Proposed Redevelopment of

Former Weir Pumps Factory Site, Newton Heath, Manchester

Transport Assessment

September 2006

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7th Sept '06'	8th Sept '06'	8th Sept '06'

Contents

1. Introduction

Background

Scott Wilson has been appointed to undertake a Transport and Utilities Assessment of the Weir Pumps development site by New East Manchester Ltd.

New East Manchester Ltd (NEM) has received several expressions of interest to redevelop the former Weir Pumps Ltd site for industrial/warehouse use. The site is currently owned by English Partnerships (EP) and NEM proposes working with EP to help facilitate the regeneration of this industrial land. As such the intention is to conduct all the necessary preparatory work in order to seek planning permission. This Transport Assessment (TA) has therefore been prepared in support of a future planning application. A separate Utilities Assessment report has also been prepared by Scott Wilson.

Report Structure

Following this introduction, the report is set out in a further eight chapters as follows:

- Chapter 2 describes the site location and development proposal;
- Chapter 3 describes the existing traffic conditions;
- Chapter 4 provides estimates of the development trip generation and distribution;
- Chapter 5 describes the approach to forecasting and presents the future year traffic forecasts;
- Chapter 6 discusses the required maximum and minimum parking provision within the development;
- Chapter 7 presents the results of the junction traffic impact assessment;
- Chapter 8 discusses the current and future provision of sustainable transport modes;
- Chapter 9 presents an outline Travel plan for the development; and
- Chapter 10 presents our summary and recommendations.

Additional information is contained in:

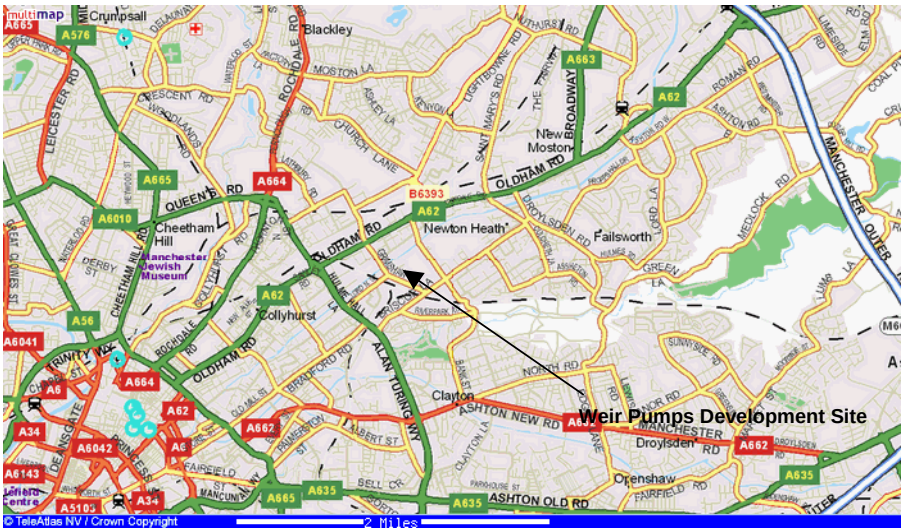
- Appendix A: Traffic Survey Data
- Appendix B: TRICS Database Outputs
- Appendix C: LTP2 Parking Standards
- Appendix D: Base Year Junction Analysis
- Appendix E: Opening Year (2009) Junction Analysis
- Appendix F: Design Year (2019) Junction Analysis
- Appendix G: Bus Service Analysis
- Appendix H: Revised Oldham Road TRO

2. Site Location and Proposed Development

Location

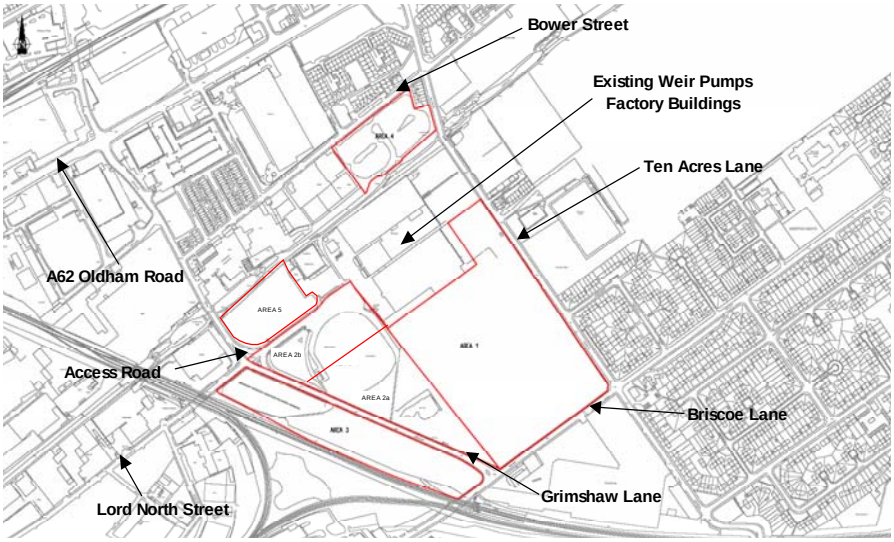
The site is located in the Oldham Road Corridor area of East Manchester as shown below in Figure 2.1.

Figure 2.1 Development Site location



The development site currently consists of derelict former industrial land previously occupied by factory buildings belonging to the Weir Pumps Company whom still occupy premises located adjacent to the development site. The overall area for development comprises of six smaller areas as shown in Figure 2.2 below. Areas 1, 2a, 2b, 3 and 5 are on a site bounded by Ten Acres Lane to the east, Briscoe Lane to the south, Ashton railway line to the west and industrial works to the north. Area 4 is on a site bounded by Ten Acres Lane, Bower Street and the Rochdale Canal.

Figure 2.2 Development Site Plan



Residential, industrial and warehousing areas surround the development site. Residential properties are primarily located along Ten Acres Lane to the north east, however further residential areas are located at the southern end of Bower Street to the west of the development site. Light industrial areas are located along Bower Street and Lord North Street to the south of the development site, with warehousing located to the west along Briscoe Lane.

Development Content

The proposed development content is primarily B2 industrial and B8 warehouse uses. There are currently two potential occupiers for the development site who are actively working towards submitting formal planning applications. Due to reasons of commercial sensitivity, both companies shall be referred to as Company A and Company B within this report. Company 'A' propose to establish a new bakery located within Area 3 accessed from Grimshaw Lane. Company 'B' proposes to amalgamate four of their existing premises within Areas 1 and 2a, incorporating manufacturing and warehousing/distribution processes at the same location. Currently there are no further potential site occupiers for Areas 2b, 4 and 5, however, it has been assumed that these sites will be used for B2 Industrial use as this generates a higher trip rate that B8 warehousing and as such provides a more robust junction analysis for the Transport Assessment.

3. Existing Traffic Conditions

Traffic Counts

A study area formed by the A62 Oldham Road, A6010 Hulme Hall Lane/Alan Turing Way, Briscoe Lane and Ten Acres Lane has been defined around the development site. Traffic flow data has been collected at all of the principle junctions within this area as shown in Figure 3.1.

Figure 3.1 Traffic Survey Location Plan

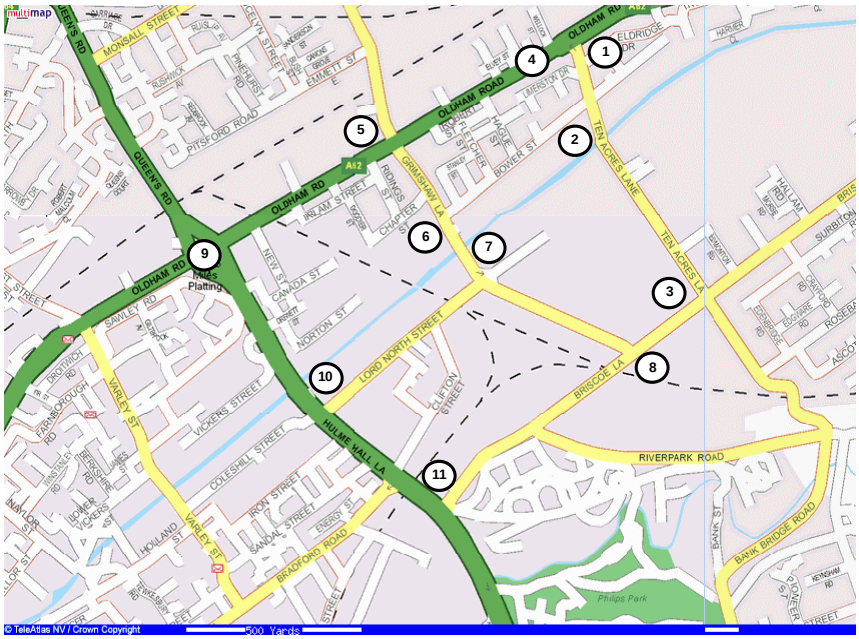


Table 3.1 Traffic Survey Locations

Ref. No.	Junction	Survey Date
1	A62 Oldham Road/Ten Acres Lane	14/09/04
2	Bower Street/Ten Acres Lane	20/07/06
3	Briscoe Lane/Ten Acres Lane	16/09/04
4	A62 Oldham Road/The Gateway	20/07/06
5	A62 Oldham Road/Grimshaw Lane	21/09/04
6	Grimshaw Lane/ Bower Street	20/07/06
7	Grimshaw Lane/ Lord North Street	20/07/06
8	Grimshaw Lane/ Briscoe Lane	20/07/06
9	A62 Oldham Road/A6010 Hulme Hall Lane	14/09/04
10	A6010 Hulme Hall Lane/ Lord North Street	20/07/06
11	A6010 Alan Turing Way/ Briscoe Lane	16/09/04

Traffic survey data had previously been collected at junctions 1, 3-5, 9 and 11 by Greater Manchester Transportation Unit (GMTU). Therefore Scott Wilson has commissioned a further series of traffic surveys to be carried out at the remaining five junctions within the study area. The full traffic survey data used within this transport assessment is provided in Appendix A to this report.

Peak Hour Analysis

Analysis of the traffic data collected shows that the local AM and PM peak hour traffic flows occur between 07:45-08:45 and 16:30-17:30 throughout the study area.

Survey Data Base Year Analysis

The most recently collected survey data available from GMTU had been collected between the 14th and 21st September 2004, requiring factoring to 2006 for use within the Base Year junction assessment of this report. The Department for Transport's Trip End Model Program (TEMPRO) has been used to derive the growth factor for Manchester Zone car traffic from survey year 2004 to Base Year 2006. The growth factors used are listed below in Table 3.2.

Table 3.2 2004-2006 TEMPRO (Car) Growth Factors

	Factor
AM	1.036
PM	1.032

National Road Traffic Forecast 1997 (NRTF97) low growth has been used to factor up Ordinary Goods Vehicle (OGV) and Public Service Vehicle (PSV) traffic from 2004 to 2006. Following factoring up, all traffic flows were then combined to produce Base Year (2006) Flows for junction analysis.

Table 3.3 2004-2006 NRTF Growth Factors

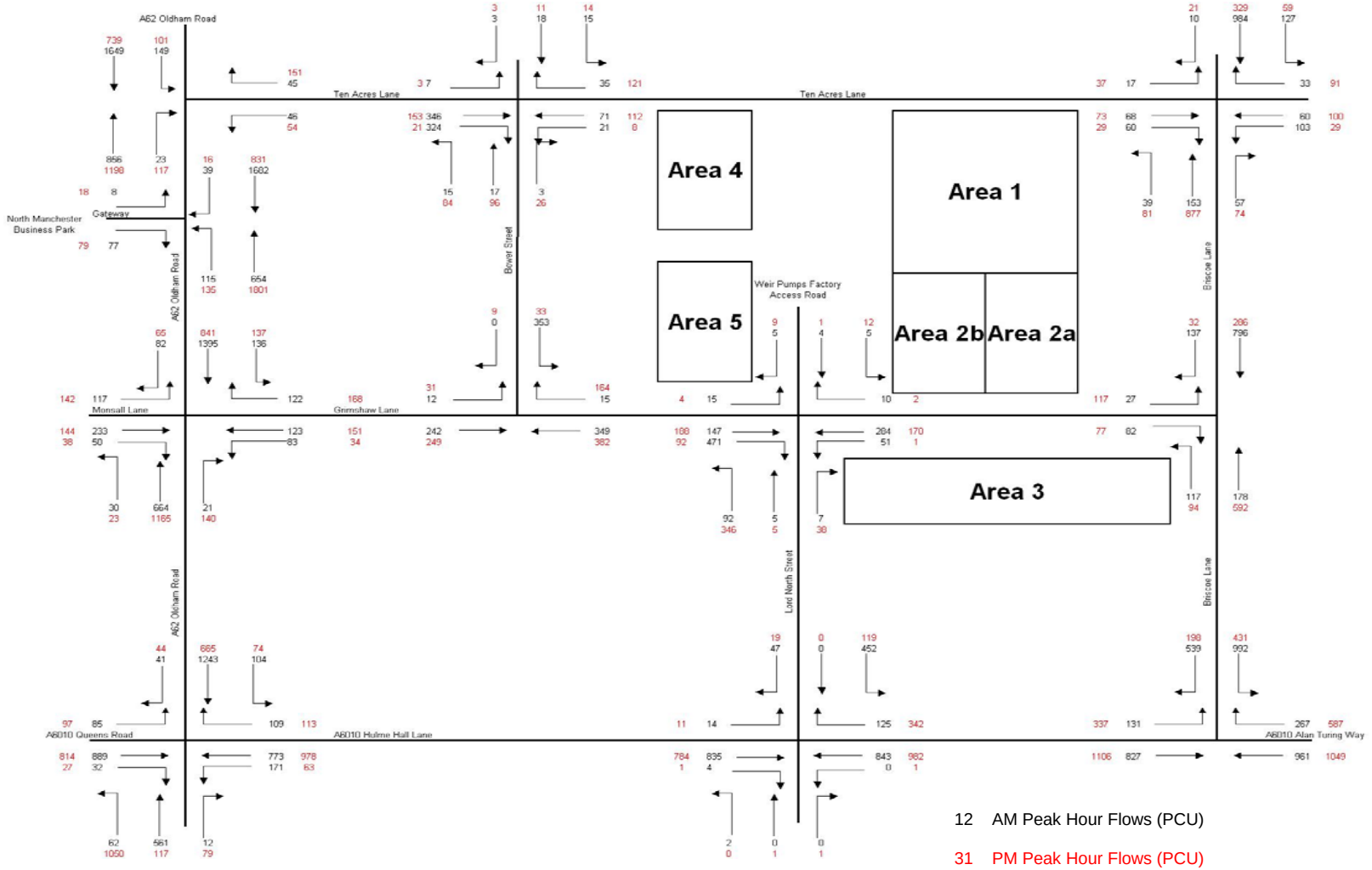
Vehicle Class	Factor
OGV	1.023
PSV	1.007

Junction analysis software requires all traffic flows to be entered as Passenger Car Units (PCU). Therefore for analysis purposes all traffic flows have been converted from observed vehicles to PCU flows. The following factors have been used to convert classified vehicle flows to PCU, taken from GMTU survey data:

- Car =1.0PCU
- Light Goods Vehicles (LGV) =1.0PCU
- Ordinary Goods Vehicles (OGV) =1.9PCU
- Bus =2.0PCU

The AM and PM peak hour traffic flows as used in the Base Year analysis are shown in Figure 3.2.

