

## **Appendix 57**

SATURN LMVR

# Peel Hall SATURN

Local Model Validation Report

Satnam Millennium Ltd  
(Under the instruction of Highgate Transportation)

September 2017

## Quality information

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## Revision History

Revision	Revision date	Details	Authorized	Name	Position
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# 1. Introduction

## 1.1 Introduction and Background

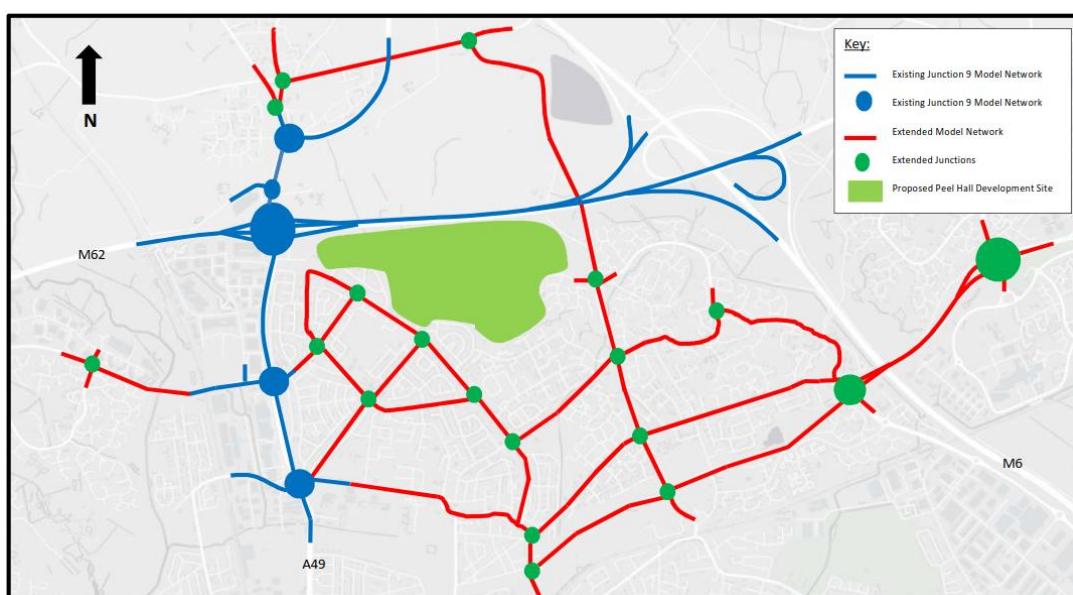
Following the production of the extended M62 Junction 9 VISSIM model, AECOM have been commissioned by SATNAM Millennium (SM) (Under the instruction of Highgate Transportation (HTp)) to produce a SATURN model for the same modelled area.

This Local Model Validation Report (LMVR) describes the methodology undertaken to update and validate the SATURN base model on behalf of Highgate Transportation / SATNAM Millennium in order to provide a suitable tool for which an assessment of the proposed housing development at Peel Hall can be completed.

Given the existing levels of queueing across the study area, in particular along the A49, it is important any traffic model used to assess the proposed Peel Hall development can replicate the impact of blocking back of queue traffic across certain strategically important junctions. The base model is reflective of a typical neutral day in the month of May 2015.

## 1.2 Model Area

**Figure 1.1** below provides an overview of the extent of the modelled network in SATURN, and the location of the proposed Peel Hall Development.



**Figure 1.1: Extent of Modelled Network**

A copy of the Peel Hall Master Plan is contained within **Appendix A**, **Figure 1.1** as well as a larger copy of the **Figure 1.1** above.

## 1.3 Structure of this Report

This introductory chapter is followed by four further chapters which are identified as follows:

- **Chapter 2 – Summary of Data Collection** – This chapter summarises all elements of data collected to inform the construction of the base model, this includes the locations of traffic counts, origin destination data, traffic signal data, journey time data, and other Data (Including information from Site Visits);
- **Chapter 3 – Base Model Development** – This chapter of the report presents the model description & specification including all elements of the model development such as, the Network, Matrices, and Assignment Process;
- **Chapter 4 – Base Model Calibration/Validation** – This chapter of the report presents the details of the calibration / validation process of the base model, and
- **Chapter 5 - Summary and Conclusion** – The report concludes with a summary and conclusions drawn from the results.

## 2. Summary of Data Collection

### 2.1 Traffic Count Data

The SATURN model has been developed utilising classified turning count data provided by Highgate Transportation. A significant proportion of the total traffic counts were collected on the 8<sup>th</sup> July 2014 for the periods 07:00 – 10:00 and 16:00 – 17:00.

A full summary list of the locations where junction traffic counts were completed, including dates undertaken, are presented below in **Table 1**.

<b>13<sup>th</sup> May 2014</b>
Junction 9 of the M62
<b>8<sup>th</sup> July 2014</b>
Southw orth Lane / Delph Lane / Myddleton Lane
New ton Road / A49 / Winwick Park Avenue
A49 New ton Road / Delph Lane
A49 / Birch Avenue
A49 / Sandy Lane West / A574
Cotsw old Road / Cleveland Road / Sandy Lane / Sandy Lane West
Poplars Avenue / Cleveland Road
Poplars Avenue / Howson Road
Mill Lane / Enfield Park Road / Blackbrook Avenue / Ballater Drive
Blackbrook Avenue / Enfield Park Road / Capesthorne Road
Poplars Avenue / Capesthorne Road
A49 / Long Lane / Hawleys Lane
Blackbrook Avenue / Insall Road / Hilden Road
A50 / Hilden Road / Orford Road / Smith Drive
Blackbrook Avenue / A574
A50 / A574
Crab Lane / A574 / Woolston Grange Avenue
<b>9<sup>th</sup> July 2014</b>
Europa Boulevard / A574 / Callands Road
Calver Road / A574
<b>9<sup>th</sup> February 2016</b>
A49 / Golborne Road

**Table 1: Summary of Junction Count Data**

The sites above form the key traffic count inputs into the model build and calibration process. A plan detailing the location of each of the aforementioned counts is contained within **Appendix B** of this report.

### 2.2 Origin Destination Data

Since the count data did not provide any information on trip patterns (origins and destinations (OD)) another source was required. The Warrington Multi Modal Transport Model (WMMTM) was utilised as the best available source of OD data.

The aforementioned model is a VISUM model developed in 2008 by Warrington Borough Council (WBC) in partnership with Highways England, the North West Development Agency (NWDA), Homes and Communities Agency (HCA) and Peel Holdings to provide an evidence base to support and aid decision making regarding

spatial development, transport infrastructure and services within the Warrington area. The model uses the forecast future growth in employment, population and trends in travel choices to assess where people will work, live and what mode of transport they are likely to use in future to make their journeys. The model was constructed and validated in accordance with WebTAG guidance produced by the Department for Transport (DfT).

The use of the model to provide OD data was agreed with Highgate Transportation prior to beginning the modelling process. As highlighted it has been used to inform and provide traffic flows for a number of transport studies within the Warrington area over a number of years and so formed the most appropriate source of OD data.

A cordon of the study area was extracted from the model and a matrix of the OD movements for the AM and PM peak hours was obtained.

## 2.3 Traffic Signal Data

Traffic signal specifications were obtained from WBC traffic signals team for the following junctions;

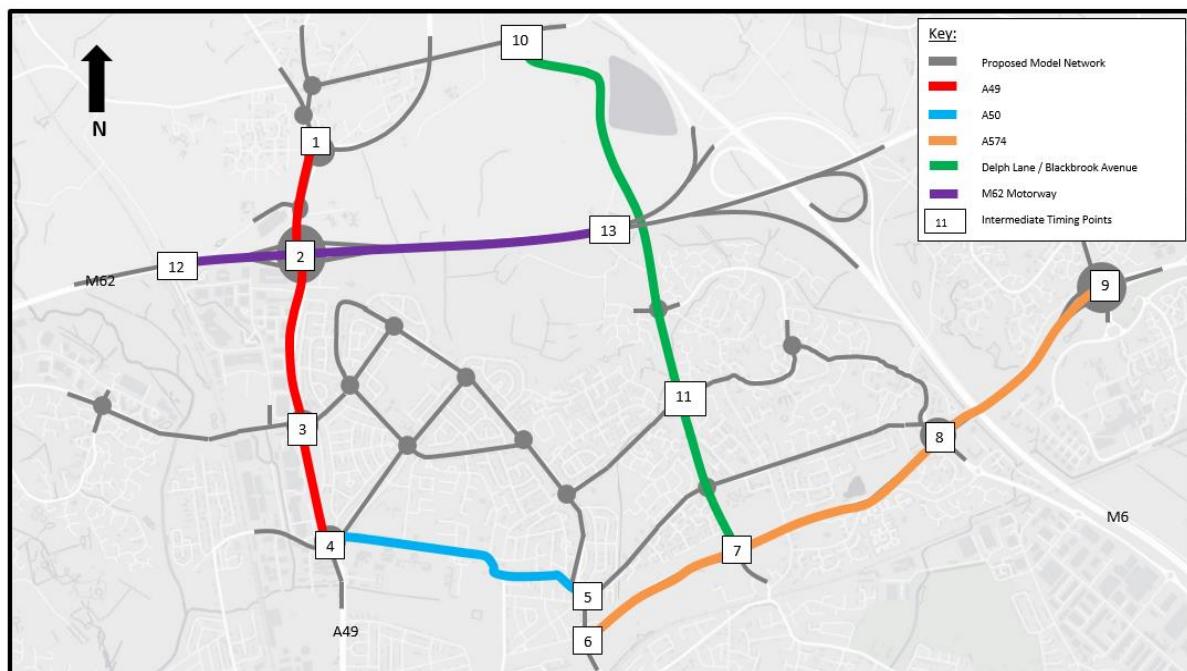
- Junction 9 of the M62;
- A49 Newton Road / A49 / Winwick Park Avenue;
- A49 / Sandy Lane West / A574;
- A49 / Long Lane / Hawleys Lane;
- Blackbrook Avenue / Insall Road / Hilden Road;
- Calver Road / A574;
- A50 Orford Road / A574 Birchwood Way;
- A49 Newton Road / Delph Lane; and
- A50 Orford Green / Halfords Road.

In addition to receiving the signal specifications several site visits were completed to observe the operation of traffic within the vicinity of the signalised junctions. In addition to general observations, green times and how many times certain stages were called, were also recorded.

## 2.4 Journey Time Data

Given the size of the SATURN model, to ensure the model is reflective of the key routes across the study area, a number of journey times have been obtained.

Utilising basemaps.co.uk analyst software, journey time data was extracted for an average of three neutral weeks days, these were the 12<sup>th</sup>, 13<sup>th</sup>, 14<sup>th</sup>, May 2015. The routes are shown overleaf in **Figure 2.1** and a large plan is provided in **Appendix C**. The data extracted was for both directions of travel and for both AM and PM peak hour periods.



**Figure 2.1: Proposed Journey Time Routes for Validation**

The journey time routes shown in Figure 2.1 are all two way and are summarised below :

- **Journey Time Route 1: (1 to 4)** - A49 north and southbound with intermediate points of 2 & 3;
- **Journey Time Route 2: (4 to 5)** – A50 between A49 to Hilden Road east and westbound;
- **Journey Time Route 3: (6 to 9)** – A574 Birchwood Way between A50 and Birchwood Park Ave with the intermediate points of 7 and 8;
- **Journey Time Route 4: (10 to 7)** – Delph Lane / Blackbrook Avenue between Delph Lane and Birchwood Way with the intermediate point of 11; and
- **Journey Time Route 5: (12 to 13)** – M62 through Junction 9.

In order to be able to understand if the model is reflective of journey times in shorter sections of the network, as well as obtaining two way end to end journey times, a number of intermediate points were also identified. These are identified in Figure 2.1 above and enable checks on specific sections of the network to be completed.

## 2.5 Bus Timetables

Checks on bus services which operate within the study area were completed during site visits. Bus timetable information was been obtained from Network Warrington for the study area. Services identified as operating within the study area are presented in Table 2 overleaf.

Route Services	Service Number	Peak Hour Frequency
Oakwood / Birchwood / Fearnhead / Warrington / Old Hall / Westbrook / Callends / Gemmi	17 – 17a – 17c – 18 – 18e	30 Minutes (2ph)
Leigh / Culcheth / Croft / Birchwood / Longbarn / Warrington	19 – 28 - 28a – 28e	30 Minutes (2ph)
Logford / Poplars Avenue / Orford / Warrington	20 – 20a – 21 – 21a – 21e	15 Minutes (4ph)
Vulcan Village / Earlston / Newton-Le-Willows / Warrington	22 – 22e	60 minutes (1ph)
Orange Grove / Cinnamon Brow / Orford / Padgate / Warrington	23 – 23a – 25a – 26 – 26e – 27 – 27e	30 Minutes (2ph)
Gorse Covert / Birchwood / Fearnhead / Greenwood Crescent / Hilden Road / Warrington	25 – 25a – 25b – 26 – 27	30 Minutes (2ph)

**Table 2: Bus Services for Inclusion within the SATURN Model**

The timetables for each service are presented in **Appendix D** of this report.

## 2.6 Other Data (including Site Visits)

To gain an understanding of driver behaviour and network conditions a number of site visits were completed during both the AM and PM peak periods during May and June 2016. Throughout all site visits photographs and notes on queue lengths, lane usage and estimations of vehicle speeds were taken. Lane usage, driver aggression, routing and how vehicles interact in response to highway features and other vehicles were all recorded.

The model area can suffer from significant congestion during either peak period particularly if an incident has occurred on the M62. Therefore the site visits and information collected provided a valuable resource in calibrating the SATURN base models.

### 3. Base Model Development

#### 3.1 Model Description and Specification

As agreed with Highgate Transportation, the existing VISSIM model has been replicated within the SATURN software suite.

At the time of development of the models, SATURN version 11.3.12F was utilised, since this was the most recent version of the software.

SATURN is a suitable piece of software for completing large scale strategic modelling at a regional level all the way down to smaller model areas and the assessment of individual junctions at the simulation level. Operating as a simulation modelling tool, SATURN is capable of analysing relatively minor changes in the network such as traffic the addition of a new development, additional road infrastructure and changes in signal timings. SATURN is an industry respected well used and tested assignment modelling tool used extensively for the assessment of highways schemes and provides robust analysis of small to large infrastructure developments.

##### *Model Periods*

As agreed with Highgate Transportation the Peel Hall SATURN model covers the following weekday periods;

- 08:00 – 09:00; and
- 17:00 – 18:00

##### *User Classes*

In order to replicate the impact of different users and vehicle types within the study area the SATURN model has been constructed with five user classes. The user classes are split as per **Table 3** below.

