips generated by the development proposals is summarised in Table 11/2 below.

**Table 11/2
Future Trip Generation**

	Annual Tonnes	Average Load (Tonnes)	Annual Loads	Daily Loads *	Daily Movements *	Peak Hour Movements **
VOID						
Imports	2,150	8	269	1.0	2.0	0.2
Imports	198,850	10	19,885	72.3	144.6	18.1
Imports	140,000	23	6,087	22.1	44.3	5.5
Service	-	-	2,750	10.0	20.0	2.5
TOTAL	341,000	-	28,991	105.4	210.8	26.4
TIP						
Imports	230,000	20	11,500	41.8	83.6	10.5
Exports	46,000	20	2,300	8.4	16.7	2.1
Composting	22,000	20	1,100	4.0	8.0	1.0
TOTAL	298,000	-	14,900	54.2	108.4	13.5
OVERALL	639,000	-	43,891	159.6	319.2	39.9

¹ Peak hour assumed 1/8th of daily traffic flow

**Each peak hour assumed to represent 1/8th of daily movements

11.44 Table 11/2 demonstrates that the application site would generate a total of 160 HGV trips per day (319 movements), with approximately 40 HGV movements expected in each peak hour. These figures have been used in undertaking the assessments of the future impact of traffic.

Cars and Light Vans

11.45 It is anticipated that the development would employ up to 25 staff. To account for this, one trip per employee per day has been allowed for, resulting in 25 light vehicle trips (50 movements) per day.

11.46 For the purposes of this assessment, it has been assumed that all these trips would arrive at the site in the morning peak hour, leaving in the evening peak hour.

Trip Distribution / Assignment

Existing / Future Trip Distribution

11.47 The distribution of development traffic has been assessed using a simple gravity model within a 35km radius of the application site and determining the most likely approach route. In determining this model, it is assumed that the M1 would predominantly be used for access.

11.48 The assumed distribution of trips from this model is shown in Table 11/3 below.

**Table 11/3
Assumed Trip Distribution**

Source	Proportion
M1 North	60%
M1 South	15%
A608 West	10%
A608 East	15%

11.49 A sensitivity test of the gravity model was undertaken to address concerns of the local highway authority that the original model was too heavily weighted towards the M1 motorway. The second model was prepared assuming a smaller 20km radius catchment area. To further test the robustness of the traffic implications of the development the sensitivity model distribution was manually adjusted to model all waste generated within Nottingham City approaching the site via the A611, rather than being divided between the M1 (south) and the A611.

11.50 The alternate trip distribution model is shown in Table 11/4 below.

**Table 11/4
Assumed Trip Distribution – Sensitivity Test**

Source	Proportion
M1 North	10%
M1 South	10%
A608 West	17%
A608 East	63%

- 11.51 Table 11/4 above shows that 63% would be distributed east along the A608, of this 34% would be distributed to the A611 north, and 29% to the A611 south. In reality, the distribution percentage would be more heavily weighted towards the M1, but the above distribution figures can be used as a robust test to determine the impact of development traffic on the existing non-motorway highway network.
- 11.52 The A608 in the location of the proposed haul road junction is a dual carriageway and the junction is also proposed to be constructed in relatively close proximity to the motorway junction. The haul road junction would be incorporated within the layout of an existing lay-by and would cater for left in/left out movements only, with no gap provided in the central reserve for right turn movements.
- 11.53 All traffic exiting the site to the west of the access would therefore be required to turn left out of the site and make a U-Turn at the Sherwood Business Park roundabout. Similarly, traffic accessing the site from the east would be required to make a “U-Turn” at the motorway interchange junction. The need for these movements implies that adjustments to the distribution model would have no effect on the turning movements at the haul road access junctions or the percentage increase figures on the A608 detailed below.

Highway Impact

Impact on County Road Network

Assessment Years

- 11.54 For the purposes of this assessment, it is assumed that the site would be operational and open to traffic in 2007 and a design year of 2022 is therefore appropriate. Capacity assessments have been undertaken for both the opening year and the design year.
- 11.55 Baseline peak hour traffic flows measured in September 2006 have been growthed to 2007 and 2022 using National Road Traffic Forecast (NRTF) medium growth figures.

- 11.56 Taking account of the baseline traffic, future trip generation and the likely distributions as detailed above, peak hour turning movements at the site access junction have been derived and are shown in Appendix 11/3.