Figure 3.2 Peak Hour Base Year (2006) Traffic Flows



Analysis of the observed traffic flows at the A62 Oldham Road/Ten Acres Lane, Bower Street/Ten Acres Lane, Grimshaw Lane/Lord North Street and A6010 Hulme Hall Lane/Lord North Street junctions, shows a high traffic volume travelling from the A62 at the Ten Acres Lane junction, via Bower Street, Grimshaw Lane and Lord North Street to the A6010 at the Lord North Street junction during the AM peak hour. During the PM peak hour, this traffic flow is reversed, indicating the use of the route by 'rat-running' traffic between the A62 and A6010 during the morning and afternoon peak hours. During the AM peak, this is probably to avoid queuing on the A62 caused by the inbound bus lane. During the PM peak, vehicles travel through the middle of the study area to avoid the A62 Oldham Road/A6010 Hulme Hall Lane/Queens Road gyratory junction.

4. Traffic Generation and Distribution

Trip Generation

As previously discussed in Chapter 2 there are two known end users for the development site. The end users of these developments have supplied staff and HGV trip generations and outline distributions. In order to provide a robust analysis of future year traffic flows the trip volumes supplied by both companies have been compared to the trip generation estimates obtained through the TRICS database. Observed trip volumes have been used for analysis purposes as these more closely represent the flows likely to be generated by each of the developments.

Company 'A'
Company 'A' proposes to expand their existing business into new premises located in Area 3 of the development site. In order to establish the current trip volume generation, Scott Wilson commissioned a traffic survey of their existing nearby premises. During meetings with Company 'A' representatives, it was established that there are currently 100 employees at the existing site. The new development is not anticipated to employ more than 100 staff. The new site will be an expansion of their existing business and will employ 40 people per shift (06:00-18:00 and 18:00-06:00) with 20 daytime (09:00-17:00) office/administrative staff. There are also expected to be similar numbers of deliveries to and from both sites. It has therefore been assumed that traffic movements at the existing premises provide a robust basis for trip generation and distribution purposes. The anticipated trip generation volume (in PCU) from the new premises, based on observed data are listed below in Table 4.1. The observed trip volumes have been compared against volumes calculated from TRICS database trip rates for B2 Industrial Units.

Table 4.1 Company 'A' Trip Generation

Land Use	AM Peak		PM Peak	
	Arrivals	Departures	Arrivals	Departures
Observed	13	10	8	5
B2 Ind. Units	39	7	9	35

It can be seen that there is a significant difference between the observed and TRICS database generated traffic flows. It is assumed that these differences are primarily due to the shift working practices of Company 'A'. Consequently, the observed data collected from the existing premises of Company 'A' has been used in the analysis as this provides the more accurate trip generation for the new premises.

The traffic survey data collected at the existing Company 'A' premises is provided in Appendix A and TRICS Database trip generation outputs are provided in Appendix B of this report.

Company B
Company 'B' proposes to amalgamate operations from four existing separated sites around the country, into a single facility located in Areas 1 and 2a of the development. The new premises are programmed to open in 2009 and to expand the business in a ten-year timescale. The new premises will employ 131 staff per shift (06:00-14:00, 14:00-22:00 and 22:00-06:00) with 39 daytime (09:00-17:00)

office/administrative staff. Company 'B' have forwarded the trip generation data listed below in Table 4.2. No trip generation figures were made available for the existing warehouse operated by Company 'B', hence trip rates for B8 Warehouse (Commercial) have been calculated from TRICS database. Table 4.2 contains a comparison of the Observed and calculated trip volumes from the TRICS database. All figures are expressed as PCU flows.

Table 4.2 Company 'B' Trip Generation

Land Use	AM Peak		PM Peak	
	Arrivals	Departures	Arrivals	Departures
Observed	30	27	12	18
B8 Warehousing	22	12	12	19
Total	52	39	24	37
B2 Ind. Units	105	31	18	149
B8 Warehousing	22	12	12	19
Total	127	43	31	168

As with the Company 'A' trip generation comparison, it can be seen that there is a significant difference between the observed and TRICS database generated traffic flows. It is assumed that these differences are primarily due to the shift working practices of Company 'B'. Consequently the observed data collected from the existing premises of Company 'B' has been used in the analysis as this provides the more accurate trip generation for the new premises.

Areas 2b, 4 and 5

In order to provide a robust analysis for the whole development site, it has been assumed that B2 Light Industrial premises will occupy Areas 2b, 4 and 5. As there are currently no development proposals for these areas, it has been assumed that the GFA of each development on these parcels of land is the average proportion of the two known developments. Table 4.3 lists the calculated peak hour arrivals and departures in PCU, to/from each site, using the TRICS B2 trip rates.

Table 4.3 Area 4 Trip Generation

Development Area	AM Peak		PM Peak	
	Arrivals	Departures	Arrivals	Departures
Area 2b	15	5	4	15
Area 4	10	3	2	10
Area 5	12	4	3	13

All TRICS Database trip generation outputs are provided in Appendix B of this report

Trip Distribution

Following consultation, Companies 'A' and 'B' have also forwarded details of the distribution of deliveries to and from their existing premises located within the Manchester area.

Both companies manufacture products that are dispatched to central distribution depots throughout the country for forwarding to retail outlets. Both companies also

receive goods for use within the manufacturing process, delivered from central dispatching locations similarly located throughout the country. It has therefore been assumed that all HGV movements to and from both proposed premises will be to and from the motorway network, primarily accessed via the A6010 and A62. A separate gravity model has also been constructed of staff commuter trips, based upon population densities around Greater Manchester.

Areas 2b, 4 and 5 occupiers are assumed to access each site via Ten Acres Lane (Area 4) and Grimshaw Lane (Areas 2b and 5). It has been assumed that staff will access Area 4 from the north via Ten Acres Lane and Areas 2b and 5 from the south via Grimshaw Lane, and that all HGV movements will be via Grimshaw Lane. Development trips have been distributed throughout the study area as shown in Figure 4.1.

Figure 4.1 Peak Hour Development Trips

5. Traffic Forecasts

Years for Assessment

Junction assessments have been carried out in the Base, Opening and Design Years. 2006 has been selected as the Base Year for analysis due to the requirement for additional surveys. Consequently, 2004 GMTU survey data has been growthed-up to 2006. The Opening Year has been established as 2009 following consultation with both potential site occupiers, with a Design Year of 2019 in accordance with Institute of Highways and Transportation (IHT) guidance on junctions not located on trunk roads.

Background Growth

Base year traffic flows have been growthed up to Opening and Design year flows using TEMPRO for light vehicles and NRTF low growth for HGVs. Table 5.1 lists the TEMPRO factors and Table 5.2 the NRTF factors used to produce future year background traffic flows.

Table 5.1 Future Year TEMPRO Background Growth Factors

	2006-09	2006-19
AM	1.041	1.149
PM	1.036	1.131

Table 5.2 Future Year NRTF Background Growth Factors

Vehicle Class	2006-2009	2006-2019
OGV	1.043	1.172
PSV	1.003	1.049

The forecast Opening and Design Year background traffic flows are illustrated in Figures 5.1 and 5.2.

Traffic Associated with Committed Development

Future year analysis includes committed development traffic from NEM North Manchester Business Park.

North Manchester Business Park

The North Manchester Business Park is located off the A62 Oldham Road, accessed via The Gateway, Monsall Road and Thorp Road/Northampton Road. Following consultation with NEM it has been established that the full development will consist of a total of 132,500m^2 of B1 (offices, research and development and light industry), B2 General Manufacturing, B8 (Warehousing and distribution) and other supporting uses including A1 and A3 Retail, D1 Crèche and educational facilities and D2 Indoor Leisure uses. At present approximately 33,100m^2 of development has been completed. No specific GFA by land-use information is available at the time of analysis, however, trip rate and distribution information is available in the North Manchester Business Park Phase 1 Transport Assessment dated August 2001. It has

been assumed that the development will be completed by 2009 for analysis purposes. The reported trip rates and distribution for this development have been applied as committed development traffic within the future year analysis. The calculated AM and PM Peak Committed Development traffic flows are shown in Figure 5.3.

Central Park South
This development lies on an area of derelict land to the north of Ten Acres Lane, immediately adjacent to the Weir Pumps development site. At present there is no committed development plan for this site.

Sport City
This development area is located in a parcel of land between the Sport City development and the A6010 Alan Turing Way. The development is intended to include a casino, residential, hotel and leisure land uses. However, as with the Central Park South development, there is no committed development plan for this site.

Total Traffic Forecasts
Following the calculation and distribution of future year background, committed development and Weir Pumps development traffic flows, all three sets of data have been combined to produce future year with and without Weir Pumps development flows for analysis purposes. Future year analysis consists of two scenarios;

- Do-Minimum (Including Background and Committed development traffic),
- Do-Something (Including Background, Committed development and Development traffic).

Figures 5.4 and 5.5 illustrate the Opening Year AM and PM Do-Minimum and Do-Something traffic flows (in PCU) respectively, while Figures 5.6 and 5.7 illustrate The Design Year AM and PM Peak hour Do-minimum and Do-Something flows respectively.

Figure 5.1 Opening Year (2009) Forecast Background Peak Hour Turning Traffic Flows

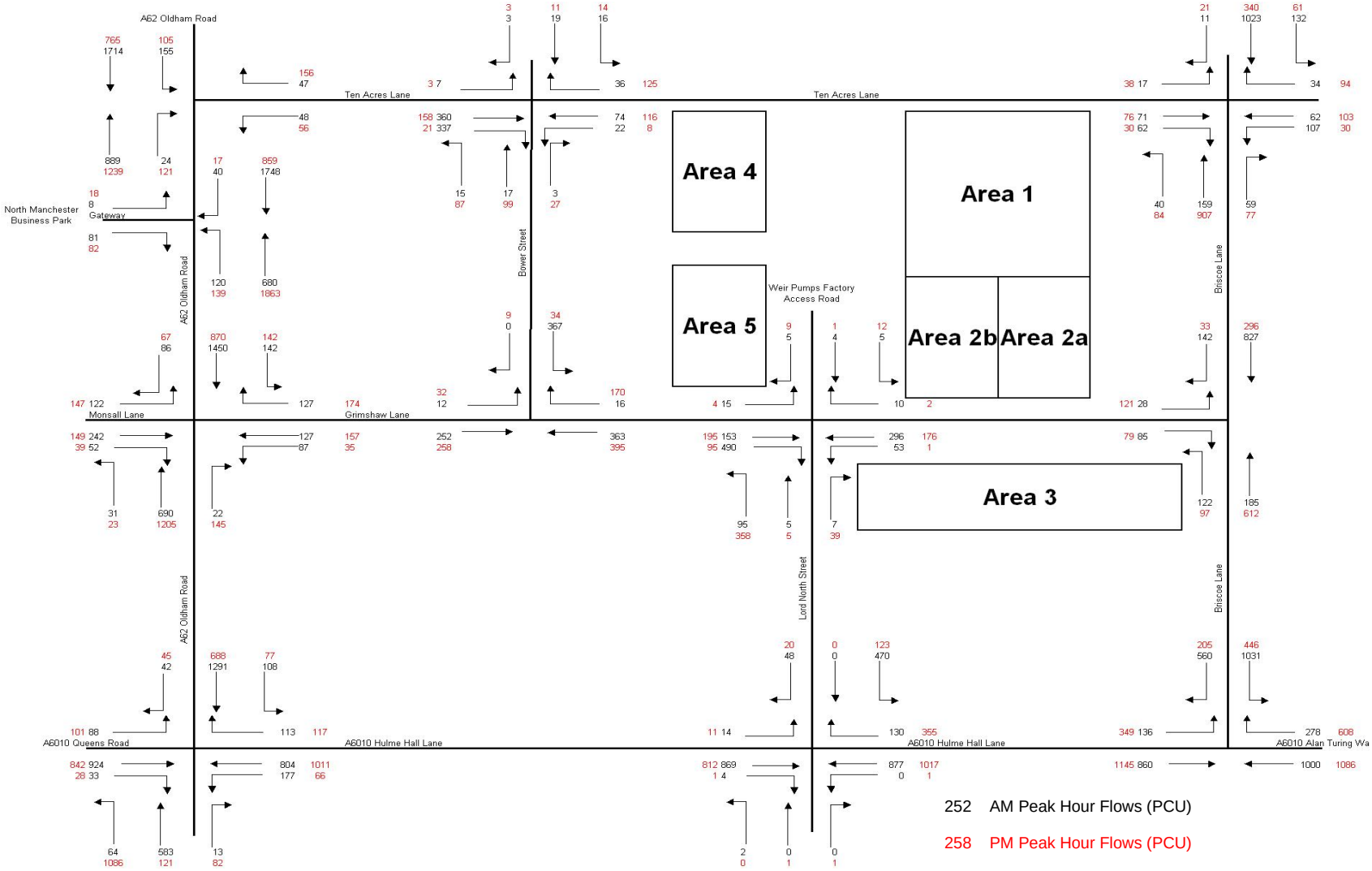


Figure 5.2 Design Year (2019) Forecast Background Peak Hour Turning Traffic Flows

