

16. TRAFFIC AND TRANSPORT

16.1 INTRODUCTION

16.1.1 Objectives of study

ADL Traffic Engineering have been appointed to prepare a Transport Assessment Section of the ES to accompany the planning application for the proposed regional distribution centre at Ditton. This Chapter of the report will provide an assessment of the situation on the local road network with the permitted development in place and the likely increase in traffic on the network as a result of the proposed development. The impact is assessed in terms of any additional queues and delays.

ADL have undertaken discussions and meetings with Halton Borough Council (HBC) with regard to the transportation aspects of the proposal. A preliminary Scope of Study was submitted to HBC in October 2007.

16.1.2 Scope of Study

The methodology for undertaking the analysis is given in *Section 16.2*.

The baseline conditions are given in *Section 16.3*, which includes a description of the local highway network and planned road improvements. This section also outlines the existing traffic flows and permitted flows, establishing the traffic flow scenarios for undertaking the junction capacity analysis.

Section 16.4 provides an assessment of likely traffic generation, its assignment onto the local road network and the traffic impact analysis for the opening year and the design year.

Section 16.5 demonstrates how the proposal complies with the transport policies in PPG13 and the UDP. It also provides a parking assessment.

Section 16.6 provides a summary and the conclusions of this Traffic and Transport chapter of the ES.

16.2 ASSESSMENT METHODOLOGY

16.2.1 Guidance on Transport Assessment

The assessment in this chapter has been carried out in accordance guidance for Transport Assessment, issued by the DfT in March 2007. This proposal qualifies for the full Transport Assessment.

The following junctions have been included in the analysis:

- Desoto Road/MacDermott Road
- Desoto Road/Hutchinson Street
- A535 Queensway/Ditton Road Roundabout
- A562 Ashley Road West/Moor Lane Roundabout
- Pickerings Road/Hale Road
- Foundry Road/Hale Road
- Ditton Road/Hale Road

The analysis has been undertaken for the morning and evening peak periods. In addition, information is provided on daily flows and HGV movements in accordance with the DfT guidelines.

The analysis has been based upon a year of opening of 2008 and a design year of 2018 in accordance with this current guidance.

The traffic generated by the proposals has been assessed using empirical studies undertaken at the existing rail freight distribution warehouses at Ditton and with data from TRICS 2007(b). The commercial (HGV) traffic has been calculated using TRICS data.

The generated traffic has been assigned onto the local road network using a trip distribution from the MDS Transmodal National Freight Model, as agreed with the Highways Agency (HA) in respect of the permitted development and an analysis of the capacity of the above junctions have been carried out with the permitted and proposed development situations.

16.3 BASELINE CONDITIONS

16.3.1 Existing Road Network

The road network in the vicinity of the site falls into four distinct categories:

- Private
- Local roads
- Country primary route
- Motorway network

The site is accessed from the east via a number of private roads including:

- MacDermott Road
- Mathieson Road
- Ronan Road
- Vickers Road
- Dock Road
- Desoto Road (south)

All of these private roads are currently accessed via the roundabout junction at Desoto Road/MacDermott Road and are in generally a poor condition.

In addition there is a western access to the site from Hale Bank via Foundry Lane and a bridge over Ditton Brook. This bridge is also in a poor condition

The local non primary road network consists of the following roads:

- MacDermott Road
- Desoto Road
- Ditton Road
- Foundry Lane
- Hale Road

MacDermott Road and Desoto Road links the private industrial roads to the local and strategic road network. These roads are generally in poor condition.

The county primary routes are:

- A533 Queensway
- A562 Ashley Road

These roads have been subject to recent improvements and are generally in a good condition.

Access to the motorway network is via the A562 Queensway and A5300 to junction 6 of the M62 (to the northwest) or the A557 and Junction 7 of the M62 (to the northeast).

16.3.2 Planned Network Improvements

There are two main highway improvement schemes planned/being implemented in the vicinity of the site. The first of these is the New Mersey Crossing as shown in *Figure 16.3.1*. Halton BC have advised that the new crossing is scheduled to be opened by 2014 and that it is not expected to significantly alter the pattern of traffic on the roads immediately surrounding the site and therefore its impact does not need to be considered in the EA.

The second proposed improved is the scheme to strengthen or realign the Ditton Road bridge (over the railway). This is scheduled to be undertaken in December 2009, but it has not been confirmed as to whether this will comprise a strengthening of the bridge structure or a realignment of the bridge.



16.3.3 Accident Situation

Accident data has been provided by Halton Borough Council for the area in the vicinity of the site as shown in *Figure 16.3.2*. The accidents were for the three year period from 1st January 2004 to 31st December 2006. This demonstrates that there were a total of 55 accidents. A summary of type and year is shown in *Table 16.3.1*.

Table 16.3.1 - Accident by severity and year

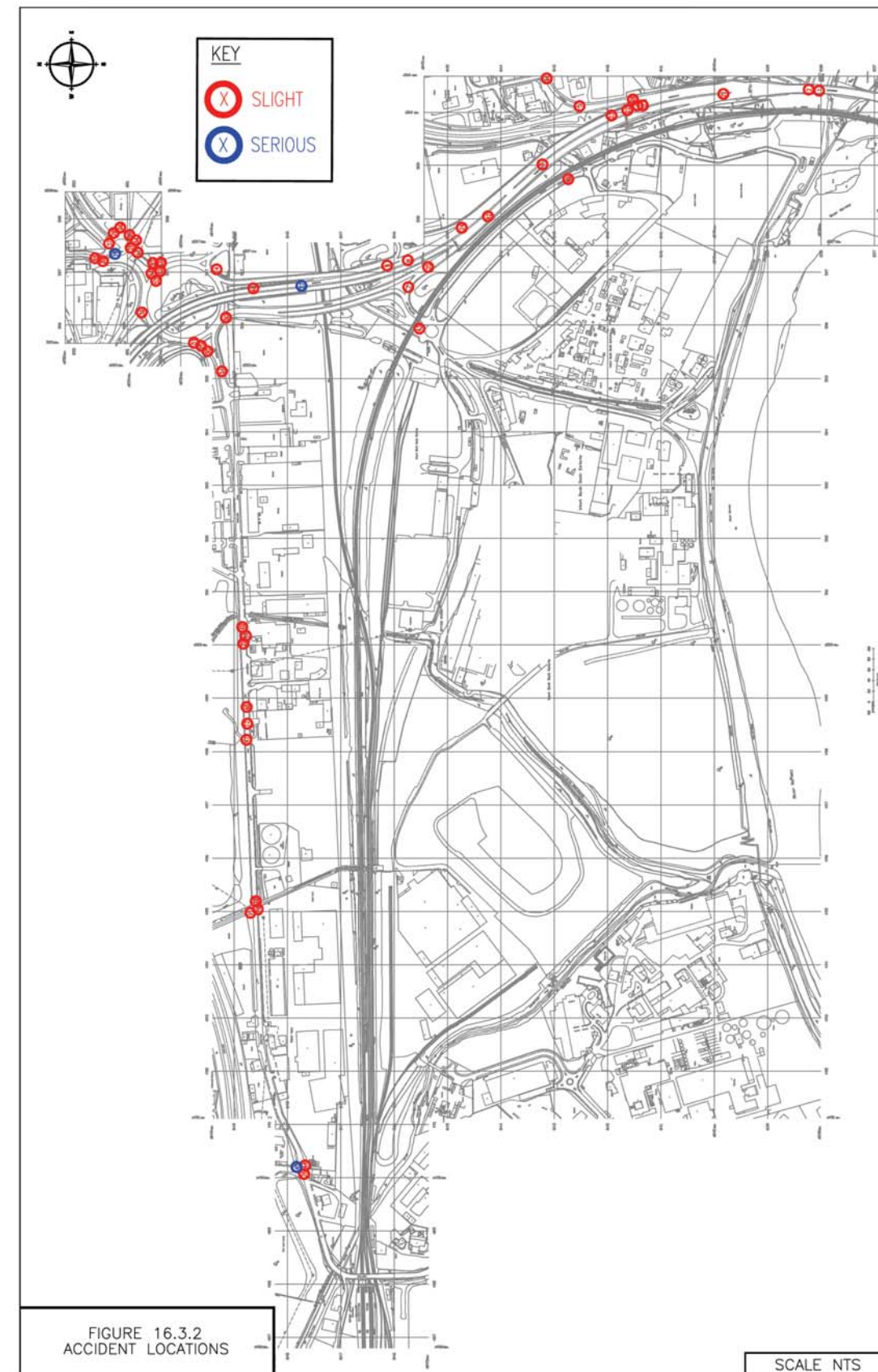
Type	2004	2005	2006	Total
Fatal	0	0	0	0
Serious	1	1	1	3
Slight	19	17	16	52
Total	20	18	17	55

The majority of the accidents were slight in severity with no fatal and three serious injury's.

