HighgateTransportation

Proposed Development at Peel Hall, Warrington

Transport Assessment

June 2016

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Contents **Page**

List of Figures

List of Tables

Appendices

1.0 Introduction

11.1 Highgate Transportation have been commissioned by Satnam Millennium Limited to provide transportation advice in support of their planning application for a new residential neighbourhood on land adjacent to Peel Hall in Warrington. Their application is for outline approval with all matters reserved except for means of access.

11.2 For the purposes of this assessment the development is assumed to comprise up to 1,200 residential dwellings, an area of employment, a local centre, a care home, a primary school and the relocation and upgrading of existing sports pitches with ancillary facilities. The assessment includes consideration of the on-site highway and access requirements, all modes of transport and the demands placed on the roads immediately adjacent to the site.

11.3 Discussions were held with Warrington Borough Council's (WBC) highway officers and Highways England at an early stage to agree how the assessment should be carried out and as a result a series of Technical Notes have been prepared by Highgate Transportation. Where appropriate the information from these Technical Notes have been used to support this assessment. A study area has also been agreed and this is contained in **Appendix 1**.

11.4 Extensive discussions have also been held with Network Warrington concerning how to best serve the development by bus.

11.5 The guiding principles in the development of the scheme have been to encourage the use of sustainable modes of transport and to contain trips within the development as far as possible. As part of the development proposals mitigation measures have been identified in the form of a new bus service that will connect the site with the town centre to the south and Birchwood to the east.

11.6 It is proposed that the main vehicular accesses to the development will be provided from a new access on Mill Lane north of the Blackbrook Avenue/Ballater Drive/Mill Lane/Enfield Park Road roundabout junction and from a new access on Poplars Avenue located between Newhaven Road and Windermere Avenue. Additional access is provided from Mill Lane, Birch Avenue and a second access on Poplars Avenue to serve the employment area. Access to the sports pitches will be from Grasmere Avenue. The Parameters Plan forms **Appendix 2**.

11.7 Reference will be made to the planning inquiry (Pins ref: APP/M0655/A/13/2192076) held in 2013 that considered the proposals for 150 dwellings to be accessed via Mill Lane and to enhance the sports pitches and clubhouse adjacent to Grasmere Avenue.

11.8 The methodology used in the Transport Assessment generally follows the guidelines set out in the Guidance on Transport Assessment published by DfT and DCLG. The methodology used includes:

i. Identifying the local transport network and assessing the existing transport conditions.

ii. Identifying local services and amenities.

iii. An assessment of the transport related planning policies and guidelines and identifying the impact issues.

iv. Setting out the development proposals and proposed phasing.

v. Identifying what sustainable travel measures can be introduced including through Travel Plan initiatives.

vi. An appraisal of the impact of the proposed development on safety and accessibility.

vii. An appraisal of the impact from construction vehicles.

viii. Determining the development trip rates and the distribution and assignment of trips.

ix. Identifying the assessment years and the analysis periods.

x. An assessment of the transport impact.

xi. Identifying supporting mitigation measures and the S106 heads for agreement.

11.9 As part of the assessment process it has been agreed to expand the existing VISSIM micro simulation model that covers parts of the M62 and A49 corridors, which was originally developed by AECOM on behalf of Highways England. AECOM have been engaged to carry out this work and provide a gravity model that makes use of the WBC VISSUM matrix. Once this information is available Highgate Transportation will interpret the results and assess the wider highway network, and identify any mitigation measures arising.

11.10 Therefore the Transport Assessment will be prepared in two parts with this report concentrating on identifying various technical parameters, the assessment of the proposed site access junctions and the sustainable transport measures proposed to support the development, as well as set out an indicative phasing timetable. An addendum Transport Assessment will then be prepared that assesses the impact on the wider highway network following the completion of Highways England's VISSIM model that has been expanded to cover the Peel Hall study area. It is possible that some of the assumptions used in the initial assessments will be modified following the completion of the VISSIM model.

2.0 Existing Transport Network

Existing Highway Network - Description

2.1 The site is located on the northern edge of Warrington, adjacent to the existing residential areas of Hulme, Blackbrook, Cinnamon Brow and Houghton Green. It is bounded by the M62 to the north, Mill Lane to the east, Poplars Avenue to the south and Birch Avenue and Elm Road to the west. The location of the site and wider highway network are shown in the plan of the study area that forms **Appendix 1** and the existing Peel Hall site and the local highway network are shown in the plan that forms **Appendix 3**.

2.2 Access to these residential areas is generally from:

i. Junction 9 of the M62 to the north-west. This operates as a large signalised gyratory junction with the A49. To the north the A49 comprises Newton Road and the Winwick Link Road which acts as a bypass for Winwick, and leads to junction 22 of the M6 to the north. To the south is Winwick Road.

ii. The Winwick Road (A49) corridor to the west. This is a major radial road and links the centre of Warrington with junction 9 of the M62. It is mostly dual carriageway and is a major bus route. In the context of Peel Hall, the major junctions along Winwick Road that provide access to the application site area are at Sandy Lane West and at Long Lane (A50).

iii. The A50 connects the area to the west of the A49 with junction 20 of the M6 to the south.

iv. The Delph Lane/Mill Lane/Blackbrook Avenue corridor to the east. This north-south corridor acts as a major distributer road and is a bus route. It also leads to Winwick via Myddleton Lane and junction 22 of the M6 to the north via Southworth Lane.

2.3 Access to the Peel Hall area from the A49 is mainly via the signalised roundabout junction with Sandy Lane West and then via Cleveland Road to Poplars Avenue and Capesthorne Road.

2.4 Access from the A49 to the Peel Hall area can also be gained from the signalsed junction with Long Lane. Access to this area from the A50/ A574 corridor is mainly from Long Lane via Northway, Statham Avenue or Hawson Road to Poplars Avenue; from Orford Green via its junction with Birtles Road and then Capesthorne Road to Poplars Avenue; from Orford Green via its junction with Poplars Avenue; from the roundabout junction of Orford Green and Orford Road which provides access via Hilden Road to Blackbrook Avenue; and from Birchwood Way via its roundabout junction with Blackbrook Avenue.

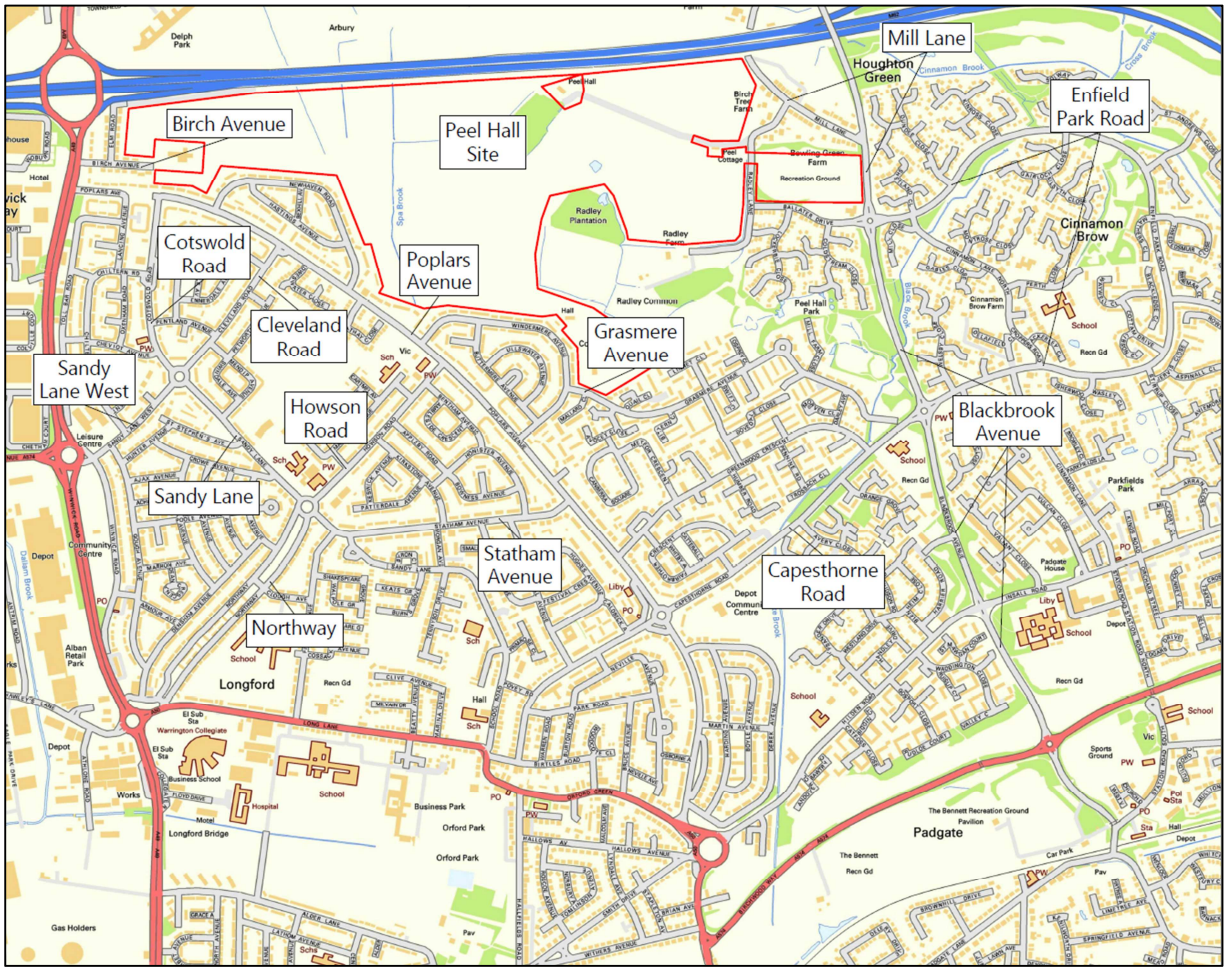
2.5 Birch Avenue also has a junction with the A49 just to the south of Junction 9 of the M62, is a residential access road and, combined with Elm Road, serves around 50 dwellings and a NHS unit for children and adolescents. These roads essentially form a cul-de-sac from Winwick Road.

2.6 Access to the Peel Hall area from the Delph Lane/Mill Lane/Blackbrook Avenue corridor is mainly via the Blackbrook Avenue/Capesthorne Road/Enfield Park Drive roundabout junction.

2.7 Just to the north of the Blackbrook Avenue/Ballater Drive/Mill Lane/Enfield Park Road roundabout junction, Mill Lane forms a priority junction with Delph Lane. From this junction Mill Lane, Radley Lane and Peel Cottage Lane provide access directly to the site. Radley Lane is part residential access road and part country lane in character and Peel Cottage Lane is a narrow country lane that forms Public Right of Way (PRoW) number 2. Public Rights of Way and pedestrian access in the vicinity of the site are considered in more detail in **paragraphs 2.14** to **2.17** below.