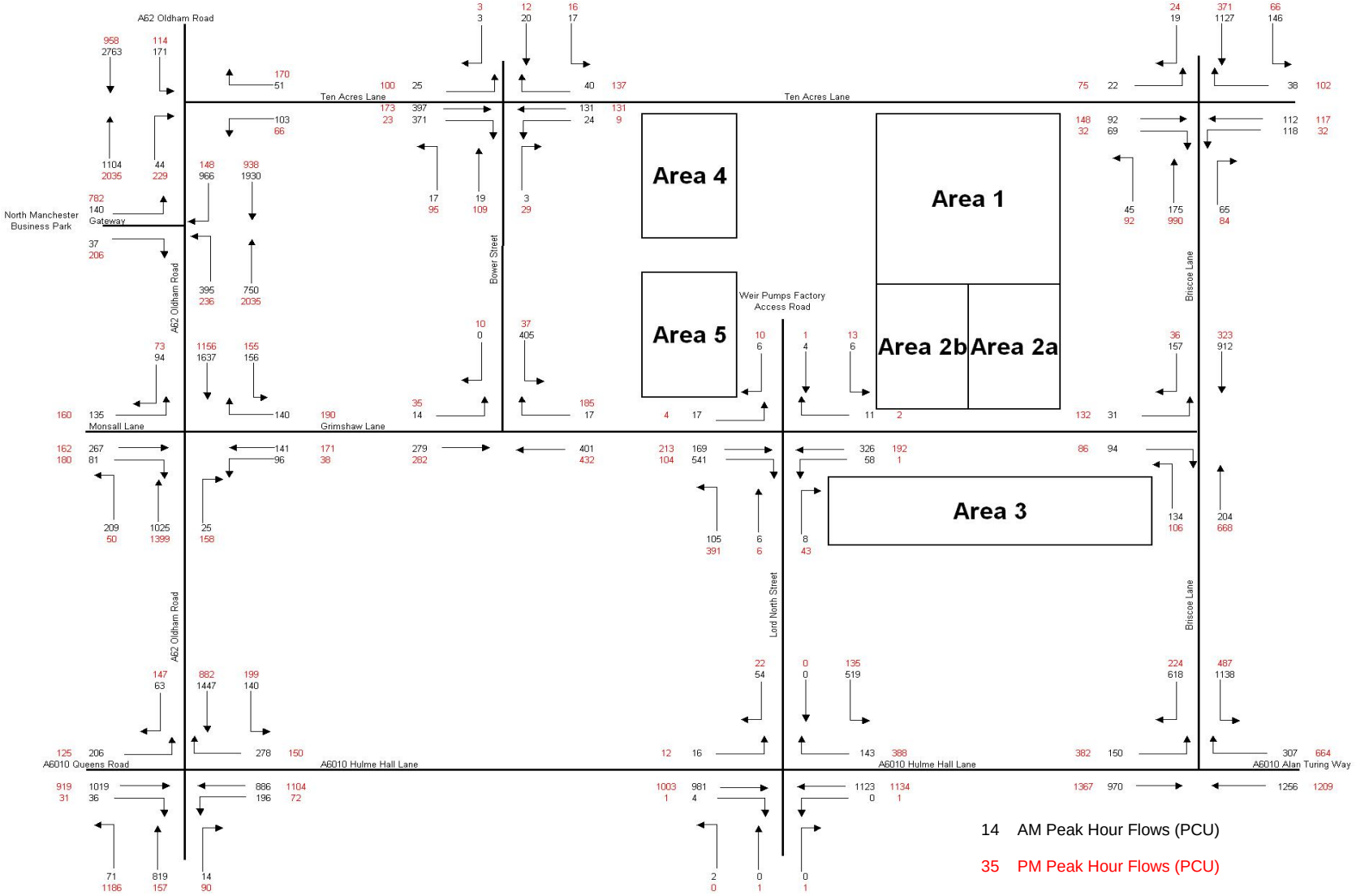


Figure 5.3 Committed Development Peak Hour Traffic Flows

Figure 5.4 Forecast Opening Year (2009) Do-Minimum Peak Hour Turning Flows

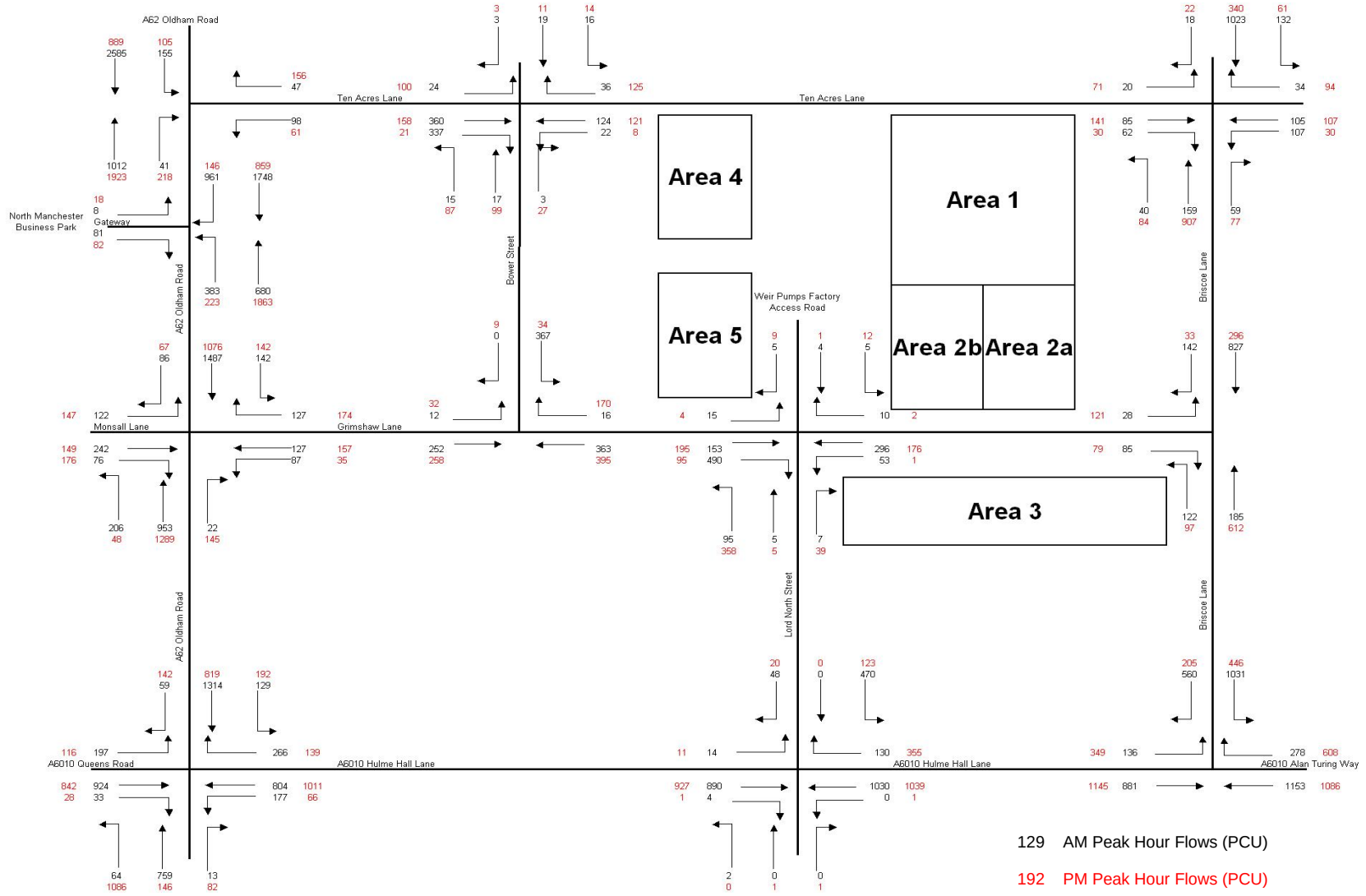


Figure 5.5 Forecast Opening Year (2009) Do-Something Peak Hour Turning Flows

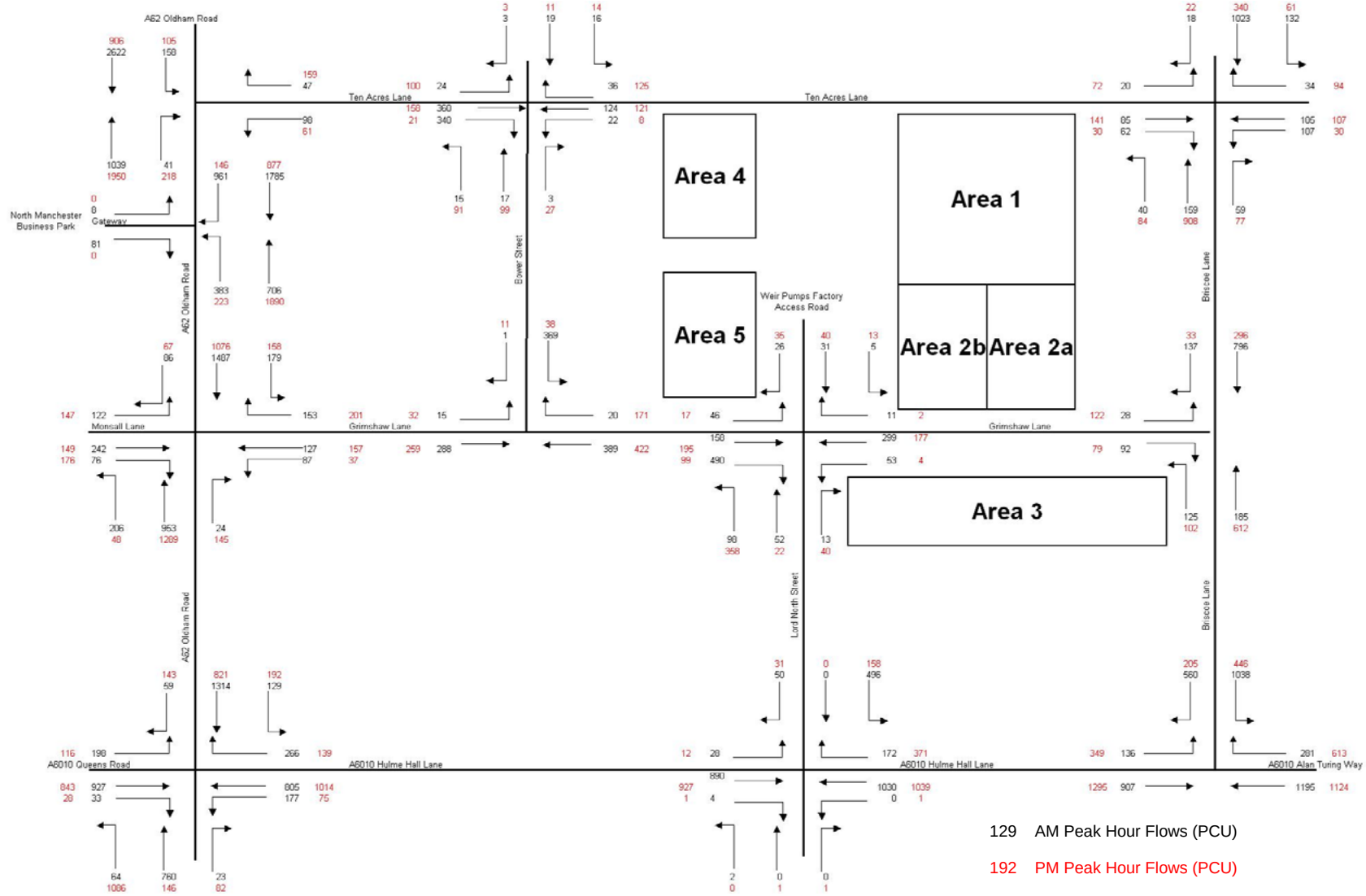


Figure 5.6 Forecast Design Year (2019) Do-Minimum Peak Hour Turning Flows

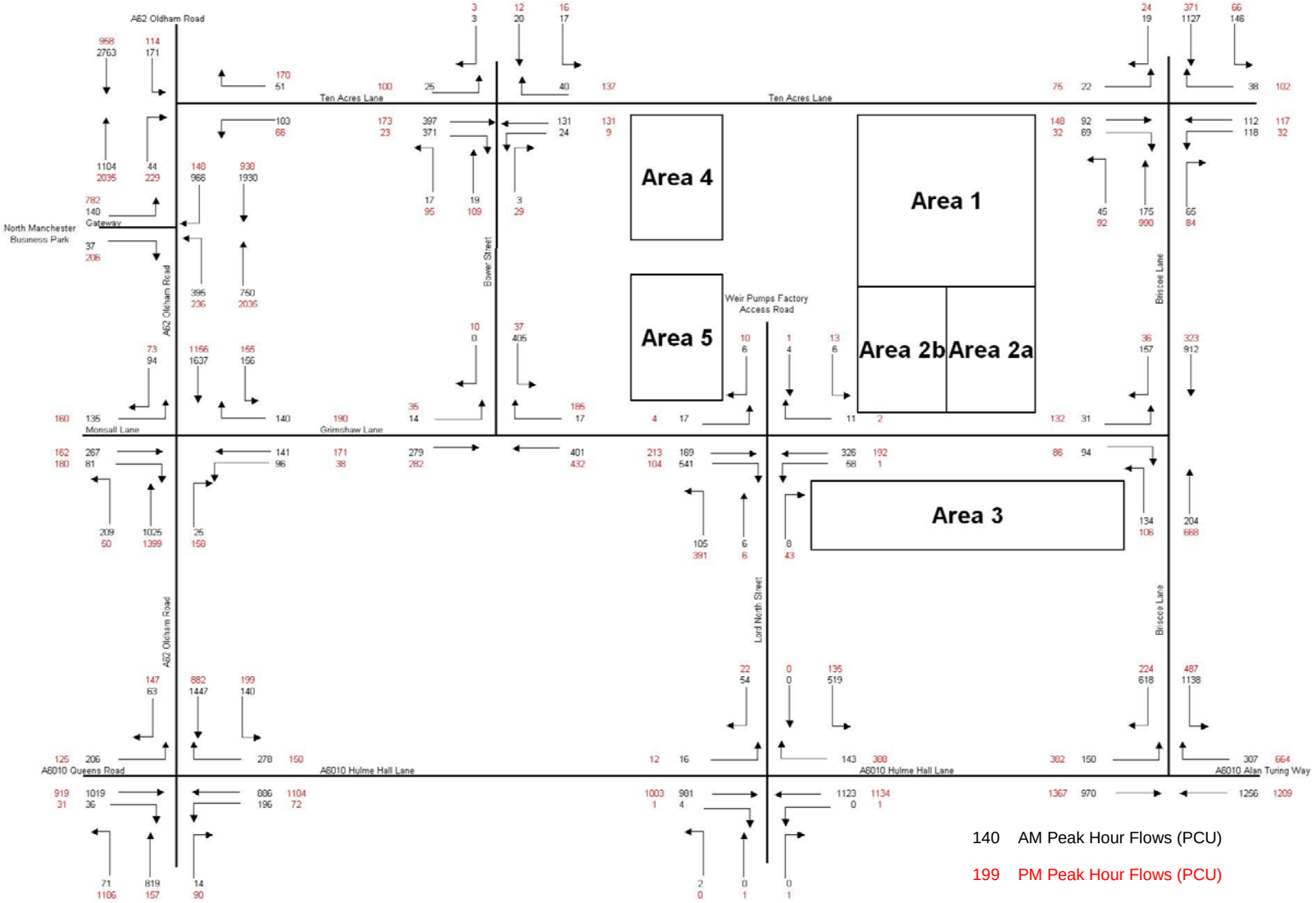
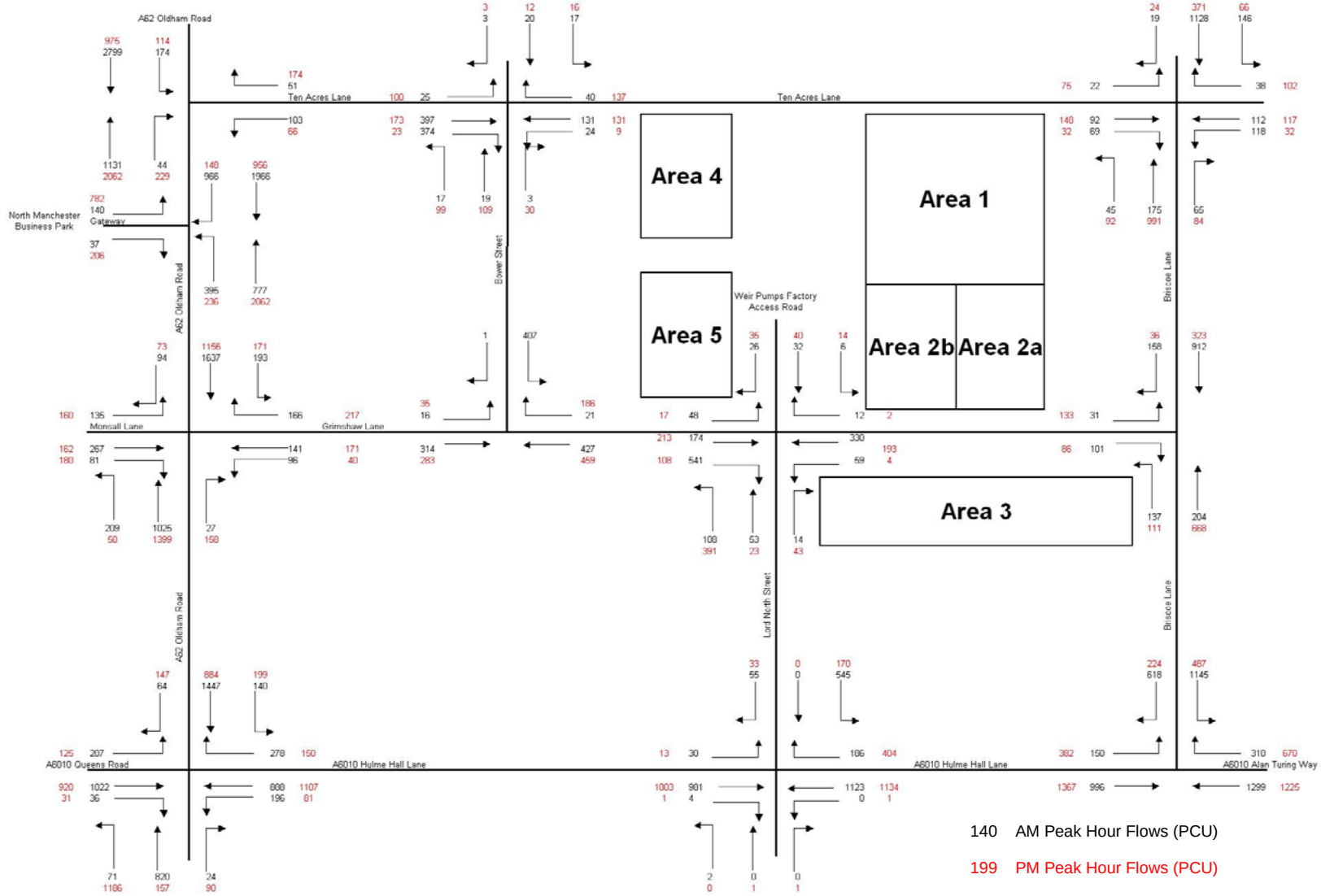


Figure 5.7 Forecast Opening Year (2019) Do-Something Peak Hour Turning Flows

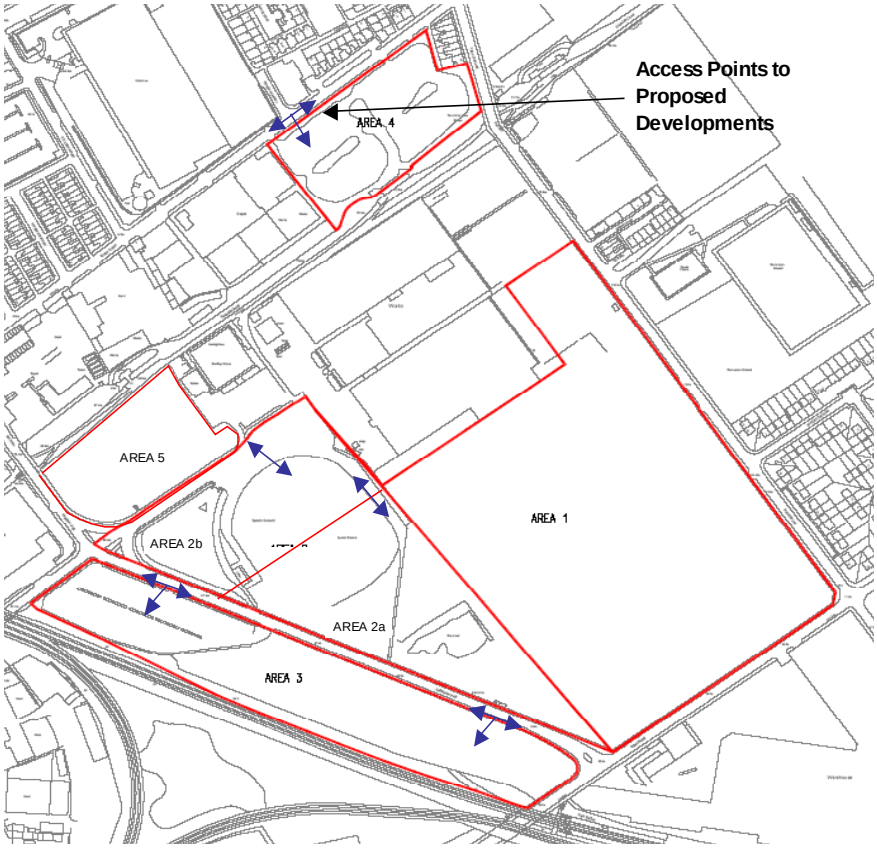


6. Site Access and Parking

Site Access

Site access to the development located in Areas 1, 2a, 2b and 5 is anticipated to be via the existing Weir Pumps factory access road. Access to Area 3 will be via two access/exits located on Grimshaw Lane. Access to Area 4 has been assumed to be via Bower Street and Grimshaw Lane.

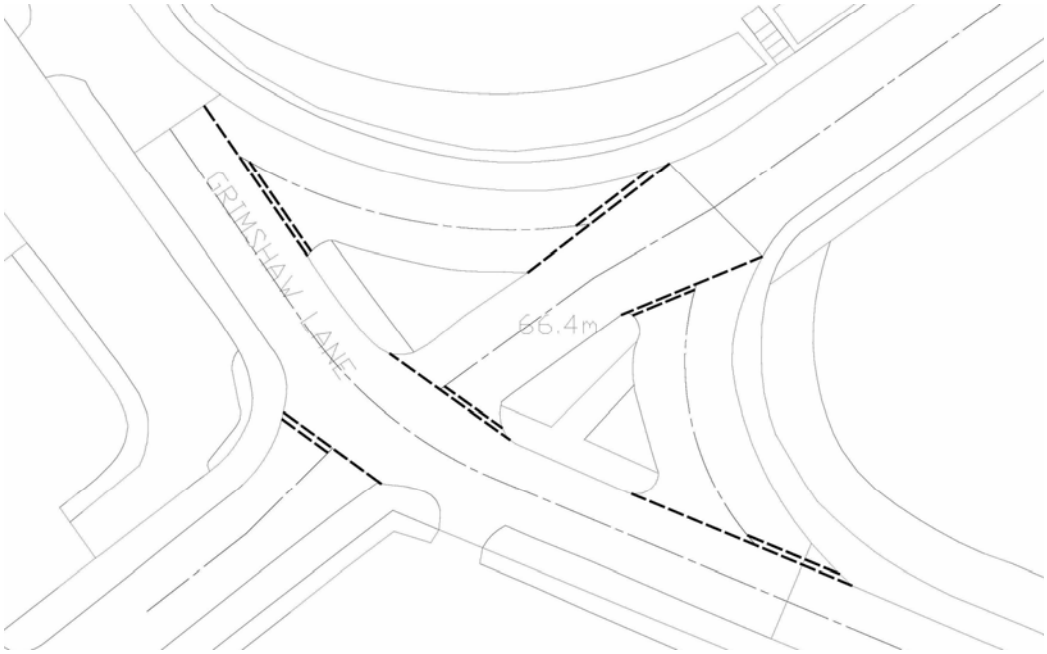
Figure 6.1 Assumed Access Within the Development Area



Grimshaw Lane/Lord North Street/Access Road Junction
This junction represents a non-standard design of priority-controlled crossroad junction due to the two additional bi-directional lanes linking Grimshaw Lane and the Weir Pumps Access road as shown in Figure 6.2.

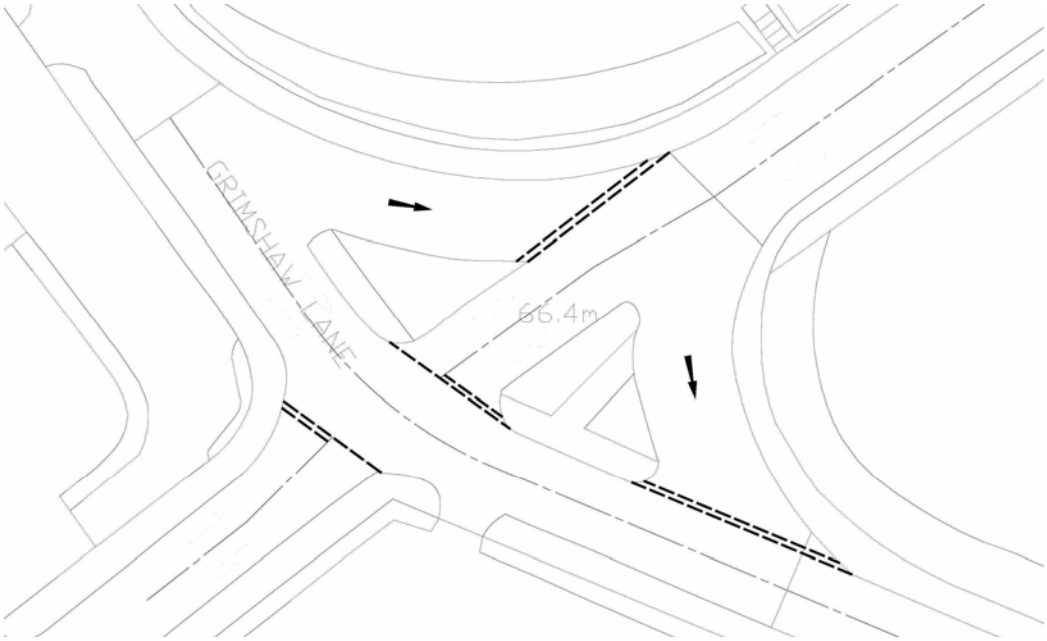
The provision for traffic to turn from/to Grimshaw Lane and the access road via the two flared approach lanes does not follow normal best practice for priority-controlled junctions. There are also potential highway safety issues, as right-turning traffic has to cross two streams of traffic to complete the turning manoeuvre. In addition, drivers of right-turning traffic have also to look for traffic approaching from the rear offside direction before completing the turning manoeuvre.