User Class	Vehicle Type	Purpose
1	Cars	Commuting
2	Cars	Work
3	Cars	Other
4	LGVs	-
5	HGVs	-

**Table 3: User Classes Coded into the SATURN Model**

##### *Passenger Car Unit Values*

SATURN operates with traffic flows converted to Passenger Car Unit Values (PCUs). The PCU value is a way of assessing different vehicle types in a consistent manner, subject to the impact and space a vehicle will take on a typical road. The PCU factors used within the SATURN modelling are detailed in **Table 4** below. A PCU factor of 2.3 has been used in this instance in accordance with Transport for London (TfL) industry modelling guidelines.<sup>1</sup>

Vehicle Type	Description	PCU Value
Light Vehicles	Cars & LGVs	1
HGVs	Rigid vehicles over 3.5t with 2 or 3 axles	2.3

**Table 4: PCU factors**

#### 3.2 Network Coding

All model coding has been completed utilising CAD overlays of the study area, aerial images and notes taken during site visits.

Given the relatively small study area for a SATURN model, and to ensure an assessment of impact can be completed for all junctions, the model is coded entirely in simulation network.

<sup>1</sup> <http://content.tfl.gov.uk/traffic-modelling-guidelines.pdf> (page 62)

Initially an audit of the existing Junction 9 model was completed to ensure it remained reflective of reality. The additional elements of the network were then added to the model so it was reflective of the key roads within the agreed study area.

During busy periods, particularly 17:00 – 18:00, drivers were observed completing extremely aggressive manoeuvres on the approach to certain junctions. The Northway approach to the A50 Long Lane priority junction and the Birchwood Way approach to the Oakwood Gate roundabout were both observed to experience vehicles approaching three abreast when queues occurred, as a direct result of aggressive drivers. The model has not been calibrated to replicate this behaviour as it was not consistently observed throughout the peak periods but is worthy of note moving forward.

#### *Free flow Speeds*

A review of local speed limits identified all locations where speed limits changed and are signed. These locations were then coded into the model. However, a significant feature within the study area is the extensive traffic calming measures located on the majority of the minor road network. Observations during site visits suggested the traffic calming has varying success in slowing drivers. Therefore to reflect the reduced speeds that drivers travel over the traffic calming measures, for each link where a traffic calming feature is located the free flow speeds of the link have been adjusted accordingly. Examples of the traffic calming features located within the study area are identified below in **Figure 3.1**.



**Figure 3.1: Examples of Traffic Calming across the Study Area**

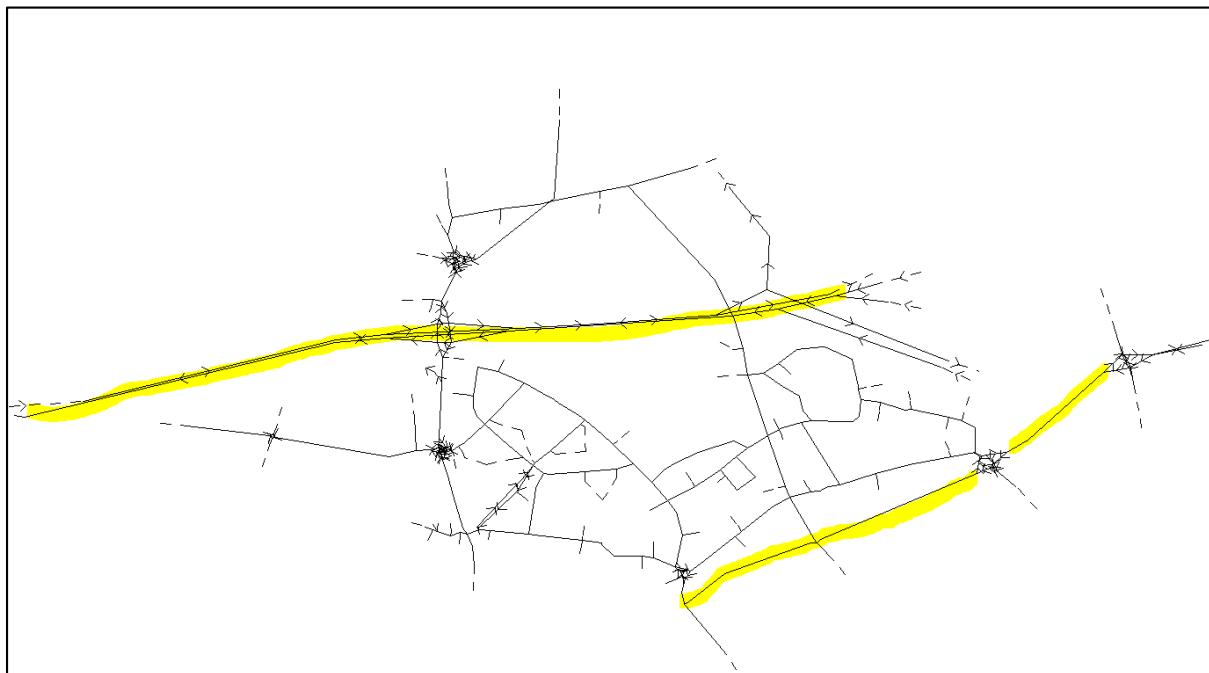
### Speed Flow Curves

In urban areas where junctions are closely spaced and delays are as a result of capacity constraints, SATURN can sufficiently model the impacts of the interaction of traffic volumes and network features. However, on long links such as motorways there are fewer network features and as such speed flow curves are required by SATURN to replicate delays to traffic. This is true of the sections of the M62 which run through the model study area. In order to fully reflect the speed and delays to vehicles on the M62, standard Rural Motorway and Suburban road class speed flow curves, as defined in DMRB Volume 13 have been coded into the SATURN model.

The following links have benefited from Speed Flow Curves:

- M62; and
- A574 Birchwood Way

**Figure 3.2** below highlights the locations whereby speed flow curves have been applied within the SATURN models.



**Figure 3.2 Speed Flow Curve Locations**

### Signal Timings

Stage arrangements at all junctions have been coded as per the signal specifications provided by WBC for the junctions identified in Section 2.3 of this report. Site visits have been completed at all junctions to obtain typical cycle times and an understanding of any offsets and the number of times demand dependant stages are called.

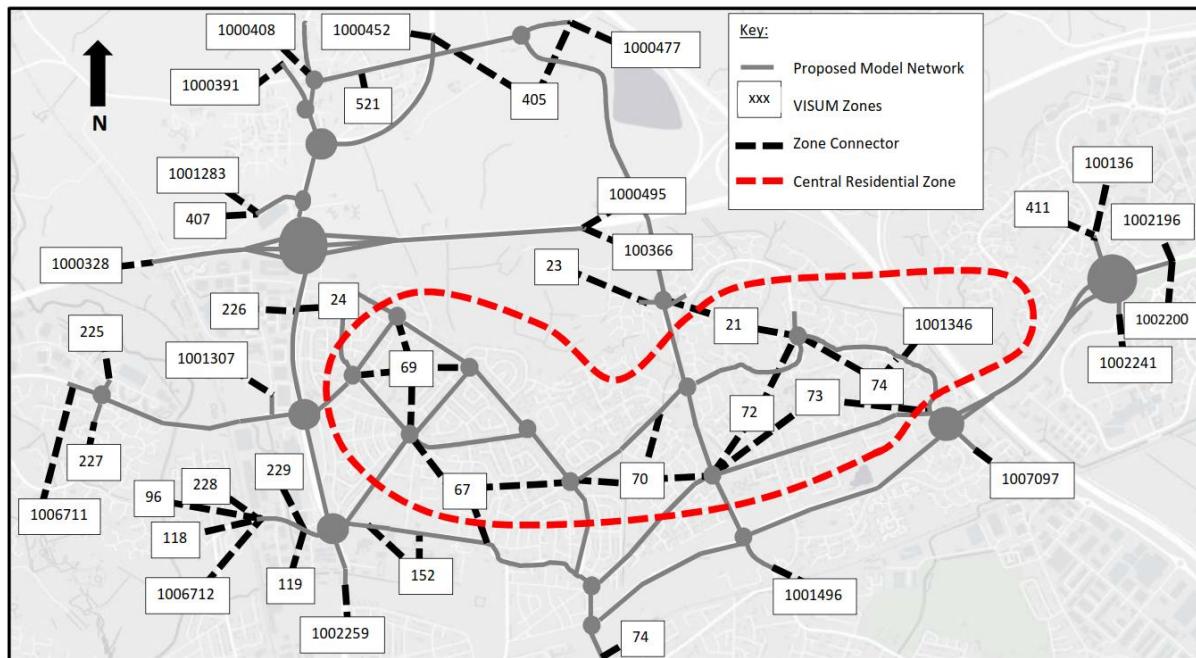
Despite some junctions operating on MOVA or Scoot due to the consistent volumes of traffic, particularly on the A49, cycle times and green times remained fairly consistent over the course of the modelled peak hours. Therefore, all signalised junctions have been modelled as operating on a fixed time basis using SATURN's signal staging arrangements within P1X.

### Bus Stops and Routes

As identified in **Table 2** a number of bus routes run through the study area. To ensure these remain linked as the buses cross the study area a number of bus only links have been coded into the model. Buses have been coded on fixed routes. All routes have been coded as per those identified by Network Warrington. Timing points have been coded into the model whereby the time it takes to get from one stop to another in accordance with timetabled services.

### 3.3 Matrices

AM and PM peak prior matrices were extracted from the previous Peel Hall VISSIM model. The zone structure of the wider strategic model is shown in **Figure 3.3** below; a larger version of the plan is presented within **Appendix E** of this report.



**Figure 3.3: SATURN Model Zone Structure**

The prior matrix extracted from the larger WMMTM provided a strategic representation of vehicle movements across the study area. Generally all zones matched the key loading points within the model network. However, a number of the areas of residential and education land uses at the heart of model were represented by a single zone with multiple loading points. Whilst this zone structure can be replicated within VISSIM it would be hard to validate a model as movements would not be constant. For this reason zones located within the central residential and education land use area (within the red line boundary in **Figure 3.3** above) have been split out by area size and where each loading point feeds. Corresponding loading points to the VISUM model have been coded in the SATURN model network. Checks on trip volumes were completed to ensure matrix totals remained as per the prior matrix.

The adjusted prior matrix and the extended and amended VISSIM network was input into VISUM, where VISUM's matrix estimation tool TFlow Fuzzy was run. Again checks on matrix volumes and overall OD movements were completed to ensure they remain consistent and reasonable compared to the prior matrix. Any unreasonable changes were addressed manually, these remained small adjustments, predominately minor movements across the model.

The VISSIM matrix was input into SATURN and a check on the level of calibration was completed. Due to the different nature of the software's used, it was necessary to run the VISSIM matrix through SATURN's matrix estimation module SATME2. Again checks on matrix volumes and overall OD movements were completed to ensure they remain consistent and reasonable compared to the prior matrix. Any unreasonable changes were addressed manually, these remained small adjustments, predominately minor movements across the model.

### 3.4 Assignment Convergence

As per guidance set out in Table 4.1, Design Manual for Roads and Bridges (DMRB) Volume 12 Section Chapter 4, for four consecutive iterations (runs), 90% of links should experience a flow change of less than 5%, with a Delta value of less than 1%.

To ensure the base model was fully reflective of reality, for both the AM and PM base models, the above criteria was amended from 90% to 98.5%.

**Table 5** below presents the base mode levels of convergence and the number of iterations needed to achieve this.

Model Period	DMRB Guidelines	Convergence Level Achieved	# Iterations Required to Achieve Convergence
AM Peak	4 consecutive model runs with flows changes for 90% of links of less than 5% and Delta values of less than 1%	4 consecutive model runs with flows changes for 98.5% of links of less than 1% and Delta values of less than 1%	20 Iterations.
PM Peak			30 Iterations.

**Table 5: Levels of Convergence**

The corresponding convergence files are available on request.

## 4. Base Model Calibration / Validation

### 4.1 Introduction

To ensure the SATURN model was fully representative of the base year it was necessary to test the models calibration against link flows, screen lines and some turn counts, and ultimately validate it against journey time data, this is in accordance with the guidance and criteria set out in Volume 12a of DMRB.

Due to the relatively small study area within this particular SATURN model, calibration checks were completed on both turn counts and link counts to ensure the model was fully reflective of movements within it.

### 4.2 Calibration

As previously detailed in Section 2 of this report, an extensive number of traffic counts were collected for calibrating the model against. The traffic counts were factored to a common year of 2015 using the TEMpro, NTEM Dataset v6.2 growth factors for the output area of 00EU1 within Warrington. The background traffic growth factors for all vehicle trips were supplied by HTp as identified in their Technical Note HTp/1107/TN/20.

As the study area contains a mixture of principle and minor roads an average of the growth factors for both road types was applied.

The GEH statistic is used as the main indicator of the 'goodness of fit' of a model when comparing against observed traffic flows, this is as described in the guidance, 'Traffic Appraisal in Urban Areas' – Chapter 4(DMRB Vol. 12a). In line with the aforementioned criteria **Table 6** below provides a summary of the GEH calibration statistics by vehicle type for both the AM and PM peak SATURN models when comparing the modelled with observed turning movements at a number of junctions across the study area.

GEH	AM Peak (0800 - 0900)			PM Peak (1700 - 1800)		
	Cars	LGV	HGV	Cars	LGV	HGV
<5	144	148	143	149	150	159
<5	85%	92%	85%	88%	93%	94%
<10	165	161	169	166	161	168
<10	98%	100%	100%	98%	100%	99%
>10	4	0	0	3	0	1
>10	2%	0%	0%	2%	0%	1%
<20	169	161**	169	169	161**	169
<20	100%	100%	100%	100%	100%	100%

\*\* Lower number due to motorway counts combining Car and LGV volumes to match Highways England Traffic Counts

**Table 6: Summary of Calibration Statistics for Comparison between the Observed and Modelled Traffic Flows**

**Table 6** above demonstrates for each vehicle type 85% or greater of the model turn counts calibrate against the observed turn count data. The full flow comparisons outputs are provided in **Appendix F** of this report.

GEH	AM Peak (0800 - 0900)			PM Peak (1700 - 1800)		
	Cars	LGV	HGV	Cars	LGV	HGV
<5	117	107	124	115	112	127
<5	88%	86%	93%	86%	90%	95%
<10	132	124	134	131	125	131
<10	99%	99%	100%	98%	100%	98%
>10	133	125	134	133	0	133
>10	100%	100%	100%	100%	0%	100%
<20	133	125**	134	133	125**	133
<20	100%	100%	100%	100%	100%	100%

**Table 7: Summary of Calibration Statistics between Observed and Modelled Link Counts**

**Table 7** above demonstrates for each vehicle type 85% or greater of the model turn counts calibrate against the observed link count data.

### 4.3 Validation

Volume 12a of the DMRB states 85% of journey times must be within 15% or 60 seconds if higher, of the observed journey time data. A summary of the journey time validation is presented in **Table 7** overleaf.