As can be seen from *Figure 16.3.2* there are three significant cluster points at the Queensway Roundabout:

- Ditton Road West on entry to the Speke Road / Queensway roundabout
- Speke Road off slip / entry to roundabout
- Moor Lane / Ashley Way Roundabout

As well as the above, there are a few cluster points at numerous junctions along Ditton Road.



16.3.4 Traffic Flows

2003 Traffic surveys

The traffic flows have been provided by W. S. Atkins. They have undertaken peak hour turning counts in 2003 at the following junctions:

- Desoto Road/MacDermott Road
- Desoto Road/Hutchinson Street
- A535 Queensway/Ditton Road Roundabout
- A562 Ashley Road West/Moor Lane Roundabout

The peak hours for the purpose of the analysis in Chapter 16 of this report are taken to be 08:00 – 09:00 hours and 17:00 – 18:00 hours. These are the same hours used in the capacity assessment submitted for the EA for the permitted development.

2007 Traffic surveys

As a result of the intention to use access from Foundry Lane to the staff car parks of the High Bay RDC, the original scope of the EA has been extended to include the following junctions:

- Foundry Lane/Hale Road
- Pickerings Road/Hale Road
- Hale Road/Ditton Road

ADL commissioned peak hour surveys of these three junctions on Friday 19 October 2007. The surveyed flows for 2003 and 2007 for the morning and evening peak are shown in *Appendices 16.3.1 and 16.3.2* respectively. The 16:00 to 17:00 hours period has been used for the 2007 surveys as this was a busier period than 17:00 to 18:00 on the day of the survey.

ADL also placed ATC's on the following road week commencing 29 October 2007:

- Gate Road/Ditton Road
- Hale Road/Speke Road (A562)

Base Year Flows

The surveyed traffic flows have been factored to 2008 and 2018 for a year of opening and 10 years design growth. The factor used are based on NRTF (National Road Traffic Forecast). These factors are:

- 2003 to 2008 x 1.066
- 2007 to 2008 x 1.012
- 2003 to 2018 x 1.186
- 2007 to 2018 x 1.126

The base year design flows are illustrated in Appendices 16.3.3 to 16.3.6 for the morning and evening peak periods based upon 2008 and 2018.

16.3.5 Permitted Development

Traffic Generation Surveys

In order to determine the traffic associated with the permitted rail based warehousing, ADL commissioned surveys at the existing rail linked warehousing development on the site. The surveys were carried out by Automatic Traffic Counters (ATC's).

The results of the survey demonstrated that the daily and peak hour trip rates for this rail linked distribution development are as follows:

Daily	3 trips per 100m ² gfa per day (two-way)
Am peak (08.00 – 09.00 hours)	Inbound 0.13 per 100m ² gfa per day Outbound 0.09 per 100m ² gfa per day
Pm peak (17.00 – 18.00 hours)	Inbound 0.10 per 100m ² gfa per day Outbound 0.11 per 100m ² gfa per day

These are the trips rates agreed with HBC for the permitted development and they are similar to the average values given in TRICS 2007 for large distribution centres. The rates given in TRICS 2007

for B8 distribution centres in excess of 15,000 m² (for non rail based distribution) show 3.3 vehicle trips per 100m² gfa per day (two-way) and the peak hour rates are:

Daily	3.3 trips per 100m ² gfa per day (two-way)
Am peak (08.00 – 09.00 hours)	Inbound 0.137 vehicles per 100m ² gfa per day Outbound 0.077 vehicles per 100m ² gfa per day
Pm peak (17.00 – 18.00 hours)	Inbound 0.118 vehicles per 100m ² gfa per day Outbound 0.140 vehicles per 100m ² gfa per day

A copy of the TRICS output is given as Appendix 16.3.7.

As some of the goods will arrive/or depart by rail at Ditton, it would appear to be reasonable that this site should generate less trips than warehouses with totally road based distribution.

However, in order to err on the site of caution TRICS rates have been used, as previously agreed with the Highways Agency (HA). These rates have been used for both the permitted and proposed scenarios in order to provide a fair comparison.

Traffic Generated by Permitted Use

The total permitted development comprised approximately 78,300m² gfa of B8 rail based distribution warehousing. The permitted development was therefore assumed to generate:

- 3 x 783 = 2350 vehicles per day (two-way)
- or 1175 vehicle arrivals
- 1175 vehicle departures

...minus the traffic currently generated by the occupants of the Foundry Lane Estate and Mathieson Estate in 2003.

The peak hour flows for the permitted development was assumed to be as shown in *Table 16.3.2* based on the trip rates calculated from the Foundry Lane Estate survey.

Table 16.3.2 – Peak hour trips (from on site surveys)

	In		Out		Two-way trips
	trip rate/100m ²	vehicles	trip rate/100m ²	vehicles	
Am peak	0.13	102	0.09	70	172
Pm peak	0.10	78	0.11	86	164
Daily	3.0	1175	3.0	1175	2350

Using data from TRICS 2007, the trip rates would be as shown in *Table 16.3.3*, based on 3.3 trips per 100m².

Table 16.3.3 – Peak hour trips (from TRICS 2007)

	In		Out		Two-way trips
	trip rate/100m ²	vehicles	trip rate/100m ²	vehicles	
Am peak	0.137	107	0.077	60	167
Pm peak	0.118	92	0.140	110	202
Daily	3.3	1292	3.3	1292	2584

Tables 16.3.2 and *16.3.3* demonstrate that there is not a significant variation between the two methodologies.

Proportion of HGV's

The proportion of HGV's during the peak hours is taken from averaging three food distribution depots (non rail linked) on TRICS. These rates were previously agreed with the HA in respect of the permitted development. The trip rates for HGV's at each of the sites is given in *Table 16.3.4*.

Table 16.3.4 – OGV1 + OGV2 trip rates

	JS Hertford		JS Worcester		Tesco Milton Keynes		Average	
	In	Out	In	Out	In	Out	In	Out
07:00-08:00	0.03	0.01	0.06	0.06	0.03	0.02	0.04	0.03
08:00-09:00	0.02	0.03	0.07	0.05	0.04	0.04	0.04	0.04
16:00-17:00	0.04	0.03	0.04	0.06	0.03	0.03	0.04	0.04
17:00-18:00	0.03	0.02	0.08	0.04	0.03	0.03	0.05	0.03

Table 16.3.4 illustrates that 0.08 HGV trips per 100m² gfa (two-way) is a typical and robust rate to assume, for both peak periods. Table 16.3.5 gives the average HGV and all vehicle trip rates for these three sites and the proportion of HGV trips likely to be generated during the peak hours.