2.8 The main local distributor roads through the existing residential area to the south of the site are Sandy Lane West, Sandy Lane, Cleveland Road, Howson Road, Statham Avenue, Poplars Avenue, Greenwood Crescent and Capesthorne Road. These are generally single carriageway roads and are mostly residential in character. Statham Avenue, Poplars Avenue and Greenwood Crescent to the south together with Northway, Sandy Lane and Cotswold Road to the west and Blackbrook Avenue and Enfield Park Road to the east provide the bus routes that serve the local area. These routes are shown in **Figure 2.1** below and on the plan contained in **Appendix 3**.

Figure 2.1 – Local highway network



Existing Highway Network – Traffic Flows

2.9 The existing traffic flows during the AM and PM peak hour are summarised in **Table 2.1**. below and survey data is contained in **Appendix 4**.

Table 2.1 - Existing traffic flows during the AM and PM peak hour

Road	Year	Peak Hour Two-Way Flow			
		AM		PM	
		Total Flow	HGVs	Total Flow	HGVs
Poplars Avenue	2015	522	39	566	23
Mill Lane (Blackbrook Avenue - site access)	2015	903	2	724	1
Mill Lane (Radley Lane - Delph Lane)	2015	41	0	99	0
Mill Lane (site access - Delph Lane)	2015	903	2	724	1
Delph Lane	2015	892	2	649	1
Blackbrook Avenue (Mill Lane - Capesthorne Road)	2015	741	77	633	61
Blackbrook Avenue (Capesthorne Road - Insall Road)	2014	810	12	824	7
Blackbrook Avenue (Insall Road - Birchwood Way)	2014	937	21	834	7
Birch Avenue	2014	45	0	50	0
Cotswold Road	2014	172	10	204	13
Cleveland Road	2014	373	8	451	9
Sandy Lane West	2014	943	17	1192	15
Sandy Lane	2014	410	17	399	12
Winwick Road (M62 - Sandy Lane West)	2014	3022	266	3205	146
Winwick Road (Sandy Lane West - Hawleys Lane)	2014	3070	239	3271	125
Winwick Road (south of Hawleys Lane)	2014	2943	222	2789	93
Capesthorne Road	2014	917	16	930	13
Enfield Park Road	2016	582	2	569	3
Crab Lane	2015	790	33	921	32
Birchwood Way (A50 - Blackbrook Avenue)	2015	1325	32	1346	10
Birchwood Way (Blackbrook Avenue - Crab Lane)	2014	1371	42	1383	9
Howson Road	2014	302	7	306	2
Birchwood Way (Crab Lane - Birchwood Interchange)	2016	1547	32	1385	14
A50 Long Lane	2014	1218	53	1229	20
Statham Avenue	2015	181	2	168	0
Northway	2014	288	14	285	12
Hilden Road	2014	533	19	614	6
Insall Road/Fernhead Lane	2014	630	23	652	11
Cromwell Avenue	2014	373	124	451	72

Table 2.1 continued

Road	Year	Peak Hour Two-Way Flow			
		AM		PM	
		Total Flow	HGVs	Total Flow	HGVs
Myddleton Lane	2016	203	1	205	0
Winwick Link Road	2014	1495	135	1518	50
Winwick Road (north of M62)	2014	2462	180	3117	80
M62 west	2014	8259	1460*	10655	1005*
M62 west off-slip	2014	897	194*	980	121*
M62 west on-slip	2014	798	204*	1011	99*
M62 east	2014	7825	1383*	10513	1090*
M62 east off-slip	2014	787	140*	705	137*
M62 east on-slip	2014	474	181*	1142	168*

* All traffic minus car traffic to give an approximate HGV figure

2.10 At times during the peak periods congestion can occur along the main corridors in the area including M62, Winwick Road, Sandy Lane West, Long Lane, Blackbrook Avenue and Birchwood Way, as well as elsewhere.

2.11 Similarly, during parts of the peak period congestion can occur at the junctions shown in **Table 2.2** below:

Table 2.2 – Junctions where peak period congestion can occur

Junction
Mill Lane/Delph Lane
Birch Avenue/Winwick Road
Blackbrook Avenue/Mill Lane/Ballater Drive
Blackbrook Avenue/Capesthorne Avenue
Poplars Avenue/Statham Avenue
Delph Lane/Myddleton Lane
Poplars Avenue/Clevedon Road
Poplars Avenue/Howson Road
Sandy Lane West/Clevedon Road/Cotswold Road
Poplars Avenue/Capesthorne Road

Existing Transport Network – Accident History

2.12 The existing accident history data in the vicinity of the site is contained in **Appendix 5** and can be summarised as follows for the six site access locations:

i. Birch Avenue and Birch Avenue junction with A47 Winwick Road – none.

ii. Poplars Avenue between Cotswold Road and Newhaven Road – none.

iii. Poplars Avenue between Newhaven Road and Windermere Avenue – one recorded slight injury accident which occurred when a cyclist crossed the carriageway and collided with an oncoming car.

iv. Grasmere Avenue and Grasmere Avenue junction with Windermere Avenue – none on Grasmere but three recorded slight Personal Injury Accidents (PIAs) near the junction of Windermere Avenue with Poplars Avenue; one child pedestrian collided with an oncoming car when crossing Windermere Avenue, one vehicle loss of control on an icy road surface on Poplars Avenue resulting in a vehicle-vehicle collision, and one shunt vehicle-vehicle collision.

v. Mill Lane between Blackbrook Avenue and Delph Lane – two recorded slight PIAs at the Blackbrook roundabout junction involving vehicle-vehicle collisions; one loss of control and one shunt.

vi. Mill Lane from north of Radley lane south to Mill Lane junction with Delph Lane – two recorded PIAs; one serious (which occurred when a cyclist hit the kerb on the central island when crossing the junction of Mill Lane and Delph Lane and fell off) and one slight (vehicle-vehicle collision between a right-turning vehicle out of Radley Lane and an oncoming southbound vehicle on Mill Lane).

2.13 In summary, the accident data shows eight recorded PIAs in the vicinity of the site access junctions, and of these, one was recorded as serious and seven were recorded as slight. In terms of vulnerable road users, one PIA involved a child pedestrian and two involved a pedal cyclist. It can therefore be concluded that there are no evident accident patterns at any of the proposed site access locations.

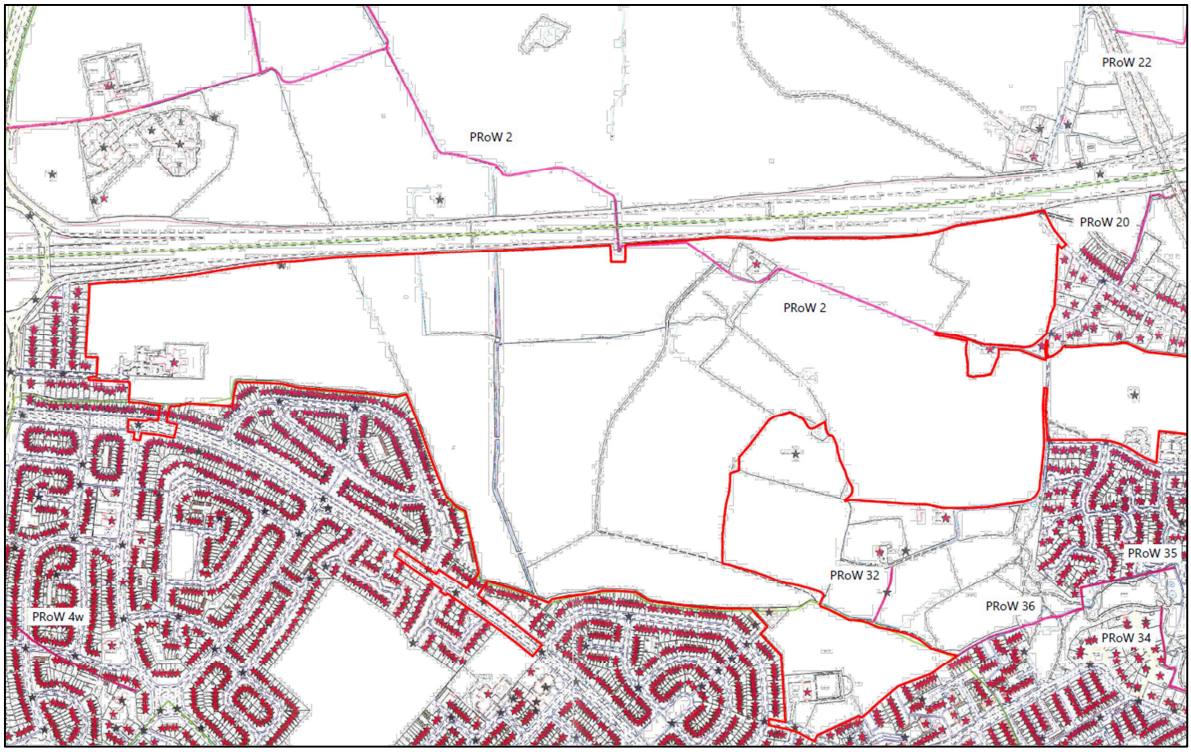
Existing Transport Network – Pedestrian

2.14 There are continuous footways located on both sides on most of the local roads within the vicinity of the site, which are generally flat and illuminated. Footways are often segregated from the main carriageway by a verge approximately one metre wide and Zebra crossings are intermittently provided throughout the area. Close to local schools 20mph zones have been introduced as well as along parts of Poplars Avenue.

2.15 To the south of Birch Avenue there is a footbridge across Winwick Road that helps provide access from the site area to the Winwick Quay Business Park and beyond. Local facilities and services are discussed in **paragraphs 2.30** to **2.32**.

2.16 Existing pedestrian access into the site is from Mill Lane, Radley Lane and Peel Cottage Lane in the east; and Birch Avenue and Elm Road in the west. There is a footbridge across the M62 which forms part of PRoW Number 2 and links with A49 and Winwick to the north of the site via PRoW 1, 1a, 3 and 5. The local PRoW are illustrated in the plan that forms **Appendix 6** and below in **Figure 2.2**.

Figure 2.2 – PRoW in close proximity to the site



2.17 CIHT publication "Providing for Journeys on Foot" identifies acceptable walking distances for pedestrians. This confirms that for commuting up to 2000 metres is the preferred maximum walking distance. **Appendix 7** contains a plan showing walking isochrones based on two kilometres from the centre of the site. This confirms that pedestrian connectivity to the site is good.

Existing Transport Network - Cyclist

2.18 Local cycling facilities comprise off-road segregated cycleways and footways along the A49 Winwick Road from the junction with Long Lane to the town centre. On-road cycleways and advanced stop lines (ASL) are also provided, for example at Winwick Road junction with the A50 Long Lane and the A49 junction at the Warrington Wolves Halliwell Jones Stadium.

2.19 There are also signed shared footway and cycleway routes along some existing footways, often linking into local retail and employment areas such as the Alban Retail Park.

2.20 The whole of the site is around five kilometres of the centre of Warrington by public highway. A cyclist from the site travelling to the town centre would typically use the following routes via A49 Winwick Road, from Poplars Avenue:

i. Cotswold Road/Cleveland Road to Sandy Lane, then Northway, connecting to the A49 at the Long Lane junction; or

ii. Howson Road connecting to Northway, and as above; then

iii. at the Halliwell Jones Stadium cyclists will have a choice to use the ASL's or the toucan crossing facilities and continue into the centre via their on-road route of choice such as Lythgoes Lane to A57/Brick Street or the more lightly trafficked Winwick Road/Winwick Street to access, for example, Warrington Central Station.