Time Period	Description	Direction of Travel	Reference	Observed Journey Time	Model Journey Time	Absolute Difference	Validation Achieved	Validation Achieved
08:00-09:00	A49	NB	4 to 1	283	272	-11	-4%	YES
		SB	1 to 4	571	655	84	15%	YES
	A574	EB	6 to 9	502	224	-278	-55%	NO
		WB	9 to 6	232	223	-9	-4%	YES
	A50	EB	4 to 5	213	189	-24	-11%	YES
		WB	5 to 4	305	275	-30	-10%	YES
	Delph Lane/ Blackbrook Avenue	NB	7 to 10	332	300	-32	-10%	YES
		SB	10 to 7	319	310	-9	-3%	YES
	M62	EB	12 to 13	162	150	-12	-7%	YES
		WB	13 to 12	101	89	-12	-12%	YES
17:00-18:00	A49	NB	4 to 1	409	434	25	6%	YES
		SB	1 to 4	484	468	-16	-3%	YES
	A574	EB	6 to 9	221	230	9	4%	YES
		WB	9 to 6	316	268	-48	-15%	YES
	A50	EB	4 to 5	184	200	16	9%	YES
		WB	5 to 4	392	295	-97	-25%	NO
	Delph Lane/ Blackbrook Avenue	NB	7 to 10	308	298	-10	-3%	YES
		SB	10 to 7	310	290	-20	-6%	YES
	M62	EB	12 to 13	103	91	-12	-12%	YES
		WB	13 to 12	93	90	-3	-3%	YES

**Table 8: Summary of Journey Time Validation Results**

**Table 8** above demonstrates that 90% of the agreed journey times, within the SATURN model, validate within 15% of the observed data, satisfying DMRB criteria. Therefore both the AM and PM base models are considered to replicate a 2015 base year, and are appropriate for future year scenario testing.

A full breakdown of journey times with intermediate points is provided in **Appendix G** of this report.

## 5. Summary and Conclusion

### 5.1 Summary

AECOM has developed a SATURN model of the Peel Hall development study area, on behalf of SM (Under the instruction of HTp), in order to provide a suitable tool for assessing the proposed development.

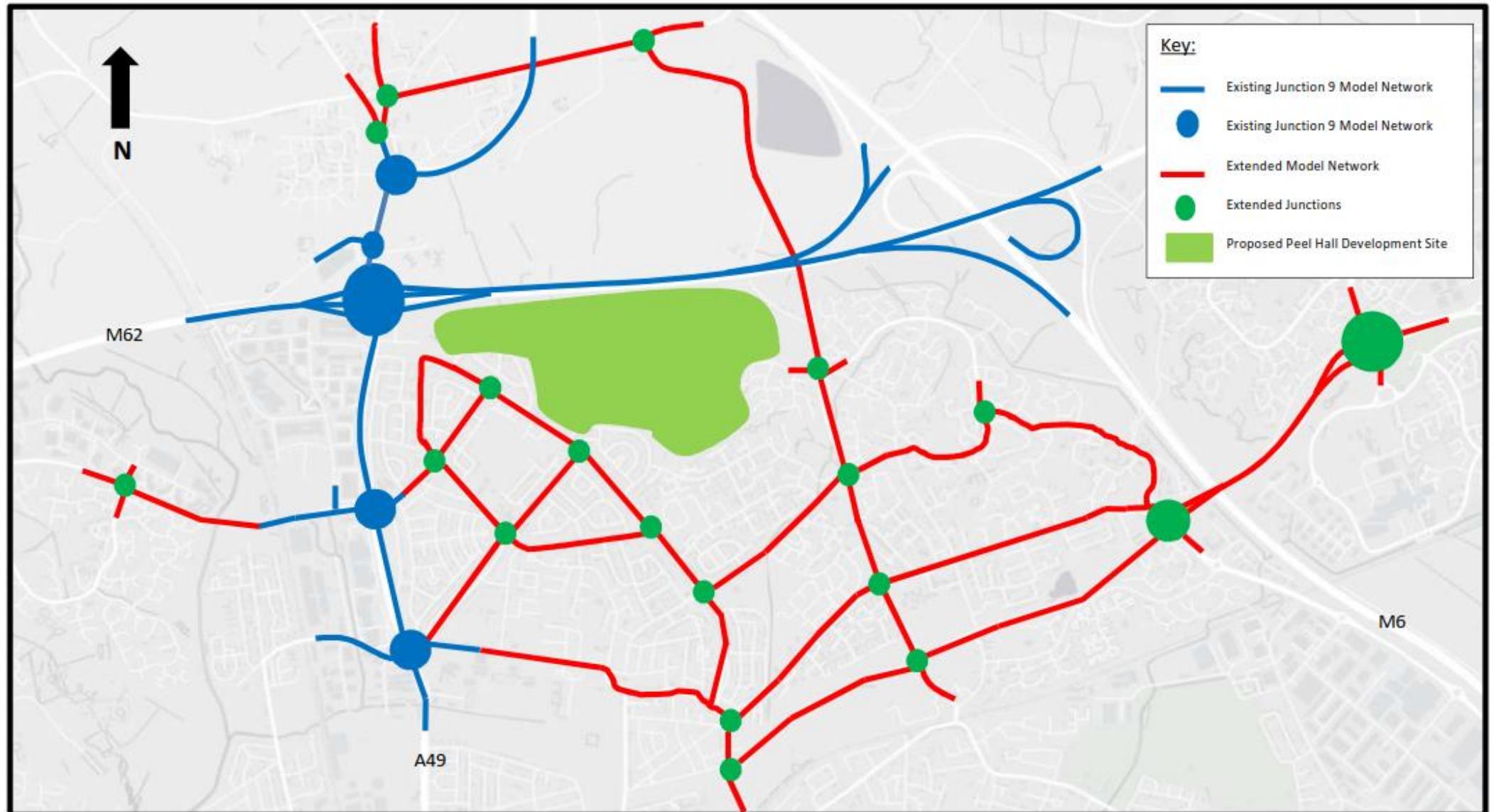
Traffic counts, journey time surveys, and extensive site observations have been used to inform the update of the base model which has been validated to a base year of 2015.

This LMVR identifies that the base model calibrates and validates to a high standard, meeting and exceeding all DMRB validation criteria set out in Volume 12a of the Design Manual for Roads and Bridges (DMRB).

### 5.2 Conclusion

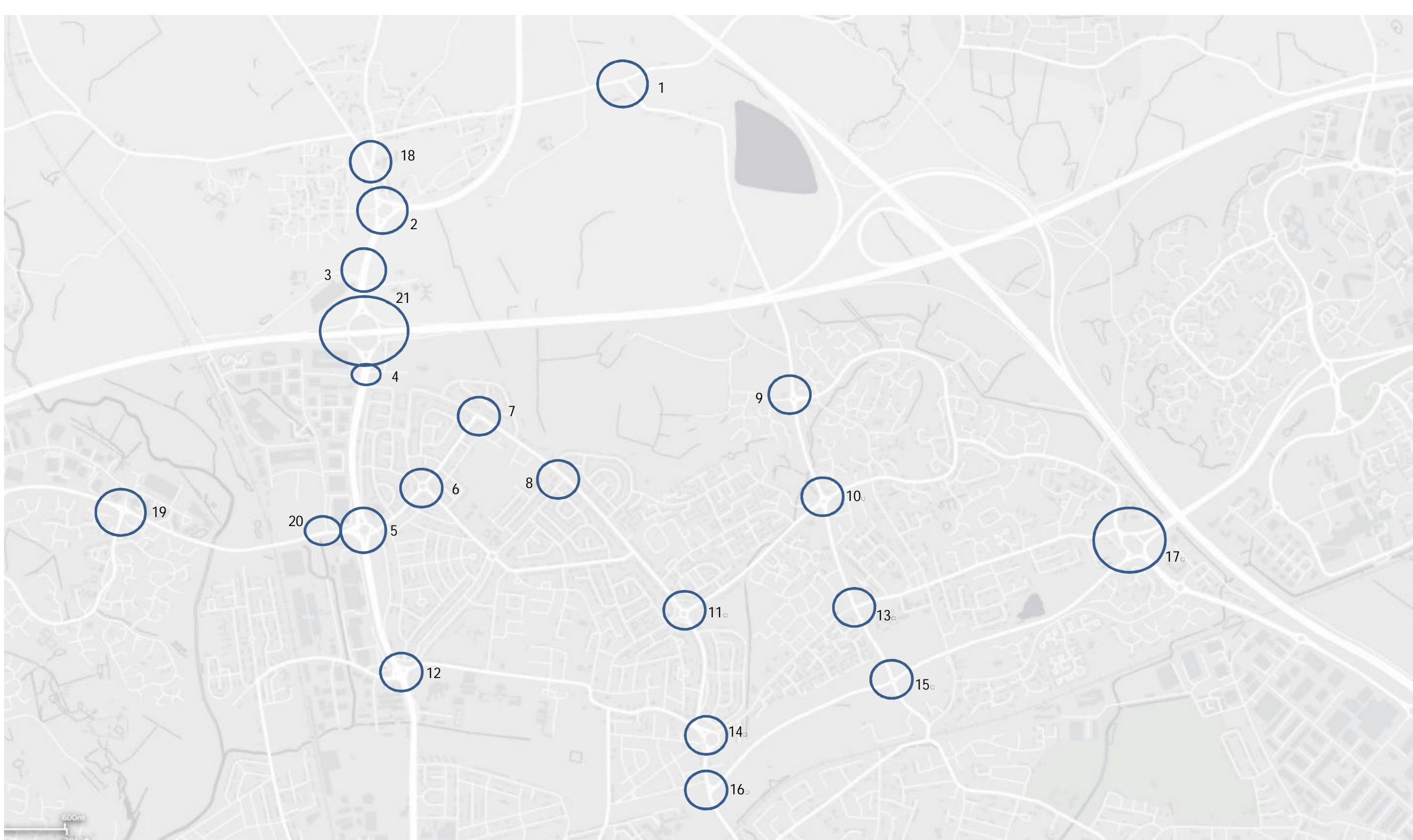
It is the conclusion of this LMVR that both the AM and PM peak period SATURN models are fit for the purpose of being taken forward to forecasting in order to understand the likely impact of the proposed Peel Hall Development.

## Appendix A : Study Area / Masterplan / Modelled Network



Appendix F, Figure 6.1 – 2025 AM Do Minimum Do Something Delay Comparison

## Appendix B : Plan of Traffic Counts

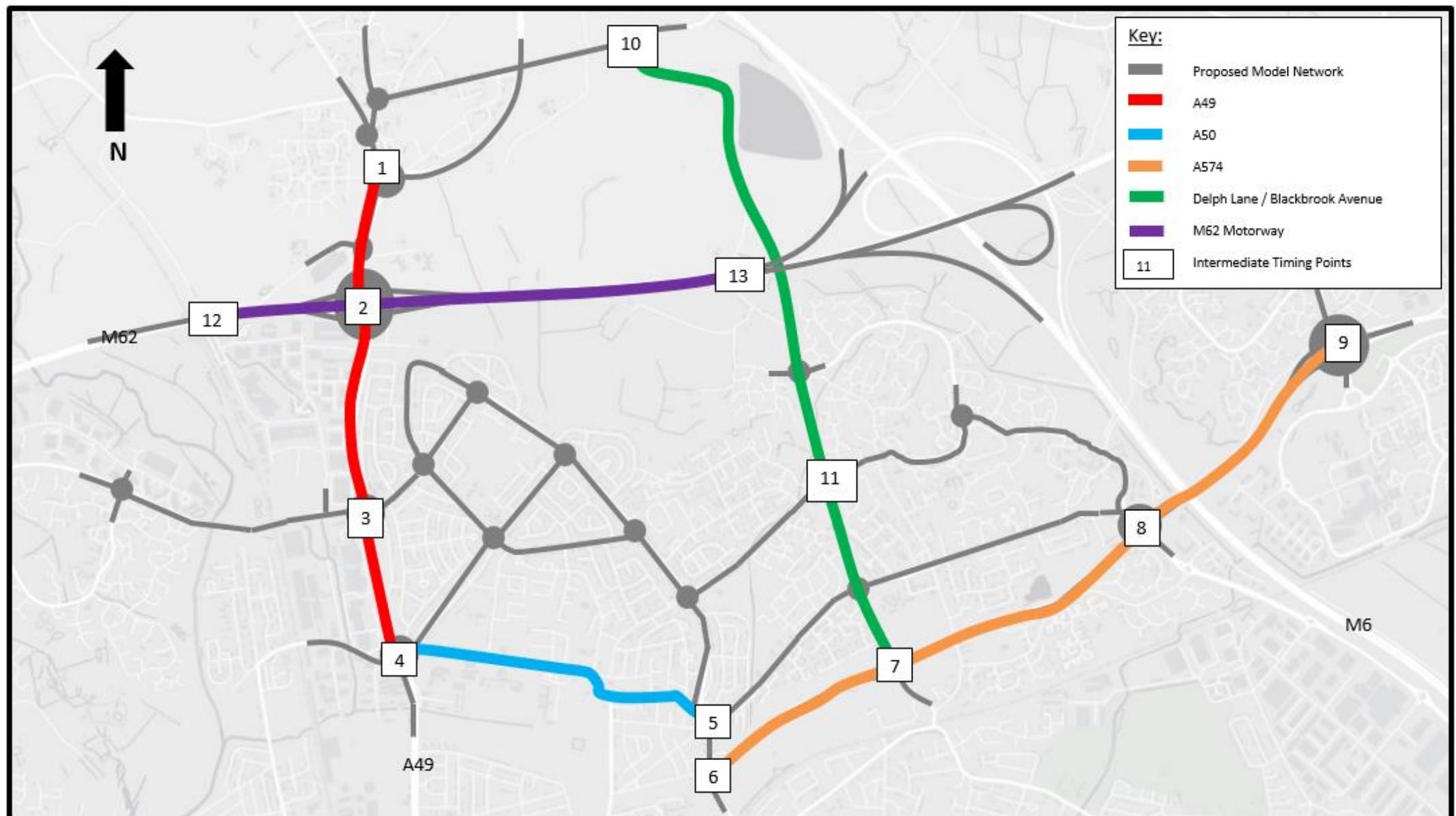


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16. A50 / A574
17. Crab Lane / A574 / Woolston Grange Avenue
18. A49 / Golborne Road