Table 16.3.5 - Calculation of HGV proportions

	HGV trip		All vehicles		% HGV's	
	In	Out	In	Out	In	Out
08:00-09:00	0.04	0.04	0.12	0.09	33%	44%
17:00-18:00	0.05	0.03	0.11	0.11	45%	27%

Table 16.3.6 illustrates the predicted extra number of cars and HGV's on the road network as a result of the permitted development using the data in Table 16.3.5.

Table 16.3.6 – Peak hour trips by vehicle type (new trips)

	HGV's		Cars		Total vehicles	
	In	Out	In	Out	In	Out
08:00-09:00	35	26	72	34	107	60
17:00-18:00	41	30	51	80	92	110

The HGV trips in Table 16.3.6 have been converted to pcu's using a factor 2.3 per HGV. This is shown on Table 16.3.7

Table 16.3.7 – Permitted development conversion to PCU's

	HGV's		Cars		Total pcu's	
	In	Out	In	Out	In	Out
08:00-09:00	80	60	72	34	152	94
17:00-18:00	94	69	51	80	145	149

Increase in Traffic to the Site

The existing traffic to the site is shown in Table 16.3.8, in vehicles and includes cars and HGV's.

Table 16.3.8 – Existing traffic (vehicles)

	Eastern access		Western access		Total vehicles	
	In	Out	In	Out	In	Out
08:00-09:00	34	20	14	2	48	22
17:00-18:00	26	49	6	4	32	53
Total	418	470	136	52	554	522

The numbers in Table 16.3.8 have been separated into HGV's and cars. The HGV's have been converted into PCU's and the results shown in Table 16.3.9.

Table 16.3.9 – Existing trips converted to PCU's

	Eastern access				Western access				Total pcu's			
	In		Out		In		Out		In		Out	
	Hgv	Car	Hgv	Car	Hgv	Car	Hgv	Car	Hgv	Car	Hgv	Car
08:00-09:00	26	23	20	11	11	9	2	1	37	32	22	12
17:00-18:00	27	14	30	36	6	3	2	3	33	17	32	39
Total	384	251	432	282	124	82	48	31	508	333	480	313

The increase in traffic to the eastern site access as a result of the permitted development is shown in Table 16.3.10. This is all permitted development traffic, minus the traffic using the eastern access in 2003.

Table 16.3.10 – Increase in trips to the eastern access as a result of the permitted development

	Existing (pcu's)				Permitted (pcu's)				Increase (pcu's)			
	In		Out		In		Out		In		Out	
	HGV	Cars	HGV	Cars	HGV	Cars	HGV	Cars	HGV	Cars	HGV	Cars
08:00-09:00	26	23	20	11	80	72	60	34	54	49	40	23
17:00-18:00	27	14	30	36	94	69	51	80	67	55	21	44

The traffic redirected from the western to the eastern access as part of the permitted development also needs to be added to these flows, because the permitted scheme included the closure of the Foundry Lane access (except for emergencies), and this calculation is shown in Table 16.3.11.

Table 16.3.11 – Increase in trips at the eastern access as a result of the permitted development

	Eastern access (pcu's)				Redistributed from western access				Total permitted (pcu's)			
	In		Out		In		Out		In		Out	
	HGV	Cars	HGV	Cars	HGV	Cars	HGV	Cars	HGV	Cars	HGV	Cars
08:00-09:00	54	49	40	23	11	9	2	1	65	58	42	24
17:00-18:00	67	55	21	44	6	3	2	3	73	58	23	47

The actual increase in traffic through the Desoto Road access resulting from the permitted development would therefore be:

08:00 – 09:00 hours	arrivals	=	123 pcu's
	departures	=	66 pcu's
17:00 – 18:00 hours	arrivals	=	131 pcu's
	departures	=	70 pcu's

Trip distribution

The permitted traffic has been assigned onto the road network as shown in *Tables 16.3.12* and *16.3.13* which is taken from using the MDS Trans modal National Freight Model (as previously agreed with the HA):

Table 16.3.12 – HGV trip distribution

Route	Distribution
A562 From Liverpool	1.6%
A533 Runcorn Widnes Bridge	46.0%
M57	4.4%
M62 East	43.0%
M62 West	5.0%
Total	100%

Table 16.3.13 – Employee trip distribution

Route	Distribution
A562 From Liverpool	23.2%
A533 Runcorn Widnes Bridge	8.5%
M57	14.1%
M62 East / A570 north	9.5%
M62 West	10.0%
Hale Road (Hale Bank)	1.1%
A562 Ashley Way	7.2%
Hale Road (Ditton/Hough Green)	13.6%
Moor Lane South	12.7%
Total	100%

The distribution of the traffic generated by the permitted uses is shown in Appendices 16.3.8 and 16.3.9 for the morning and evening peak periods respectively. These flows have been added to the 2008 and 2018 flows to give the base plus permitted situation in Appendices 16.3.10 to 16.3.14.

16.4 ASSESSMENT OF IMPACTS AND MITIGATION MEASURES

16.4.1 Traffic Generation Studies

In order to determine the traffic likely to be associated with the proposed high bay regional distribution centre, average values given in TRICS 2007(b) which are based on road based commercial distribution centre (including food distribution) have been used. As a proportion of the goods will arrive or depart by rail at Ditton, it is reasonable to assume that the proposal should generate less trips than that associated with the road based distribution centres in the TRICS database. Therefore, these rates are considered to be robust and it is not necessary to use 85th percentile trip rates.

The rates given in TRICS 2007(b) for B8 distribution depots in excess of 15,000m² show 3.3 trips per 100m² gfa per day. A copy of the TRICS output is provided in Appendix 16.3.7. The peak hour rates are:

08:00 – 09:00	Inbound	0.137 trips per 100m ² gfa
	Outbound	0.077 trips per 100m ² gfa

17:00 – 18:00 Inbound 0.118 trips per 100m² gfa
 Outbound 0.140 trips per 100m² gfa

16.4.2 Calculation of Vehicle Trips

The total development area is expected to comprise a maximum of 144,461m² GEA of new rail linked distribution warehousing, as follows:

High Bay RDC = 109,451m² GEA
 1094.51 x 3.3 = 3,612 vehicles per day (two-way)
 Or 1806 arrivals
 1806 departures

Warehouse 2 = 35,010m² GEA
 350.1 x 3.3 = 1156 vehicles per day (two-way)
 Or 578 vehicle arrivals
 578 vehicle departures

Total vehicles 2,384 vehicle arrivals
 2,384 vehicle departures

The peak hour flows for the total development will be as shown in *Table 16.4.1*, based on the trip rates calculated from TRICS surveys.

Table 16.4.1 - Peak hour trips: proposed development

		In			Out			Two-way trips
		trip rate/100m ²	vehicles		trip rate/100m ²	vehicles		
			HB	W2		HB	W2	
08.00	-	0.137	150	48	0.077	84	27	309
09.00		0.118	129	41	0.140	153	49	372
17.00	-							
18.00								
Daily		3.3	1806	578	3.0	1806	578	4768

Table 16.4.1 illustrates that the total traffic to and from the site with the proposed development will be of the order of 309 to 372 vehicles (two-way) in a peak hour and about 4,770 vehicles per day (two-way).

A high proportion of the traffic to the site will be commercial traffic, which will have a greater impact on the road network than cars. The number of HGV movements per day has been calculated using the proportions in *Table 16.3.5*. The results are shown in *Table 16.4.2*. The HGV movements have been converted to PCU's using a factor of 2.3 per vehicle and are shown in parenthesis.