2.21 Cyclists travelling from/to locations closer to the east of the site would typically use:

i. Blackbrook Avenue; then

ii. Capesthorne Road, A50 Long Lane and A49 Winwick Road (then as iii above); or

iii. Hilden Road, Smith Drive, O'Leary Street, Orford Lane crossing A49 Winwick Road onto Pinners Brow.

2.22 It generally agreed that an acceptable cycling distance is around 5,000 metres and **Appendix 8** contains a plan showing cycling isochrones based on five kilometres from the centre of the site. This shows that there are a large number of destinations that are accessible from the site by cycle including the town centre.

2.23 **Appendix 8** also includes a copy of the Warrington Borough Council Cycle Route Plan for reference.

Existing Transport Network - Bus

2.24 A table setting out the existing bus services that currently serve the Peel Hall area is provided in **Appendix 9** and the existing services that currently operate close to each of the proposed site accesses can be summarised as follows:

i. Main Access (Mill Lane arm Blackbrook Avenue Roundabout) and Mill Lane
Services 23 and 23A; 25A; 26 and 26E and 27E.

ii. Main Access - Poplars Avenue
Services 20 and 20A; 21, 21A and 21E; 25 and 25A; 26 and 26E and 27.

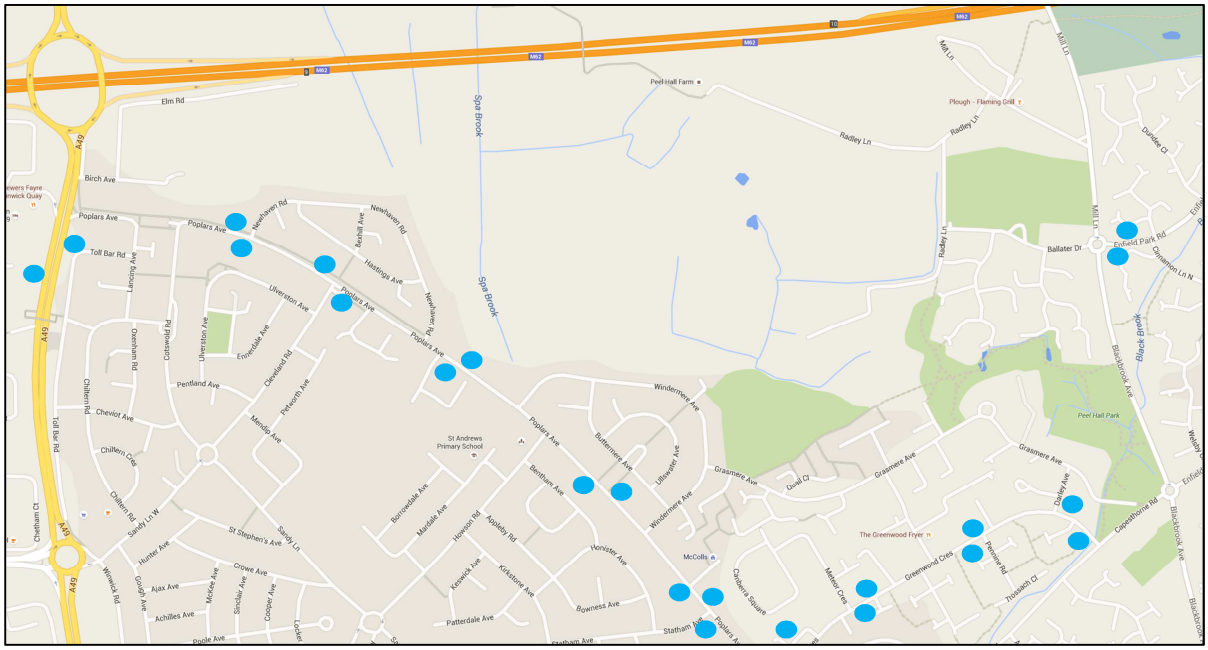
iii. Poplars Avenue - Employment Access
Services 19; 20 and 20A; 21, 21A and 21E; 22; 329 and 360.

iv. Birch Avenue
Services 19; 20 and 20A; 21, 21A and 21E; 22; 329 and 360.

v. Grasmere Avenue (Access to sports pitches)
Services 20 and 20A; 21, 21A and 21E; 25 and 25A; 26; 27.

2.25 All services connect this part of Warrington with the town centre. Services 25, 26, 26E and 27 provide access to Birchwood Station and Birchwood Park in the east. Services 23, 23A, 27 and 27E stop around 800 metres from Padgate Station. **Appendix 9** also includes a Network Warrington route map and timetables for services 20/21 and 23/23A. The existing bus stops in close proximity to the site accesses are shown on the Google Maps extract in **Figure 2.3** below.

Figure 2.3 – Existing bus stops in close proximity to the site



Taken from Google Maps
www.google.co.uk/maps
Accessed 28/06/16

2.26 At peak times these routes are busy, especially closer to the centre of Warrington. Existing journey times by bus from the site to key locations are set out in **Table 2.3**.

Table 2.3 - Existing bus journey times from closest bus stop to key locations

From Existing Bus Stop Closest to Proposed Site Access	Key Locations – Journey Time					
	Town Centre	Birchwood Station	Birchwood Park	Warrington Business Park & Collegiate	Warrington Campus University of Chester	Orford Jubilee Hub
Poplars Ave west	15-18min	-	-	6min	-	8min
Poplars Ave central	14-20min	23min	15min	10min	8min	12min
Mill Lane/ Blackbrook Ave	17-22min	17-20min	9-10min	9-10min	3min	7min*

* Monday-Saturday Evenings, Saturdays

Rail Network

2.27 Existing rail stations that serve Warrington are:

i. Warrington Central - on the Manchester to Liverpool line.
ii. Warrington Quay - on the West Coast Mainline.
iii. Birchwood - on the Manchester to Liverpool Line.
iv. Padgate - on the Manchester to Liverpool Line.

2.28 A summary of the railway services is as follows:

i. Manchester - 4 per hour, 20 minute journey time.
ii. Liverpool - 4 per hour, 22 minute journey time.
iii. Preston - 2 per hour, 22 minute journey time.
iv. Birmingham - 4 per hour, 1.5 hour journey time.
v. London - 2 per hour, 2.5 hour journey time.

2.29 It is therefore considered that existing public transport facilities are very good and that rail travel is a realistic travel choice for commuter journeys.

Local Services and Amenities

2.30 There is a good range of services and amenities available via the bus services that serve the Peel Hall area at present, including employment, retail, secondary and further education, medical and leisure uses. Most of these services and amenities are also within easy cycle distance of the site.

2.31 There are few services and amenities within 1,000 metres of the centre of the site - mainly Radley Park, a couple of public houses and bus stops. It is over 1,500 metres before there is employment, retail and primary school facilities available and over 2,000 metres before secondary school facilities are available.

2.32 **Appendix 10** contains a plan showing services and facilities in this part of Warrington.

3.0 Transport Policy and Guidance

3.1 Throughout the development of the scheme, account has been taken of both national and local transport related policy and guidance.

3.2 National transport policy and guidance is set out in:

i. National Planning Policy Framework (2012).
ii. Planning Practice Guidelines (2014).
iii. Guidance on Transport Assessment (2007) published by DfT and DCLG.
iv. DfT Circular 02/2013 - Strategic Road Network and the Delivery of Sustainable Development (2013).
v. The Strategic Road Network Planning for the Future (2015) published by Highways England.
vi. Manual for Streets (2007) and Manual for Streets 2 (2010) published by DfT.

3.3 Local transport policy and guidance is set out in:

i. Local Plan Core Strategy (policies CS1, CS4, MP1, MP3, MP4, MP7, MP10, QE3, QE6 and QE7) adopted in July 2014.
ii. Warrington Local Transport Plan 3 (policies AT3 and PT4) – 2011 to 2030 (2011).
iii. WBC's Design Guide - Residential and Industrial Estate Roads (2008).
iv. WBC's Standards for Parking in New Development (2015).
v. WBC's SPD on Travel Plans (2005).
vi. WBC's SPD on Planning Obligations (2007) and WBC's CIL Preliminary Draft Charging Schedule Consultation (October 2015).
vii. WBC's SPD on Design and Construction (2010).

3.4 The thrust of these policies and guidance is to encourage development that will be accessible to all, that is safe and that will be sustainably located or can be made to be sustainably located by the introduction of mitigation measures.

4.0 Development Proposals

4.1 The proposal is for a new residential neighbourhood on land adjacent to Peel Hall with the planning application submitted for outline approval and with all matters reserved except for means of access. The access and transport strategy that underpins the proposed development can be summarised as:

i. To provide as far as possible a largely self-contained development through the provision of a mix of uses including a local centre, a primary school and an area of employment.

ii. To provide a high quality access and connectivity within the development for bus, pedestrian and cycle movement in order encourage non-car modes of travel and subsequently reduce car use.

iii. To provide a new bus service that links the site to key locations including the town centre, Orford Jubilee Hub, Warrington Business Park and Collegiate, Warrington Campus of University of Chester, Birchwood Community High School and College, Birchwood Park and Birchwood Shopping Centre.

iv. To distribute development traffic from the site onto the local highway network at different points in order to reduce the impact.

v. To provide strong pedestrian and cycle links with the existing and surrounding area as this will help ensure that the development is well integrated with the local community.

The Development

4.2 For the purposes of this assessment the development is assumed to comprise:

i. Up to 1,200 residential dwellings. This will include a mix of market and affordable homes as well as houses and apartments. The houses are expected to be a mix of two, three and four bedroomed houses and one and two bedroomed apartments. It is anticipated that up to 60 of these dwellings will be provided as a retirement home development.

ii. A 100 bedroom care home.

iii. An area of employment land comprising up to 7,500sqm Gross Floor Area (GFA) of light industrial units.

iv. A local centre comprising a food store of up to 2,000sqm GFA plus up to a further 600sqm GFA of local centre type facilities (such as A1-A5 and D1) plus a family pub and restaurant of up to 800sqm GFA. The local centre car park will be located so that it can also be conveniently used as a school drop off facility.

v. Up to a two form entry primary school with a maximum of up to 420 pupils.