Figure 6.2 Existing Grimshaw Lane/Lord North Street/Access Road Junction Layout



In order to improve highway safety it is recommended that each of the flared lanes from Grimshaw Lane to the access road be closed to two-way traffic. Vehicles making right turns at the junction to/from Grimshaw Lane and the development site, would be re-directed to the Grimshaw Lane/Lord North Street junction rather than being able to use the flared lanes as shown below in Figure 6.3.

Figure 6.3 Recommended Grimshaw Lane/Lord North Street/Access Road Junction Layout



Highway safety would also be improved at the junction as right-turning vehicles will only cross on-coming traffic once and drivers will only be required to look for on-coming traffic streams travelling towards the vehicle rather than from the rear as at present.

Parking

Each of the potential developers has forwarded outline plans of the new premises, including details of Gross Floor Areas (GFA) of each land use type. Table 7.1 lists the GFA for each development. As previously discussed in Chapter 4, no occupier have been identified for the land in Areas 2b, 4 and 5. Therefore a 'Worst-Case' scenario of B2 development has been assumed, as this will provide a higher trip generation than B8 use. Consequently, this assumption has been carried through to the calculation of parking spaces.

Table 6.1 Development Gross Floor Areas

Occupier	Land Use	GFA
Company A	B2 Industrial	10,110m^2
Company B	B2 Industrial	31,183m^2
	B8 Warehouse	11,742m^2
Area 2a	B2 Industrial	7,358m^2
Area 4	B2 Industrial	4,731m^2
Area 5	B2 Industrial	6,521m^2

Using the parking standards published within the Greater Manchester Local Transport Plan for 2006/07 – 2010/11 (LTP2), the parking requirements have been calculated for each of the developments has been calculated as listed below in Table 6.2. A copy of the guidance is included in Appendix C of this report.