Table 16.4.2 – Proposed traffic converted to PCU's

	High Bay RDC				Warehouse 2			
	In		Out		In		Out	
	Hgvs	Cars	Hgvs	Cars	Hgvs	Cars	Hgvs	Cars
08:00-09:00 veh [pcu's]	50 [115]	100	37 [85]	47	16 [37]	32	12 [28]	15
17:00-18:00 veh [pcu's]	58 [113]	71	41 [94]	112	18 [41]	23	13 [30]	36
Daily	772	1034	772	1034	230	348	230	348

16.4.3 Traffic Assignment

The traffic associated with the proposed development (as shown in *Table 16.4.4*) will be distributed between the eastern and western accesses based on the following assumptions:

High Bay distribution centre

Foundry Lane 100% cars
 Desoto Road 100% Hgv's

Warehouse 2

Desoto Road 100% cars
 100% Hgv's

Table 16.4.3 shows the distribution of this traffic with the HGV movements converted to PCU's.

Table 16.4.3 – Distribution of proposed traffic in pcu's

	Eastern Access				Western Access			
	In		Out		In		Out	
	Hgvs	Cars	Hgvs	Cars	Hgvs	Cars	Hgvs	Cars
08:00-09:00	152	32	113	15	0	100	0	47
17:00-18:00	154	23	124	36	0	71	0	112
Daily	2305	348	2305	348	0	1304	0	1304

The traffic currently generated by the occupants of the site (at the time of the surveys) will need to be deducted from this total. This will be part of the Foundry Lane Estate which will be demolished to construct the above and all the traffic associated with the Mathieson Estate which will also be demolished.

The existing trips to the site converted to PCU's is shown in *Table 16.4.4*.

Table 16.4.4 – Existing trip converted to PCU's

	Eastern access				Western access				Total pcu's			
	In		Out		In		Out		In		Out	
	Hgv	Car	Hgv	Car	Hgv	Car	Hgv	Car	Hgv	Car	Hgv	Car
08:00-09:00	26	23	20	11	11	9	2	1	37	32	22	12
17:00-18:00	27	14	30	36	6	3	2	3	33	17	32	39
Daily	384	251	432	282	124	82	48	31	508	333	480	313

The increase in traffic is therefore *Table 16.4.3* minus *Table 16.4.4*. The results are shown in *Table 16.4.5*.

Table 16.4.5 – Increase in traffic to each access (in pcu's)

	Eastern Access				Western Access			
	In		Out		In		Out	
	Hgvs	Cars	Hgvs	Cars	Hgvs	Cars	Hgvs	Cars
08:00-09:00	126	9	93	4	-11	91	-2	46
17:00-18:00	127	9	94	0	-6	68	-2	109
Daily	1921	97	1873	66	-124	1222	-48	1273

Therefore the increase in traffic on the local road network would be an extra 3,957 PCU's on Desoto Road or 1650 HGV's (two-way) and 163 cars (two-way). On Foundry Lane, there would be a reduction of about 75 HGV's but an extra 2,495 car movements (two-way).

Beyond these roads the traffic will be assigned in accordance with *Tables 16.3.12* and *16.3.13* as taken from the MDS Transmodal model.

The assignment of this traffic is shown diagrammatically in *Figures 16.4.1* and *16.4.2* for the morning and evening peak periods respectively. This traffic has been added to the 2008 and 2018 base traffic flows given in *Section 16.3* and the implications of this additional traffic on the local road network is addressed in *Section 16.4.5*.

16.4.4 Year and Scope of Assessment

A capacity analysis has been undertaken for the following junctions with the permitted and proposed development in place:

- Desoto Road/MacDermott Road Roundabout
- Desoto Road/Hutchinson Street Junction
- A535 Queensway/Ditton Road Roundabout
- A562 Ashley Road West/Moor Lane Roundabout
- Foundry Lane/Hale Road Signals
- Pickerings Road/Hale Road Junction
- Hale Road/Ditton Road Signals

The analysis has been undertaken for the periods 08:00 – 09:00 hours and 17:00 – 18:00 hours which are the same hours used for UDP Inquiry.

The 2003 traffic flows have been factored to 2008 and 2018 for a year of opening and 10 years design growth. The base year flows are illustrated in *Appendices 16.3.3* to *16.3.6* of *Section 16.3.4* for the morning and evening peak periods 2008 and 2018. The permitted traffic from the extant permission on the site has been added to these flows (i.e. *Appendices 16.3.8* and *16.3.9*) to give the base plus permitted development scenario as shown in *Appendices 16.3.10* to *16.3.14*.

Appendix 16.4.1 illustrates the proposed development traffic for the peak hour period (08:00 – 09:00 hours) and *Appendix 16.4.2* the evening peak period (17:00 – 18:00 hour). These flows have been added to the 2010 and 2008 base flows to illustrate the situation with the new proposal in place. The total flows are shown in *Figures 16.4.3 to 16.4.6* for 2008 and 2018 respectively.

16.4.5 Road Capacity Analysis

Desoto Road / MacDermott Road

This junction has been analysed using ARCADY based upon the geometry used by W.S. Atkins for the UDP Inquiry. A summary of the results is given in *Tables 16.4.6 and 16.4.7* for weekday 08:00 – 09:00 and 17:00 – 18:00 hours based on a year of opening. The results of the 2018 analysis is summarised in *Tables 16.4.8 and 16.4.9*.

Guidance is provided for the capacity of roundabouts in Annex 1 of TD16/93. “Geometric Design of Roundabouts”. Paragraph 4 states:

“The general use of designs with an RFC (*Ratio of Flow to Capacity*) of about 85% is likely to result in a level of provision which will be economically justified. There will be cases, however, where the adoption of a lower figure will be justified: for example, where the cost of a higher level of provision is low in both economic and environmental terms, or where space for enlargement is unlikely to be available in the future at a reasonable cost and thus the cost of being wrong becomes unreasonably high. On the other hand, if there are cost or environmental implications in providing higher capacity, for instance in urban areas, then even the 85% ratio may be unsuitable and a higher ratio, with consequent queuing, will have to be accepted (to an extent assessed by the reduction of economic or environmental impact).”

The criteria followed in this assessment are as follows:

- If the RFC is 0.85 or below then it will be assumed that the traffic flow is within capacity.
- Should the RFC be between 0.85 to 1.0 then an analysis will be presented on the basis of RFC and queue length at the roundabouts will be considered at capacity.

- With a ratio of RFC greater than 1.0 it will be assumed that the roundabout is over capacity and either this will have to be accepted by the Highway Authority or mitigation measures will have to be considered.

Consideration of the results in *Tables 16.4.6 to 16.4.9* demonstrates that during the weekday morning and evening peak hour all arms operate well within capacity. They also show that there would be no material difference between the permitted and proposed development scenario.

Table 16.4.6 - 2008 ARCADY analysis: (08:00 – 09:00 hours)

Arm	Permitted			Proposed		
	Deg sat	Queue	Delay	Deg sat	Queue	Delay
Desoto Rd	22%	0.3	0.06	21%	0.3	0.06
A553 Slip Rd	7%	0.1	0.04	7%	0.1	0.04
MacDermott Rd	2%	0.0	0.04	2%	0	0.04
Depot Access	8%	0.1	0.04	9%	0.1	0.04

Table 16.4.7 - 2008 ARCADY analysis: (17:00 – 18:00 hours)

Arm	Permitted			Proposed		
	Deg sat	Queue	Delay	Deg sat	Queue	Delay
Desoto Rd	19%	0.2	0.06	18%	0.2	0.06
A553 Slip Rd	4%	0.0	0.04	5%	0.1	0.04
MacDermott Rd	2%	0.0	0.04	2%	0	0.04
Depot Access	14%	0.2	0.04	15%	0.2	0.04

Table 16.4.8 - 2018 ARCADY Analysis: (08:00 – 09:00 hours)

Arm	Permitted			Proposed		
	Deg sat	Queue	Delay	Deg sat	Queue	Delay
Desoto Rd	22%	0.3	0.06	22%	0.3	0.06
A553 Slip Rd	7%	0.1	0.04	8%	0.1	0.04
MacDermott Rd	2%	0.0	0.04	2%	0	0.04
Depot Access	8%	0.1	0.04	10%	0.1	0.04

Table 16.4.9 - 2018 ARCADY Analysis: (17:00 – 18:00 hours)

Arm	Permitted			Proposed		
	Deg sat	Queue	Delay	Deg sat	Queue	Delay
Desoto Rd	20%	0.3	0.06	19%	0.2	0.06
A553 Slip Rd	4%	0.0	0.04	6%	0.1	0.04
MacDermott Rd	2%	0.0	0.04	2%	0	0.04
Depot Access	15%	0.2	0.04	17%	0.2	0.04

Desoto Road / Hutchinson Street junction

This junction has been analysed using PICADY and a summary of the results are given in *Tables 16.4.13 to 16.4.13* based weekday 08:00 – 09:00 and 17:00 – 18:00 hours for 2008 and 2018 respectively.