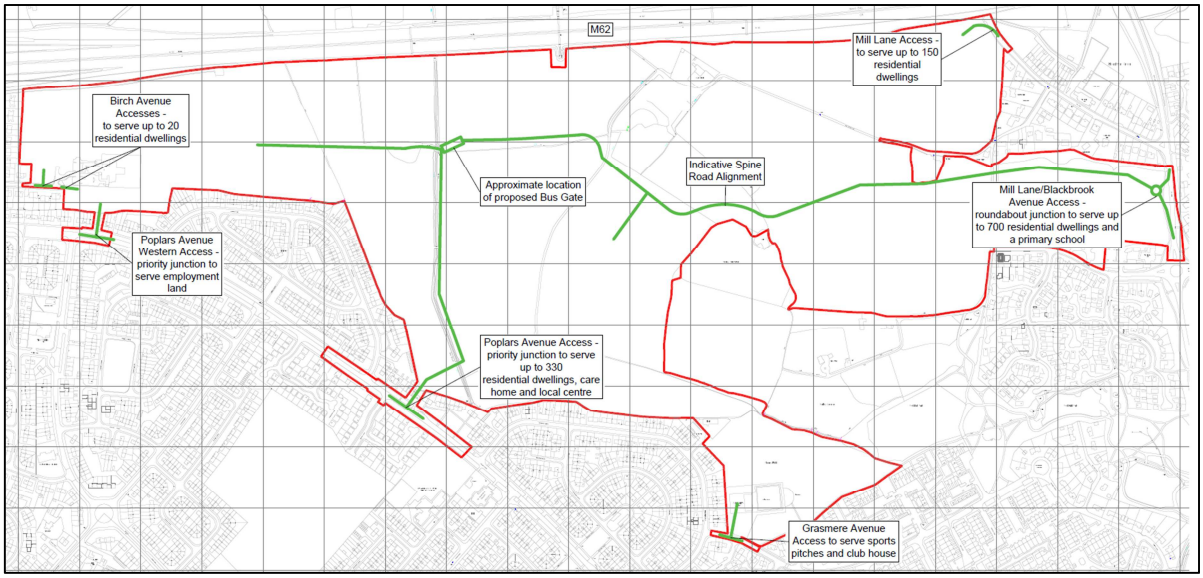
vi. Relocating and upgrading of existing sports pitches to provide like-for-like replacement in terms of number of pitches and the provision of ancillary facilities, which are expected to include changing facilities for up to four teams at any one time and a function room that can be used for local community uses such as a mother and toddler group.

Internal Road Hierarchy

4.3 The road hierarchy shown within the Parameters Plan that forms **Appendix 2** generally follows the guidance set out in Manual for Streets, Manual for Streets 2 and the Warrington Design Guide. It includes a 7.3 metre wide local residential distributor road as the main route serving the site, but with a bus gate to prevent it becoming a through route for general traffic. The hierarchy also comprises major and minor residential access roads, shared surface roads, private drives and an industrial access road to serve the employment land.

4.4 An overview of the proposed internal road network is illustrated in **Figure 4.1** below for ease of reference.

Figure 4.1 – Illustrative internal road layout and site access locations



4.5 **Appendix 11** contains road hierarchy related extracts from the Warrington Design Guide.

Proposed Site Accesses

4.6 It is proposed that the main vehicular accesses to the development will be from a new access provided on the Mill Lane arm of the Blackbrook Avenue/Ballater Drive/Mill Lane/Enfield Park Road roundabout junction, and from a new access on Poplars Avenue.

4.7 Additional access to specific areas of development will be provided from Mill Lane, Birch Avenue, a second access on Poplars Avenue and Grasmere Avenue.

4.8 The plan showing the proposed access from the Mill Lane arm of the Blackbrook Avenue/Ballater Drive roundabout junction forms **Appendix 12**. This access comprises a 7.3m wide carriageway from a new 32 metre diameter three-arm roundabout junction with associated facilities for pedestrians and cyclists and is expected to serve around 700 dwellings.

4.9 The plan showing the proposed access from Mill Lane forms **Appendix 13.** This access has been created by extending Mill Lane westwards into the site and is expected to serve up to 150 dwellings. It is essentially the same access proposal that was in front of the Inspector at the 2013 appeal to serve 150 dwellings and it is appropriate to note her conclusion in paragraph 63 of her report in respect of using Mill Lane for access was:

"…. the road and footway access would be adequate and the development would not be harmful to highway safety."

4.10 The plan showing the proposed access from the central part of Poplars Avenue, which is located between its junctions with Newhaven Road and Windermere Avenue, forms **Appendix 14**. This access comprises a 7.3m wide carriageway from a priority junction with ghost right turn lane and associated pedestrian, cycle, together with relocated and improved bus stop facilities. It is expected to serve up to 330 dwellings.

4.11 The plan showing the proposed access from the western part of Poplars Avenue, which is located between its junctions with Cotswold Road and Newhaven Road, forms **Appendix 15**. This access comprises a simple priority junction with a 7.3m carriageway and associated pedestrian and cycle facilities and is expected to serve the employment land.

4.12 The plan showing the proposed accesses from Birch Avenue forms **Appendix 16**. These accesses comprise a simple priority junction with 4.8m wide carriageway and footways to both sides to the west of the Health Centre, and a continuation of the 4.8m carriageway along Birch Road to the immediate south of the Health Centre which will expand to a 5.5m wide shared surface. Both accesses are expected to serve up to a combined total of 20 dwellings.

4.13 The plan showing the proposed access to the sports pitches from Grasmere Avenue forms **Appendix 17**. The proposal is to modify the existing access that serves local recreational facilities to create a 6.0 metre access road and ensure a 2.0 metre wide footway facility is provided to improve pedestrian access.

4.14 All of the accesses have been subject to a Stage 1 Road Safety Audit, which is contained in **Appendix 18**. It can be broadly concluded that there are no significant issues with the proposed accesses and that the recommendations raised within the report will be addressed in the designer's response and issued to WBC's road safety audit team for further comment.

Proposed Access to the Local Centre and Car Park

4.15 Because of the introduction of the bus gate on the local distributor road it is important that the local centre car park can be accessed without residents having to leave the development. Therefore, the local centre car park has been designed to be split in two, with two points of vehicular access, but designed so that a through route that could allow traffic to bypass the bus gate on the new local distributor road is not been created.

4.16 Service yard access for the local centre units and food store will be taken from the Poplars Avenue (central) access. The 7.3 metre service road will route from the associated local centre roundabout, behind the units to the immediate west and south, which also serves the family pub/restaurant.

Proposed Access to the Primary School

4.17 A roundabout is proposed to serve the school and local centre from the east to facilitate turning for coaches and large buses associated with the school. A drop-off parking zone on the public highway immediately adjacent to the school for around 11 cars will also be provided, and can also be used for coaches to park. The local centre car park is expected to be used as a drop off facility for the primary school.

Proposed Pedestrian and Cycle Access

4.18 Additional pedestrian and cycle access will be provided from Elm Road at the north-western corner of the site along the top of the employment land, providing a link between the site and the A49 to the west of the site and the village of Winwick to the north. This is shown on a plan that forms **Appendix 19**.

4.19 There is an existing footbridge over the M62 (serving PRoW route number 2) which will form a pedestrian link to and from the site and the areas north of the motorway. There will also be links through to the south of the site via Radley Common to the existing playing fields, which will provide a link through to Windermere Avenue and Grasmere Avenue and the proposed club house that will also be used by the local community; as well as links to Peel Hall Park and through to Blackbrook Avenue in the east.

4.20 Radley Lane will also continue to provide a pedestrian link to the east of the site, and access will be maintained to Houghton Green off Mill Lane and to the PRoW and local footway networks beyond, including to the northeast via Delph Lane. It is proposed that a section of Radley Lane between the proposed distributor road and Peel Cottage Lane will be stopped up to motorised traffic and used as a pedestrian and cyclist route. All traffic from Radley Lane south of the distributor road will use the new junction with the distributor road and access the local highway network at Mill Lane/Blackbrook Avenue rather than routing through the residential area of Mill Lane to the north.

4.21 It is proposed that an emergency link will be provided between the employment access road (at the turning head) and the main development distributor road.

Proposed Bus Access

4.22 A bus route will be provided through the site via the local distributor road connecting the central access on to Poplars Avenue with the other main site access on the Mill Lane arm of the Blackbrook Avenue roundabout. A bus gate will be introduced along this route around 320m north of the local centre to ensure that a through route for general vehicle traffic is not created. **Appendix 20** contains photographs of typical bus gates in use at present.

4.23 The proposals to ensure high quality access by bus are set out in detail in **Section 10.0** and will comprise an extension to existing services into the site during the construction phase and the creation of a new service through the site once the distributor road is completed.

Travel Plans

4.24 Separate Travel Plans or Travel Plan Statements will be produced for the residential, employment and food store uses as well as the care home and primary school. These obligations are expected to be secured by planning condition but anticipated measures are identified in **Section 10.0**.

Parking Provision

4.25 Car, cycle and motorcycle parking will generally be provided to reflect WBC guidelines which were published in March 2015. The relevant extracts are contained in **Appendix 21**. It should be noted that electric vehicle charging points will be provided (or be capable of being retro fitted) to cover 5% of the overall car parking provision.

5.0 Phasing of Development and Construction Traffic

5.1 The Peel Hall site will generate construction traffic throughout its development period and this will have an impact on the local highway network, especially in the immediate vicinity of each site access. In reality each access and associated area of development will have its own timetable and impact, although there will be overlapping.

5.2 It is anticipated at this stage that the development will come forward in 12 phases over a 12 year period with typically around 100 residential units being constructed each year, with the relocated sports pitches in year 1, the local centre and care home opening at the end of year 2, the primary school by the end of year 10 and the distributor road being completed by the end of year 9.

5.3 **Table 5.1** below sets out indicatively how the development may be phased and the accompanying plan is contained in **Appendix 22**.

Table 5.1 – Indicative phasing of development

Year End	Number of Residential Units off Each Access								Cumulative Total	Indicative Phasing (number of properties sold at year end)
	Distributor Road Blackbrook Ave		Distributor Road Poplars Ave		Mill Lane		Birch Ave			
	New	Cum.	New	Cum.	New	Cum.	New	Cum.		
1	0	0	0	0	50	50	0	0	50	Phase 1a **50** Relocated sports pitches
2	70	70	0	0	30	80	0	0	150	Phase 2a **30** Phase 2b **70** Temporary emergency link to be via Radley Lane (north). Need first part of distributor road from east and turning area for bus service. Local Centre and Care Home off Poplars Ave.
3	105	175	0	0	0	80	20	20	275	Phase 3a **12** Phase 3b **93** Phase 3c **20** Employment Land off Poplars Ave (west).
4	30	205	0	0	70	150	0	20	375	Phase 4a **70** Phase 4b **30** Requires a temporary emergency link through to Peel Cottage Lane.

Table 5.1 Continued

Year End	Number of Residential Units off Each Access									Indicative Phasing (number of properties sold at year end)
	Distributor Road Blackbrook Ave		Distributor Road Poplars Ave		Mill Lane		Birch Ave		Cumulative Total	
	New	Cum.	New	Cum.	New	Cum.	New	Cum.		
5	100	305	0	0	0	150	0	20	475	Phase 5a **50** Phase 5b **50**
6	45	350	55	55	0	150	0	20	575	Phase 6a **45** Phase 6b **55**
7	0	350	100	155	0	150	0	20	675	Phase 7a **10** Phase 7b **90**
8	90	440	15	170	0	150	0	20	780	Phase 8a **75** Phase 8b **15** Phase 8c **15**
9	94	534	0	170	0	150	0	20	874	Phase 9a **74** Phase 9b **20** Need to complete distributor road for full bus service. Temporary emergency access through to employment land/Elm Road.