Site Access Junction

- 11.57 The capacity of the proposed site access junction with the A608 has been assessed for both the opening and design years using the Transport Research Laboratory software PICADY 5. The capacity assessments assume a simple junction layout and the results are included in Appendix 11/4 and summarised in Table 11/5 below.

**Table 11/5
Site Access Junction Capacity Assessments**

Arm	AM Peak Hour		PM Peak Hour	
	Demand / Capacity (RFC)	Max Queue (Vehicles)	Demand / Capacity (RFC)	Max Queue (Vehicles)
<i>Opening Year 2007</i>				
Site Access	0.103	0.11	0.125	0.14
<i>Design Year 2022</i>				
Site Access	0.131	0.15	0.139	0.16

- 11.58 The analysis demonstrates that the site access junction would operate well within its reserve capacity in both the opening and design years, with no noticeable queuing on any arm.
- 11.59 The maximum ratio of flow to capacity (RFC) occurs on the site access arm in 2022 during the PM peak. The figure of 0.139 compares well to the maximum recommended RFC figure of 0.850.

Link Capacity

- 11.60 Table 11/6 below indicates that there would be a maximum increase in the level of total traffic on the A608 of 1.6% when taking into account the additional traffic generated by the proposed development.
- 11.61 The Guidelines for Traffic Impact Assessment 1994 suggest that an increase in the existing traffic flow “which exceeds 10%” would constitute a traffic impact. Where traffic congestion exists, or would exist under new flows, a 5% increase would constitute a traffic impact.
- 11.62 It is demonstrated above that the proposed site access junction would perform adequately for both existing and future conditions, indicating that traffic congestion would not exist in the future situation.

- 11.63 In falling below the 5% threshold, it is not considered that the future traffic levels would materially affect, in capacity terms, the local road network and adjacent junctions.

Impact on Existing Lay-By

- 11.64 The presence of the site access junction within the layout of the existing lay-by would have an effect on the operation of the lay-by when compared with the existing situation. There would be approximately 160 more HGV trips per day entering and exiting the lay-by, in addition to light vehicle trips.
- 11.65 It is perceived, however, that there would be little conflict between the two streams of traffic. Traffic accessing the application site would diverge away prior to the parking area of the lay-by, and vehicles exiting the application site would be required to give way to vehicles exiting the lay-by.
- 11.66 Sufficient signage would be provided within the access road and junction arrangement to ensure that drivers are aware of the differing traffic streams and relevant priorities.
- 11.67 It is therefore perceived that the impact on users of the existing lay-by would be minimal.

Impact on Motorway / Trunk Road Network

Impact on M1 Junction 27

- 11.68 The nearest motorway or trunk road to the development is the M1 motorway located immediately west of the proposed application site access. Impact on Junction 27 of the motorway is considered here.
- 11.69 DTLR Circular 04/2201 '*Control of Development Affecting Trunk Roads and Agreements with Developers Under Section 278 of the Highways Act 1980*' states that the Highways Agency would regard an increase in turning movements at the junction in the order of 5% material in most cases, that is, a 5% increase in traffic using any link of the junction.
- 11.70 It is demonstrated in Table 11/6 below that there would be a maximum increase in total traffic of 1.6% on the A608 as a result of the development proposals. The increase in baseline flows on the motorway junction would be further diluted by the distribution of trips detailed in the assessment. It is therefore not anticipated that the total increase in traffic on any arm of the M1 Junction 27 interchange would exceed this maximum percentage increase.
- 11.71 In falling below the 5% threshold, it is not considered that the future traffic levels arising from the application site would materially affect the adjacent trunk road network.

Future Road Improvements

- 11.72 As detailed above, the Highways Agency propose to widen the M1 between junctions 21 and 30. These improvements would seek to alleviate congestion at junctions along the outlined section and construction works are envisaged to commence in 2007.
- 11.73 There would undoubtedly be disruption to baseline traffic flows during the construction period, which is presumed to be sought to be minimised through the design of the scheme and requirements of the construction contractor.
- 11.74 It is considered that future traffic levels generated by the proposed development would not significantly affect baseline traffic levels.

Environmental Impact

Impact of Additional Traffic

- 11.75 For the purposes of this assessment, it is estimated that the development proposals would result in a total increase of 160 HGVs and 25 light vehicles per day (one way).
- 11.76 The future levels of traffic on the local road network within the Study Area are compared to the existing situation, in 12 hour terms, in Table 11/7 below. To provide a worst case impact assessment, the maximum traffic generated by the development proposals is assessed against existing traffic levels (October 2004). It is assumed that all traffic accessing the site does so during the 12 hour period (07:00 to 19:00).
- 11.77 The proposed access junction to the haul road would only enable left in / left out movements from / to the A608 carriageway. Vehicles accessing the site from the west would undertake a U-turn at the Sherwood Business Park roundabout on departure. Vehicles accessing the site from the east would undertake a U-turn at the M1 interchange junction on arrival. Each vehicle trip would therefore generate 2 vehicle movements on the A608 to both the east and west of the proposed access junction.