Table 16.4.10 - 2008 PICADY Analysis: (08:00 – 09:00 hours)

Arm	Permitted			Proposed		
	Deg sat	Queue	Delay	Deg sat	Queue	Delay
Right / Left Out	24%	0.3	0.11	24%	0.3	0.11
Right In	7%	0.1	0.11	11%	0.1	0.11

Table 16.4.11 - 2008 PICADY Analysis: (17:00 – 18:00 hours)

Arm	Permitted			Proposed		
	Deg sat	Queue	Delay	Deg sat	Queue	Delay
Right / Left Out	20%	0.2	0.10	19%	0.2	0.10
Right In	10%	0.1	0.11	15%	0.2	0.11

Table 16.4.12 - 2018 PICADY Analysis: (08:00 – 09:00 hours)

Arm	Permitted			Proposed		
	Deg sat	Queue	Delay	Deg sat	Queue	Delay
Right / Left Out	25%	0.3	0.12	25%	0.3	0.11
Right In	7%	0.1	0.11	11%	0.1	0.11

Table 16.4.13 - 2018 PICADY Analysis: (17:00 – 18:00 hours)

Arm	Permitted			Proposed		
	Deg sat	Queue	Delay	Deg sat	Queue	Delay
Right / Left Out	21%	0.3	0.11	20%	0.2	0.11
Right In	12%	0.1	0.11	16%	0.2	0.11

The results demonstrate that the junction would operate well within capacity with a maximum degree of saturation 25% in 2018 and a queue of less than one vehicle during the peak hours. Again, there would be no difference between the proposed and permitted development scenario.

A535 Queensway / Ditton Road Roundabout

This junction has been analysed using ARCADY and a summary of the results are given in *Tables 16.4.14 to 16.4.17* for 2008 and 2018 respectively based on the weekday periods 08:00 – 09:00 hours and 17:00 – 18:00 hours. The results demonstrate that during the weekday morning and evening peak hour assessments all arms operate well within capacity in a year of opening and in 2018.

Table 16.4.14 - 2008 ARCADY analysis: (08:00 – 09:00 hours)

Arm	Permitted			Proposed		
	Deg sat	Queue	Delay	Deg sat	Queue	Delay
A568	47%	0.9	0.04	49%	0.9	0.04
Ditton Rd (E)	2%	0.0	0.05	2%	0.0	0.05
A533	33%	0.5	0.03	34%	0.5	0.03
Ditton Rd (W)	26%	0.4	0.04	27%	0.4	0.04
A562	35%	0.5	0.05	36%	0.6	0.05

Table 16.4.15 - 2008 ARCADY analysis: (17:00 – 18:00 hours)

Arm	Permitted			Proposed		
	Deg sat	Queue	Delay	Deg sat	Queue	Delay
A568	44%	0.8	0.04	44%	0.8	0.04
Ditton Rd (E)	3%	0.0	0.05	3%	0.0	0.05
A533	42%	0.7	0.03	43%	0.8	0.04
Ditton Rd (W)	41%	0.7	0.06	43%	0.8	0.07
A562	39%	0.6	0.07	40%	0.7	0.07

Table 16.4.16 - 2018 ARCADY Analysis: (08:00 – 09:00 hours)

Arm	Permitted			Proposed		
	Deg sat	Queue	Delay	Deg sat	Queue	Delay
A568	52%	1.1	0.05	54%	1.2	0.05
Ditton Rd (E)	3%	0.0	0.06	38%	0.0	0.06
A533	37%	0.6	0.03	39%	0.6	0.03
Ditton Rd (W)	31%	0.4	0.04	31%	0.5	0.04
A562	39%	0.8	0.06	42%	0.7	0.06

Table 16.4.17 - 2018 ARCADY Analysis: (17:00 – 18:00 hours)

Arm	Permitted			Proposed		
	Deg sat	Queue	Delay	Deg sat	Queue	Delay
A568	49%	1.0	0.04	50%	1.0	0.04
Ditton Rd (E)	4%	0.0	0.05	4%	0.0	0.05
A533	48%	0.9	0.04	50%	0.1	0.04
Ditton Rd (W)	49%	1.0	0.08	52%	1.1	0.09
A562	48%	0.9	0.09	51%	1.0	0.10

A525 Ashley Way West / Moor Lane Roundabout

This junction has been analysed using ARCADY. A summary of the results are given in *Tables 16.4.18 to 16.4.24* for 2008 and 2018 respectively. The analysis is based on the peak period for a weekday 08:00 –09:00 hours and 17:00 – 18:00 hours. The results demonstrates that during the weekday morning and evening peak hour assessments all arms operate well within capacity in a year of opening and again it is not until 2018 that some queuing is predicted during the morning peak hour on one of the approaches to the junction.

Table 16.4.18 - 2008 ARCADY Analysis: (08:00 – 09:00 hours)

Arm	Permitted			Proposed		
	Deg sat	Queue	Delay	Deg sat	Queue	Delay
Moor Lane (E)	26%	0.3	0.05	26%	0.4	0.05
Ashley Way	30%	0.4	0.05	32%	0.5	0.05
Moor Lane (W)	42%	0.7	0.04	43%	0.7	0.04
Dundalk Road	61%	1.6	0.12	61%	1.6	0.12

Table 16.4.19 - 2008 ARCADY Analysis: (17:00 – 18:00 hours)

Arm	Permitted			Proposed		
	Deg sat	Queue	Delay	Deg sat	Queue	Delay
Moor Lane (E)	43%	0.7	0.06	44%	0.8	0.06
Ashley Way	37%	0.6	0.06	38%	0.6	0.06
Moor Lane (W)	63%	1.7	0.06	64%	1.8	0.06
Dundalk Road	43%	0.8	0.09	44%	0.8	0.09

Table 16.4.20 - 2018 ARCADY Analysis: (08:00 – 09:00 hours)

Arm	Permitted			Proposed		
	Deg sat	Queue	Delay	Deg sat	Queue	Delay
Moor Lane (E)	30%	0.4	0.06	31%	0.5	0.06
Ashley Way	34%	0.5	0.05	37%	0.6	0.05
Moor Lane (W)	47%	0.9	0.04	48%	0.9	0.04
Dundalk Road	71%	2.5	0.17	72%	2.6	0.17

Table 16.4.21 - 2018 ARCADY Analysis: (17:00 – 18:00 hours)

Arm	Permitted			Proposed		
	Deg sat	Queue	Delay	Deg sat	Queue	Delay
Moor Lane (E)	50%	1.0	0.07	51%	1.0	0.08
Ashley Way	43%	0.7	0.07	44%	0.8	0.07
Moor Lane (W)	71%	2.4	0.08	72%	2.6	0.08
Dundalk Road	52%	1.1	0.11	53%	1.1	0.12

Foundry Lane/Hale Road

This junction has been analysed using LINSIG. A summary of the results are given in *Tables 16.4.25 to 16.4.28* for 2008 and 2018 respectively. The analysis is based on the peak period for a weekday 08:00 –09:00 hours and 17:00 – 18:00 hours. The results demonstrates that during the weekday morning and evening peak hour assessments all arms operate well within capacity in a year of opening in 2018. The proposal is not expected to cause any significant increase in queuing during the morning or evening peak hour on any of the approaches to the junction.