Table 6.2 Calculated Development Parking Requirements

Occupier	Land Use	GFA	Ordinary Spaces	Disabled Spaces	Cycle Spaces	Motorcycle Spaces
Company A	B2 Industrial	10,110m^2	169	9	14	4
Company B	B2 Industrial	31,183m^2	536	16	45	11
Area 2a	B2 Industrial	7,358m^2	123	6	11	3
Area 4	B2 Industrial	4,731m^2	79	4	7	2
Area 5	B2 Industrial	6,521m^2	109	5	9	2

It should be noted that the above-calculated parking space requirements are based on the maximum and minimum parking standards published in the Greater Manchester LTP2. Both Company 'A' and Company 'B' intend to operate shift systems of working, which may result in a lower level of parking provision being required, as not all personnel will be present on site during the same hours of the day. It is also possible that the availability of public transport in the vicinity may also be a contributory factor for a reduced parking space demand. Table 6.3 compares the parking requirements as proposed for each development and as specified in accordance to LTP2 parking standards.

Table 6.3 Comparison of Development Parking Requirements

Occupier	Proposed No. Car Spaces	Ordinary Spaces
Company A	59	169
Company B	260	536

It can be seen in Table 6.3 that there is a significant difference between the number of spaces required in accordance with the parking standards and the number required by each company. It can reasonably be concluded that the lower parking space requirements of each company, when compared to parking standards, will be due to the shift working practices of both organisations. The availability of public transport in the area may also be a significant contributory factor.

7. Junction Traffic Impact Assessment

Method

The operational assessment of junctions has been undertaken using the standard junction modelling software:

- PICADY for priority junctions; and
- Linsig for signalised junctions.

The results of the capacity assessments have been summarised in terms of:

- Traffic queue lengths in PCU;
- Ratio of Flow to Capacity (RFC) on an approach arm for priority controlled junctions; and
- Percentage Degree of Saturation for traffic signals.

An RFC of 0.8 indicates that the junction is operating at close to its desirable maximum capacity. An RFC greater than 1.0 indicates that the junction is forecast to operate in excess of its maximum capacity. A Degree of Saturation of 90% indicates that the junction is operating close to its desirable Degree of Saturation. Values of 100% indicate that the junction is operating at its maximum Degree of Saturation.

Existing signal times were obtained from Greater Manchester Urban Traffic Control (GMUTC).

Base Year 2006 Assessment

Junction Analysis Software

There are 11 junctions within the study area as shown in Figures 3.2 and 3.3. Table 7.1 lists each of the junctions and how they are controlled.

Table 7.1 Junctions Within the Study Area

Ref. No.	Junction	Control
1	A62 Oldham Road/Ten Acres Lane	Priority
2	Bower Street/Ten Acres Lane	Priority
3	Briscoe Lane/Ten Acres Lane	Signalised
4	A62 Oldham Road/The Gateway	Signalised
5	A62 Oldham Road/Grimshaw Lane	Signalised
6	Grimshaw Lane/ Bower Street	Priority
7	Grimshaw Lane/ Lord North Street	Priority
8	Grimshaw Lane/ Briscoe Lane	Priority
9	A62 Oldham Road/A6010 Hulme Hall Lane	Signalised
10	A6010 Hulme Hall Lane/ Lord North Street	Signalised
11	A6010 Alan Turing Way/ Briscoe Lane	Signalised

Table 7.2 lists the percentage increases in traffic at each junction due to the addition of Weir Pumps development traffic.

Table 7.2 Percentage Increases in Traffic at Each Junction Due to Development Traffic Flows

Ref. No.	Junction	Peak Hour	Opening Year			Design Year		
			Do-Min	Do-Som	% Inc.	Do-Min	Do-Som	% Inc.
1	A62 Oldham Road/Ten Acres Lane	AM	3939	4005	2%	4237	4303	2%
		PM	3351	3398	1%	3573	3621	1%
2	Bower Street/Ten Acres Lane	AM	976	979	0%	1068	1072	0%
		PM	776	780	1%	838	842	0%
3	Briscoe Lane/Ten Acres Lane	AM	456	459	0%	500	500	0%
		PM	468	468	0%	505	505	0%
4	A62 Oldham Road/The Gateway	AM	3772	3924	4%	4218	4281	1%
		PM	3092	3136	1%	4345	4389	1%
5	A62 Oldham Road/Grimshaw Lane	AM	3676	3741	2%	4005	4070	2%
		PM	3604	3650	1%	3893	3938	1%
6	Grimshaw Lane/ Bower Street	AM	1010	1082	7%	1116	1188	6%
		PM	898	934	4%	981	1017	4%
7	Grimshaw Lane/ Lord North Street	AM	1095	1112	2%	1207	1224	1%
		PM	864	872	1%	944	952	1%
8	Grimshaw Lane/ Briscoe Lane	AM	1390	1402	1%	1533	1544	1%
		PM	1238	1244	0%	1350	1357	1%
9	A62 Oldham Road/A6010 Hulme Hall Lane	AM	2015	2030	1%	2222	2237	1%
		PM	3116	3129	0%	2402	3414	0%
10	A6010 Hulme Hall Lane/ Lord North Street	AM	2070	2126	3%	2270	2326	2%
		PM	2736	2879	5%	2541	2559	1%
11	A6010 Alan Turing Way/ Briscoe Lane	AM	4039	4118	2%	4440	4519	2%
		PM	3976	4032	1%	4333	4354	0%

Primary junctions considered for analysis are shown highlighted

It can be seen in Table 7.2 above that the percentage increases in traffic due to the Weir Pumps development at the Grimshaw Lane/Bower Street junction is 7% during the Opening Year and 6% in the Design Year AM Peak hours. The increase in traffic volume at the A6010 Hulme Hall Lane/Lord North Street junction during the Opening Year PM peak hour is 5%. As these increases fall above the 5% threshold for analysis, junction capacity analysis has been carried out at these junctions. Further assessment has also been carried out at the Grimshaw Lane/Lord North Street junction, due to this junction forming the main access to development areas 1, 2a, 2b, 3 and 5.

Analysis has also been carried out of the A62 Oldham Road/Grimshaw Lane junction due to this junction forming one of two access points for development traffic onto the main transport corridors along the A62 Oldham Road and A6010 Hulme Hall Lane/Alan Turing Way, the A6010 Hulme Hall Lane/Lord North Street being the other. The Briscoe Lane/Grimshaw Lane Junction has also been assessed, as this junction will primarily be used by delivery vehicles serving the proposed Company A premises on Grimshaw Lane.

Base Year (2006) Analysis Results

Summary results of Base Year (2006) junction analysis are presented in Tables 7.3 - 7.7 below.

Table 7.3 Summary A62 Oldham Road/Grimshaw Lane Base Year (2006) Analysis

Arm/Manoeuvre	AM Peak		PM Peak	
	Degree Saturation (%)	Queue (PCU)	Degree Saturation (%)	Queue (PCU)
Oldham Road (North) Right	13.8	0.8	8.3	0.6
Oldham Road (North) Ahead	98.7	27.6	12.1	8.2
Oldham Road (North) Left	12.2	1.3	6.9	1.3
Grimshaw Lane Right	93.0	6.1	98.5	6.4
Grimshaw Lane Left Ahead	48.9	4.5	36.5	4.0
Oldham Road (South) Right	19.4	0.3	19.4	1.8
Oldham Road (South) Ahead Left	54.8	8.9	44.0	22.3
Monsall Road Left Ahead Right	90.9	12.4	45.9	7.6

The summary analysis results contained in Table 7.3 above indicate that this junction is currently operating below its maximum degree of saturation on all approach arms during both the AM and PM peak hours. However, the junction is operating in excess of the desirable Degree of Saturation of 90%, on the Oldham Road (North) Ahead, Grimshaw Lane Right and Monsall Road all turning movements during the AM peak hour and the Grimshaw Lane Right turn movement in the PM peak hour during the Base (2006) Year.

Table 7.4 Summary Grimshaw Lane/ Bower Street Base Year (2006) Analysis

Arm/Manoeuvre	AM Peak		PM Peak	
	RFC	Queue (PCU)	RFC	Queue (PCU)
Bower Street to Grimshaw Lane	0.735	2.6	0.102	0.1
Grimshaw Lane (south) to Grimshaw Lane (north) and Bower Street	0.034	0.0	0.401	1.0

It can be seen that the junction is operating with a maximum RFC of 0.401 indicating the junction is currently operating below its maximum desirable capacity (0.8 RFC).

Table 7.5 Summary Grimshaw Lane/ Lord North Street Base Year (2006) Analysis

Arm/Manoeuvre	AM Peak		PM Peak	
	RFC	Queue (PCU)	RFC	Queue (PCU)
Lord North Street all movements	0.139	0.2	0.723	2.5
Grimshaw Lane (East) all movements	0.016	0.0	0.004	0.0
Access Road ahead and left turn	0.010	0.0	0.022	0.0
Access Road ahead and right turn	0.014	0.0	0.030	0.0
Grimshaw Lane (West) all movements	0.506	1.1	0.148	0.2

It can be seen in Table 7.5 above, that the summary analysis results show that this junction is currently operating with a maximum RFC of 0.723, and is thus below the desirable maximum capacity (0.8 RFC) during the Base Year (2006) AM and PM peak hours.

Table 7.6 Summary Grimshaw Lane/Briscoe Lane Base Year (2006) Analysis

Arm/Manoeuvre	AM Peak		PM Peak	
	RFC	Queue (PCU)	RFC	Queue (PCU)
Grimshaw Lane left turn	0.053	0.1	0.247	0.3
Grimshaw Lane right turn	0.260	0.3	0.261	0.3
Briscoe Lane (North) ahead and right turn	0.525	2.3	0.093	0.2

The summary results presented in Table 7.6 above indicate that the junction is currently operating below its maximum desirable capacity (0.8 RFC) with a maximum RFC of 0.525, during the current Base year (2006).

Table 7.7 Summary A6010 Hulme Hall Lane/ Lord North Street Base Year (2006) Analysis

Arm/Manoeuvre	AM Peak		PM Peak	
	Degree Saturation (%)	Queue (PCU)	Degree Saturation (%)	Queue (PCU)
Hulme Hall Lane (North) Right	1.1	0.0	0.2	0.0
Hulme Hall Lane (North) Left Ahead	62.6	8.0	33.2	4.6
Lord North Street Right Left Ahead	61.7	4.2	44.9	1.8
Hulme Hall Lane (South) Ahead Left	62.1	8.0	41.0	5.7
Hulme Hall Lane (South) Right	35.0	1.2	64.3	2.2
Coleshill Street Right	0.0	0.0	0.2	0.0
Coleshill Street Left Ahead	0.3	0.0	0.4	0.0

The summary analysis results in Table 7.7 show that the junction is currently operating below the desirable Degree of Saturation (90%) on all approach arms to the junction with a maximum Degree of Saturation of 64.3%.

It can therefore be reasonably concluded that during the Base Year (2006),

- The A62 Oldham Road/Grimshaw Lane junction is currently operating at close to its maximum degree of saturation on all approach arms to the junction during the AM and PM Peak Hours,
- The Grimshaw Lane/Bower Street junction is currently operating below, but close to its maximum capacity on all approach arms to the junction during both Peak Hours,
- The Grimshaw Lane/Lord North Street Junction is currently operating, below the desirable maximum capacity of the junction,
- The Grimshaw Lane/Briscoe Lane junction is currently operating below its maximum desirable capacity (0.8 RFC),
- The A6010 Hulme Hall Lane/Lord North Street Junction is currently operating below its desirable and maximum degrees of Saturation in the Base (2006) Year.

Full Base Year (2006) junction analysis results are contained in Appendix D of this report.

Opening Year 2009 Assessment

Following the Base Year (2006) assessment of each junction, two scenarios have been tested in the Opening Year analysis, Do-Minimum and Do-Something, where;

- Do-Minimum – Includes background traffic growth plus Committed development traffic flows;
- Do-Something – Includes background growth, committed development traffic flows and Weir Pumps development peak hour traffic flows.

Tables 7.8 – 7.14 compare Opening Year Do-Minimum and Do-Something summary analysis results. Full Opening Year (2009) junction analysis results are included in Appendix E of this report.

Table 7.8 Summary A62 Oldham Road/Grimshaw Lane Opening Year (2009) Analysis

Arm//Manoeuvre	Do-Minimum				Do-Something			
	AM Peak		PM Peak		AM Peak		PM Peak	
	Degree Saturation (%)	Queue (PCU)	Degree Saturation (%)	Queue (PCU)	Degree Saturation (%)	Queue (PCU)	Degree Saturation (%)	Queue (PCU)
Oldham Road (North) Right	25.5	0.8	20.5	0.7	26.1	0.9	20.5	0.7
Oldham Road (North) Ahead	106.8	48.1	77.3	10.5	110.1	59.8	77.3	10.5
Oldham Road (North) Left	12.9	1.4	12.9	1.4	16.8	1.8	14.4	1.5
Grimshaw Lane Right	107.5	9.3	161.1	32.5	108.5	10.7	186.1	49.7
Grimshaw Lane Left Ahead	48.6	4.6	42.7	4.2	44.7	4.5	43.2	4.2
Oldham Road (South) Right	20.4	0.3	82.0	3.4	22.2	0.3	82.0	3.4
Oldham Road (S.) Ahead Left	95.2	22.2	107.3	49.6	98.3	28.2	107.3	49.6
Monsall Road L. Ahead Right	96.0	16.1	105.8	23.6	88.3	12.1	105.8	23.6

The Summary results in Table 7.8 above indicate that this junction is forecast to operate in excess of its maximum Degree of Saturation on the Oldham Road (North) Ahead and Grimshaw Lane Right turn movements during the Opening Year without additional Weir Pumps development traffic being added to the background traffic flow. The addition of development traffic to the forecast background traffic therefore has minimal additional impact on the operational characteristics of the junction.