19. Europa Boulevard / A574 / Callands Road
20. Calver Road / A574
21. M62 West

## Appendix C : Journey Time Route Maps

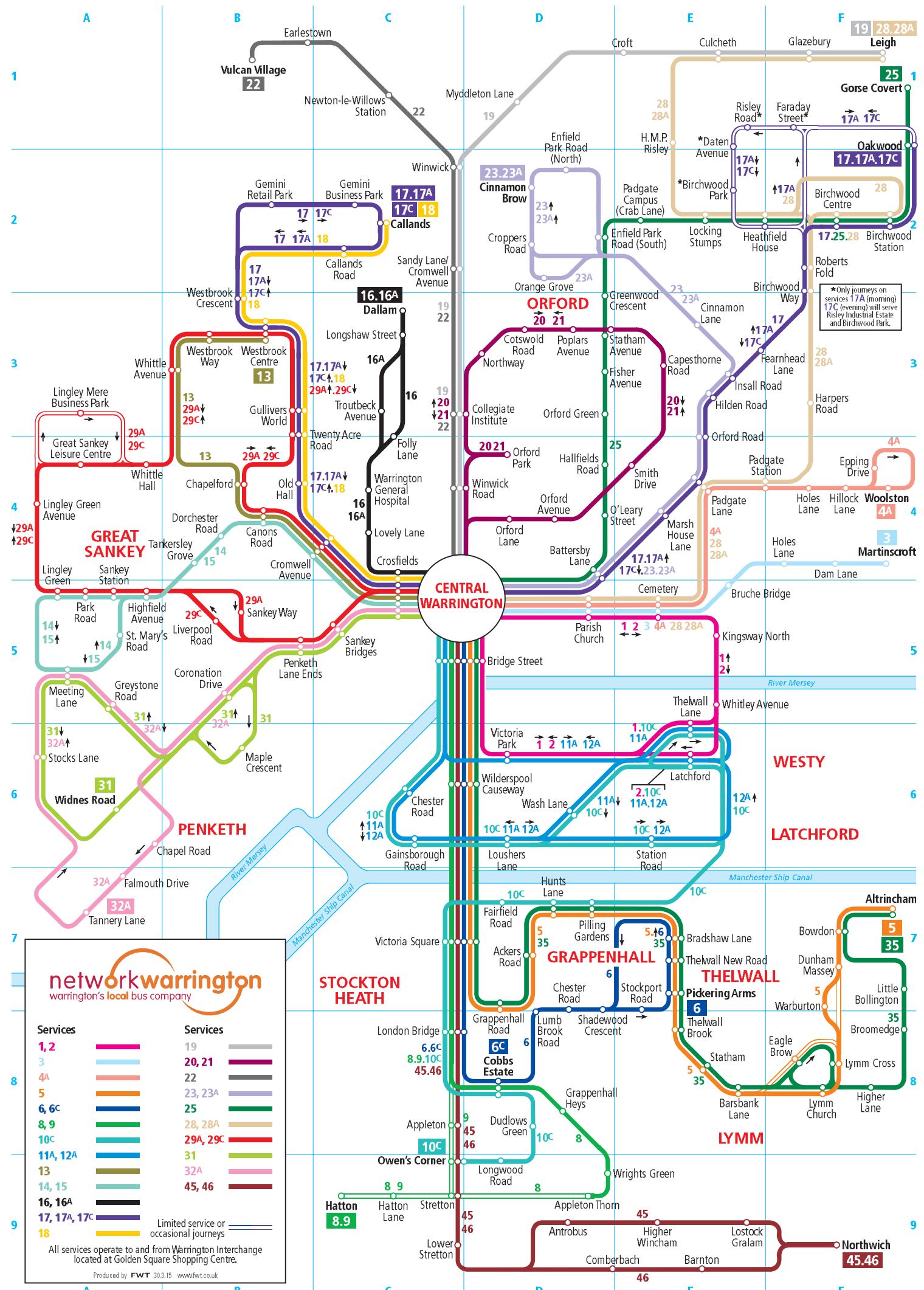


## Appendix C – Model Validation Journey Time Routes

**AECOM**

## Appendix D : Warrington Bus Timetables

This map shows services that operate on Monday to Saturday between 7am and 7pm. We operate a number of other services not shown, these are either infrequent or run only during the mornings, evenings or on Sundays.



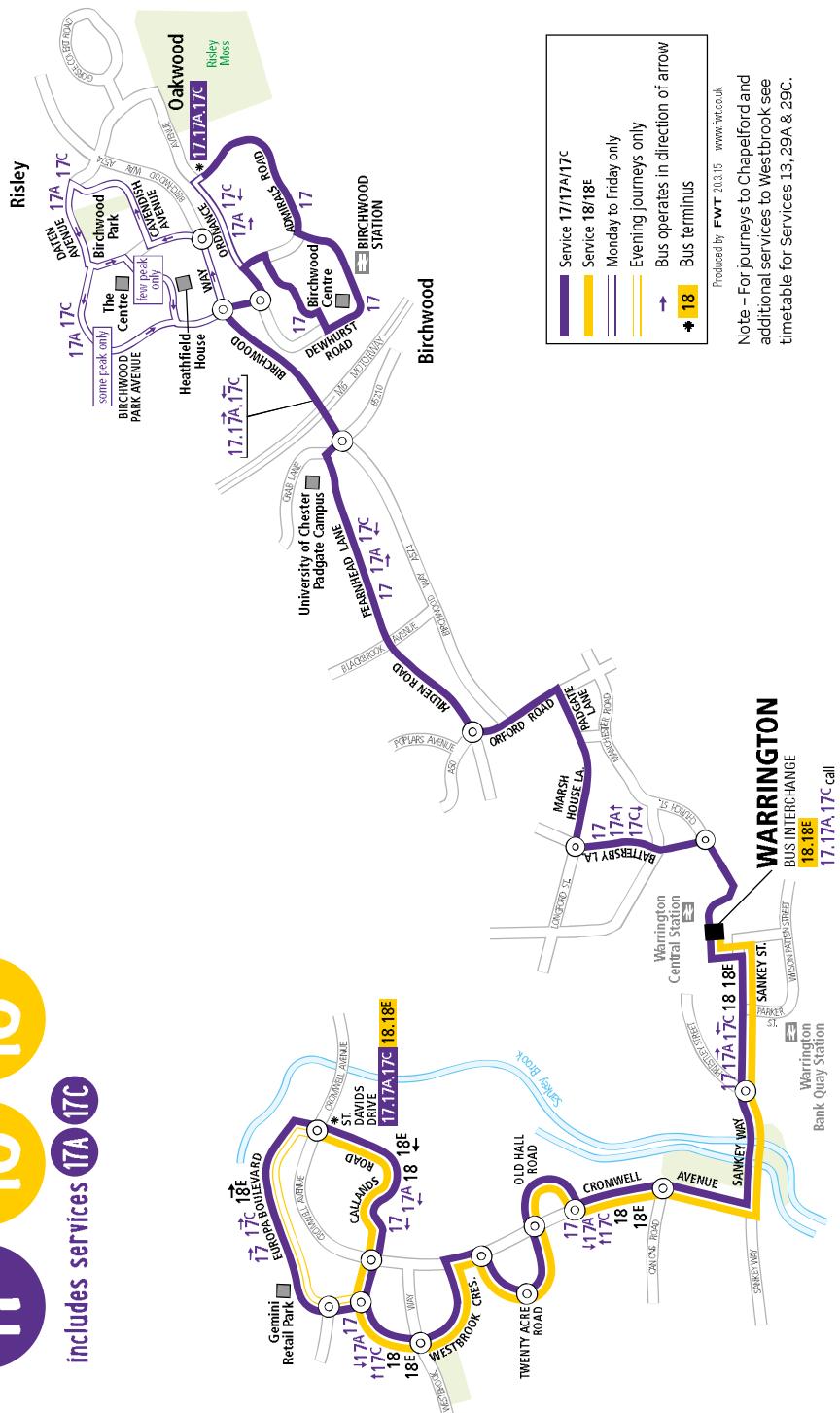
**18E****18****17**includes services **17A 17C**

**OAKWOOD** **BIRCHWOOD** **FEARNHEAD** **WARRINGTON**  
**OLD HALL** **WESTBROOK** **CALLANDS** **GEMINI**

# Bus times

from  
20 April  
2015

# Map



It's easy to get in touch with us...

W: [networkwarrington.co.uk](http://networkwarrington.co.uk) T: 01925 634296  
Pop in to our travel centre at Warrington Interchange

**18E****18****17**includes services **17A 17C**

**WARRINGTON'S LOCAL BUS COMPANY**



**networkwarrington**  
warrington's local bus company

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warrington's local bus company

# BUS TIMETABLE

17

CALLANDS - WARRINGTON - PADGATE - BIRCHWOOD VIA WESTBROOK - HILDEN ROAD

17

CALLANDS - WARRINGTON - PADGATE - BIRCHWOOD PARK - BIRCHWOOD VIA WESTBROOK - HILDEN ROAD

**18.18E CALLANDS – WARRINGTON VIA WESTBROOK – OLD HALL**

**MONDAY TO FRIDAY** [excluding Public Holidays]

R

	17A	18	17	18	17	18	17	18	17	18	17	18												
<b>Callands</b> , St David's Drive	-	0610	0621	0636	0649	0704	0717	0730	0743	0758	0813	0830	0845	0900	0913	0928	0943	0953	1008	1023	1038	1053	1108	1123
<b>Westbrook Centre</b> , Asda	-	0615	0627	0642	0655	0710	0723	0736	0750	0805	0820	0837	0852	0906	0919	0934	0949	0959	1014	1029	1044	1059	1114	1129
<b>Old Hall</b> , Ross Close	-	0619	0631	0646	0659	0714	0727	0740	0754	0809	0824	0841	0856	0910	0923	0938	0953	1003	1018	1033	1048	1103	1118	1133
<b>Warrington</b> , Interchange {arr}	-	0628	0643	0658	0713	0728	0743	0758	0813	0828	0843	0858	0910	0922	0933	0948	1003	1013	1028	1043	1058	1113	1128	1143
<b>Warrington</b> , Interchange [12] {dep}	0618	-	0645	-	0718	-	0748	-	0818	-	0848	-	0915	-	0938	-	1008	-	1033	-	1103	-	1133	-
<b>Padgate Stores</b>	0631	-	0658	-	0731	-	0801	-	0831	-	0901	-	0928	-	0951	-	1021	-	1046	-	1116	-	1146	-
<b>Insall Rd</b> , Valiant Cl	0635	-	0702	-	0735	-	0805	-	0835	-	0905	-	0932	-	0955	-	1025	-	1050	-	1120	-	1150	-
<b>Uni of Chester</b> , Fearnhead Ln	0637	-	0704	-	0737	-	0807	-	0837	-	0907	-	0934	-	0957	-	1027	-	1052	-	1122	-	1152	-
<b>Thomson House</b>	0643	-	0710	-	0743	-	0813	-	0843	-	0912	-	0940	-		-		-		-		-		-
<b>Daten Avenue</b> , Leacroft Road	0646	-	0713	-	0746	-	0816	-	0846	-	0914	-	0943	-		-		-		-		-		-
<b>Risley</b> , Kelvin Close	0651	-	0718	-	0751	-	0821	-	0851	-		-		-		-		-		-		-		-
<b>Heathfield House</b>	{	-	{	-		-		-		-	0917	-	0948	-		-		-		-		-		-
<b>Birchwood Centre</b>		-		-		-		-		-		-		-	1004	-	1034	-	1059	-	1129	-	1159	-
<b>Birchwood</b> , Railway Station		-		-		-		-		-		-		-	1005	-	1035	-	1100	-	1130	-	1200	-
<b>Oakwood</b> , Keyes Close	0701	-	0728	-	0801	-	0831	-	0901	-	0927	-	0958	-	1009	-	1039	-	1104	-	1134	-	1204	-

**Notes: R Continues to Birchwood Railway Station arrive 1002.**

**MONDAY TO FRIDAY** [excluding Public Holidays]

**MONDAY TO FRIDAY** [excluding Public Holidays]

<b>17</b>	BIRCHWOOD - PADGATE - WARRINGTON - CALLANDS VIA HILDEN ROAD - WESTBROOK - GEMINI
<b>17C</b>	BIRCHWOOD - BIRCHWOOD PARK - PADGATE - WARRINGTON - CALLANDS VIA HILDEN ROAD - WESTBROOK - GEMINI
<b>18</b>	WARRINGTON - CALLANDS VIA OLD HALL - WESTBROOK
<b>18E</b>	WARRINGTON - CALLANDS VIA OLD HALL - WESTBROOK - GEMINI

**MONDAY TO FRIDAY** [excluding Public Holidays]

	18	18	17	18	17	18	17	18	17	18	17	18	17	18	17	18	17	18	17	18	17	18	17	18
<b>Oakwood</b> , Keyes Close	-	-	-	-	-	0703	-	0733	-	0803	-	0837	-	0907	-	0939	-	1009	-	1039	-	1109	-	
<b>Birchwood</b> , Railway Station	-	-	-	-	-	0708	-	0738	-	0808	-	0842	-	0912	-	0943	-	1013	-	1043	-	1113	-	
<b>Birchwood Centre</b>	-	-	-	-	-	0710	-	0740	-	0810	-	0844	-	0914	-	0944	-	1014	-	1044	-	1114	-	
<b>Uni of Chester</b> , Fearnhead Ln	-	-	-	-	0649	-	0718	-	0748	-	0818	-	0852	-	0921	-	0951	-	1021	-	1051	-	1121	-
<b>Insall Rd</b> , Valiant Cl	-	-	-	-	0652	-	0721	-	0751	-	0821	-	0855	-	0923	-	0953	-	1023	-	1053	-	1123	-
<b>Padgate Stores</b>	-	-	-	-	0700	-	0729	-	0759	-	0829	-	0903	-	0930	-	1000	-	1030	-	1100	-	1130	-
<b>Warrington</b> , Interchange (arr)	-	-	-	-	0713	-	0742	-	0814	-	0844	-	0916	-	0941	-	1011	-	1041	-	1111	-	1141	-
<b>Warrington</b> , Interchange [18] (dep)	0604	0646	0653	0707	0717	0735	0747	0806	0819	0837	0849	0906	0921	0931	0946	1001	1016	1031	1046	1101	1116	1131	1146	1201
<b>Old Hall</b> , Ross Close	0611	0653	0702	0716	0726	0744	0756	0815	0828	0846	0858	0915	0930	0940	0955	1010	1025	1040	1055	1110	1125	1140	1155	1210
<b>Westbrook Centre</b> , Asda	0615	0657	0706	0720	0730	0748	0800	0819	0832	0850	0902	0919	0934	0945	0959	1015	1029	1045	1059	1115	1129	1145	1159	1215
<b>Gemini Retail Park</b> , M & S			0712		0736		0806		0838		0908		0938		1003		1033		1103		1133		1203	
<b>Callands</b> , St David's Drive	0620	0702	0716	0728	0740	0756	0810	0827	0842	0858	0912	0927	0942	0952	1007	1022	1037	1052	1107	1122	1137	1152	1207	1222