Table 16.4.25 - 2008 LINSIG Analysis: (08:00 – 09:00 hours)

Arm	Phase	Permitted		Proposed	
		Deg sat	Queue	Deg sat	Queue
Hale Road (N)	A	44%	2.8	50%	3.2
Hale Road (S)	B	19%	1.2	40%	2.5
Hale Road (r/t)	B	1%	0.0	2%	0.0
Foundry Lane	C	26%	0.9	31%	1.1

Table 16.4.26 - 2008 LINSIG Analysis: (17:00 – 18:00 hours)

Arm	Phase	Permitted		Proposed	
		Deg sat	Queue	Deg sat	Queue
Hale Road (N)	A	40%	2.6	45%	2.9
Hale Road (S)	B	45%	2.9	49%	3.1
Hale Road (r/t)	B	2%	0.0	4%	0.1
Foundry Lane	D	29%	1.0	43%	1.0

Table 16.4.27 - 2018 LINSIG Analysis: (08:00 – 09:00 hours)

Arm	Phase	Permitted		Proposed	
		Deg sat	Queue	Deg sat	Queue
Hale Road (N)	A	49%	3.1	55%	3.6
Hale Road (S)	B	43%	2.7	33%	2.1
Hale Road (r/t)	B	2%	0.0	16%	0.3
Foundry Lane	D	29%	1.0	34%	1.2

Table 16.4.28 - 2018 LINSIG Analysis: (17:00 – 18:00 hours)

Arm	Phase	Permitted		Proposed	
		Deg sat	Queue	Deg sat	Queue
Hale Road (N)	A	45%	2.9	49%	3.2
Hale Road (S)	B	50%	3.2	54%	3.4
Hale Road (r/t)	B	2%	0.1	12%	0.3
Foundry Lane	C	33%	1.2	47%	1.8

Pickering Road/Hale Road

This junction has been analysed using PICADY and a summary of the results are given in *Tables 16.4.29 to 16.4.32* based weekday 08:00 –09:00 and 17:00 – 18:00 hours for 2008 and 2018 respectively.

Table 16.4.29 - 2008 PICADY Analysis: (08:00 – 09:00 hours)

Arm	Permitted			Proposed		
	Deg sat	Queue	Delay	Deg sat	Queue	Delay
Left out	9%	0.1	0.12	11%	0.1	0.12
Right out	29%	0.4	0.21	35%	0.5	0.23
Right in	12%	0.2	0.15	15%	0.3	0.15

Table 16.4.30 - 2008 PICADY Analysis: (17:00 – 18:00 hours)

Arm	Permitted			Proposed		
	Deg sat	Queue	Delay	Deg sat	Queue	Delay
Left out	9%	0.1	0.12	14%	0.2	0.13
Right out	29%	0.4	0.22	42%	0.7	0.27
Right in	9%	0.2	0.14	12%	0.3	0.16

Table 16.4.31 - 2018 PICADY Analysis: (08:00 – 09:00 hours)

Arm	Permitted			Proposed		
	Deg sat	Queue	Delay	Deg sat	Queue	Delay
Left out	10%	0.1	0.12	12%	0.1	0.13
Right out	34%	0.5	0.23	40%	0.7	0.20
Right in	12%	0.3	0.16	15%	0.3	0.10

Table 16.4.32 - 2018 PICADY Analysis: (17:00 – 18:00 hours)

Arm	Permitted			Proposed		
	Deg sat	Queue	Delay	Deg sat	Queue	Delay
Left out	11%	0.1	0.12	15%	0.2	0.14
Right out	34%	0.5	0.24	49%	0.9	0.31
Right in	10%	0.2	0.15	14%	0.3	0.16

The results demonstrate that the junction would operate well within capacity with a maximum degree of saturation 49% in 2018 and a maximum queue of only one vehicle during the peak hours.

Hale Road/Ditton Road Signals

This junction has been analysed using LINSIG. A summary of the results are given in *Tables 16.4.33 to 16.4.36* for 2008 and 2018 respectively. The analysis is based on the peak period for a weekday 08:00 –09:00 hours and 17:00 – 18:00 hours. The results demonstrate that during the weekday morning and evening peak hour assessments all arms operate well within capacity.

Table 16.4.33 - 2008 LINSIG Analysis: (08:00 – 09:00 hours)

Arm	Phase	Permitted		Proposed	
		Deg sat	Queue	Deg sat	Queue
Hale Rd (w) a	A	52%	3.7	55%	3.9
Hale Rd (w) l	E	35%	2.5	38%	2.7
Ditton Rd (a)	B	32%	2.7	26%	3.0
Ditton Rd (r/t)	B/C	17%	1.4	17%	1.3
Hale Rd (n)	D	53%	4.1	58%	4.5

Table 16.4.34 - 2008 LINSIG Analysis: (17:00 – 18:00 hours)

Arm	Phase	Permitted		Proposed	
		Deg sat	Queue	Deg sat	Queue
Hale Rd (w) a	A	49%	4.0	55%	4.5
Hale Rd (w) l	E	49%	3.1	57%	3.7
Ditton Rd (a)	B	31%	2.7	34%	2.9
Ditton Rd (r/t)	B/C	9%	0.7	8%	0.7
Hale Rd (n)	D	51%	3.4	55%	3.8

Table 16.4.35 - 2018 LINSIG Analysis: (08:00 – 09:00 hours)

Arm	Phase	Permitted		Proposed	
		Deg sat	Queue	Deg sat	Queue
Hale Rd (w)	A	58%	4.2	61%	4.5
Hale Rd (w) l	E	39%	2.8	41%	3.0
Ditton Rd (a)	B	35%	3.0	40%	3.3
Ditton Rd (r/t)	B/C	19%	1.5	18%	1.5
Hale Rd (n)	D	59%	4.6	64%	5.2

Table 16.4.36 - 2018 LINSIG Analysis: (17:00 – 18:00 hours)

Arm	Phase	Permitted		Proposed	
		Deg sat	Queue	Deg sat	Queue
Hale Rd (w)	A	55%	4.5	60%	5.0
Hale Rd (w) l	E	55%	3.5	63%	4.2
Ditton Rd (a)	B	34%	2.8	36%	3.0
Ditton Rd (r/t)	B/C	10%	0.8	9%	0.7
Hale Rd (n)	D	57%	3.9	61%	4.3

16.4.6 Mitigation

It has been demonstrated that the proposal can be accommodated within the existing road network and with 10 years design growth without the need for off site junction improvements.

In any event 'predict and provide' is no longer considered to be an appropriate means to address traffic growth. The proposal therefore includes a travel plan, details of which are given in *Section 15.4.6*. The proposal would also provide a contribution towards a package of improvements to the local transport facilities to enhance the accessibility of the site (subject to a S106 Agreement). Details of possible improvements are outlined in *Section 15.4*.

16.5 Government and UDP Policy on Transport

16.5.1 PPG13 Transport

Aims

The objectives of this guidance are to integrate planning and transport at the national, regional, strategic and local level to:

- Promote more sustainable transport choices for both people and for moving freight;
- Promote accessibility to jobs, shopping, leisure facilities and services by public transport, walking, cycling, and
- Reduce the need to travel, especially by car.

This guidance sets out the circumstances where it is appropriate to change the emphasis and priorities in provision between different transport modes, in pursuit of wider Government objectives. The car will continue to have an important part to play and for some journeys, particularly in rural areas, it will remain the only real option for travel.