Table 7.9 Summary Grimshaw Lane/ Bower Street Opening Year (2009) Analysis

Arm//Manoeuvre	Do-Minimum				Do-Something			
	AM Peak		PM Peak		AM Peak		PM Peak	
	RFC	Queue (PCU)	RFC	Queue (PCU)	RFC	Queue (PCU)	RFC	Queue (PCU)
Bower Street to Grimshaw Lane	0.768	3.1	0.105	0.1	0.788	3.4	0.122	0.1
Grimshaw Lane (south) to Grimshaw Lane (north) and Bower Street	0.036	0.1	0.422	1.1	0.047	0.1	0.434	1.2

It can be seen in Table 7.9 above that this junction is forecast to operate at a maximum RFC of 0.788 during the Opening Year AM Peak Hour. However, this is below the desirable maximum RFC of 0.8 indicating the junction is not forecast to operating at close to its maximum capacity.

Table 7.10 Summary Grimshaw Lane/ Lord North Street (Existing Layout) Opening Year (2009) Analysis

Arm/Manoeuvre	Do-Minimum				Do-Something			
	AM Peak		PM Peak		AM Peak		PM Peak	
	RFC	Queue (PCU)	RFC	Queue (PCU)	RFC	Queue (PCU)	RFC	Queue (PCU)
Lord North Street all movements	0.235	0.3	0.749	2.8	0.501	1.0	0.802	3.8
Grimshaw Lane (East) all movements	0.030	0.0	0.004	0.0	0.033	0.0	0.004	0.0
Access Road ahead and left turn	0.016	0.0	0.022	0.0	0.074	0.1	0.083	0.1
Access Road ahead and right turn	0.026	0.0	0.030	0.0	0.155	0.2	0.161	0.2
Grimshaw Lane (West) all movements	0.849	5.7	0.154	0.2	0.874	6.9	0.162	0.3

The summary results in Table 7.10 above indicate that the junction in its existing layout is forecast to operate slightly in excess of its maximum desirable capacity (0.8 RFC) with an RFC of 0.849 in the Opening Year without additional development traffic.

As identified in Chapter 3, potential 'Rat-running' traffic between the A62 Oldham Road and A6010 Hulme Hall Lane has been identified as making a right-turn at the junction. Two measures have been identified for incorporation within the Grimshaw Lane/Lord North Street junction layout, in order to address the capacity issues surrounding this traffic.

The measures identified include the incorporation of a right-turn lane on the Grimshaw Lane (West) approach arm and widening of the Lord North Street approach arm at the junction. Alternatively, traffic could be directed along the A62 and A6010 through the introduction of traffic management measures along Ten Acres Lane and Bower Street. Analysis of the junction in its current format has been completed, assuming a 20% reduction in the traffic flows accounting for the introduction of traffic management measures on Ten Acres Lane and Bower Street. The results of this analysis are shown below in Tables 7.11 and 7.12.

Table 7.11 Summary Grimshaw Lane/ Lord North Street (Revised Layout) Opening Year (2009) Analysis

Arm/Manoeuvre	Do-Minimum				Do-Something			
	AM Peak		PM Peak		AM Peak		PM Peak	
	RFC	Queue (PCU)	RFC	Queue (PCU)	RFC	Queue (PCU)	RFC	Queue (PCU)
Lord North Street all movements	0.189	0.2	0.625	1.8	0.315	0.5	0.683	2.1
Grimshaw Lane (East) all movements	0.040	0.0	0.108	0.1	0.164	0.2	0.135	0.2
Access Road ahead and left turn	0.028	0.0	0.004	0.0	0.032	0.0	0.004	0.0
Access Road ahead and right turn	0.015	0.0	0.022	0.0	0.069	0.1	0.081	0.1
Grimshaw Lane (West) all movements	0.024	0.0	0.029	0.0	0.144	0.2	0.154	0.2
Grimshaw Lane (West) Right-turn lane	0.750	2.9	0.135	0.2	0.752	2.9	0.141	0.2

The summary results in Table 7.11 above indicate that the junction in its revised layout is forecast to operate below its maximum desirable capacity in the Opening Year peak hours with a maximum RFC of 0.696, indicates that the junction is forecast to operate with more spare capacity after traffic management has been adopted than if a right-turn lane and widened Lord North Street approach arm are incorporated at this junction. However, the revised junction layout offers a more costly capacity enhancement measure when compared to the incorporation of traffic management measures.

Table 7.12 Summary Grimshaw Lane/ Lord North Street (Current Layout with Traffic Management) Opening Year (2009) Analysis

Arm/Manoeuvre	Do-Minimum				Do-Something			
	AM Peak		PM Peak		AM Peak		PM Peak	
	RFC	Queue (PCU)	RFC	Queue (PCU)	RFC	Queue (PCU)	RFC	Queue (PCU)
Lord North Street all movements	0.227	0.3	0.622	1.6	0.454	0.8	0.675	2.0
Grimshaw Lane (East) all movements	0.027	0.0	0.004	0.0	0.030	0.0	0.004	0.0
Access Road ahead and left turn	0.015	0.0	0.022	0.0	0.068	0.1	0.082	0.1
Access Road ahead and right turn	0.023	0.0	0.029	0.0	0.141	0.2	0.154	0.2
Grimshaw Lane (West) all movements	0.678	2.3	0.154	0.2	0.696	2.6	0.162	0.3

The above analysis has been carried out assuming that there will be a 20% reduction in the right-turning traffic from Grimshaw Lane to Lord North Street, due to the implementation of traffic management measures on Ten Acres Lane, Bower Street, Grimshaw Lane, Fletcher Street and Hague Street. The adoption of traffic management on these roads would discourage rat-running traffic from cutting through a primarily residential area by redirecting this traffic back along the A62 and A6010. The summary results in Table 7.12 indicate that the use of traffic management could allow the junction to operate below its maximum desirable capacity during the Opening Year Peak hours with the addition of development traffic to the forecast background traffic flows.

Table 7.13 Summary Grimshaw Lane/ Briscoe Lane Opening Year (2009) Analysis

Arm/Manoeuvre	Do-Minimum				Do-Something			
	AM Peak		PM Peak		AM Peak		PM Peak	
	RFC	Queue (PCU)	RFC	Queue (PCU)	RFC	Queue (PCU)	RFC	Queue (PCU)
Grimshaw Lane left turn	0.056	0.1	0.258	0.3	0.056	0.1	0.261	0.4
Grimshaw Lane right turn	0.277	0.4	0.273	0.4	0.301	0.4	0.273	0.4
Briscoe Lane (North) ahead and right turn	0.563	2.7	0.097	0.2	0.575	2.8	0.097	0.2

The summary results in Table 7.13 indicate that the junction is forecast to operate below its desirable maximum capacity in the Opening Year with a maximum RFC of 0.575 with development traffic added to the forecast background traffic flows.

Table 7.14 Summary A6010 Hulme Hall Lane/ Lord North Street Opening Year (2009) Analysis

Arm/Manoeuvre	Do-Minimum				Do-Something			
	AM Peak		PM Peak		AM Peak		PM Peak	
	Degree Saturation (%)	Queue (PCU)	Degree Saturation (%)	Queue (PCU)	Degree Saturation (%)	Queue (PCU)	Degree Saturation (%)	Queue (PCU)
Hulme Hall Lane (North) Right	1.2	0.0	0.2	0.0	1.2	0.0	0.2	0.0
Hulme Hall Lane (Nth) Left Ahead	59.6	8.0	39.2	5.5	64.0	8.4	39.2	5.5
Lord North All movements	70.9	5.1	46.5	1.8	71.0	5.2	61.4	2.7
Hulme Hall Lane (Sth) Ahead Left	67.8	9.2	43.4	6.1	71.6	9.7	43.4	6.1
Hulme Hall Lane (South) Right	35.8	1.2	78.5	3.2	49.3	1.7	82.2	3.8
Coleshill Street Right	0.0	0.0	0.2	0.0	0.0	0.0	0.2	0.0
Coleshill Street Left Ahead	0.3	0.0	0.4	0.0	0.3	0.0	0.3	0.0

It can be seen in Table 7.14 above that the summary results indicate that this junction will operate below the desirable Degree of Saturation on all approach arms during the Opening Year, without the addition of development traffic. Once development traffic is added to the background flows, the junction is forecast to continue operating below the desirable Degree of Saturation, with a maximum Degree of Saturation of 82.2%.

It can be reasonably concluded that during the Opening Year (2009),

- A62 Oldham Road/Grimshaw Lane Junction is forecast to operate above its maximum Degree of Saturation in the Opening Year, without additional development traffic being added to background traffic flows. The addition of development traffic has a minimal impact upon the operation of the junction,
- The Grimshaw Lane/Bower Street Junction is forecast to operate below both the desirable maximum (0.8 RFC) and maximum capacity of the junction in the Opening Year Peak Hours with the addition of Weir Pumps development traffic to the background traffic flows,
- The Grimshaw Lane/Lord North Street Junction is forecast to operate in excess of its maximum desirable capacity in the Opening Year without the addition of development traffic flows to the forecast background traffic flow volumes.
- The incorporation of capacity enhancement measures such as the Grimshaw lane (West) right-turn lane and widened Lord North Street approach arm to the junction, offer mitigation, but the use of traffic management, located on Ten Acres Lane, Bower Street, Grimshaw Lane, Fletcher Street and Hague Street, provides a much more effective and cheaper capacity enhancement measure at the Grimshaw Lane/Lord North Street junction.
- The Grimshaw Lane/Briscoe Lane junction will continue to operate below its desirable maximum capacity in the Opening Year once development traffic has been added to the forecast background traffic flows,
- The A6010 Hulme Hall Lane/Lord North Street Junction is forecast to operate below its desirable Degree of Saturation in the Opening Year (2009) with Weir Pumps development traffic added to the forecast background traffic flows.

Design Year 2019 Assessment

The Design Year 2019 analysis is summarised below in Tables 7.15 – 7.21, which compare Design Year Do-Minimum and Do-Something summary analysis results. Full Design Year (2019) junction analysis results are included in Appendix F of this report.

Table 7.15 Summary A62 Oldham Road/Grimshaw Lane Design Year (2019) Analysis

Arm/Manoeuvre	Do-Minimum				Do-Something			
	AM Peak		PM Peak		AM Peak		PM Peak	
	Degree Saturation (%)	Queue (PCU)	Degree Saturation (%)	Queue (PCU)	Degree Saturation (%)	Queue (PCU)	Degree Saturation (%)	Queue (PCU)
Oldham Road (North) Right	28.6	0.9	22.4	0.7	28.6	0.9	22.4	0.7
Oldham Road (North) Ahead	114.2	80.6	83.0	11.9	114.2	80.6	83.0	11.9
Oldham Road (North) Left	13.8	1.4	14.1	1.5	17.0	1.8	15.6	1.7
Grimshaw Lane Right	129.6	16.1	175.9	42.3	153.7	28.2	200.9	61.6
Grimshaw Lane Left Ahead	58.7	5.4	46.5	4.5	58.7	5.4	46.9	4.6
Oldham Road (South) Right	23.1	0.3	109.0	9.9	25.0	0.3	109.0	9.9
Oldham Road (S.) Ahead Left	98.0	27.4	116.2	83.7	98.0	27.4	116.2	83.7
Monsall Road L. Ahead Right	115.4	33.5	112.7	31.5	115.4	33.5	112.7	31.5

The Summary results in Table 7.15 above indicate that this junction is forecast to operate in excess of its maximum Degree of Saturation in both the AM and PM peak hours on the Oldham Road (North) Ahead, Grimshaw Lane Right, Monsall Road Left, Ahead and Right, Oldham Road (South) Right and Oldham Road (South.) Ahead and left turning movements in the Design Year, without additional Weir Pumps development traffic being added to the forecast background traffic flows. The addition of development traffic to the background flows therefore has a minimal impact on the operational characteristics of the junction.

Table 7.16 Summary Grimshaw Lane/ Bower Street Design Year (2019)

Arm/Manoeuvre	Do-Minimum				Do-Something			
	AM Peak		PM Peak		AM Peak		PM Peak	
	RFC	Queue (PCU)	RFC	Queue (PCU)	RFC	Queue (PCU)	RFC	Queue (PCU)
Bower Street to Grimshaw Lane	0.858	5.2	0.118	0.1	0.879	6.0	0.136	0.2
Grimshaw Lane (south) to Grimshaw Lane (north) and Bower Street	0.040	0.1	0.479	1.4	0.054	0.1	0.492	1.5

It can be seen in Table 7.16 above that this junction is forecast to operate above its desirable maximum capacity during the Design Year AM peak hour without additional development traffic.

Table 7.17 Summary Grimshaw Lane/ Lord North Street Design Year (2019) Analysis

Arm/Manoeuvre	Do-Minimum				Do-Something			
	AM Peak		PM Peak		AM Peak		PM Peak	
	RFC	Queue (PCU)	RFC	Queue (PCU)	RFC	Queue (PCU)	RFC	Queue (PCU)
Lord North Street all movements	0.278	0.4	0.829	4.4	0.601	1.4	0.881	6.2
Grimshaw Lane (East) all movements	0.036	0.0	0.004	0.0	0.041	0.1	0.004	0.0
Access Road ahead and left turn	0.019	0.0	0.024	0.0	0.087	0.1	0.087	0.1
Access Road ahead and right turn	0.033	0.0	0.036	0.0	0.177	0.2	0.169	0.2
Grimshaw Lane (West) all movements	0.967	15.2	0.172	0.3	0.992	20.2	0.181	0.3

The summary results in Table 7.17 above indicate that the junction is forecast to operate above the maximum desirable capacity (0.8 RFC) during both the AM and PM peak hours on Grimshaw Lane (West) without the inclusion of development traffic to the forecast background traffic flows and without any capacity enhancement or traffic management measures being incorporated.

Table 7.18 Summary Grimshaw Lane/ Lord North Street (with Additional Right-Turn Lane) Design Year (2019) Analysis

Arm/Manoeuvre	Do-Minimum				Do-Something			
	AM Peak		PM Peak		AM Peak		PM Peak	
	RFC	Queue (PCU)	RFC	Queue (PCU)	RFC	Queue (PCU)	RFC	Queue (PCU)
Lord North Street all movements	0.215	0.3	0.721	2.5	0.362	0.6	0.753	2.9
Grimshaw Lane (East) all movements	0.052	0.1	0.123	0.1	0.192	0.2	0.147	0.2
Access Road ahead and left turn	0.033	0.0	0.004	0.0	0.037	0.1	0.004	0.0
Access Road ahead and right turn	0.018	0.0	0.024	0.0	0.079	0.1	0.085	0.1
Grimshaw Lane (West) all movements	0.030	0.0	0.034	0.0	0.158	0.2	0.161	0.2
Grimshaw Lane (West) Right-turn lane	0.841	4.5	0.149	0.2	0.844	4.9	0.154	0.2

The summary results in Table 7.18 above indicate that the junction is forecast to operate slightly above the maximum desirable Capacity (0.8 RFC) during the peak hours on Grimshaw Lane (West) with a maximum RFC of 0.849, without the inclusion of development traffic to the forecast background traffic flows.