Table 5.1 Continued

Year End	Number of Residential Units off Each Access									Indicative Phasing (number of properties sold at year end)
	Distributor Road Blackbrook Ave		Distributor Road Poplars Ave		Mill Lane		Birch Ave		Cumulative Total	
	New	Cum.	New	Cum.	New	Cum.	New	Cum.		
10	110	644	0	170	0	150	0	20	984	Phase 10a **80** Phase 10b **30** Primary School
11	56	700	56	226	0	150	0	20	1,096	Phase 11a **56** Phase 11b **35** Phase 11c **21**
12	0	700	104	330	0	150	0	20	1,200	Phase 12a **104**

***Subject to detailed phasing plan to be submitted at Reserved Matters stage**

Construction Traffic

5.4 It is intended that most excavated material will be retained on site, however, there will be a need for building materials to be brought to the site. During the construction phase each site access junction is expected to have HGV construction traffic associated with it as set out indicatively in **Table 5.2**. It should be noted that there will be an overlap for some phases as construction will take longer than one year, whereas other phases may take less.

Table 5.2 – Anticipated HGV movements/day

Year End	Peak HGV Movements/Day					Total Daily HGV
	Residential				Non-Residential	
	Distributor Road Blackbrook Ave	Distributor Road Poplars Ave	Mill Lane	Birch Ave		
1	0	0	8	0	Relocated Sports Pitches = **2**	10
2	11	0	5	0	Local Centre and Care Home off Poplars Ave = **16**	32
3	17	0	0	3	Employment Land off Poplars Ave (west) = **8**	28
4	5	0	11	0	-	16
5	16	0	0	0	-	16
6	7	9	0	0	-	16
7	0	16	0	0	-	16
8	14	2	0	0	-	16
9	15	0	0	0	Remaining Sports Pitches and Ancillary Facilities = **2**	17
10	18	0	0	0	Primary School = **8**	26
11	9	9	0	0	-	18
12	0	17	0	0	-	17

6.0 Development Trip Generation and Attraction

6.1 This assessment considers all modes of transport and the demands that the proposed development will place on the existing transport infrastructure. A trip generation and attraction assessment has been carried out for the proposed development based on the development profile set out in **paragraph 4.2**.

6.2 The number of development trips associated with each use and each access has been calculated using the TRICS database and this has been set out in detail in Technical Notes TN/02/A, TN/02/A/Addendum, TN/06 and TN/12 previously provided to WBC highway officers (see **Appendix 23**).

6.3 Many of the trips will be contained within the development and will not impact on the wider transport network due to the inclusion, location and accessibility of the local centre and food store facilities as well as the primary school. A set of summary tables setting out the peak hour development trip rates used, the discounts applied for internal trips and the result vehicular trip numbers are contained in **Appendix 23** for ease of reference, along with the TRICS data contained in the Technical Notes listed in **paragraph 6.2** above.

6.4 For the purposes of the traffic assessments the peak hour has been taken as 0800-0900 and 1700-1800, with peak periods of 0700-0930 and 1600-1830 used in the VISSIM modelling.

6.5 It can be seen from the data contained in **Appendix 23** that overall the level of trip containment has been calculated at around 30% during each of the peak hours. It should be noted that no trip discounting has been applied to the vehicle trips associated with the following land parcels as they are self-contained due to the location of the corresponding access points:

i. Birch Avenue – 20 residential units.
ii. Mill Lane – 150 residential units.
iii. Poplars Avenue (west) – B1(c) employment land use.
iv. Grasmere Avenue – sports pitches and club house community facility.

6.6 The number of external development trips using each of the proposed site accesses during the AM and PM peak hour is set out in **Tables 6.1** and **6.2** below.

Table 6.1 - External development trips at each site access AM peak hour

Access	Units/sqm	Total Trips	
		Arrival	Departure
Mill Lane	150 Dwellings	34	79
Mill Lane/ Blackbrook Avenue	700 Dwellings	126	293
	Primary School (up to 420 pupils)	28	20
Poplars Ave. *(Central)*	330 Dwellings	59	138
	Food Store (2,000sqm)	37	24
	Local Centre (600sqm)	9	9
	Family Pub/ Restaurant (800sqm)	-	-
	100-Bed Care Home	7	7
Poplars Ave. *(West)*	Employment (7,500sqm)	69	39
Birch Avenue	20 Dwellings	5	11
Grasmere Avenue	Sports Pitches and Community Facilities	10	5
	Total	384	625
		1,009	

Table 6.2 - External development trips at each site access PM peak hour

Access	Units/sqm	Total Trips	
		Arrival	Departure
Mill Lane	150 Dwellings	74	46
Mill Lane/ Blackbrook Avenue	700 Dwellings	278	172
	Primary School (up to 420 pupils)	10	14
Poplars Ave. *(Central)*	330 Dwellings	130	81
	Food Store (2,000sqm)	72	76
	Local Centre (600sqm)	11	12
	Family Pub/ Restaurant (800sqm)	17	11
	100-Bed Care Home	8	11
Poplars Ave. *(West)*	Employment (7,500sqm)	20	47
Birch Avenue	20 Dwellings	10	6
Grasmere Avenue	Sports Pitches and Community Facilities	7	8
	Total	637	484
		1,121	

6.7 It can be seen that there may be up to around 1,121 vehicular trips associated with the Peel Hall site on the local highway network during the busiest peak hour of 1700-1800.

6.8 It has been concluded that the trip rates provided are a fair and robust assessment of the likely trip generation and attraction profile of the Peel Hall site, because higher trip rates have been used wherever possible, such as calculating the vehicle trips for residential dwellings, B1(c) land use and the proposed food store.

6.9 It is therefore considered that the trip rates provided give confidence to the overall trip generation and attraction figures used in the assessments.

7.0 Development Trip Distribution

Methodology

7.1 As part of the assessment process it has been agreed with Highways England and WBC highway officers to expand the existing VISSIM model that covers parts of the M62 and A49 corridors and was originally developed by AECOM on behalf of Highways England. AECOM have been engaged to carry out this work and once available the results will be used to assess the wider highway network. A plan of the VISSIM network is contained in **Appendix 24**.

7.2 However, as set out in **paragraph 1.10** this Transport Assessment will be prepared in two parts with this report concentrating on identifying various technical parameters, the assessment of the proposed site access junctions and the sustainable transport measures proposed. The second assessment will concentrate on the wider highway network following the completion of the VISSIM modelling.

Trip Distribution

7.3 A gravity model has been prepared to derive the trip distribution for the proposed land uses, based on the zoning levels contained in the Warrington Multi Modal Transport Model (WMMTM) with development trips grouped into three categories: residential; employment and other (being the primary school, the local centre, care home and sports facilities). This approach has been agreed with highway officers at WBC.

7.4 Origin-destination matrices for the modelled time periods were derived from the trip proportions set out in the WMMTM and applied to the Peel Hall development profile (see **Tables 6.1** and **6.2** above).

7.5 **Table 7.1** below sets out the trip distribution derived from the gravity model.

Table 7.1 - Trip distribution derived from the gravity model

Direction/Destination	AM	PM
M62 west	5%	6%
M62 east	2%	5%
Town Centre	8%	1%
South Warrington	18%	30%
Callands	10%	9%
Hulme	20%	17%
Birchwood	14%	11%
Fearnhead	4%	5%
Winwick	10%	14%
A49	9%	2%
Total	100%	100%

7.6 This table is based on the manual interpretation of the gravity model results. The gravity model has been fed directly into the VISSIM model in order to produce an assignment throughout the study area.

8.0 Background Traffic Growth, Committed Development and Forecast Traffic Flows

Background Traffic Flows and Committed Development

8.1 Background traffic growth has been calculated using the TEMPRO database and this has been applied to existing traffic flows to give background traffic flows for the agreed assessment year of 2019.

8.2 It has been agreed with Warrington Borough Council highway officers that it is appropriate to apply the same methodology as that used and agreed in the Omega Planning Application. Therefore it is proposed to use the Warrington (00EU1) urban growth rates for the Motorway road type and apply this to all traffic flows within the VISSIM model.

8.3 Traffic data collection took place in 2014, 2015 and 2016, and **Table 8.1** below sets out the TEMPRO calculated growth factors for these years to 2019 for the AM and PM peak hours.

Table 8.1 – TEMPRO Growth Factors

Growth Factors	AM	PM
2014-2019	0.0723	0.0727
2015-2019	1.0672	1.0679
2016-2019	1.0484	1.0492

8.4 It is considered that the use of motorway growth rates will provide an over-estimate of the actual traffic growth because it is the highest growth factor from the dataset and because the motorway only accounts for a small proportion of the road network overall. Nevertheless, the use of the motorway factors will provide even more confidence in the modelling results.

8.5 The committed developments within the local area to be included in the modelling were previously set out in Technical Note TN/10 (contained in **Appendix 25**) and have been agreed with WBC highway officer as follows:

i. Land at Benson Road, Birchwood (ref: 2015/26220).

ii. Birchwood Shopping Centre (ref: 2015/25880).

iii. Birchwood Park (ref: 2015/26044, 2014/23358 and 2008/12744).

iv. Calver Park (ref: 2015/26685 and 2013/22533).

8.6 The number of peak period vehicular trips expected to arise from each of the committed developments have been added to the network based on the gravity model.

Forecast Traffic Flows

8.7 The background traffic flows from **Table 2.1** have been growthed to the design year of 2019 and combined with committed development traffic flows, to give base forecast traffic flows in the design year and this information is summarised in **Table 8.2** below.

Table 8.2 - 2019 base forecast traffic flows (AM and PM peak hours)

Road	AM Peak Hour			PM Peak Hour		
	Two-Way Flow	Com. Devel.	Total	Two-Way Flow	Com. Devel.	Total
Poplars Avenue	557	25	582	604	35	639
Mill Lane (Blackbrook Avenue - site access)	903	78	981	773	68	841
Mill Lane (Radley Lane - Delph Lane)	44	2	46	106	0	106
Mill Lane (site access - Delph Lane)	903	72	975	773	68	841
Delph Lane	952	72	1024	693	63	756
Blackbrook Avenue (Mill Lane - Capesthorne Road)	791	89	880	676	89	765
Blackbrook Avenue (Capesthorne Road - Insall Road)	869	30	899	884	5	889
Blackbrook Avenue (Insall Road - Birchwood Way)	1005	0	1005	895	2	897
Birch Avenue	48	0	48	54	0	54
Cotswold Road	184	0	184	219	0	219
Cleveland Road	400	4	404	484	0	484
Sandy Lane West	1011	10	1021	1279	1	1280
Sandy Lane	440	4	444	428	0	428
Winwick Road (M62 - Sandy Lane West)	3241	16	3257	3438	15	3453
Winwick Road (Sandy Lane West - Hawleys Lane)	3292	16	3308	3509	19	3528
Winwick Road (south of Hawleys Lane)	3156	6	3162	2992	10	3002
Capesthorne Road	983	55	1038	998	65	1063
Enfield Park Road	610	128	738	597	163	760
Crab Lane	828	149	977	966	195	1161
Birchwood Way (A50 - Blackbrook Avenue)	1414	85	1499	1437	39	1476
Birchwood Way (Blackbrook Avenue - Crab Lane)	1470	150	1620	1484	73	1557
Howson Road	324	0	324	328	5	333
Birchwood Way (Crab Lane - Birchwood Interchange)	1622	275	1897	1453	307	1760
A50 Long Lane	1306	11	1317	1318	22	1340
Statham Avenue	193	5	198	179	12	191
Northway	309	0	309	306	4	310
Hilden Road	572	26	598	659	0	659
Insall Road/Fernhead Lane	676	56	732	699	10	709

Table 8.2 Continued

Road	AM Peak Hour			PM Peak Hour		
	Two-Way Flow	Com. Devel.	Total	Two-Way Flow	Com. Devel.	Total
Cromwell Avenue	775	65	840	1070	59	1129
Myddleton Lane	213	59	272	205	42	247
Winwick Link Road	1603	12	1615	1229	17	1246
Winwick Road (north of M62)	2640	34	2674	3344	13	3357
M62 west	8856	19	8875	11430	13	11443
M62 west off-slip	962	16	978	1051	3	1054
M62 west on-slip	856	3	859	1085	10	1095
M62 east	8391	22	8413	11277	16	11293
M62 east off-slip	844	20	864	756	6	762
M62 east on-slip	508	2	510	1222	10	1232

8.8 The following flow diagrams set out the 2019 base traffic flows for the AM and PM peak hours at each of the proposed site access points.