**MONDAY TO FRIDAY** [excluding Public Holidays]

	17	18	17	18	17	18	17	18	17	18	17	18	17	18	17	18	17C	18	17C	18	17C	18		
<b>Oakwood</b> , Keyes Close	1139	-	1209	-	1239	-	1309	-	1339	-	1409	-	1439	-	1509	-	1539	-	1558	-	1628	-	1658	-
<b>Birchwood</b> , Railway Station	1143	-	1213	-	1243	-	1313	-	1343	-	1413	-	1443	-	1513	-	1543	-		-		-		-
<b>Birchwood Centre</b>	1144	-	1214	-	1244	-	1314	-	1344	-	1414	-	1444	-	1514	-	1544	-		-		-		-
<b>Thomson House</b>		-		-		-		-		-		-		-		-		-	1608	-	1638	-	1708	-
<b>Daten Avenue</b> , Leacroft Road		-		-		-		-		-		-		-		-		-	1611	-	1641	-	1711	-
<b>Heathfield House</b>		-		-		-		-		-		-		-		-		-	1614	-		-		-
<b>Risley</b> , Kelvin Close		-		-		-		-		-		-		-		-		-	1644	-	1714	-		
<b>Uni of Chester</b> , Fearnhead Ln	1151	-	1221	-	1251	-	1321	-	1351	-	1421	-	1452	-	1522	-	1552	-	1622	-	1652	-	1722	-
<b>Insall Rd</b> , Valiant Cl	1153	-	1223	-	1253	-	1323	-	1353	-	1423	-	1455	-	1525	-	1555	-	1625	-	1655	-	1725	-
<b>Padgate Stores</b>	1200	-	1230	-	1300	-	1330	-	1400	-	1430	-	1503	-	1533	-	1603	-	1633	-	1703	-	1733	-
<b>Warrington</b> , Interchange (arr)	1211	-	1241	-	1311	-	1341	-	1411	-	1441	-	1516	-	1546	-	1616	-	1646	-	1716	-	1746	-
<b>Warrington</b> , Interchange [18] (dep)	1216	1231	1246	1301	1316	1331	1346	1401	1416	1431	1446	1501	1521	1536	1551	1606	1621	1636	1651	1706	1721	1736	1751	1806
<b>Old Hall</b> , Ross Close	1225	1240	1255	1310	1325	1340	1355	1410	1425	1440	1455	1512	1532	1547	1602	1617	1632	1647	1702	1717	1732	1747	1802	1817
<b>Westbrook Centre</b> , Asda	1229	1245	1259	1315	1329	1345	1359	1415	1429	1445	1459	1517	1536	1552	1606	1622	1636	1652	1706	1722	1736	1752	1807	1822
<b>Gemini Retail Park</b> , M & S	1233		1303		1333		1403		1433		1503		1540		1610		1640		1710		1740		1810	
<b>Callands</b> , St David's Drive	1237	1252	1307	1322	1337	1352	1407	1422	1437	1452	1507	1524	1544	1559	1614	1629	1644	1659	1714	1729	1744	1759	1814	1828

**Notes: T Starts at Birchwood Railway Station at 1554.**

**MONDAY TO FRIDAY** [excluding Public Holidays]

	17C	18	17C	17C	18E	17C	18E	18E	18E	18E
<b>Oakwood</b> , Keyes Close	1728	-	1758	1828	-	1858	-	-	-	-
<b>Thomson House</b>	1738	-	1808	1838	-	1908	-	-	-	-
<b>Daten Avenue</b> , Leacroft Road	1741	-	1811	1840	-	1910	-	-	-	-
<b>Heathfield House</b>		-	1814	1843	-	1913	-	-	-	-
<b>Risley</b> , Kelvin Close	1744	-			-		-	-	-	-
<b>Uni of Chester</b> , Fearnhead Ln	1752	-	1822	1848	-	1918	-	-	-	-
<b>Insall Rd</b> , Valiant Cl	1755	-	1825	1850	-	1920	-	-	-	-
<b>Padgate Stores</b>	1803	-	1833	1856	-	1926	-	-	-	-
<b>Warrington</b> , Interchange (arr)	1816	-	1844	1906	-	1936	-	-	-	-
<b>Warrington</b> , Interchange [18] (dep)	1821	1836	1849	-	1911	-	2011	2111	2211	2311
<b>Old Hall</b> , Ross Close	1830	1845	1858	-	1918	-	2018	2118	2218	2318
<b>Westbrook Centre</b> , Asda	1834	1849	1902	-	1922	-	2022	2122	2222	2322
<b>Gemini Retail Park</b> , M & S	1838		1906	-	1926	-	2026	2126	2226	2326
<b>Callands</b> , St David's Drive	1842	1854	1909	-	1929	-	2029	2129	2229	2329

## 17 CALLANDS - WARRINGTON - PADGATE - BIRCHWOOD VIA WESTBROOK - HILDEN ROAD

## 18, 18E CALLANDS - WARRINGTON VIA WESTBROOK - OLD HALL

### SATURDAY

	17	17	17	18	17	18	17	18	17	18	17	18	17	18	18	18	18	18	18E	18E		
Callands, St David's Drive	-	0718	0738	0753	0808	0823	0838	53	08	23	38	1653	1708	1723	1738	1753	1808	1820	1830	1900	1930	2030
Westbrook Centre, Asda	-	0724	0744	0759	0814	0829	0844	59	14	29	44	1659	1714	1729	1744	1759	1814	1825	1835	1905	1935	2035
Old Hall, Ross Close	-	0728	0748	0803	0818	0833	0848	03	18	33	48	1703	1718	1733	1748	1803	1817	1829	1839	1909	1939	2039
Warrington, Interchange (arr)	-	0737	0758	0813	0828	0843	0858	13	28	43	58	1713	1728	1743	1758	1813	1826	1836	1846	1916	1946	2046
Warrington, Interchange [12] (dep)	0709	0740	0803	-	0833	-	0903	and then	-	33	-	03	past	-	1733	-	1803	-	-	-	-	
Padgate Stores	0721	0752	0816	-	0846	-	0916	at	-	46	-	16	each	-	1746	-	1816	-	-	-	-	
Insall Rd, Valiant Cl	0724	0755	0820	-	0850	-	0920	these mins	-	50	-	20	hour until	-	1750	-	1820	-	-	-	-	
Uni of Chester, Fearnhead Ln	0726	0757	0822	-	0852	-	0922	-	-	52	-	22	-	-	1752	-	1822	-	-	-	-	
Birchwood Centre	0731	0802	0829	-	0859	-	0929	-	-	59	-	29	-	-	1758	-	1828	-	-	-	-	
Birchwood, Railway Station	0732	0803	0830	-	0900	-	0930	-	-	00	-	30	-	-	1759	-	1829	-	-	-	-	
Oakwood, Keyes Close	0736	0807	0834	-	0904	-	0934	-	-	04	-	34	-	-	1803	-	1833	-	-	-	-	

### SATURDAY

	18E	18E	18E
Callands, St David's Drive	2130	2230	2330
Westbrook Centre, Asda	2135	2235	2335
Old Hall, Ross Close	2139	2239	2339
Garven Place Alighting Only			2344
Warrington, Interchange (arr)	2146	2246	-

## 17 BIRCHWOOD - PADGATE - WARRINGTON - CALLANDS VIA HILDEN ROAD - WESTBROOK - GEMINI

## 18 WARRINGTON - CALLANDS VIA OLD HALL - WESTBROOK

## 18E WARRINGTON - CALLANDS VIA OLD HALL - WESTBROOK - GEMINI

### SATURDAY

	17	18	17	18	17	18	17	18	17	18	17	18	17	18	17	17	17	18E	18E	18E				
Oakwood, Keyes Close	-	-	-	-	0739	-	0809	-	39	-	09	-	1639	-	1709	-	1739	1805	1835	-	-	-		
Birchwood, Railway Station	-	-	-	-	0743	-	0813	-	43	-	13	-	1643	-	1713	-	1743	1809	1839	-	-	-		
Birchwood Centre	-	-	-	-	0744	-	0814	-	44	-	14	-	1644	-	1714	-	1744	1810	1840	-	-	-		
Uni of Chester, Fearnhead Ln	-	-	0723	-	0751	-	0821	-	51	-	21	-	1651	-	1721	-	1750	1816	1846	-	-	-		
Insall Rd, Valiant Cl	-	-	0725	-	0753	-	0823	-	53	-	23	-	1653	-	1723	-	1752	1818	1848	-	-	-		
Padgate Stores	-	-	0731	-	0800	-	0830	-	00	-	30	-	1700	-	1730	-	1758	1824	1854	-	-	-		
Warrington, Interchange (arr)	-	-	0741	-	0811	-	0841	-	11	-	41	-	1711	-	1741	-	1808	1834	1904	-	-	-		
Warrington, Interchange [18] (dep)	0717	0731	0746	0801	0816	0831	0846	0901	mins	16	31	46	01	past	1716	1731	1746	1801	1811	1841	-	1911	2011	2111
Old Hall, Ross Close	0726	0740	0755	0810	0825	0840	0855	0910		25	40	55	10	each	1725	1740	1755	1808	1820	1850	-	1918	2018	2118
Westbrook Centre, Asda	0729	0745	0758	0815	0829	0845	0859	0915		29	45	59	15	hour	1729	1745	1759	1812	1823	1853	-	1922	2022	2122
Gemini Retail Park, M & S	0733		0802		0833		0903		33		03		1733		1803		1827	1857	-	1926	2026	2126		
Callands, St David's Drive	0737	0752	0806	0822	0837	0852	0907	0922		37	52	07	22	until	1737	1752	1807	1818	1830	1900	-	1929	2029	2129

### SATURDAY

	18E	18E
Warrington, Interchange [18] (dep)	2211	2311
Old Hall, Ross Close	2218	2318
Westbrook Centre, Asda	2222	2322
Gemini Retail Park, M & S	2226	2326
Callands, St David's Drive	2229	2329

## 17 CALLANDS - WARRINGTON VIA WESTBROOK

### SUNDAY & PUBLIC HOLIDAYS

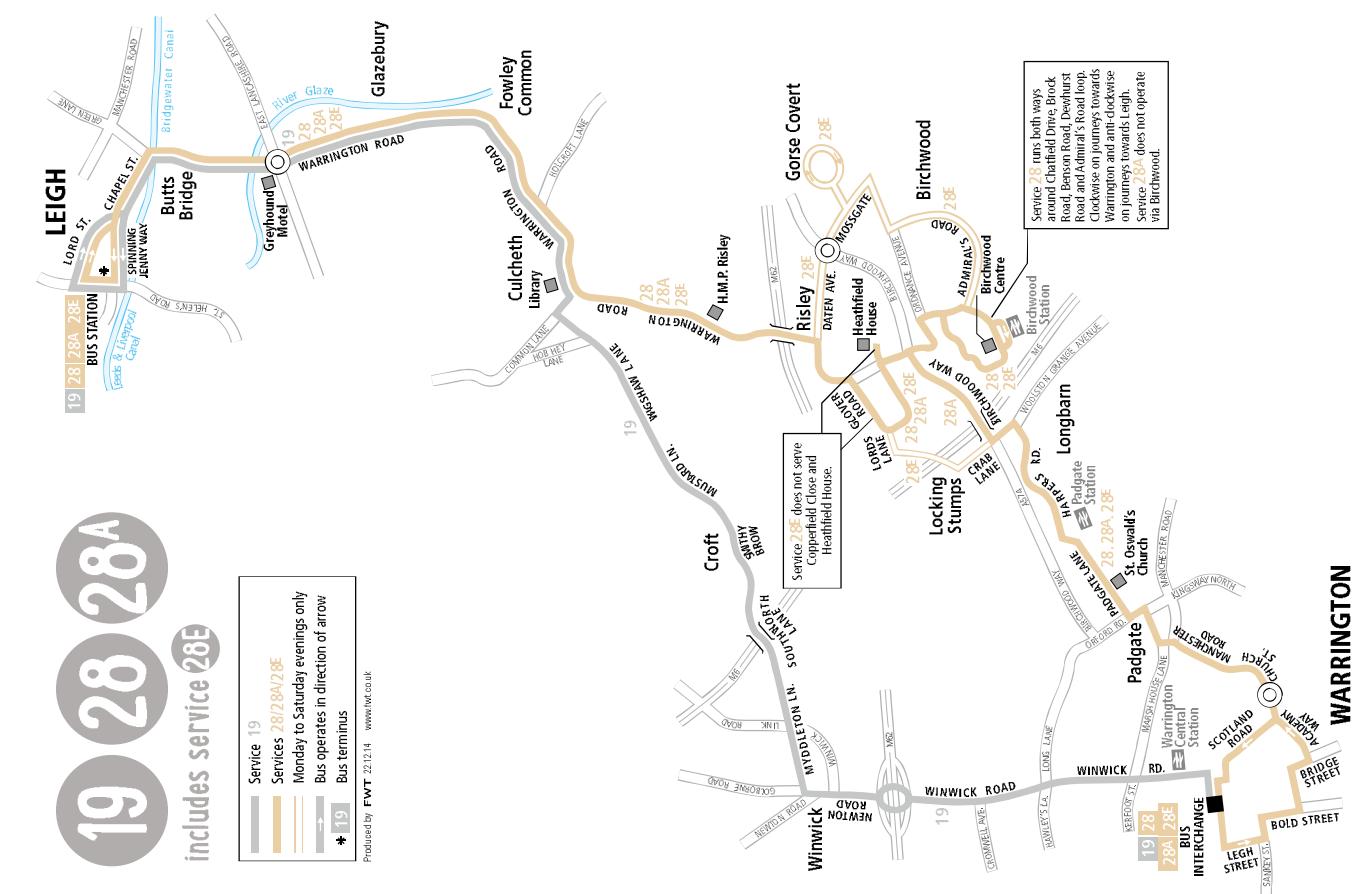
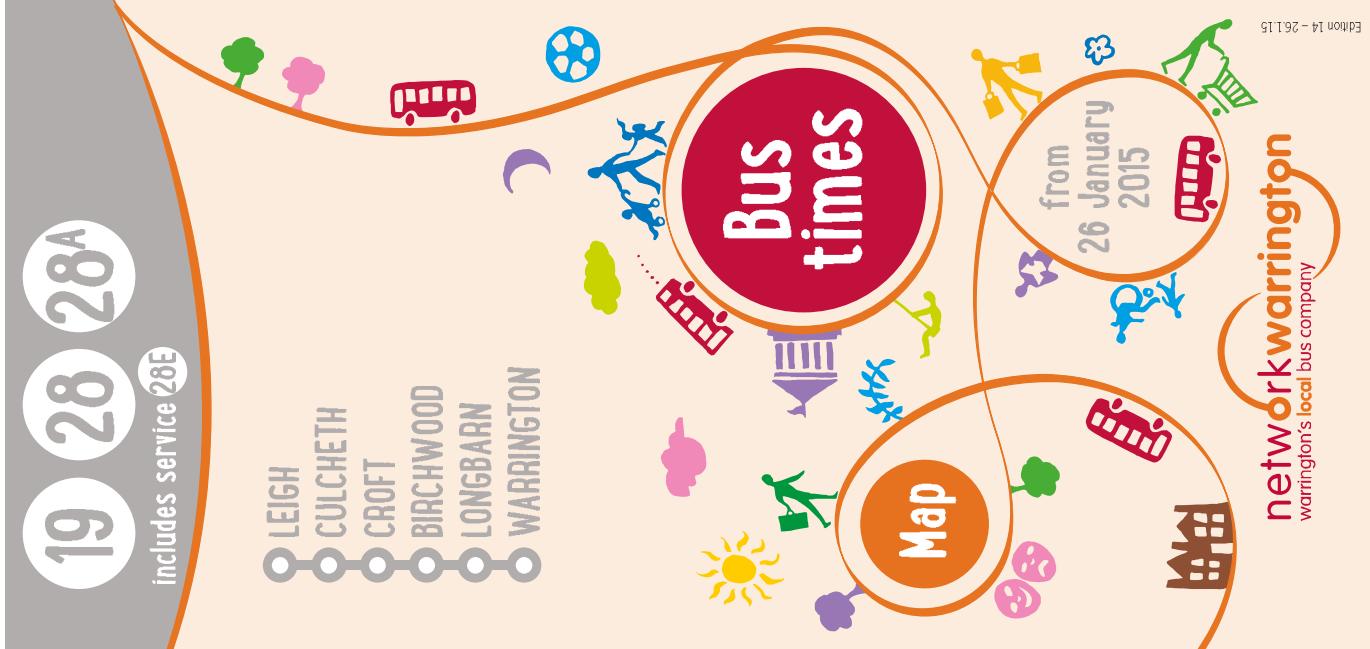
Callands, St David's Drive	0923	1018	and then	1618	1731
Westbrook Centre, Asda	0928	1023	every hour	1623	1736
Old Hall, Ross Close	0931	1026	hour until	1626	1739
Warrington, Interchange	0941	1036		1636	1748