Table 7.19 Summary Grimshaw Lane/ Lord North Street (Recommended Layout with Traffic Management) Design Year (2019) Analysis

Arm/Manoeuvre	Do-Minimum				Do-Something			
	AM Peak		PM Peak		AM Peak		PM Peak	
	RFC	Queue (PCU)	RFC	Queue (PCU)	RFC	Queue (PCU)	RFC	Queue (PCU)
Lord North Street all movements	0.263	0.4	0.690	2.2	0.517	1.0	0.743	2.7
Grimshaw Lane (East) all movements	0.032	0.0	0.004	0.0	0.035	0.0	0.004	0.0
Access Road ahead and left turn	0.018	0.0	0.024	0.0	0.077	0.1	0.086	0.1
Access Road ahead and right turn	0.029	0.0	0.034	0.0	0.154	0.2	0.161	0.2
Grimshaw Lane (West) all movements	0.772	3.7	0.172	0.3	0.796	4.3	0.181	0.3

The summary results in Table 7.19 above indicate that the junction will operate below its maximum desirable capacity with an RFC of 0.796 in the Design Year, without additional capacity measures being incorporated into the junction layout but with traffic management measures incorporated on Bower Street and Ten Acres Lane.

Table 7.20 Summary Grimshaw Lane/Briscoe Lane Design Year (2019) Analysis

Arm/Manoeuvre	Do-Minimum				Do-Something			
	AM Peak		PM Peak		AM Peak		PM Peak	
	RFC	Queue (PCU)	RFC	Queue (PCU)	RFC	Queue (PCU)	RFC	Queue (PCU)
Grimshaw Lane left turn	0.063	0.1	0.295	0.4	0.064	0.1	0.297	0.4
Grimshaw Lane right turn	0.337	0.5	0.317	0.5	0.361	0.6	0.318	0.5
Briscoe Lane (North) ahead and right turn	0.721	5.2	0.112	0.3	0.727	5.4	0.112	0.3

The summary analysis results in Table 7.20 above indicate that the junction will continue to operate below its desirable maximum capacity (0.8 RFC) in the Design Year with development traffic added to the forecast background traffic flows.

Table 7.21 Summary A6010 Hulme Hall Lane/ Lord North Street Design Year (2019) Analysis

Arm/Manoeuvre	Do-Minimum				Do-Something			
	AM Peak		PM Peak		AM Peak		PM Peak	
	Degree Saturation (%)	Queue (PCU)	Degree Saturation (%)	Queue (PCU)	Degree Saturation (%)	Queue (PCU)	Degree Saturation (%)	Queue (PCU)
Hulme Hall Lane (North) Right	1.3	0.0	0.3	0.0	1.3	0.0	0.3	0.0
Hulme Hall Lane (Nth) Left Ahead	69.4	9.3	42.4	5.9	70.5	9.5	42.4	5.9
Lord North All movements	74.5	5.7	51.0	2.1	78.1	6.2	65.7	3.0
Hulme Hall Lane (Sth) Ahead Left	78.1	11.1	47.4	6.6	78.1	11.1	47.4	6.6
Hulme Hall Lane (South) Right	43.3	1.3	94.0	7.3	56.9	1.9	97.9	10.3
Coleshill Street Right	0.0	0.0	0.2	0.0	0.0	0.0	0.2	0.0
Coleshill Street Left Ahead	0.3	0.0	0.4	0.0	0.3	0.0	0.3	0.0

It can be seen in Table 7.21 above that the summary results indicate that this junction will operate below its maximum Degree of Saturation during the Design Year Peak Hours, with development traffic added to the forecast background traffic flows. However, it is forecast that the A6010 Hulme Hall Lane (South) right-turn lane will operate above its desirable maximum Degree of Saturation (90%). However, it can also be seen that this lane is forecast to operate in excess of the desirable maximum Degree of Saturation before development traffic flows are included within the forecast traffic flows.

It can be reasonably concluded that during the Design Year (2019) that,

- The A62 Oldham Road/Grimshaw Lane Junction is forecast to operate in excess of its maximum Degree of Saturation in the Design Year, without the addition of Weir Pumps development traffic. The addition of development traffic to the background flows at this junction does not result in a significant deterioration in junction performance.
- The Grimshaw Lane/Bower Street junction is forecast to operate above the desirable maximum capacity (0.8 RFC) on the Bower Street approach arm, but below the maximum capacity of the approach arm, with the addition of Weir Pumps development traffic.
- The Grimshaw Lane/Lord North Street junction is forecast to operate above its maximum desirable capacity (0.8 RFC) in the design year without the addition of Weir Pumps development traffic to the forecast background traffic flows. The incorporation of a right-turn lane on Grimshaw Lane (West) and widened Lord North Street at the junction with Grimshaw Lane will increase junction capacity.
- The use of traffic management measures on Ten Acres Lane, Bower Street, Grimshaw Lane, Fletcher Street and Hague Street in order to reduce 'Rat-running' traffic is forecast to produce a more effective means of increasing junction capacity, without incorporating capacity enhancement works at the junction of Grimshaw Lane and Lord North Street.
- The Grimshaw Lane/Briscoe Lane junction will continue to operate below its desirable maximum capacity in the Design year with the addition of development traffic to the forecast background traffic flows,

- The A6010 Hulme Hall Lane/Lord North Street Junction is forecast to continue to operate below its maximum Degree of Saturation in the Design Year once development traffic is added to the forecast background traffic flows,
- No capacity enhancement measures are required at any of the junctions in order to accommodate Weir Pumps development traffic, however, traffic management measures on Ten Acres Lane/Bower Street are required to reduce 'Rat-running' traffic volumes between the A62 and A6010.

8. Sustainable Transport

Introduction

The Weir Pumps development site is well served by public transport, with 48 directional-bus services passing along the A62 Oldham Road, A6010 Alan Turing Way/Hulme Hall Lane and Briscoe Lane. Deane Lane Railway station is located approximately 1.5km north of the site on the Manchester to Oldham and Rochdale route. This heavy rail line will be closed to rail services and converted to Metrolink Light Rail operation as part of the phase 3 Metrolink extension works in 2011-12. In preparation for the conversion to Metrolink, a new light rail/bus interchange has already been constructed on The Gateway access road to the North Manchester Business Park. In addition to the current and proposed public transport service provision serving the development, cycle routes are provided along the A6010 Alan Turing Way/Hulme Hall Lane and along the A62 Oldham Road between Poland Street and Sherratt Street, Collyhurst Street and Queens Road, Grimshaw Lane and New Street and Lowcross Road and Ten Acres Lane.

Existing Bus Services

A total of 48 bus services pass the Weir Pumps site in each direction, during the daytime, on routes along the A62 Oldham Road, A6010 Alan Turing Way/Hulme Hall Lane and Briscoe Lane. Figure 8.1 illustrates the locations of bus stops and services currently serving the location in addition to heavy and light rail routes.

Figure 8.1 Weir Pumps Development Site Bus Stop Locations

Bus routes are shown in solid red, the yet-to-be-introduced bus route to the Metrolink/Bus interchange is shown as a hashed red line. The proposed Metrolink extension is shown as a hashed blue line and heavy rail routes are shown as a solid black line.

Table 8.1 summarises the number of bus services, by frequency, passing the development site during weekday daytime, and evenings. Detailed service frequencies, routes and stopping locations close to the Weir Pumps site, are included in Appendix G of this report.

Table 8.1 Summary of Bus Services Serving the Weir Pumps Location

Frequency	Monday-Friday	
	Daytime	Evening
10-20 Min	14	0
20-30 Min	6	0
30-60Min	14	24
60+ Min	9	2

It can be seen in Table 8.1, that there is a high frequency of bus services throughout the daytime, continuing into the weekday evenings with a high number of half-hourly to hourly services.

It has been established, following consultation with the two potential site occupiers that both companies intend to operate on a 24-hour basis using shifts. Company 'A' will use a 2-shift system from 06:00-18:00 and 18:00-06:00 for production staff, with office staff working 09:00-17:00. Company 'B' intend to operate a 3-shift system from 06:00-14:00, 14:00-22:00 and 22:00-06:00, again with office based staff employed between 09:00-17:00. As shown in Table 8.2 below, analysis of bus services operating at the times of the shift changes shows that there are only seven bus services during weekday mornings, available to staff commencing work at 06:00. However, more services become available after 06:00 with 35 and 33 services available for the 14:00-22:00 and 18:00-06:00 shift changes respectively. At the 22:00 shift change, there are currently 24 services available.

Table 8.2 Summary of First and Last Bus Services Serving the Development Location

06:00-14:00	14:00-22:00	22:00-06:00	06:00-18:00	18:00-06:00	09:00-17:00
7	35	24	7	33	36

It can therefore be concluded that the development site is accessible by bus during each of the respective shift changes, however the low number of services passing the location in time for the 06:00 shift change reduces accessibility significantly at this time of the morning.

Revision to Oldham Road Bus, Hackney Carriage and Cycle Lane Traffic Road Order

At the time of writing, Manchester City Council posted a revision to the Traffic Road Order (TRO) covering enforcement of the Bus, Hackney Carriage and Cycle Lane enforcement on the A62 Oldham Road. It is understood that the TRO revision covers the change in responsibility for enforcement from Police to Civil enforcement by Manchester City Council. Four stretches of Bus, Hackney carriage and Cycle Lane are covered within the order, running between Poland Street and Sherratt Street, Collyhurst Street and Queens Road, Grimshaw Lane and New Street and Lowcross Road and Ten Acres Lane. A copy of the TRO revision, reasons for revising the TRO and associated plans of the enforcement areas are included in Appendix H of this report.

Existing Rail Services

Deane Lane in Newton Heath is the nearest rail station, located approximately 1.5km north of the development site. Trains operating between Manchester, Oldham and Rochdale currently serve the station. Table 8.3 summarises the service frequency of trains calling at Deane Lane.

Table 8.3 Heavy Rail Service Frequency

Route	Service Operator	Monday - Saturdays		Sunday
		Daytime	Evenings	
Manchester Victoria-Dean Lane-Rochdale	Northern	30 minutes	60 minutes	60 minutes
Rochdale-Dean Lane-Manchester Victoria		30 minutes	60 minutes	60 minutes

As can be seen in Table 8.3 above, Deane Lane a 30-minute frequency in each direction to and from Manchester on Mondays to Saturdays currently serves the station. Table 8.4 below contains an analysis of the current (13th June to 19th December) timetable, summarising the first and last services to reach Deane Lane station on a Monday to Saturday basis.

Table 8.4 Summary of First and Last Train Services Stopping at Deane Lane

Route	Monday to Saturday	
	First Train	Last Train
Manchester Victoria - Dean Lane - Rochdale	06:51	23:28
Rochdale - Dean Lane - Manchester Victoria	06:46	23:30

It can be seen in Table 8.4 above, that there are no rail services to Deane Lane prior to the 06:00 shift changes thus making the development area inaccessible by rail before 06:00 Mondays to Saturdays. It can however be seen that there are trains to Deane Lane in time to serve the 14:00, 18:00 and 22:00 shift changes in addition to 09:00-17:00 office hours of each development.

It can therefore be concluded that the development site is accessible by rail from Rochdale/Oldham and Manchester after 06:00; however, rail is not a feasible mode of transport for workers starting their shifts at 06:00 in the morning.

Proposed Metrolink Services

It is intended to extend the current Metrolink Light Rail network to Oldham and Rochdale using the existing heavy rail route, which will be converted to light rail operation. As part of the route expansion, a new Metrolink/Bus Interchange has been constructed on The Gateway (See Figure 8.2), primarily to serve the new North Manchester Business Park.

Figure 8.2 New Metrolink/Bus Interchange

Although not currently in use, this facility is located within walking distance of the development site. Following consultation with GMPTE it is planned to begin Metrolink services to Oldham and Rochdale in 2011/12. Service provision is currently assumed to be similar to the existing services provided between Bury, Manchester and Altrincham as listed below in Table 8.5.

Table 8.5 Current Metrolink Service Provision

Service		From Manchester	From Bury	Frequency
Monday – Thursday	**First**	05:57	06:00	6 minutes 07:30-18:30,
	Last	23:57	00:19	12 minutes all other times
Friday	**First**	05:57	06:00	6 minutes 07:30-18:30,
	Last	00:57	01:19	12 minutes all other times
Saturday	**First**	05:57	06:00	6 minutes 09:30-18:00,
	Last	00:57	01:19	12 minutes all other times
Sunday	**First**	07:06	07:00	Between 10am and 5pm every 1
	Last	22:42	23:06	2 mins every 15 mins at all other times

It can be seen in Table 8.5 above, that Metrolink services might not be available to workers travelling to the development in time for the 06:00 shift changes, but would be available for those travelling from the development at that time of the morning. Workers travelling to the Weir Pumps development site will be able to use Metrolink services to reach work in time for the 14:00, 18:00 and 22:00 shift changes, as will office based staff commencing work at 09:00

Cycle Routes

There are currently two cycle routes passing through the study area. Segregated cycle lanes are provided in both directions along the A6010 Alan Turing Way/Hulme Hall Lane as shown in Figure 8.3 below.

Figure 8.3 A6010 Alan Turing Way Segregated Cycle Lanes

The A6010 cycle lanes extend to/from the A6010 Hulme Hall Lane/A62 Oldham Road junction. According to the Sustrans cycle route map of east Manchester (Figure 8.4), a traffic-free cycle route also exists along the A62 Oldham Road.

Figure 8.4 Sustrans East Manchester Cycle Route Map

Site visits show that there are no cycle lane markings along Oldham Road except between the Ten Acres Lane and The Gateway junctions as shown below in Figures 8.5 and 8.6 but the bus lanes, which are clearly marked, permit the use of the bus lane by cycles and taxis.

Figure 8.5 Cycle Lane Provision on the A62 Oldham Road at The Gateway Junction

Figure 8.6 Cycle Lane Provision on the A62 Oldham Road at the Ten Acres Lane Junction

Pedestrian Routes

The principle public transport corridor runs along the A62 Oldham Road. It is assumed that due to the volume of bus services and locations of the current railway station at Deane Lane and Metrolink/Bus Interchange at the North Manchester Business Park, the majority of pedestrians will travel from the Oldham Road corridor to the developments at the Weir Pumps site.