Figure 8.1 – Mill Lane/Blackbrook Avenue 2019 (without development)

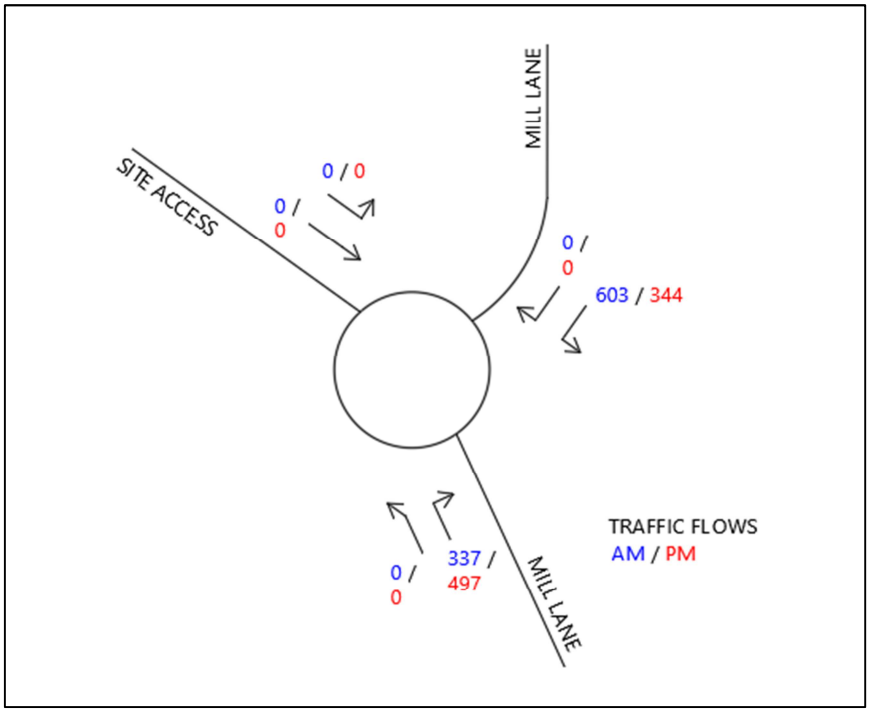


Figure 8.2 – Poplars Avenue central 2019 (without development)

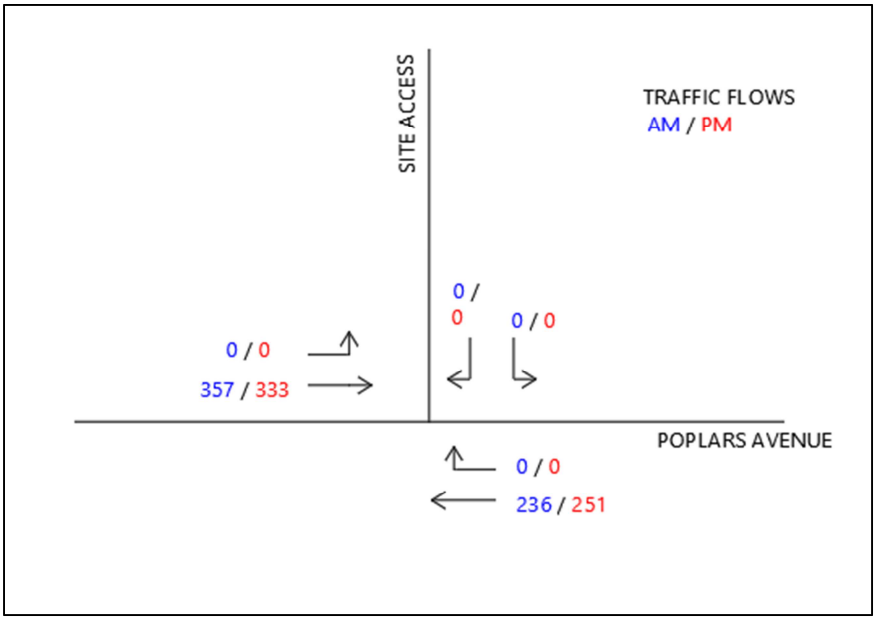


Figure 8.3 – Poplars Avenue west 2019 (without development)

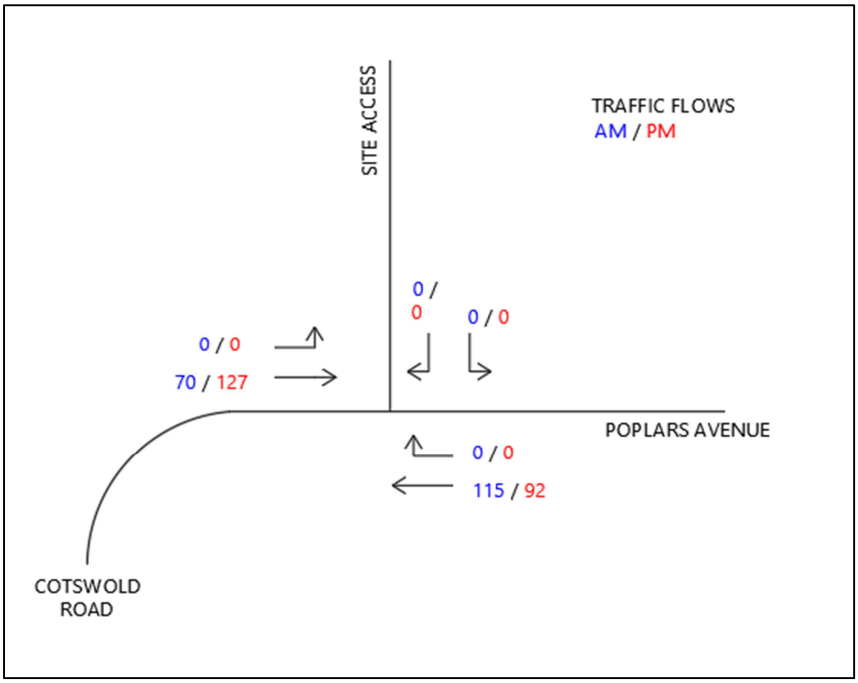


Figure 8.4 – Mill lane/Delph Lane 2019 (without development)

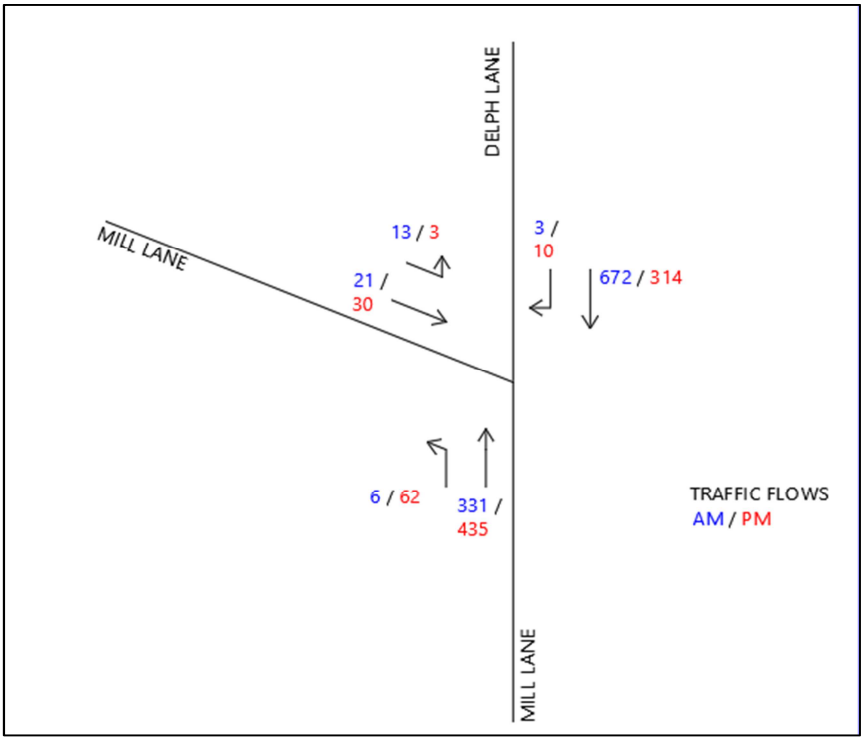
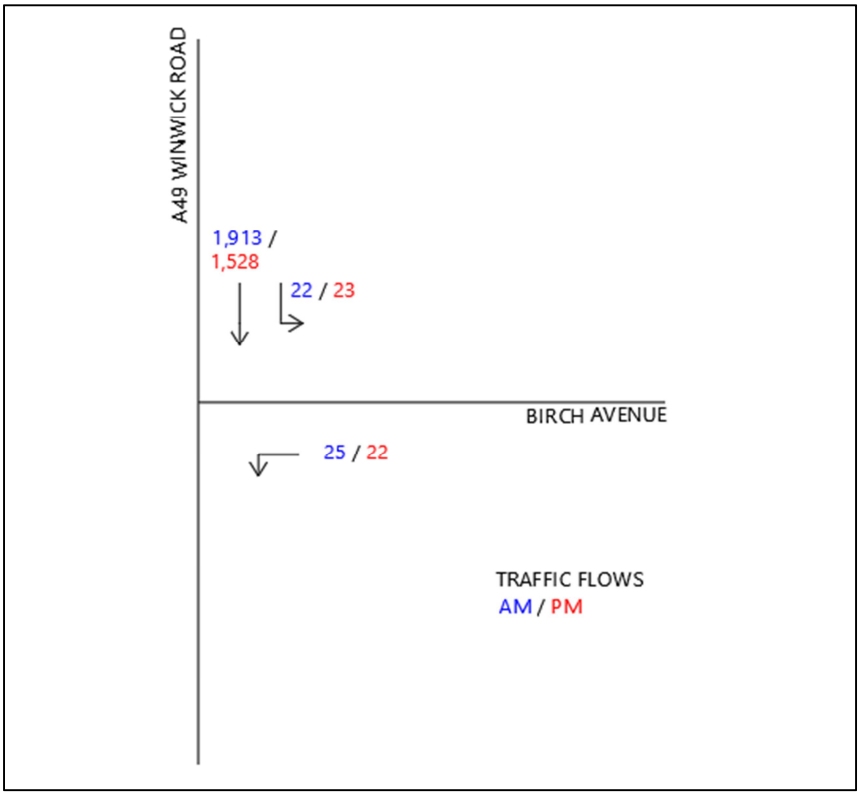


Figure 8.5 – Birch Avenue/A49 2019 (without development)



8.9 The following flow diagrams set out the 2019 base plus development traffic flows for the AM and PM peak hours at each of the proposed site access points.