Freight

The Government has set out its policy framework on freight in its 'Sustainable Distribution Strategy' (March 1999). While road transport is likely to remain the main mode for many freight movements, land use planning can help to promote sustainable distribution, including where feasible, the movement of freight by rail and water. In preparing their development plans and in determining planning applications local authorities should:

- *Identify and, where appropriate, protect sites and routes, both existing and potential, which could be critical in developing infrastructure for the movement of freight (such as transport) and ensure that any such disused transport sites and routes are not unnecessarily severed by new developments or transport infrastructure. In relation to rail use, this should be done in liaison with the SRA which is best placed to advise on the sites and routes that are important to delivering wider transport objectives;*

- *Where possible, locate developments generating substantial freight movements such as distribution and warehousing, particularly of bulk goods, away from congested central areas and residential areas, and ensure adequate access to trunk roads;*
- *Promote opportunities for freight generating development to be served by rail or waterways by influencing the location of development and by identifying and where appropriate protecting realistic opportunities for rail or waterway connections to existing manufacturing, distribution and warehousing sites adjacent or close to the rail network, waterways or coastal / estuarial ports; and*
- *On disused transport sites consider uses related to sustainable transport first, before other uses.*

The proposal complies with all of these requirements. The site has been identified in the Halton UDP for rail linked distribution with extensive liaison carried out with both HBC and the SRA. The site is away from residential areas and congested central areas. It has good access to the strategic road network.

Policies need to strike a balance between the interests of local residents and those of the wider community, including the need to protect the vitality of urban economies, local employment opportunities and the overall quality of life in towns and cities. Local authorities, freight operators, businesses and developers should work together, within the context of freight quality partnerships, to agree on lorry routes and loading and unloading facilities and on non reducing vehicle emissions and vehicle and delivery noise levels, to enable a more efficient and sustainable approach to deliveries in such sensitive locations.

Travel Plan

The Government wants to help raise awareness of the impacts of travel decisions and promote the widespread use of travel plans amongst businesses, schools, hospitals and other organisations. Local authorities are expected to consider setting local targets for the adoption of travel plans by local businesses and other organisations and to set an example by adopting their own plans. Their relevance to planning lies in the delivery of sustainable transport objectives:

- Reductions in car usage (particularly single occupancy journeys) and increased use of public transport, walking and cycling;

- Reduced traffic speeds and improved road safety and personal security particularly for pedestrians and cyclists; and
- More environmentally friendly delivery and freight movements, including home delivery services.

The Government considers that travel plans should be submitted alongside planning applications, which are likely to have significant transport implications, including those which are likely to be significant generators of employment. In order to comply with this requirement a Framework Travel Plan has been included as *Section 15.4.6* of this Report.

Parking

PPG 13 in paragraph 51 advises in part:

“ In developing and implementing policies on parking, local authorities should:

- *ensure that, as part of a package of planning and transport measures, levels of parking provided in association with development will promote sustainable transport choices;*
- *not require developers to provide more spaces than they themselves wish, other than in exceptional circumstances which might include for example where there are significant implications for road safety which cannot be resolved through the introduction or enforcement of on-street parking controls;*
- *require developers to provide designated parking spaces for disabled people in accordance with current good practice;*
- *where appropriate, introduce on-street parking controls in areas adjacent to major travel generating development to minimise the potential displacement of parking where on-site parking is being limited;*
- *require convenient safe and secure cycle parking in development at least at levels consistent with the cycle strategy in the local transport plan; and*
- *consider appropriate provision for motorcycle parking.*

transport investment and management hierarchy tasked with, *inter alia*, introducing measures to increase the sustainable movement of freight and to focus investment on major transport infrastructure schemes of regional significance.

Regional Freight Strategy

The Merseyside Freight Study led HBC to consider Ditton as being critical to the implementation of the Regional Strategy.

As the proposal comprises a new rail-linked warehousing with the capability to handle inter modal traffic, it is entirely in line with the regional policy objective of creating a Strategic Rail Freight Park at Ditton, of which it forms a significant part. Further details are provided in Section 5.3 Regional Planning Policy.

16.5.3 Halton BC's UDP: Transport Policy

Relevant Policies

The transport policies set out in the UDP adopted in April 2005 which are relevant to this site are considered to be policies; TP1, TP2, TP3, TP4, TP6, TP7, TP12, TP13, TP14, TP15, TP16, TP18 and TP19. These policies have been considered in detail in the planning section of the Environmental Impact Assessment that has been submitted in support of the application.

Policy TP1

TP1 states:

"Development will only be permitted where provision exists or is made for adequate access by public transport. No building within the development should be more than 400 metres walking distance from a bus stop, railway station or similar access to public transport"

Some of the buildings will be more than 400m from a bus stop due to the vast area that the proposal will cover. However, the proposal will provide new bus stops on Ditton Road, in close proximity to the site and improve access into the site from Ditton Road, VIA St Michael's Road if practicable.

Policies T2 to TP4

Policies TP2 to TP4 require that the proposal do not prejudice the following:

TP2b states:

"The present or future use of existing stations, their interchange facilities or railway lines as part of the public transport network"

Policies TP3a and b

- a) *"The use of Ditton Station in Widnes as part of the public transport network."*
- b) *"The use of Halton Curve rail line in Runcorn as part of the rail network"*

Policy TP4

"Development will not be permitted that is likely to prevent the opportunity for new railway stations to be built in any of the following locations:-

- a *Upton Rocks, Widnes*
- b *Barrows Green Lane area, Widnes*
- c *Beechwood, Runcorn*
- d *South Widnes*
- e *Daresbury*

The proposal does not prejudice any of these schemes and therefore complies with these policies. The generation of new employment opportunities within walking distance of the close Ditton Station will add to the case for the reopening of this public transport facility.

Policy TP6

Policy TP6 requires cycle parking in accordance with the UDP standards. As with the car parking, HBC's cycle parking requirements are excessive for this type of development. However, the proposal will provide cycle parking for 2% of employees.

Policy TP7

Policy TP7 requires the proposals to provide safe and convenient pedestrian routes within the site. As all the roads incorporate footways, the proposal accords with this policy. In respect of policies TP9 and TP10 due to the secure nature of the site it is not possible to provide 'open access' through the site for pedestrians or cyclists.

Policy TP12

Policy TP12 requires car parking to be provided at the 'appropriate level'. Section 8.2 of this report, demonstrates that parking has been provided at a level adequate to accommodate the likely demand. The level of parking is within the maximum standard set out by HBC and hence the proposal accords with this policy.

Policy TP13

Policy TP13 advises:

"New development within primarily Employment areas, Action areas or Proposed employment sites that adjoin railways and waterways, including the Manchester Ship Canal and the Weaver Navigation, and which utilises these facilities for the transportation of goods, will be permitted."

The proposed warehousing is rail based and hence conforms to this policy.

Policy TP14

Policy TP14 requires the provision of a Transport Assessment this has both been provided as part of the EA and hence this policy has also been addressed.

Policy TP15

Policy TP15 states:

- 1) *Development which increases traffic to undesirable levels will not be permitted, unless improvements to the transport network, including public transport links and pedestrian and cycling routes, to alleviate traffic problems can be made.*
- 2) *Undesirable levels are those which increase vehicular traffic on surrounding roads up to or beyond the road capacity, taking into account other allocated sites or development proposals that will impact on these roads. Improvements should not be restricted to the highway to increase the capacity for private vehicles, but public transport improvements and pedestrian and cycling improvements should also be considered. This will encourage and enable journeys to be made to the new development by a variety of means of transport and help in the aim of reducing the need to travel by private car.*
- 3) *The developer will be expected to pay for any necessary improvements to the transport network and implement such improvements before work on the development commences.*
- 4) *Preparation and implementation of a green travel plan may help to alleviate traffic problems and make a proposal acceptable.*

Policy TP16

Policy TP16 in part states:

- 1) *A green travel plan will be required as part of a new development in all of the following circumstances:-*
 - a *Major development proposals comprising jobs, shopping, leisure and services.*
 - b *Smaller development proposals comprising jobs, shopping, leisure and services which would generate significant amounts of travel in or near to air quality management areas.*
 - c *Where the green travel plan will help to address a particular local traffic problem associated with the proposal, which might otherwise have to be refused on local traffic grounds.*
 - d *Proposals for new and expanded school facilities (school travel plan).*

and

3) *Major development for the purposes of this policy are those which are included within Appendix 1 Transport Assessments.*

and

6) *Green travel plans have a role to play in providing information about the benefits and availability of alternative transport modes, and can help encourage travellers to consider not only their mode of transport but even the necessity of making the trip.*

7) *Where a green travel plan is required then some or all of the plan may be made binding through either conditions attached to a planning permission or through a planning obligation.*

A Green Travel Plan has been provided and hence the proposal complies with this Policy.