## 17 WARRINGTON - CALLANDS VIA WESTBROOK - GEMINI

### SUNDAY & PUBLIC HOLIDAYS

Warrington, Interchange [18] (dep)	0900	0955	and then	1555	1710
Old Hall, Ross Close	0909	1004	then	1604	1719
Westbrook Centre, Asda	0913	1008	every hour	1608	1723
Gemini Retail Park, M & S	0917	1012	until	1612	1727
Callands, St David's Drive	0921	1016		1616	1731

NO SUNDAY SERVICE ON SERVICE 17 BETWEEN WARRINGTON AND OAKWOOD, PLEASE SEE SERVICES 26/27 AND 28A WHICH SERVE PARTS OF THE ROUTE



# BUS TIMETABLE

**19**

LEIGH - CULCHETH - WINWICK - WARRINGTON

**28**

LEIGH - CULCHETH - BIRCHWOOD - PADGATE - WARRINGTON

**28A**

LEIGH - CULCHETH - PADGATE - WARRINGTON

**28E**

LEIGH - WARRINGTON VIA CULCHETH - GORSE COVERT - BIRCHWOOD - PADGATE

**MONDAY TO FRIDAY** [excluding Public Holidays]

	19	28A	19	28	19	28A	19	28	19	28A	19	28	19	28	19	28	19	28A		
Leigh, Bus Station [J]	0650	0710	0720	0740	0800	0820	0840	0900	0920	0935	0954	24	54	1424	-	1454	1514	1534	1554	
Butts Bridge, Central Avenue	0655	0716	0726	0746	0806	0826	0846	0906	0926	0941	1000	30	00	1430	-	1500	1520	1540	1600	
Warrington Rd, Greyhound Hotel	0702	0720	0734	0752	0810	0830	0850	0910	0930	0945	1004	34	04	1434	-	1504	1524	1544	1604	
Culcheth, BP Garage																				
Culcheth, Library (arr)	0708	0727	0741	0759	0817	0837	0857	0917	0937	0952	1011	41	11	1441	1511	1512	1531	1552	1611	
Culcheth, Library (dep)	0712	0731	0744	0802	0821	0839	0900	0919	0939	0954	1013	43	13	1443	1515	1516	1533	1556	1613	
Risley, H.M. Prison		0736		0808		0843		0923		0958		47		1447			1537		1617	
Locking Stumps, Copperfield Cl		0739		0811		0846		0926		1001		50		1450			1540		1620	
Glover Road, Turf & Feather		0740		0812		0847		0927		1002		51		1451			1541		1621	
Heathfield House		0741		0813		0848		0929		1004		53		1453			1543		1623	
Gorse Covert, Spar Store																				
Gorse Covert, Ashdown Lane																				
Oakwood, Keyes Close												and			mins					
Birchwood, Railway Station				0820				0936				00	past	1500			1550			
Birchwood Centre				0822				0937				01	each	1501			1551			
Glover Road, Turf & Feather												these			hour					
Crab Lane, Locking Stumps Lane												until								
Longbarn, Blackburne Close		0750		0830		0857		0944		1010		08		1509			1559		1629	
Padgate, Railway Station		0754		0834		0901		0948		1014		12		1513			1603		1633	
Padgate Ln, St Oswald's Church		0758		0836		0905		0950		1016		14		1515			1605		1635	
Croft, Horseshoe	0718		0752		0827		0907		0945		1019		19		1521	1522		1602		
Winwick, Post Office	0724		0759		0833		0913		0951		1025		25		1527	1528		1608		
Winwick, B&Q	0728		0804		0839		0917		0954		1028		28		1530	1531		1611		
Winwick Road, Collegiate Inst	0734		0813		0848		0923		0959		1033		33		1536	1537		1617		
Winwick Road, McDonalds	0737		0817		0852		0927		1001		1035		35		1538	1539		1619		
Warrington, Central Station	0741		0820		0854		0929		1005		1039		39		1543	1544		1624		
Warrington, Scotland Road		0810		0846		0915		1000		1026		24		1526			1616		1646	
Warrington, Interchange	0744	0812	0824	0848	0858	0917	0932	1002	1007	1028	1041	26	41	1528	1545	1546	1618	1626	1648	

	19	28	19	28A	19	28	19	28	19	28A	19	B	B	B	B	B	B	
Leigh, Bus Station [J]	1614	1629	1649	1709	1729	1749	1804	1824	1837	-	1900	1930	2000	2100	2200	2300		
Butts Bridge, Central Avenue	1620	1635	1655	1715	1735	1755	1810	1829	1843	-	1904	1936	2004	2104	2204	2304		
Warrington Rd, Greyhound Hotel	1624	1639	1659	1719	1739	1759	1813	1831	1846	-	1906	1939	2006	2106	2206	2306		
Culcheth, Library (arr)	1632	1646	1706	1726	1746	1806	1821	1837	1854	-	1913	1947	2013	2113	2213	2313		
Culcheth, Library (dep)	1634	1648	1708	1728	1748	1808	1823	1839	1856	1900	1913	1949	2013	2113	2213	2313		
Risley, H.M. Prison		1652		1732		1812		1843		1904	1917		2017	2117	2217	2317		
Locking Stumps, Copperfield Cl		1655		1735		1815		1846		1907								
Glover Road, Turf & Feather		1656		1736		1816		1847		1908								
Heathfield House		1658		1738		1818		1848		1909								
Gorse Covert, Spar Store											1922		2022	2122	2222	2322		
Gorse Covert, Ashdown Lane											1924		2024	2124	2224	2324		
Oakwood, Keyes Close											1927		2027	2127	2227	2327		
Birchwood, Railway Station		1705			1825		1852		1913	1931		2031	2131	2231	2331			
Birchwood Centre		1706			1826		1854		1915	1933		2033	2133	2233	2333			
Glover Road, Turf & Feather										1938		2038	2138	2238	2338			
Crab Lane, Locking Stumps Lane										1941		2041	2141	2241	2341			
Longbarn, Blackburne Close		1715		1744		1833		1859		1920	1944		2044	2144	2244	2344		
Padgate, Railway Station		1719		1748		1837		1902		1923	1947		2047	2147	2247	2347		
Padgate Ln, St Oswald's Church		1721		1750		1839		1904		1925	1949		2049	2149	2249	2349		
Croft, Horseshoe	1640		1713		1753		1828		1901		1954							
Winwick, Post Office	1647		1720		1800		1834		1907		2000							
Winwick, B&Q	1650		1723		1803		1836		1909		2002							
Winwick Road, Collegiate Inst	1655		1729		1808		1841		1914		2007							
Winwick Road, McDonalds	1659		1731		1810		1843		1916		2009							
Warrington, Central Station	1704		1736		1815		1846		1919		2012							
Warrington, Scotland Road		1733		1801		1849		1910		1931	1954		2054	2154	2254			
Warrington, Interchange	1706	1735	1738	1803	1817	1851	1848	1912	1921	1933	1956	2014	2056	2156	2256			
Wilderspool, St James Church	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2354		

19

WARRINGTON - WINWICK - CULCHETH - LEIGH

28

WARRINGTON - PADGATE - BIRCHWOOD - CULCHETH - LEIGH

28A

WARRINGTON - PADGATE - CULCHETH - LEIGH

28E

WARRINGTON - LEIGH VIA PADGATE - BIRCHWOOD - GORSE COVERT - CULCHETH

**MONDAY TO FRIDAY** [excluding Public Holidays]

	19	28	19	28A	19	28	19	28	19	28A	19	28	19	28	19	28	19			
<b>Warrington, Interchange [13]</b>	0608	0614	0635	0649	0710	0712	0744	0746	0827	0828	0902	0928	1002	18	02	1318	1402	1408	1436	
<b>Warrington, Academy Way</b>		0616		0651		0714		0748		0830		0930		20		1320		1410		
<b>Warrington, Central Station</b>	0609		0636		0711		0745		0828		0903		1003		03		1403		1437	
<b>Winwick Road, McDonalds</b>	0611		0638		0713		0747		0831		0906		1006		06		1406		1440	
<b>Winwick Road, Collegiate Inst</b>	0614		0641		0716		0751		0833		0908		1008		08		1408		1442	
<b>Winwick, B&amp;Q</b>	0618		0645		0721		0757		0839		0914		1014		14		1414		1448	
<b>Winwick, Post Office</b>	0620		0647		0723		0801		0841		0916		1016		16		1416		1450	
<b>Croft, Horseshoe</b>	0624		0651		0728		0808		0848		0923		1023		23		1423		1457	
<b>Padgate Ln, St Oswald's Church</b>		0623		0658		0723		0800		0841		0941		31		1331		1421		
<b>Padgate, Railway Station</b>		0625		0700		0725		0802		0843		0943		33		mins	1333		1423	
<b>Longbarn, Blackburne Close</b>		0628		0703		0728		0805		0846		0946		36		past	1336		1426	
<b>Crab Lane, Locking Stumps Lane</b>														and then at these		each		{}		
<b>Glover Road, Turf &amp; Feather</b>														hour						
<b>Birchwood Centre</b>		0633				0735		0814		0853				43		until	1343		1433	
<b>Birchwood, Railway Station</b>		0634				0737		0816		0855				45		1345		1435		
<b>Heathfield House</b>		0638		0707		0743		0823		0900		0950		50		1350		1440		
<b>Oakwood, Keyes Close</b>																				
<b>Gorse Covert, Spar Store</b>																				
<b>Gorse Covert, Ashdown Lane</b>																				
<b>Glover Road, Turf &amp; Feather</b>		0639		0708		0744		0824		0901		0951		51		1351		1441		
<b>Locking Stumps, Copperfield Cl</b>		0640		0709		0746		0826		0903		0953		53		1353		1443		
<b>Risley, H.M. Prison</b>		0644		0714		0751		0831		0906		0956		56		1356		1446		
<b>Culcheth, Library (arr)</b>	0630	0648	0657	0718	0734	0755	0815	0835	0855	0910	0929	1000	1029	00	29	1400	1429	1450	1503	
<b>Culcheth, Library (dep)</b>	0631	0650	0700	0720	0737	0757	0817	0837	0857	0912	0932	1002	1032	02	32	1402	1432	1452	1506	
<b>Warrington Rd, Greyhound Hotel</b>	0637	0656	0706	0726	0743	0805	0825	0845	0905	0920	0940	1010	1040	10	40	1410	1440	1500	1518	
<b>Butts Bridge, Central Avenue</b>	0639	0659	0709	0729	0746	0807	0828	0847	0907	0922	0942	1012	1042	12	42	1412	1442	1502	1520	
<b>Leigh, Bus Station</b>	0645	0705	0715	0735	0755	0815	0835	0855	0915	0930	0950	1020	1050	20	50	1420	1450	1510	1530	

	28	19	28A	28	19	19	28A	19	28	19	28A	28A	19	28E	28E	28E	28E	28E
<b>Warrington, Interchange [13]</b>	1446	1517	1531	1549	1550	1632	1640	1702	1711	1743	1751	1821	1840	1900	2000	2100	2200	2300
<b>Warrington, Academy Way</b>	1448		1533	1551			1642		1713		1753	1823		1902	2002			
<b>Warrington, Central Station</b>		1518			1551	1633		1703		1744			1841					
<b>Winwick Road, McDonalds</b>		1522			1555	1637		1707		1748			1844					
<b>Winwick Road, Collegiate Inst</b>		1524			1559	1640		1713		1751			1846					
<b>Winwick, B&amp;Q</b>		1529			1606	1647		1720		1757			1852					
<b>Winwick, Post Office</b>		1532			1609	1650		1723		1800			1854					
<b>Croft, Horseshoe</b>		1538			1615	1656		1729		1806			1859					
<b>Padgate Ln, St Oswald's Church</b>	1500		1545	1604			1655		1726		1806	1834		1909	2009	2109	2209	2309
<b>Padgate, Railway Station</b>	1502		1547	1606			1657		1728		1808	1836		1911	2011	2111	2211	2311
<b>Longbarn, Blackburne Close</b>	1505		1550	1609			1700		1731		1811	1839		1914	2014	2114	2214	2314
<b>Crab Lane, Locking Stumps Lane</b>														1916	2016	2116	2216	2316
<b>Glover Road, Turf &amp; Feather</b>														1919	2019	2119	2219	2319
<b>Birchwood Centre</b>	1512			1617				1739						1924	2024	2124	2224	2324
<b>Birchwood, Railway Station</b>	1514			1619				1741						1926	2026	2126	2226	2326
<b>Heathfield House</b>	1519		1554	1625			1705		1747		1815	1844						
<b>Oakwood, Keyes Close</b>														1929	2029	2129	2229	2329
<b>Gorse Covert, Spar Store</b>														1932	2032	2132	2232	2332
<b>Gorse Covert, Ashdown Lane</b>														1934	2034	2134	2234	2334
<b>Glover Road, Turf &amp; Feather</b>	1520		1555	1626			1706		1748		1816	1845						-
<b>Locking Stumps, Copperfield Cl</b>	1522		1557	1628			1708		1750		1818	1847						-
<b>Risley, H.M. Prison</b>	1525		1600	1636			1718		1756		1823	1852		1939	2039	2139	2239	-
<b>Culcheth, Library (arr)</b>	1529	1544	1604	1640	1621	1702	1722	1735	1800	1812	1827	1856	1905	1943	2043	2143	2243	-
<b>Culcheth, Library (dep)</b>	1531	1547	1606	1642	1624	1704	1724	1737	1802	1814	1829	-	1906	1943	2043	2143	2243	-
<b>Warrington Rd, Greyhound Hotel</b>	1539	1557	1614	1652	1632	1712	1732	1745	1810	1822	1837	-	1914	1949	2049	2149	2249	-
<b>Butts Bridge, Central Avenue</b>	1541	1559	1616	1654	1634	1714	1734	1747	1812	1824	1839	-	1916	1951	2051	2151	2251	-
<b>Leigh, Bus Station</b>	1549	1609	1626	1704	1644	1724	1744	1755	1820	1832	1847	-	1924	1956	2056	2156	2256	-

@@ Does not stop at Rylands Street and Academy Way.