**Table 11/6
Predicted Average Total and HGV Traffic Increases**

Link	Existing Two-Way Flow			Future Two-Way Flow			% Increase	
	Total	HGV	%HGV	Total	HGV	%HGV	Total	HGV
A608 (both East and West of access junction)	23,577	2,065	8.8%	23,947	2,385	10.0%	1.6%	15.5%

- 11.78 The Guidelines for the Environmental Assessment of Road Traffic suggest two broad rules to define an environmental impact and determine the need for an impact analysis:
1. Highway links where traffic flows would increase by more than 30% (or the number of HGVs would increase by more than 30%); and
 2. Sensitive areas where traffic flows would increase by 10% or more
- 11.79 Considering that the area provides access to the M1 and the national road network, and that there are areas of heavy industrial use nearby, the study area is not considered to be a “*sensitive area*” and the 30% threshold is deemed to apply.
- 11.80 In falling below the 30% threshold, it is considered that there would be no material environmental impact resulting from the future traffic movements.
- 11.81 Notwithstanding the above, consideration is given to the impact on certain environmental issues, most notably road safety, in the sections below.

Driver Delay

- 11.82 Delay to drivers is generally caused at junctions and is only likely to be significant when the network is close to capacity. It is clear from the junction capacity assessments, and from visual observations, that the site access and all other junctions within the vicinity would perform within their available capacity when taking into account the development proposals.
- 11.83 As discussed above, the construction of the underpass on Salmon Lane would require periods of traffic signal controlled one-way traffic flow and may require temporarily closures of Salmon Lane for through traffic. Existing traffic flows on Salmon Lane are light and it is not envisaged that controlled one-way traffic flow would cause a significant increase in driver delay.
- 11.84 During periods of temporary road closure a diversion route would be signed, directing through traffic to the north via the B6018 – Park Lane. The diversion of through traffic would cause an increase in journey time and distance for travel between Annesley Woodhouse and Selston. However, all efforts would be made to maintain traffic flow on Salmon Lane during the construction period of 6 to 16 weeks, and it is anticipated that periods of road closure would be infrequent. Traffic flows on Salmon Lane are relatively light and it is not anticipated that diverted traffic would have a significant impact on highway links and junctions included as part of the diversion route.
- 11.85 Construction of the access road junction with the A608 would predominantly be undertaken off line with no disruption to traffic flows, except for tie-ins for which the dual carriageway would be reduced to single lane through the works. Delay to drivers here is considered to be minimal.

11.86 In overall terms, it is therefore considered that there would be some additional delay to drivers during construction of the haul road; however no perceivable delay to drivers is envisaged long term as a result of this application.

Pedestrian Amenity

11.87 The existing lay-by on the A608 provides some existing pedestrian movements associated with the tourist information boards situated in the lay-by.

11.88 Construction of the new haul road access junction within this lay-by would result in the movement of HGVs within the vicinity of these pedestrian movements. However, the pedestrian movements would be predominantly within the lay-by itself and therefore unlikely to cross HGV traffic streams.

11.89 It is therefore not considered that there would be any impact on pedestrians resulting from the development proposals.

Road Safety

Methodology

11.90 A summary of the road traffic accident data is set out in paragraphs 11.24 *et seq* above and the locations of recorded accidents are on shown on Drawing BC 11/2. The majority of accidents were recorded as slight and there were no fatal accidents within the study area.

11.91 An assessment of the location of accidents has been undertaken to establish any areas of concern and to be able to determine a likely impact of traffic arising from the application site on existing accident rates.

11.92 The recorded accidents have been grouped by location, as identified in Table 11/7 below.

Locations of Accidents

11.93 A summary of the data with regards to accident location over the roads within the study area is summarised in Table 11/8 below.