Policy TP18

Policy TP18 in part states:

Development will be required to incorporate traffic management and traffic calming measures wherever such measures would encourage walking and cycling, improve highway safety and improve the quality of local neighbourhoods

Traffic calming and management measures could be considered in the Hale Bank area and if considered necessary, subject to liaison with HBC.

Policy TP19

Policy TP19 states:

1 *In areas where air quality is shown to be poor due to pollution from transport sources, new development that generates traffic which will create additional pollution or intensify the pollution problem will not be permitted.*

2 *The guidance note on Air Quality and Land Use Planning issued under section 88 of the Environment Act 1995 states that in determining a planning application it will be important to consider the impact of development in terms of the air quality caused by both the operational characteristics of the development and the traffic generated by it.*

This policy relates to pollution caused by traffic generation in locations where air quality is already poor.

3 *The Council is currently preparing an Air Quality Management Strategy for Halton. This will identify areas where pollutants may not meet the Government's Air Quality Objectives by 2005 unless action is taken at the local level. If such areas are identified they will become Air Quality Management Areas and action will be taken within these areas to relieve the identified air quality problem.*

4 *An initial study of air quality in Halton has identified "hot spots" where three pollutants may not meet Air Quality Objectives. These pollutants are nitrogen dioxide, PM10 and sulphur dioxide. The problem occurs around West Bank in Widnes and Runcorn on the Mersey due to proximity of industry and the congested Silver Jubilee Bridge. Further work is being undertaken in relation to these "hot spots" and if this shows that Air Quality Objectives will not be met by 2005 then they will be declared Air Quality Management Areas.*

5 *Within any potential or designated Air Quality Management Area, new development should not add to the pollution levels or create additional pollution problems. In terms of transport and land use within such areas, development that is only accessible by the private car would not be acceptable for example. However development may be acceptable: -*

a where the development is accessible by alternative means of transport other than the private car and it is shown that this will be utilised by those accessing the development;

b where the development is mixed encouraging and enabling cycling or walking between various facilities, thereby reducing the number of journeys made by the private car.

An Air Quality Assessment is being undertaken based on the traffic predictions in this Chapter. This is included as Chapter 7.0.

Conclusion

The proposal complies with the principle of all policies set out in the UDP, although some relaxation may be needed due to the size and nature of this proposal.

16.6 SUMMARY AND CONCLUSIONS

16.6.1 Methodology

The total development area is expected to comprise a maximum of 144,461m² GEA of new B8 rail linked distribution warehousing.

In order to determine the traffic likely to be associated with rail linked warehousing ADL commissioned surveys at the existing warehousing development on the Foundry Lane Estate. This is rail linked distribution which provides suitable local trip rates for the proposed development. This has been compared with data from TRICS 2007.

The data from TRICS for road based distribution has been used in the analysis in order to err on the side of caution. The TRICS data has been used to calculate the traffic for both the permitted development and proposed development, in order to provide a fair comparison.

A high proportion of the traffic to the site will be commercial traffic which will have a greater impact on the road network than cars. This is expected to accord for about 40% of vehicle movements, over a day. The daily volume of commercial traffic is calculated to be approximately 400 arrivals and 400 departures per day and in order to allow for the relative impact of the commercial vehicles, the traffic flows have been converted to pcu's (passenger car units) prior to assigning onto the road network.

16.6.2 Road Traffic Impact

The increase in traffic on the local road network for the permitted having deducted the existing trips to the site is about 738 arrivals and 770 departures on a weekday. The peak hour trips are (08.00-09.00 hours) 59 vehicle arrivals and 38 vehicle departures and (17.00-18.00 hours) with 60 vehicle arrivals and 57 vehicle departures. This traffic has been converted into pcu's and assigned onto the local road network using actual trip distributions.

The increase with the proposed development having deducted the existing trip is about 1,830 arrivals and 1,860 departures per day. The morning peak hour increase would be 150 arrivals and 89 departures. The evening peak hour increases would be 138 arrivals and 149 departures.

A capacity analysis has been undertaken for the following junctions with and without the development in place:

- Desoto Road/MacDermott Road
- Desoto Road/Hutchinson Street
- A535 Queensway/Ditton Road Roundabout
- A562 Ashley Road West/Moor Lane Roundabout
- Hale Road/Foundry Lane
- Hale Road/Pickering Road
- Hale Road/Ditton Road

The analysis has been undertaken for the periods 08:00 – 09:00 hours and 17:00 – 18:00 hours which are the same hours used for UDP Inquiry based upon 2008 and 2018 for a year of opening and 10 years design growth. The analysis demonstrates that all of these junctions will operate within capacity in a year of opening. In 2018 the roundabouts at Ashley Road/Moor Lane will just reach capacity in a morning peak hour. Therefore, there is no requirement for improvement to any off site junctions arising from the proposal.

16.6.3 Rail Traffic

The maximum probable level of traffic that might be conveyed to buildings at the development could be carried out in three train movements on the main line network, one complete train of 1,139 tonnes plus 2 part trains of 804 tonnes.

The Network Rail Regional Freight Manager responsible for new traffic to and from the Liverpool area has advised in respect of the permitted development that up to 3 trains per day could be accommodated on the network without any problems. Hence the above estimated volume of new rail-freight traffic may be said to be acceptable to Network Rail.

16.6.4 Policy

Freight

The Government Guidance in PPG13 advises that while road transport is likely to remain the main mode for many freight movements, land use planning can help to promote sustainable distribution, including the movement of freight by rail. It is advised that in preparing development plans and in determining planning applications local authorities should locate developments generating substantial freight movements such as distribution and warehousing, away from congested central areas and residential areas, and ensure adequate access to trunk roads. They should also promote opportunities for freight generating development to be served by rail by influencing the location of development.

The proposal complies with this requirement. The site has been identified in the emergency UDP for rail based distribution with extensive liaison has been carried out with both HBC and the SRA. The site is away from residential areas and congested central areas. It has good access to the strategic road network.

Travel Plan

PPG13 advises that local authorities are expected to consider setting local targets for the adoption of travel plans to deliver of sustainable transport objectives such as reductions in car usage (particularly single occupancy journeys) and increased use of public transport, walking and cycling and more environmentally friendly delivery and freight movements, including home delivery services.

The Government considers that travel plans should be submitted alongside planning applications, which are likely to have significant transport implications, including those which are likely to be significant generators of employment. In order to comply with this requirement a Framework Travel Plan has been included in this Report.

Parking

It has been demonstrated in this report that although the parking provision is well below HBC's maximum standards for warehousing, it is adequate for the anticipated demand.

PPG13 advises that developers should not be required to provide more spaces than they themselves wish, other than in exceptional circumstances, for example, where it has implications for road safety.

In this case all the roads will be private and can be controlled by the management of the freight park.

16.6.5 Conclusion

The traffic generated by the proposal can be accommodated by the existing road network without any need for off site improvements.

The proposal will provide a contribution towards a package of measures to improve the accessibility of the site to non private car borne modes of travel and the occupants will be expected to adopt an agreed travel plan.

The proposal therefore complies with government and UDP policy.