Pedestrians travelling between the Metrolink/bus interchange pass along The Gateway access road and through the recently completed A62 Oldham Road/The Gateway and A62 Oldham Road/Ten Acres Lane junctions. The route is generally flat and separated from The Gateway carriageway with a high level of street lighting with few concealed areas. However, it was noted at the time of the site visit that areas of vegetation and the relatively isolated nature of the route between the residential and industrial areas on Bower Street, may make this a less attractive route for pedestrians during the early and late hours of the day. Figures 8.7 and 8.8 illustrate the pedestrian facilities along Bower Street.

Figure 8.7 Bower Street Looking Towards Ten Acres Lane

Figure 8.8 Bower Street Looking Towards Grimshaw Lane

An alternative route between Oldham Road and Bower Street utilises a footway running between a warehouse development and the residential area between Ten Acres Lane, Oldham Road and Bower Street. This route appears to be unattractive as a pedestrian route as there is low level of lighting provided, as shown in Figure

8.9. The route is also largely concealed from the residential area and road network with several concealed areas in the residential area, raising personal security concerns during the early/late hours of the day when shift changes are taking place. Subject to detailed design and costing, it is estimated that improvements to the current lighting and footway provision are therefore recommended, assuming that the current footpath is rebuilt and the current two lighting columns are replaced along with an additional three new columns, the costs of the improvements could be up to £23,500. However, it should also be noted that street lighting provision is currently covered by an ongoing Manchester City Council PFI contract to repair and replace existing lighting. Consequently, the cost to the developer of improved security measures in this corridor may be substantially reduced.

Figure 8.9 A62 Oldham Road to Bower Street Pedestrian Route

A third route via Grimshaw Lane is more attractive to pedestrians as it is well lit, flat and open, with few concealed areas thus reducing personal security issues significantly during the early/late hours of the day. It is assumed that bus passengers could alight/board at the Oldham Road/Grimshaw Lane bus stops and walk to and from the development site directly along Grimshaw Lane as this is a shorter, more direct and better-lit route. However, this route is significantly longer for pedestrians walking from the Metrolink/Bus interchange than the routes via Ten Acres Lane or directly between Oldham Road and Bower Street.

It can therefore be reasonably concluded that the majority of pedestrians arriving by bus along the Oldham Road corridor, will use the Oldham Road/Grimshaw Lane bus stops and walk to the site via Grimshaw Lane. However, it is recommended that the Oldham Road to Bower Street route be improved through the provision of additional lighting and resurfacing of the footways. Such improvements will enhance the attractiveness of this route to commuters walking between the new Metrolink/Bus interchange and the Weir Pumps development site.

9. Travel Plan

Background

The Weir Pumps development consists primarily of two companies that will operate shift systems. Company 'A' will operate on a two-shift system commencing at 06:00 in the morning and 18:00 in the evening, with a small number of office based staff travelling to and from the premises during the identified AM and PM peak hours. Company 'B' will operate a three-shift system commencing at 06:00, 14:00 and 22:00, again with a small number of office staff travelling during the AM and PM peak hours.

Current Facilities

As previously discussed in Chapter 8, there are at present six bus stops located along Oldham Road, six located along Briscoe Lane and three bus tops located along Hulme Hall Lane/Alan Turing Way, serving the Weir Pumps development location. A total of 48 bus services calling at these stops linking the development site with destinations in North, East and Central Manchester, Oldham, Rochdale and Huddersfield. However, only 7 bus services pass the location prior to 06:00.

Deane Lane railway station is located approximately 1.5km north of the development, served by a half-hourly-hourly train service linking Oldham, Rochdale, Manchester, Salford, Wigan and Merseyside. At present rail services commence at 06:46, therefore being unavailable to staff commencing work at 06:00.

Cycle routes also exist along A62 Oldham Road and A6010 Hulme Hall Lane/Alan Turing Way.

Future Facilities

A Metrolink/bus interchange has been constructed on The Gateway, serving the North Manchester Business Park. This facility although not currently in use, is intended to open in 2011/12 as part of the Phase 3 Metrolink extension to Oldham and Rochdale, replacing heavy-rail services between Manchester, Oldham and Rochdale. At the current time there is no information regarding routes, operating hours and service frequencies of either buses or trams using this facility.

Objectives and Targets

Both companies proposing to occupy premises within the development area currently operate existing premises within the Manchester Area. Company 'A' will expand its operations into the new premises, whereas Company 'B' will transfer staff to the new site.

The implementation of staff travel surveys and implementation of objectives and targets will be incorporated as planning conditions as part of the final development planning approval.

Objectives

There are a number of objectives that the implementation of the Travel Plan for the proposals would help fulfil, including:

- Fostering a partnership approach between the Company and its staff, visitors and suppliers to influence travel behaviour;
- Generating fewer single-occupancy car trips, by encouraging a modal shift in travel;

- Improving the attractiveness of, and encourage safe and viable alternatives for, accessing the site;
- Raising awareness amongst visitors and encourage the use of alternative modes to private cars;
- Reducing the need for unnecessary journeys by company employees;
- Reduction in overall vehicle mileage;
- Improving the health of staff;
- Accommodating those journeys that need to be made by car.

Targets

Without any emphasis on travel or the provision of transport measures, there is unlikely to be a significant change in staff travel behaviour. The objectives above provide the framework for the Travel Plan measures, which will take into account the responses to the travel questionnaire.

Without having a baseline to compare against, it is difficult to set meaningful targets. Company 'A' will need to undertake surveys, once it has occupied its new premises in order to establish a baseline performance and set suitable targets and objectives. Company 'B' will need to carry out a Staff Travel Survey of its current workforce based in Manchester in order to establish a baseline performance and the identification of its objectives and targets prior to submission of its final planning application. It is anticipated that the findings of the survey will be used to develop measures, which can be incorporated into the final design of the new premises.

The targets determined from the initial surveys would indicate a desire to see a continuous improvement in the use of modes other than the car, with targets initially set for the first 4 years after opening. Surveys will need to be undertaken every other year and the results used to monitor and revise targets where appropriate.

Implementation

Travel Plan Coordinator

Prior to occupation of the new premises each company will commit to a Travel, agreement, which requires the company to appoint a Travel Plan Coordinator. The Travel Plan Coordinator will be responsible for the following:

- Promotion and encouragement towards the use of travel modes other than the car, including publicity;
- Ensuring that all relevant information is provided to all new members of staff;
- Ensuring that information is made available to visitors and updated as necessary with directions to the site for non-car modes also provided;
- Ensuring all staff complete and return Travel Survey forms when distributed;
- Providing an initial point of contact for any transport related issues that staff members may have;
- Providing information for new staff within standard company induction packs to encourage them to commute to the site, where possible, by alternative modes of transport to the private car;
- Assessing the effectiveness of the Travel Plan against targets, to be agreed with the local authority subsequent to the initial Staff Travel Surveys.
- Liase with Manchester City Council and other Travel Plan Coordinators within the development with regard to implementing the Travel Plan, reporting progress and for consultation purposes.

Working Groups
The Working Group will consist of the Travel Plan Manager and the Travel Plan Coordinators from each of the companies within the development site. Together with the local authority the group will be responsible for monitoring the effectiveness of the Travel Plans in terms of reaching targets and introducing changes to influence modal shift.

Liaison with Local Authority
There will be an on-going improvement process including periodic monitoring by the Travel plan Coordinators. This will include monitoring the use of facilities and ascertaining the impact on staff travel behaviour and collecting staff feedback. The Travel plan Coordinators will be responsible for the specific staff initiatives within the company and consult with the local authority on a regular basis through the Travel Plan Group.

Travel Survey
An initial staff survey will be carried out as part of the commitment of the Site Travel Plan. This will establish the modal split of travel by staff to each unit and also across the site. Another aim of this employee survey will be to identify the factors that would encourage staff to use other modes and reasons for any unwillingness to change from using the car.

The following information will be obtained from the survey:

- Residential location of staff.
- Staff demographics.
- Availability of a car for travel to work.
- Shift information.
- Normal mode of transport to and from work.
- Availability of non-car modes for those currently driving to work.
- Reasons for not using non-car modes of travel.
- Perceptions on what the company could do to encourage the use of non-car modes amongst staff.

After the initial study, similar travel surveys will be undertaken every other year unless agreed otherwise. These will allow the Travel Plan Coordinators, as part of review process, to determine any change in modal split and uptake of Travel Plan initiatives. The results will be compared against targets agreed with the local authority and relevant changes made to the Travel Plans where necessary. The results of these surveys will be also made available to the Greater Manchester Travel Plan Coordinator.

Marketing and Feedback
Information on the Travel Plans, for example new initiatives will be discussed and distributed by the Travel Plan Co-ordinators, who will be responsible for ensuring awareness amongst fellow staff. The Travel Plan Co-ordinators will be the first point of contact for any transport-related issues that employees may have. Staff feedback will be relayed to the Travel Plan Group and possibly the local authority as deemed necessary and action taken accordingly.

New staff will be provided information within the company induction packs to encourage them to commute to the site, where possible, by alternative modes of transport to the private car.

Promotion of Travel Plan
Findings from the periodic studies will be communicated to staff within each company as well as being attached to revised versions of the Travel Plan.

Development Area 4

Development Area 4 is located adjacent to residential areas on Bower Street and Ten Acres Lane. Occupiers of premises within Area 4 can utilise the Travel Plan to minimise the impact of their activities in this area by requiring all deliveries to and from the premises from/to the A62 Oldham Road, be routed via Grimshaw Lane and Bower Street through an area of primarily light industrial use. In so doing, HGV movements will be removed from a residential area thereby increasing road safety.

10. Summary & Recommendations

Summary

The Transport Assessment of the proposed Weir Pumps development site has been carried out using the assumption that all of the available land has been developed. The analysis has been carried out with the assumption that development areas 2b, 4 and 5 are occupied by B2 type land uses. At the time of preparation of this Transport Assessment, no occupiers for these areas of land had as yet been identified. The analysis therefore over-estimates the volume and therefore impact of Weir Pumps development traffic on the local road network. However, the analysis provides a robust assessment by taking into account the impact of the proposed and future development of all available land within the Weir Pumps site.

The traffic generation and resultant impacts will be relatively low due to proposed shift working. The analysis has demonstrated that the combined developments plus potential further developments, would only add a maximum of 7% additional traffic to the existing junction flows at the Bower Street/Grimshaw Lane junction. The increase in traffic at all other junctions would be less than 5%, except at the A6010 Hulme Hall lane/Lord North Street junction, which will experience an increase of 5% during the PM peak hour.

It is forecast that the A62 Oldham Road/Grimshaw Lane, Grimshaw Lane/ Lord North Street and A6010 Hulme Hall Lane/ Lord North Street junctions will operate in excess of their maximum capacities/Degree of Saturation in the Opening and Design Years, without Weir Pumps development traffic being added to the background forecast traffic flows.

The Grimshaw Lane/Lord North Street/Access Road junction currently operates in a non-standard and potentially un-safe format. The use of bi-directional flared approach lanes between the Grimshaw Lane and Access Road arms of the junction require drivers to look for vehicles approaching from the rear before completing right-turn manoeuvres. To address this safety issue, Scott Wilson recommend that the road markings at the junction are modified to allow only left-turning traffic to use each flared lane, with right-turning traffic re-directed to the centre crossroads section of the junction.

Analysis of the recommended junction layout has shown that additional traffic calming measures are required on Ten Acres Lane and Bower Street to reduce the volume of ‘rat-running’ traffic between the A62 Oldham Road and A6010 Hulme Hall Lane.

The development location is in an area that is well served by public transport routes. There are at present a total of 48 directional bus routes passing close to the Weir Pumps location along the A62 Oldham Road, A6010 Hulme Hall Lane/Alan Turing Way and Briscoe Lane. In addition, there are heavy rail services serving the nearby Deane Lane railway station and designated cycle routes passing along the A62 Oldham Road and A6010 Hulme Hall Lane/Alan Turing Way. Metrolink services are due to replace heavy rail services in 2011-2012, with a new Metrolink/bus interchange located close to the development on The Gateway access road adjacent to the A62 Oldham Road.

There is currently a pedestrian route between Oldham Road and Bower Street, which would reduce the walking distance and time between the new Metrolink/bus interchange and the development site. However, this route is potentially un-attractive to pedestrians during the early and late hours of the day due to the poor lighting provision and the isolated nature of the route. This would particularly affect staff arriving for the shifts commencing at 06:00 and 22:00, travelling between the interchange and the development site.

Both companies currently utilise shift-working patterns commencing at 06:00 on weekdays. Prior to 06:00 there are only 7 bus services passing the development site, therefore staff commencing work at 06:00 may tend to favour car-based travel over public transport.

The use of Travel Plans will help to identify essential car-users and facilitate companies to identify measures to encourage non-car based travel and the reduction of single-occupancy car - based journeys. The use of a Travel Plan will also allow occupiers of development Area 4 to minimise the impact of deliveries by re-routing HGV trips via Bower Street and Grimshaw Lane rather than via Ten Acres Lane in order to access the A62 Oldham Road.

Recommendations
Following the analysis described earlier in this report, Scott Wilson recommends the following measures be adopted,

- For Highway safety reasons, the Grimshaw Lane/Lord North Street/Access Road junction markings to be modified from their current format permitting both left and right-turning traffic to use both flared approach lanes, to one allowing only left turning traffic to use these lanes,

- Traffic Calming/management measures are required in the residential areas on Ten Acres Lane, Bower Street, Grimshaw Lane, Fletcher Street and Hague Street in order to discourage ‘rat-running’ between the A62 Oldham Road and A6010 Hulme Hall Lane,

- The adoption of Travel Plans in order to minimise the impacts of staff associated travel, particularly prior to 06:00, through measures such as car-sharing,

- The routing of Area 4 associated delivery traffic via Grimshaw Lane and Bower Street away from the residential areas on Bower Street and Ten Acres Lane as part of the Travel Plan measures for development on this land,

- The improvement of the pedestrian route between Oldham Road and Bower Street, through the provision of additional lighting and renewed footway paving in order to enhance personal security along this route during the early/late hours of the day,

- Funding for the recommended pedestrian route security measures could be sourced from the existing Manchester City Council Call-off Contract for street lighting.

Appendices