19

LEIGH - CULCHETH - WINWICK - WARRINGTON

28

LEIGH - CULCHETH - BIRCHWOOD - PADGATE - WARRINGTON

28A

LEIGH - CULCHETH - PADGATE - WARRINGTON

28E

LEIGH - CULCHETH - GORSE COVERT - BIRCHWOOD - PADGATE - WARRINGTON

**SATURDAY**

	19	28	19	28	19	28	19	28	19	28	19	28	28	B	B	B	B	B			
Leigh, Bus Station [J]	-	0724	0754	0824	0854	24	54	1524	1554	1630	1700	1730	1800	1830	-	1900	2000	2100	2200 2300		
Butts Bridge, Central Avenue	-	0729	0800	0830	0900	30	00	1530	1600	1636	1706	1735	1806	1835	-	1904	2004	2104	2204 2304		
Warrington Rd, Greyhound Hotel	-	0733	0804	0834	0904	34	04	1534	1604	1640	1710	1739	1810	1837	-	1906	2006	2106	2206 2306		
Culcheth, Library (arr)	-	0740	0811	0841	0911	41	11	1541	1611	1647	1717	1746	1817	1843	-	1913	2013	2113	2213 2313		
Culcheth, Library (dep)	0733	0742	0813	0843	0913	43	13	1543	1613	1649	1719	1748	1819	1845	1900	1913	2013	2113	2213 2313		
Risley, H.M. Prison		0746		0847		47		1547		1653		1752		1849	1904	1917	2017	2117	2217 2317		
Locking Stumps, Copperfield Cl		0749		0850		50		1550		1656		1755		1852	1907						
Glover Road, Turf & Feather		0750		0851		51		1551		1657		1756		1853	1908						
Heathfield House		0751		0853		53		1553		1659		1757		1854	1909						
Gorse Covert, Spar Store																1922	2022	2122	2222 2322		
Gorse Covert, Ashdown Lane																1924	2024	2124	2224 2324		
Oakwood, Keyes Close																1927	2027	2127	2227 2327		
Birchwood, Railway Station		0757		0900		and	00		1600		1706		1803		1858	1913	1931	2031	2131	2231 2331	
Birchwood Centre		0758		0901		then	01		1601		1707		1804		1900	1915	1933	2033	2133	2233 2333	
Glover Road, Turf & Feather						at				{						1938	2038	2138	2238 2338		
Crab Lane, Locking Stumps Ln						these										1941	2041	2141	2241 2341		
Longbarn, Blackburne Close		0805		0908		08		1608		1714		1811		1905	1920	1944	2044	2144	2244 2344		
Padgate, Railway Station		0808		0912		12		1612		1718		1814		1908	1923	1947	2047	2147	2247 2347		
Padgate Ln, St Oswald's Church		0810		0914		14		1614		1720		1816		1910	1925	1949	2049	2149	2249 2349		
Croft, Horseshoe	0738		0819		0919		19			1619		1725		1825							
Winwick, Post Office	0744		0825		0925		25			1625		1731		1831							
Winwick, B&Q	0746		0828		0928		28			1628		1734		1834							
Winwick Road, Collegiate Inst	0750		0833		0933		33			1633		1739		1839							
Winwick Road, McDonalds	0752		0835		0935		35			1635		1741		1841							
Warrington, Central Station	0755		0839		0939		39			1639		1745		1845							
Warrington, Scotland Road		0818		0924		24			1624		1730		1824		1916	1931	1954	2054	2154	2254	
Warrington, Interchange	0757	0820	0841	0926	0941	26	41			1626	1641	1732	1747	1826	1847	1918	1933	1956	2056	2156	2256
Wilderspool, St James Church	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2354		

B departs from Stand B on Leigh Bus Station

**19****WARRINGTON - WINWICK - CULCHETH - LEIGH****28****WARRINGTON - PADGATE - BIRCHWOOD - CULCHETH - LEIGH****28A****WARRINGTON - PADGATE - CULCHETH - LEIGH****28E****WARRINGTON - PADGATE - BIRCHWOOD - GORSE COVERT - CULCHETH - LEIGH****SATURDAY**

	28	28	19	28	19	28	19	28	19	28	19	28	19	28	19	28A	28E	28E	28E	28E			
<b>Warrington, Interchange [13]</b>	0629	0655	0706	0723	0802	18	02	1418	1502	1518	1605	1618	1705	1725	1805	1825	1900	2000	2100	2200	2300		
<b>Warrington, Academy Way</b>	0631	0657	-	0725	-	20	-	1420	-	1520	-	1620	-	1727	-	1827	1902	2002	-	-	-		
<b>Warrington, Central Station</b>	-	-	0707	-	0803	-	03	-	-	1503	-	1606	-	1706	-	1806	-	-	-	-	-		
<b>Winwick Road, McDonalds</b>	-	-	0710	-	0806	-	06	-	-	1506	-	1609	-	1709	-	1809	-	-	-	-	-		
<b>Winwick Road, Collegiate Inst</b>	-	-	0712	-	0808	-	08	-	-	1508	-	1611	-	1711	-	1811	-	-	-	-	-		
<b>Winwick, B&amp;Q</b>	-	-	0718	-	0814	-	14	-	-	1514	-	1617	-	1717	-	1817	-	-	-	-	-		
<b>Winwick, Post Office</b>	-	-	0720	-	0816	-	16	-	-	1516	-	1619	-	1719	-	1819	-	-	-	-	-		
<b>Croft, Horseshoe</b>	-	-	0725	-	0823	-	23	-	-	1523	-	1626	-	1726	-	1824	-	-	-	-	-		
<b>Padgate Ln, St Oswald's Church</b>	0637	0703	-	0735	-	31	-	-	1431	-	1531	-	1631	-	1737	-	1837	1909	2009	2109	2209	2309	
<b>Padgate, Railway Station</b>	0639	0705	-	0737	-	33	-	-	1433	-	1533	-	1633	-	1739	-	1839	1911	2011	2111	2211	2311	
<b>Longbarn, Blackburne Close</b>	0642	0708	-	0740	-	36	-	-	1436	-	1536	-	1636	-	1742	-	1842	1914	2014	2114	2214	2314	
<b>Crab Lane, Locking Stumps Ln</b>	-	-	-	-	-	-	and	-	-	mins	-	-	-	-	-	-	-	1916	2016	2116	2216	2316	
<b>Glover Road, Turf &amp; Feather</b>	-	-	-	-	-	-	then	-	-	past	-	-	-	-	-	-	-	1919	2019	2119	2219	2319	
<b>Birchwood Centre</b>	0649	0715	-	0747	-	43	-	-	each	1443	-	1543	-	1643	-	1749	-	-	1924	2024	2124	2224	2324
<b>Birchwood, Railway Station</b>	0651	0717	-	0749	-	45	-	-	hour	1445	-	1545	-	1645	-	1751	-	-	1926	2026	2126	2226	2326
<b>Oakwood, Keyes Close</b>	-	-	-	-	-	-	these	-	-	until	-	-	-	-	-	-	-	1929	2029	2129	2229	2329	
<b>Gorse Covert, Spar Store</b>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1932	2032	2132	2232	2332	
<b>Gorse Covert, Ashdown Lane</b>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1934	2034	2134	2234	2334	
<b>Heathfield House</b>	0656	0722	-	0754	-	50	-	-	-	1450	-	1550	-	1650	-	1756	-	1846	-	-	-	-	
<b>Glover Road, Turf &amp; Feather</b>	0657	0723	-	0755	-	51	-	-	-	1451	-	1551	-	1651	-	1757	-	1847	-	-	-	-	
<b>Locking Stumps, Copperfield Cl</b>	0659	0725	-	0757	-	53	-	-	-	1453	-	1553	-	1653	-	1759	-	1849	-	-	-	-	
<b>Risley, H.M. Prison</b>	0702	0728	-	0800	-	56	-	-	-	1456	-	1556	-	1656	-	1802	-	1852	1939	2039	2139	2239	
<b>Culcheth, Library (arr)</b>	0704	0730	0731	0803	0829	00	29	-	-	1500	1529	1600	1632	1700	1732	1805	1830	1855	1943	2043	2143	2243	
<b>Culcheth, Library (dep)</b>	0706	-	0732	0805	0832	02	32	-	-	1502	1532	1602	1635	1702	1735	1807	1832	-	1943	2043	2143	2243	
<b>Warrington Rd, Greyhound Hotel</b>	0712	-	0740	0812	0840	10	40	-	-	1510	1540	1610	1643	1710	1743	1814	1839	-	1949	2049	2149	2249	
<b>Butts Bridge, Central Avenue</b>	0714	-	0742	0814	0842	12	42	-	-	1512	1542	1612	1645	1712	1745	1816	1841	-	1951	2051	2151	2251	
<b>Leigh, Bus Station</b>	0720	-	0750	0820	0850	20	50	-	-	1520	1550	1620	1653	1720	1753	1822	1847	-	1956	2056	2156	2256	

@@ Does not stop at Rylands Street and Academy Way.

**19****CULCHETH - WINWICK - WARRINGTON****28A****LEIGH - CULCHETH - PADGATE - WARRINGTON****SUNDAY & PUBLIC HOLIDAYS**

	19	28A		19	28A		19	28A	19	28A		
<b>Leigh, Bus Station [B]</b>	-	1000	-	00	-	1700	-	-	-	-	-	
<b>Butts Bridge, Central Avenue</b>	-	1006	-	06	-	1706	-	-	-	-	-	
<b>Warrington Rd, Greyhound Hotel</b>	-	1008	-	08	-	1708	-	-	-	-	-	
<b>Culcheth, Library (arr)</b>	-	1016	-	16	-	1716	-	-	-	-	-	
<b>Culcheth, Library (dep)</b>	0930	1018	-	30	18	-	1630	1718	1725	1741	-	
<b>Risley, H.M. Prison</b>	-	1023	-	23	-	-	1723	-	1746	-	-	
<b>Locking Stumps, Copperfield Cl</b>	-	1026	-	26	-	-	1726	-	1749	-	-	
<b>Glover Road, Turf &amp; Feather</b>	-	1027	-	27	-	-	1727	-	1750	-	-	
<b>Heathfield House</b>	-	1028	and	28	-	mins	1728	-	1751	-	-	
<b>Longbarn, Blackburne Close</b>	-	1032	then	32	-	past	1732	-	1755	-	-	
<b>Padgate, Railway Station</b>	-	1036	at	36	-	each	1736	-	1759	-	-	
<b>Padgate Ln, St Oswald's Church</b>	-	1038	these	38	-	hour	1738	-	1801	-	-	
<b>Croft, Horseshoe</b>	0936	-	-	36	-	until	1636	-	1731	-	-	
<b>Winwick, Post Office</b>	0943	-	-	43	-	-	1643	-	1738	-	-	
<b>Winwick, B&amp;Q</b>	0946	-	-	46	-	-	1646	-	1741	-	-	
<b>Winwick Road, Collegiate Inst</b>	0950	-	-	50	-	-	1650	-	1745	-	-	
<b>Winwick Road, McDonalds</b>	0952	-	-	52	-	-	1652	-	1747	-	-	
<b>Warrington, Central Station</b>	0956	-	-	56	-	-	1656	-	1751	-	-	
<b>Warrington, Scotland Road</b>	-	1045	-	45	-	-	-	1745	-	1808	-	-
<b>Warrington, Interchange</b>	0958	1047	-	58	47	-	1658	1747	1753	1810	-	-

19

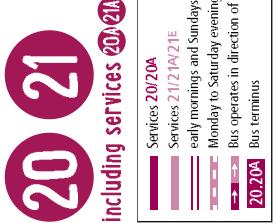
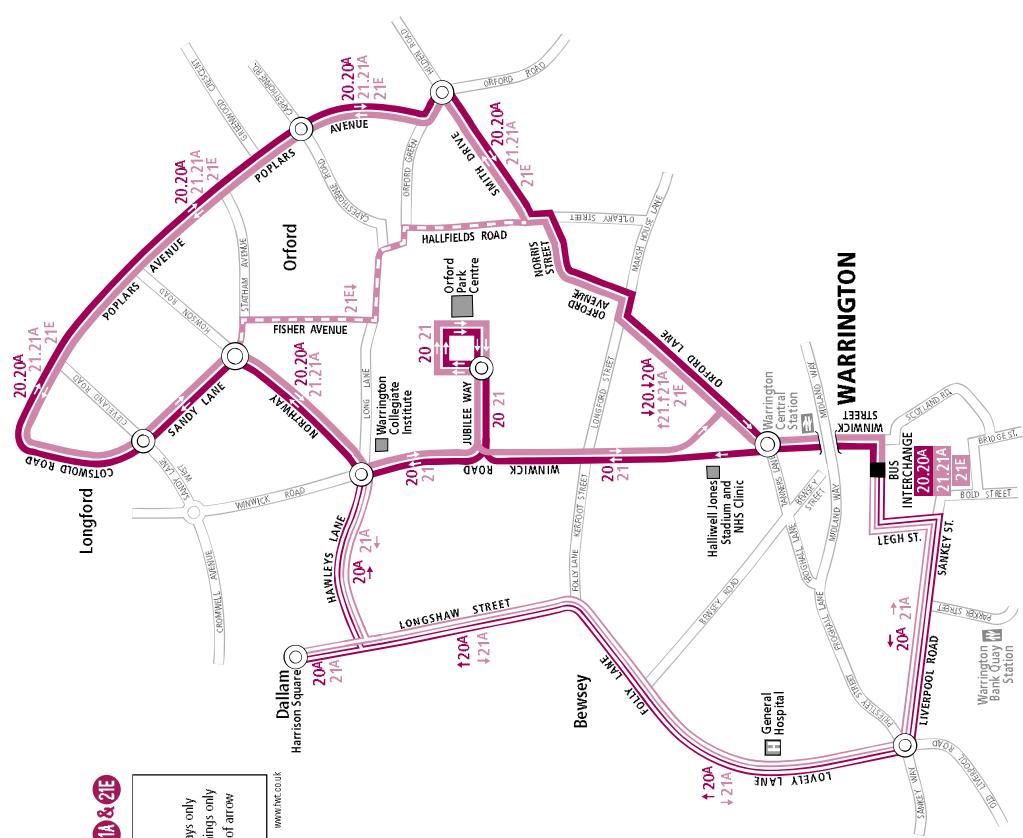
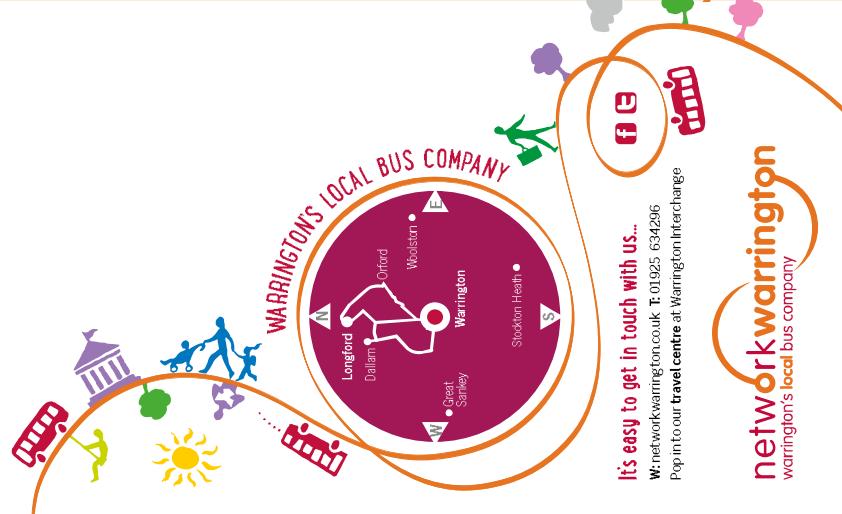
WARRINGTON - WINWICK - CULCHETH