Figure 8.6 – Mill Lane/Blackbrook Avenue 2019 (with development)

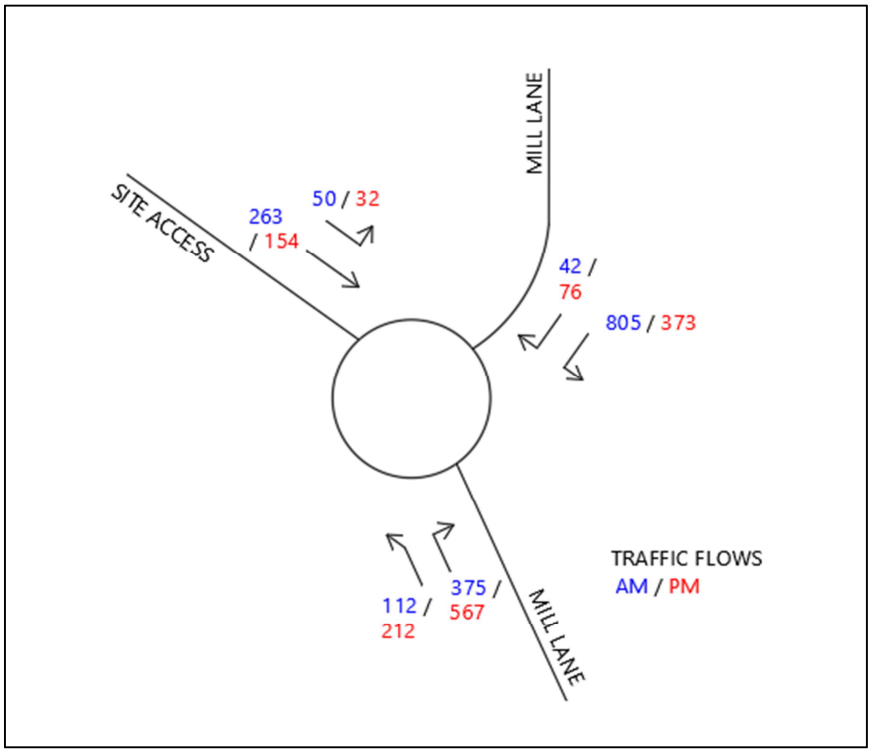


Figure 8.7 – Poplars Avenue central 2019 (with development)

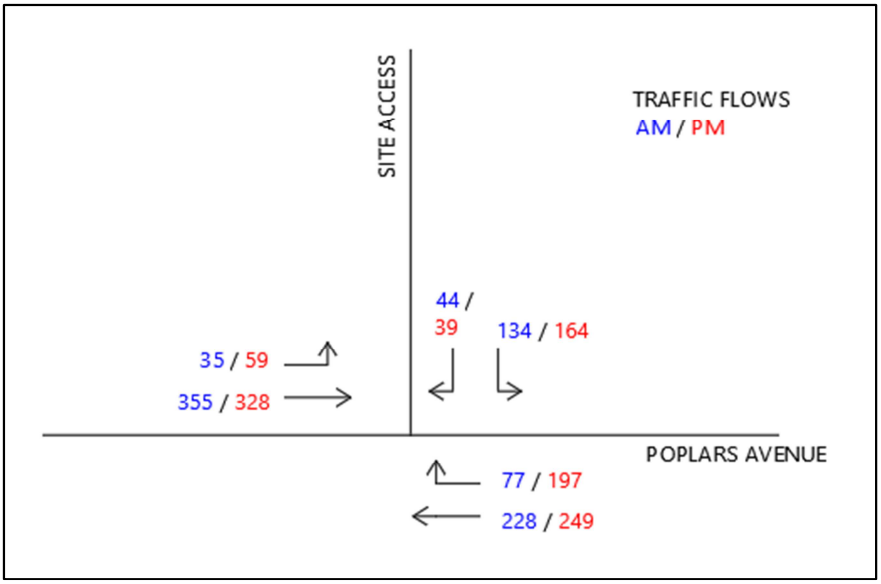


Figure 8.8 – Poplars Avenue west 2019 (with development)

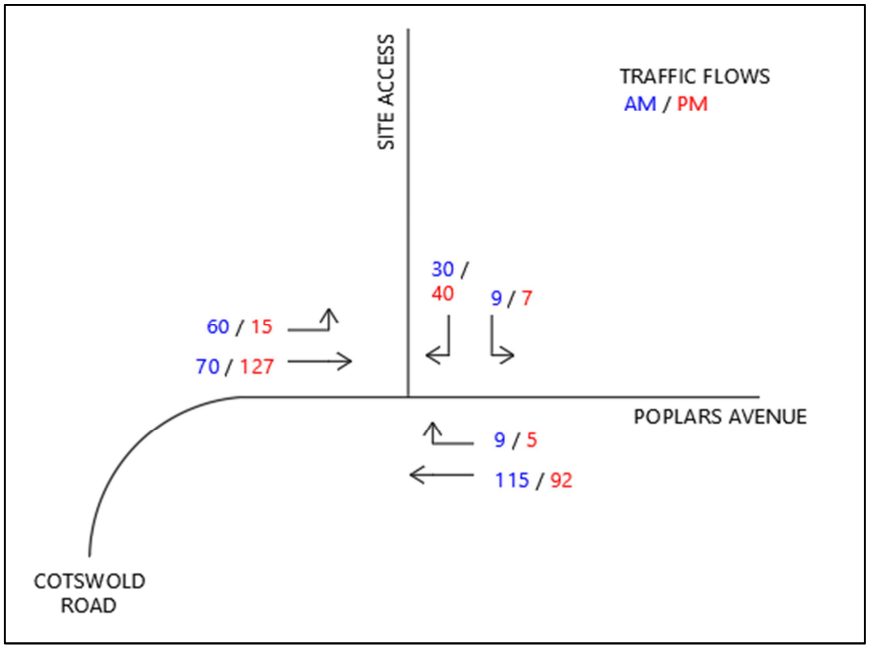


Figure 8.9 – Mill lane/Delph Lane 2019 (with development)

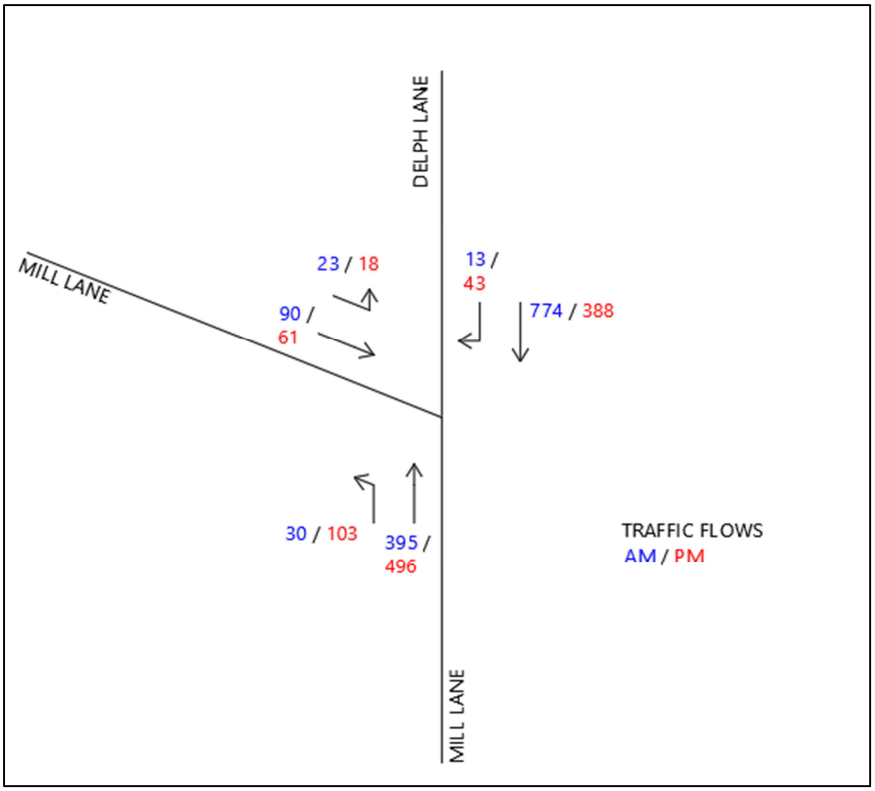
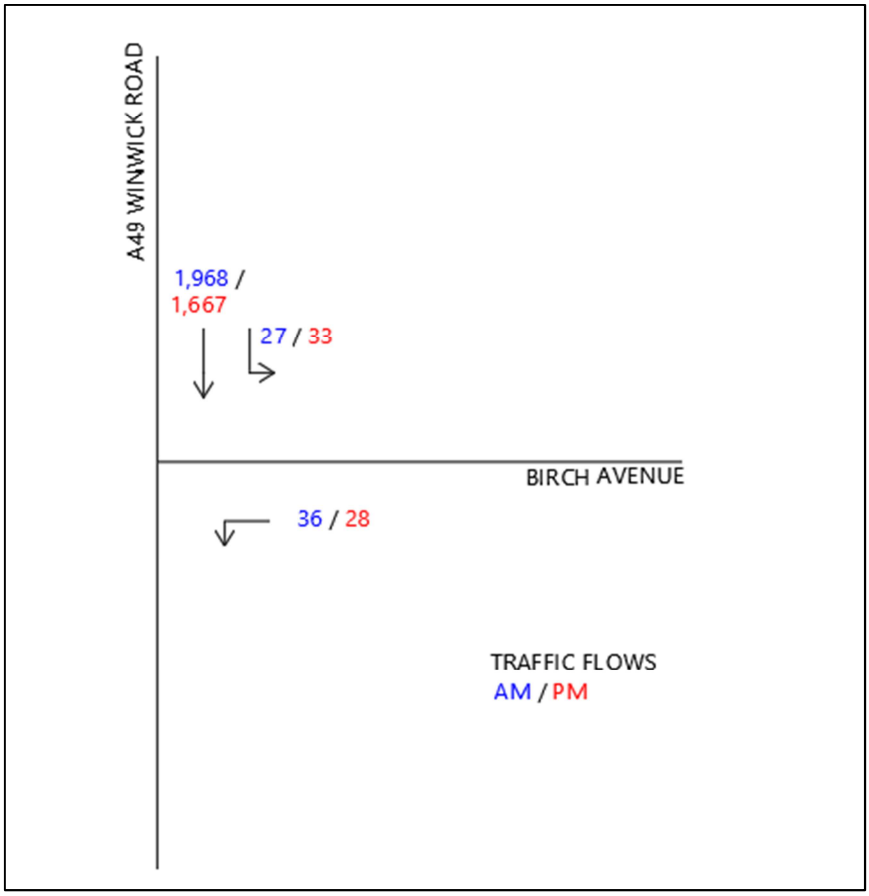


Figure 8.10 – Birch Avenue/A49 2019 (with development)



9.0 Capacity Assessments

9.1 The background base traffic flows summarised in **Table 8.2** have been used to assess the impact of development traffic at the site access junctions in the design year of 2019, assuming full build out, as set out in **Table 9.1** below.