**Table 11/7
Summary of Recorded Accidents, 1999 to 2004**

Road Section	Number of Recorded Accidents			
	Total	Slight	Serious	Fatal
A608 – East of Sherwood Park Ind. Est	1	1	0	0

Road Section	Number of Recorded Accidents			
	Total	Slight	Serious	Fatal
A608 – Sherwood Park Ind Est Roundabout	7	4	3	0
A608 / M1 Junc 27 Roundabout Interchange	4	3	1	0
A608 – Eastbound approach – M1 Roundabout Junc 27.	1	1	0	0
A608 – Westbound approach - M1 Roundabout Junc 27	1	0	1	0
M1 Junction 27 – Northbound Exit Slip Road	7	7	0	0
M1 Junction 27 – Southbound Exit Slip Road	7	5	2	0
M1 Northbound C/way	1	1	0	0
Salmon Lane	5	4	1	0
TOTAL	34	26	8	0

11.94 Table 11/7 demonstrates that the highest number of recorded accidents occurred on the northbound and southbound exit slip roads of junction 27 of the M1 and the A608 roundabout to Sherwood Park Industrial Estate. Each of the above locations recorded 7 (21%) of the 34 recorded accidents.

Principal Cause of Accidents

11.95 Based on the information given in the accident data, the principal cause of each accident has been identified and these are summarised in respect of their locations in Appendix 11/5.

11.96 Appendix 11/5 identifies that the recorded accidents appear to occur for a number of reasons, notably roundabout related accidents and vehicles losing control. These types of accidents are considered typical accidents resulting from excessive speed, the presence of at-grade junctions and lack of driver care.

Impact of Additional Traffic

11.97 As detailed in the sections above, it is not considered that the additional traffic resulting from the proposed development would create an adverse impact on the operation of the local road network and as such it is not envisaged that there would be a material impact on current accident levels.

11.98 The type and nature of recorded accidents should, however, be emphasised and the policies and targets identified in the Nottinghamshire Local

Transport Plan in the respect of the need to reduce accident levels should be borne in mind.

- 11.99 The site access junction would be constructed in accordance with modern design standards, with adequate visibility provided. The junction would be left in / left out only, and hence there would be no site traffic turning across existing traffic streams. It is not envisaged therefore that the additional traffic arising from the application site would have an adverse impact on existing accident levels.

Transport Policy

- 11.100 An outline summary of the objectives of the Nottinghamshire Local Transport Plan (LTP) is given in paragraphs 11.9 *et seq* above. An assessment of the impact of the development proposals on transport policy is given below.

Widen Travel / Modal Choice

- 11.101 The LTP targets to widen travel choices to the general public. By the nature of its business, the proposed development would employ only a small number of personnel, the majority of whom would require access by car.
- 11.102 There are, however, other modes of transport available. The site is accessible by public transport, with bus services readily available from the Sherwood Business Park. The potential for employees to car share would also be considered.

Target Reduction in Traffic Growth

- 11.103 The LTP targets to reduce the percentage growth per annum to below 2.5%.
- 11.104 It is evident that there has been substantial traffic growth on the A608 over recent years, principally due to the development of the Sherwood Business Park adjacent to the application site.
- 11.105 Traffic generated by the application site would principally be waste collections from the wider area and it may be argued that this traffic is currently on the road network serving other sites. It is therefore not considered that the proposed development would generate a substantial amount of additional traffic on the road network.

Target Reduction in Accident Levels

- 11.106 The LTP targets a significant reduction in the number of people killed or seriously injured in road traffic accidents by 2010.
- 11.107 As considered in detail above, it is not considered that the predicted increase in traffic levels would have a significant impact on the current accident levels.

- 11.108 The applicant would enforce an induction policy on all HGV drivers with business at the site, improving awareness in terms of road safety.

Junction Design

- 11.109 The LTP provides a number of criteria for junction design in the county of Nottinghamshire. These criteria include the provision of dedicated left turn lanes and the banning of right turn movements at junctions.
- 11.110 It is considered that the layout of the proposed junction satisfies these criteria, and that the junction assists in improving the standard and safety of junctions within the county.

Public Rights of Way

- 11.111 The locations of existing Public Rights of Way within the vicinity of the application site have been obtained from Nottinghamshire County Council and are shown on Drawing BC 11/1.
- 11.112 Footpath No.8 runs from the A608 east of junction 27, northwards to cross the M1 via an overbridge and would be severed by the new access road. The footpath would be diverted to run alongside the access road. Although there may be some impact on the amenity of this footpath during the construction of the new access road, this would be over a narrow temporary period and no long term impact on amenity is envisaged.
- 11.113 Footpath No.11 currently follows the eastern and southern site boundary, joining Salmon Lane to the east of Suvla Bay. The original alignment of Footpath No.11 is subject to a suspension order, as the path follows straight across the application site and through the void. The footpath on its temporary alignment stays on the boundary of the application site and would therefore not be affected during the landfilling and associated operations. The footpath would be reinstated to its original course (or close similar) once restoration of the void is complete, and the diversion route closed.
- 11.114 The diversion route of Footpath No.11 joins Salmon Lane within the vicinity of the proposed underpass. Access would be maintained to the footpath during both the construction and operational period, and no impact on footpath amenity is therefore envisaged.
- 11.115 On the basis of the above, it is considered that the impact on Public Rights of Way would be minimal, and there would be a long term benefit in the restoration of the void allowing the re-instatement of the original line of Footpath No.11.

Mitigation

- 11.116 It is not considered that the predicted increase in traffic on the local road network resulting from the development proposals would have a significant impact on the existing baseline traffic flows on the surrounding road network.
- 11.117 It is noted, however, that the development proposals would result in a marginal increase in HGVs accessing the A608.
- 11.118 The development proposals therefore include the following mitigation measures to enable safe access into the application site and to ensure that the impact of additional traffic is minimised:
- The implementation of a new site access junction within the layout of the existing lay-by to the requirements of the highway authority;
 - Additional signage and road markings on the A608 within the vicinity of the site access, warning of the presence of the development site;
 - The construction of a new site access haul road;
 - The selection of an appropriate alignment, temporary soil screen mounds and tree planting to reduce the visual impact of the haul road on the surrounding area;
 - The retention of the individual types of topsoil and subsoil excavated for the haul road construction, for use in the restoration of the area of the haul road back to comparable road agricultural land at the end of the life of the development (refer to Section 6);
 - The inclusion of proposals for a pedestrian crossing where the public footpath between the A608 and Annesley Lane crosses the line of the access road and the temporary re-alignment of the public footpath on Salmon Lane, would ensure that adequate safety measures are undertaken to protect the walking public;
 - The mitigation for the short term loss of amenity for Two Dale Farm during the construction of the haul road, would include
 - Reducing the construction phase in the immediate vicinity of the dwelling to the minimum practicable period;
 - Limiting the hours and days of operation; and
 - Limiting the temporary operations to a maximum noise level of 70 dB L Aeq (1hr).
 - Construction of the haul road in a shallow cutting within the vicinity of Two Dale Farms to minimise visual and noise impact of the haul road on the property.
 - Provision of a signed diversion route should the construction of the underpass require the temporary closure of Salmon Lane; and

- Re-instate Footpath No.11 along its original alignment (or close similar) once restoration of the void is complete.

11.119 Such mitigation would be procured following the close liaison and agreement with the highway authority where appropriate.

Residual Impact

11.120 Taking into account all the factors assessed in this section and the mitigation measures outlined above, a final analysis of the impacts resulting from the development proposals has been carried out and is summarised below:

- | | |
|-------------------------|------------------------------|
| • Junction Capacity | Minimal Impact |
| • Link Capacity | Minimal Impact |
| • Driver Delay | Minimal Impact |
| • Environmental Impact | Minimal Impact |
| • Road Safety | Minimal Impact |
| • Public Rights of Way | Minimal Impact |
| • <u>Overall</u> | <u>Minimal Impact</u> |

Conclusions

11.121 An assessment of the impacts on the local road and transportation network as a result of the proposed development has been undertaken.

11.122 The proposed development would result in a marginal increase in baseline traffic levels on the A608. In falling below Government and Highways Agency guidance thresholds it is concluded that the highway network would not be significantly affected in capacity terms by the proposed development.

11.123 Standard capacity tests have been undertaken on the proposed new junction with the A608 and the new access road. These tests demonstrate that the proposed junction would operate within capacity for both the opening and design year.

11.124 It is concluded that the additional traffic generated by the application site would not have an adverse environmental impact when taking into account any increase arising from the proposed development.

11.125 A study of the road traffic accident records within the vicinity of the site has been undertaken; it is considered that the relatively small levels of traffic arising from the development proposals would not have an adverse affect on the current accident levels.

11.126 The construction of the underpass beneath Salmon Lane would cause moderate temporary disruption to through traffic. However, periods of road

closure are expected to be minimal and no long term increase in driver delay is expected as a result of this application.

- 11.127 It is not considered that any public rights of way would be significantly affected by the proposed developments. The restoration of the void would allow the reinstatement of Footpath No.11 which is currently subject to a suspension order.
- 11.128 In overall terms, it is concluded that the development proposals would have a minimal impact in terms of transportation, highways and public rights of way.