Table 9.1 – Junction capacity (2019 base traffic with development traffic)

Junction	Max RFC	Max Queue Length	Max Delay
Site Access – Mill Lane/Blackbrook Avenue	0.72	7.4	9.84
Site Access – Poplars Avenue (central)	0.35	2.5	13.16
Site Access – Poplars Avenue (west)	0.13	0.5	10.04
Site Access – Mill Lane/Delph Lane	0.34	2.2	18.63
Birch Avenue/Winwick Road	0.11	0.5	11.44

9.2 From the above table it can be seen that the site access junctions work within capacity. The modelling reports are contained in **Appendix 26**.

9.3 Once the VISSIM modelling has been completed, a future year of 2029 will also be assessed.

10.0 Bus Measures, Travel Plan Measures and Section 106 Heads

Bus Measures

10.1 Extensive discussions have been held with Network Warrington concerning how to best serve the Peel Hall development by bus.

10.2 The proposals to ensure high quality access by bus comprise an extension to existing services into the site during the construction phases and the creation of a new service through the site once the distributor road is completed. The locations of the proposed bus stops through the site are shown indicatively on the plan contained in **Appendix 27**.

10.3 During the first nine years, existing services 20/21 and 23/23A will be extended into the site from Enfield Park Road, with temporary turning facilities and bus stops provided as appropriate. During the peak periods service 20/21 will be provided at a frequency of 8-10 buses per hour, and 23/23A will be provided at a frequency of 2 buses per hour, this will include for the provision of extra buses on each route. Therefore for existing bus users there will be an increase in capacity and for future residents a regular bus service will be available from year 2 (see indicative phasing summary in **Table 5.1**). A diagram provided by Network Warrington showing the proposed route extensions is contained in **Appendix 28**.

10.4 Services 23/23A will be extended into the site on weekdays, Saturdays and Sundays in line with the existing level of service (but without a Sunday evening extension). Services 20/21 will be extended in line fully with the existing level of service. These service extensions will return to their current routes once the distributor road is open. **Appendix 9** includes existing timetable information for services 20/21 and 23/23A.

10.5 A new bus service will be introduced in year 9 to serve the development between Birchwood and Warrington town centre utilising the distributor road and proposed bus stops through the Peel Hall site. This new bus route will provide a comprehensive level of service on weekdays and Saturdays with peak enhancement resulting in a frequency of 6 buses per hour.

10.6 The new bus service will provide increased modal choice for existing residents travelling eastwards towards Birchwood and will also increase capacity of the bus services available between the site and the surrounding area and Warrington town centre to the south. A diagram provided by Network Warrington showing the proposed route of the new service is also contained in **Appendix 28**.

Travel Plan Measures

10.7 Separate Travel Plans or Travel Plan Statements will be produced for the residential, employment and food store uses as well as the care home and primary school. These obligations are expected to be secured by planning condition and are likely to include the anticipated measures set out below:

i. Residential
- Welcome pack.
- Marketing material on new and existing bus services, routes, bus stops and timetable information.
- Information on local cycle and pedestrian routes.
- Discount cycle purchase scheme.
- Subsidised bus travel (travel passes).

ii. Employment (including food store)
- Shower and changing facilities to be provided.
- Lockers provided for staff.
- Cycle scheme.
- Secure and conveniently located cycle stands.
- Information pack on sustainable travel choices.
- Travel notice board to be provided in a staffroom/break-out area.
- Travel information, such as bus timetables and bus stop locations, to be provided on a public noticeboard and/or company website to inform visitors.
- The appointment of a Travel Plan Co-ordinator to ensure the provision of up-to-date local public transport information, cycle routes, and walking routes as well as walking routes to the local bus stops.
- Promotion of National Bike Week.

iii. Primary School
- Cycle proficiency to be offered to all junior pupils.
- Secure and conveniently located cycle stands for staff and pupils.
- Information pack to staff on sustainable travel choices.
- Travel notice board provided in the staffroom.
- Information on sustainable travel routes to be provided to pupils/sent home for parents, including provision of up-to-date local public transport information, walking and cycling routes and location of the local bus stops.
- The appointment of a Travel Plan Co-ordinator.
- Promotion and participation in national Walk to School Week.
- Promotion and participation in national Bike Week.
- Walking bus to be operated daily before and after school.

iv. Care Home
- Secure and conveniently located cycle stands.
- Information pack on sustainable travel choices for staff and visitors.
- Bus timetable information and bus stop locations.
- Lockers provided for staff.
- Travel notice board provided in the staffroom.
- Travel information such as bus timetables to be provided on a public noticeboard within the Care Home, to inform visitors.
- The appointment of a Travel Plan Co-ordinator to ensure the provision of up-to-date local public transport information, cycle routes, and walking routes to the local bus stops.

Section 106 Heads

10.8 The Section 106 heads and obligations are therefore expected to comprise:

i. The bus measures described in **paragraphs 10.1** to **10.6**.

ii. Construction Management Plan.

iii. Travel Plans/Travel Plan Statements for each land use (residential, employment, retail, school and care home), to include for two six month travel passes per household on occupation and cycle discount vouchers.

11.0 Summary and Conclusions

11.1 Highgate Transportation have been commissioned by Satnam Millennium Limited to provide transportation advice in support of their planning application for a new residential neighbourhood on land adjacent to Peel Hall in Warrington. Their application is for outline approval with all matters reserved except for means of access.

11.2 For the purposes of this assessment the development is assumed to comprise:

i. Up to 1,200 residential dwellings.
ii. A 100 bedroom care home.
iii. An area of employment land comprising up to 7,500sqm Gross Floor Area (GFA) of light industrial units.
iv. A local centre comprising a food store of up to 2,000sqm GFA plus up to a further 600sqm GFA of local centre type facilities (such as A1-A5 and D1) plus a family pub and restaurant of up to 800sqm GFA.
v. Up to a two form entry primary school with a maximum of up to 420 pupils.

11.3 The guiding principles in the development of the scheme have been to encourage the use of sustainable modes of transport and to contain trips within the development as far as possible. The access and transport strategy that underpins the proposed development can be summarised as:

i. To provide as far as possible a largely self-contained development through the provision of a mix of uses including a local centre, a primary school and an area of employment.

ii. To provide a high quality access and connectivity within the development for bus, pedestrian and cycle movement in order encourage non-car modes of travel and subsequently reduce car use.

iii. To provide a new bus service that links the site to key locations including the town centre, Orford Jubilee Hub, Warrington Business Park and Collegiate, Warrington Campus of University of Chester, Birchwood Community High School and College, Birchwood Park and Birchwood Shopping Centre.

iv. To distribute development traffic from the site onto the local highway network at different points in order to reduce the impact.

v. To provide strong pedestrian and cycle links with the existing and surrounding area as this will help ensure that the development is well integrated with the local community.

11.4 Discussions were held with WBC's highway officers and Highways England at an early stage to agree how the assessment should be carried out. Extensive discussions have also been held with Network Warrington concerning how to best serve the development by bus.

11.5 It can be summarised that the existing pedestrian links from the site are good and will be enhanced as part of the development proposals, along with the creation of cycle links through the site and into the local area. The local area also has good public transport services.

11.6 The main vehicular accesses to the development will be provided from a new access on Mill Lane north of the Blackbrook Avenue/Ballater Drive/Mill Lane/Enfield Park Road roundabout junction, and from a new access on Poplars Avenue located between Newhaven Road and Windermere Avenue. Additional access is provided from Mill Lane, Birch Avenue and a second access on Poplars Avenue to serve the employment area. Access to the sports pitches will be from Grasmere Avenue.

11.7 As part of the assessment process it has been agreed to expand the existing VISSIM micro simulation model that covers parts of the M62 and A49 corridors originally developed by AECOM on behalf of Highways England. Once this information is available Highgate Transportation will interpret the results and assess the wider highway network, and identify any mitigation measures arising.

11.8 Therefore the Transport Assessment is being prepared in two parts. This report has concentrated on identifying various technical parameters, provided an assessment of the proposed site access junctions and set out the sustainable transport measures proposed to support the development.

11.9 An addendum Transport Assessment will then be prepared that assesses the impact on the wider highway network following the completion of Highways England's VISSIM model.

11.10 Mitigation measures have been identified in the form of a new bus service that will connect the site with the town centre to the south and Birchwood to the east. A bus gate has also been proposed on the distributor road to prevent the creation of a through-route for general traffic. During the main construction years, it is proposed to temporarily extend existing bus services 23/23A and 20/21 into the site from Enfield Park Road and Poplars Avenue respectively.

11.11 The Section 106 Heads are expected to comprise the following:

i. The bus measures described above (a new buss service between the town, the site and Birchwood, as well as the planned extensions to existing services 23/23A and 20/21 into the site).

ii. Construction Management Plan.

iii. Travel Plans/Travel Plan Statements for each land use (residential, employment, retail, school and care home), to include for two six month travel passes per household on occupation and cycle discount vouchers.

11.12 The proposed internal highway network will be broadly in line with the WBC Design Guide and Parking Standards.

11.13 An indicative phasing schedule has been set out, with 12 phases over a 12 year build programme and with bus infrastructure from year 2.

11.14 The agreed trip rates are largely in line with the Omega application, with the use of higher rates giving more confidence in the results.

11.15 The highest traffic impact of the development on the local highway network is likely to be during the PM peak hour of 1700 to 1800, when there may be up to around 1,151 vehicle trips on the local highway network associated with the Peel Hall development.

11.16 Trip distribution has been based on AECOM's gravity model from WMMTM's VISSUM matrix, as agreed with highway officers. It is possible that some of the assumptions used in these initial assessments will be modified following the completion of the VISSIM model.

11.17 It was agreed that the TEMPRO urban motorway growth rates for Warrington (00EU1) would be used to growth the 2014, 2015 and 2016 surveyed traffic flows to an agreed design year of 2019.

11.18 The committed developments were also agreed with officers at WBC and added to the network after the base flows were growthed to 2019.

11.19 The capacity assessments assume a full site build out in 2019 and demonstrate that the proposed site accesses will operate within capacity.

11.20 It is therefore concluded that the methodology agreed and technical parameters identified for assessing the transport impact of the proposed development at Peel Hall are robust.

11.21 Furthermore, it is considered that the proposed mitigation package of sustainable transport measures is appropriate for this area of Warrington and that a site of this size can support a new bus service, successfully encourage modal shift and reduce reliance on the private car.