28A

WARRINGTON - PADGATE - CULCHETH - LEIGH

## SUNDAY &amp; PUBLIC HOLIDAYS

	19	28A	19	28A	19	28A	19	28A
<b>Warrington</b> , Interchange [13]	0852	0907	0952	07	52	1607	1652	1707
<b>Warrington</b> , Academy Way		0909		09		1609		1709
<b>Warrington</b> , Central Station	0853		0953		53		1653	
<b>Winwick Road</b> , McDonalds	0856		0956		56		1656	
<b>Winwick Road</b> , Collegiate Inst	0858		0958		58		1658	
<b>Winwick</b> , B&Q	0902		1002		02		1702	
<b>Winwick</b> , Post Office	0906		1006		06		1706	
<b>Croft</b> , Horseshoe	0914		1014		14		1714	
<b>Padgate Ln</b> , St Oswald's Church		0918		and	18		mins	1618   1718
<b>Padgate</b> , Railway Station		0920		then	20		past	1620   1720
<b>Longbarn</b> , Blackburne Close		0924		at	24		each	1624   1724
<b>Heathfield House</b>		0928		these	28		hour	1628   1728
<b>Glover Road</b> , Turf & Feather		0929			29		until	1629   1729
<b>Locking Stumps</b> , Copperfield Cl		0930			30			1630   1730
<b>Risley</b> , H.M. Prison		0933			33			1633   1733
<b>Culcheth</b> , Library (arr)	0922	0938	1022		38	22		1638 1722 1738
<b>Culcheth</b> , Library (dep)	-	0940	-		40	-		1640 - -
<b>Warrington Rd</b> , Greyhound Hotel	-	0948	-		48	-		1648 - -
<b>Butts Bridge</b> , Central Avenue	-	0950	-		50	-		1650 - -
<b>Leigh</b> , Bus Station	-	0956	-		56	-		1656 - -



## BUS TIMETABLE

**20 WARRINGTON - LONGFORD/ORFORD (CIRCULAR) VIA ORFORD PARK CENTRE**

**20A WARRINGTON - LONGFORD/ORFORD (CIRCULAR) VIA WARRINGTON HOSPITAL - DALLAM**

**MONDAY TO FRIDAY** [excluding Public Holidays]

	20	20	20		20	20	20	20		20	20	20	20
<b>Warrington, Interchange [4]</b>	1455	1510	1525		40	55	10	25		1740	1755	1815	1845
<b>Warrington, Central Station</b>	1456	1511	1526		41	56	11	26		1741	1756	1816	1846
<b>Winwick Road, McDonalds</b>	1458	1514	1529		44	59	14	29	min-	1744	1759	1818	1848
<b>Orford Park Centre</b>	1503	1520	1535	and	50	05	20	35	utes	1750	1805	1821	1851
<b>Winwick Road, Collegiate Inst</b>	1505	1522	1537	then	52	07	22	37	past	1752	1807	1823	1853
<b>Longford, Cotswold Road</b>	1511	1528	1543	at	58	13	28	43	each	1758	1813	1828	1858
<b>Poplars Avenue, Cleveland Road</b>	1513	1530	1545	these	00	15	30	45	hour	1800	1815	1830	1900
<b>Orford Avenue</b>	1520	1537	1552		07	22	37	52	until	1807	1822	1836	1906
<b>Warrington, Central Station</b>	1529	1546	1601		16	31	46	01		1816	1829	1841	1911
<b>Warrington, Interchange</b>	1530	1547	1602		17	32	47	02		1817	1830	1842	1912

**20 WARRINGTON - LONGFORD/ORFORD (CIRCULAR) VIA ORFORD PARK CENTRE**

**20A WARRINGTON - LONGFORD/ORBORD (CIRCULAR) VIA WARRINGTON HOSPITAL - DALLAM**

SATURDAY

**20 WARRINGTON - LONGFORD/ORFORD (CIRCULAR) VIA ORFORD PARK CENTRE****20A WARRINGTON - LONGFORD/ORFORD (CIRCULAR) VIA WARRINGTON HOSPITAL - DALLAM****SUNDAY & PUBLIC HOLIDAYS**

	<b>20A</b>	<b>20</b>		<b>20A</b>	<b>20</b>		<b>20A</b>
<b>Warrington, Interchange [4]</b>	0915	0945		15	45		1715
<b>Warrington, Central Station</b>		0946			46		
<b>Winwick Road, McDonalds</b>		0948			48		
<b>Orford Park Centre</b>		0952			52		
<b>Winwick Road, Collegiate Inst</b>		0954			54	min- utes	
<b>General Hospital</b>	0922		and	22		past	1722
<b>Folly Lane, Tyrol House</b>	0924		then	24		each	1724
<b>Dallam, Harrison Square</b>	0927		at	27		hour	1727
<b>Longford, Cotswold Road</b>	0933	1000	these	33	00	until	1733
<b>Poplars Avenue, Cleveland Road</b>	0935	1002		35	02		1735
<b>Orford Avenue</b>	0942	1009		42	09		1742
<b>Warrington, Central Station</b>	0948	1015		48	15		1748
<b>Warrington, Interchange</b>	0949	1016		49	16		1749

**21 WARRINGTON - ORFORD/LONGFORD (CIRCULAR) VIA ORFORD PARK CENTRE****21A WARRINGTON - ORFORD/LONGFORD (CIRCULAR) VIA DALLAM - WARRINGTON HOSPITAL****21E WARRINGTON - ORFORD/LONGFORD (CIRCULAR)****MONDAY TO FRIDAY** [excluding Public Holidays]

	<b>21A</b>	<b>21A</b>	<b>21A</b>	<b>21A</b>	<b>21</b>																
<b>Warrington, Interchange [3]</b>	0510	0540	0610	0640	0700	0715	0730	0745	0800	0815	0830	0845	0900	0912	24	36	48	00	12		
<b>Warrington, Central Station</b>	0511	0541	0611	0641	0701	0716	0731	0746	0801	0816	0831	0846	0901	0913	25	37	49	01	13		
<b>Orford Avenue</b>	0516	0546	0616	0646	0707	0722	0737	0752	0807	0822	0837	0852	0907	0919	31	43	55	07	19		
<b>Poplars Avenue, Cleveland Road</b>	0523	0553	0623	0653	0714	0729	0744	0759	0814	0829	0844	0859	0914	0926	38	50	02	14	26		
<b>Longford, Cotswold Road</b>	0525	0555	0625	0655	0716	0731	0746	0801	0816	0831	0846	0901	0916	0928	40	52	04	16	28		
<b>Winwick Road, Collegiate Inst</b>						0722	0737	0752	0807	0822	0837	0852	0907	0922	0934	and	46	58	10	22	34
<b>Orford Park Centre</b>						0725	0740	0755	0810	0825	0840	0855	0909	0924	0936	then	48	00	12	24	36
<b>Winwick Road, McDonalds</b>						0731	0746	0801	0816	0831	0846	0901	0914	0929	0941	each	53	05	17	29	41
<b>Warrington, Central Station</b>						0734	0749	0804	0819	0834	0849	0904	0917	0932	0944	hour	56	08	20	32	44
<b>Dallam, Harrison Square</b>	0531	0601	0631	0701												minutes					
<b>Folly Lane, Tyrol House</b>	0532	0602	0632	0702												past					
<b>General Hospital</b>	0534	0604	0634	0704												each					
<b>Warrington, Interchange</b>	0544	0614	0644	0714	0735	0750	0805	0820	0835	0850	0905	0918	0933	0945	57	09	21	33	45		

	<b>21</b>	<b>21</b>	<b>21</b>	<b>21</b>	<b>21</b>		<b>21</b>	<b>21</b>	<b>21</b>	<b>21</b>	<b>21</b>		<b>21</b>	<b>21</b>	<b>21</b>	<b>21</b>	<b>21E</b>	<b>21E</b>	<b>21E</b>	<b>21E</b>	<b>21E</b>
<b>Warrington, Interchange [3]</b>	1424	1436	1448	1500	1515		30	45	00	15			1730	1745	1800	1830	1900	2000	2100	2200	2300
<b>Warrington, Central Station</b>	1425	1437	1449	1501	1516		31	46	01	16			1731	1746	1801	1831	1901	2001	2101	2201	2301
<b>Orford Avenue</b>	1431	1443	1455	1508	1523		38	53	08	23			1738	1753	1808	1838	1906	2006	2106	2206	2306
<b>Poplars Avenue, Cleveland Road</b>	1438	1450	1502	1516	1531		46	01	16	31	min- utes		1746	1801	1816	1846	1912	2012	2112	2212	2312
<b>Longford, Cotswold Road</b>	1440	1452	1504	1518	1533		48	03	18	33	past		1748	1803	1818	1848	1913	2013	2113	2213	2313
<b>Winwick Road, Collegiate Inst</b>	1446	1458	1510	1524	1539		54	09	24	39	each		1754	1809	1824	1854					
<b>Orford Park Centre</b>	1448	1500	1512	1526	1541		56	11	26	41	hour		1756	1811	1826	1856					
<b>Winwick Road, McDonalds</b>	1453	1505	1517	1531	1546		01	16	31	46	until		1801	1816	1831	1901					
<b>O'Leary Street</b>																	1919	2019	2119	2219	2319
<b>Warrington, Central Station</b>	1456	1508	1520	1534	1549		04	19	34	49			1804	1819	1833	1903	1924	2024	2124	2224	2324
<b>Warrington, Interchange</b>	1457	1509	1521	1535	1550		05	20	35	50			1805	1820	1834	1904	1925	2025	2125	2225	2325

**21 WARRINGTON - ORFORD/LONGFORD (CIRCULAR) VIA ORFORD PARK CENTRE****21A WARRINGTON - ORFORD/LONGFORD (CIRCULAR) VIA DALLAM - WARRINGTON HOSPITAL****21E WARRINGTON - ORFORD/LONGFORD (CIRCULAR)****SATURDAY**

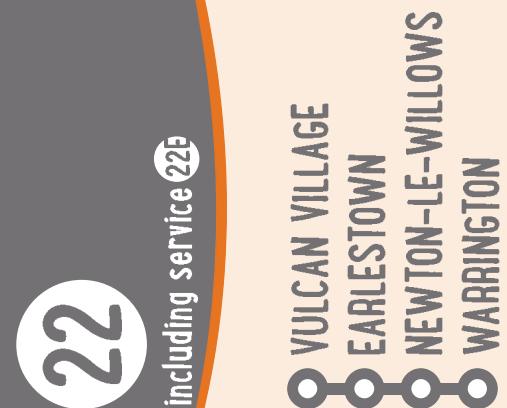
	<b>21A</b>	<b>21</b>	<b>21E</b>	<b>21E</b>																				
<b>Warrington</b> , Interchange [3]	0613	0715	0745	0812	0836	0900	0912		24	36	48	00	12		1724	1736	1748	1800	1830	1900	2000			
<b>Warrington</b> , Central Station	0614	0716	0746	0813	0837	0901	0913		25	37	49	01	13		1725	1737	1749	1801	1831	1901	2001			
<b>Orford Avenue</b>	0620	0721	0751	0819	0843	0907	0919		31	43	55	07	19		1731	1743	1755	1806	1836	1906	2006			
<b>Poplars Avenue</b> , Cleveland Road	0627	0727	0757	0826	0850	0914	0926		38	50	02	14	26		1738	1750	1802	1812	1842	1912	2012			
<b>Longford</b> , Cotswold Road	0629	0729	0759	0828	0852	0916	0928		40	52	04	16	28		1740	1752	1804	1814	1844	1913	2013			
<b>Winwick Road</b> , Collegiate Inst		0734	0804	0834	0858	0922	0934	and	46	58	10	22	34		1746	1758	1809	1819	1849					
<b>Orford Park Centre</b>		0736	0806	0836	0900	0924	0936	then	48	00	12	24	36		1748	1800	1811	1821	1851					
<b>Winwick Road</b> , McDonalds		0739	0811	0841	0905	0929	0941	at	53	05	17	29	41		1753	1803	1814	1824	1854					
<b>O'Leary Street</b>								these							hour						1919	2019		
<b>Warrington</b> , Central Station		0741	0814	0844	0908	0932	0944		56	08	20	32	44		until	1756	1805	1816	1826	1856	1924	2024		
<b>Dallam</b> , Harrison Square	0635																							
<b>Folly Lane</b> , Tyrol House	0636																							
<b>General Hospital</b>	0638																							
<b>Warrington</b> , Interchange	0647	0742	0815	0845	0909	0933	0945		57	09	21	33	45			1757	1806	1817	1827	1857	1925	2025		

**21E 21E 21E**

<b>Warrington</b> , Interchange [3]	2100	2200	2300
<b>Warrington</b> , Central Station	2101	2201	2301
<b>Orford Avenue</b>	2106	2206	2306
<b>Poplars Avenue</b> , Cleveland Road	2112	2212	2312
<b>Longford</b> , Cotswold Road	2113	2213	2313
<b>O'Leary Street</b>	2119	2219	2319
<b>Warrington</b> , Central Station	2124	2224	2324
<b>Warrington</b> , Interchange	2125	2225	2325

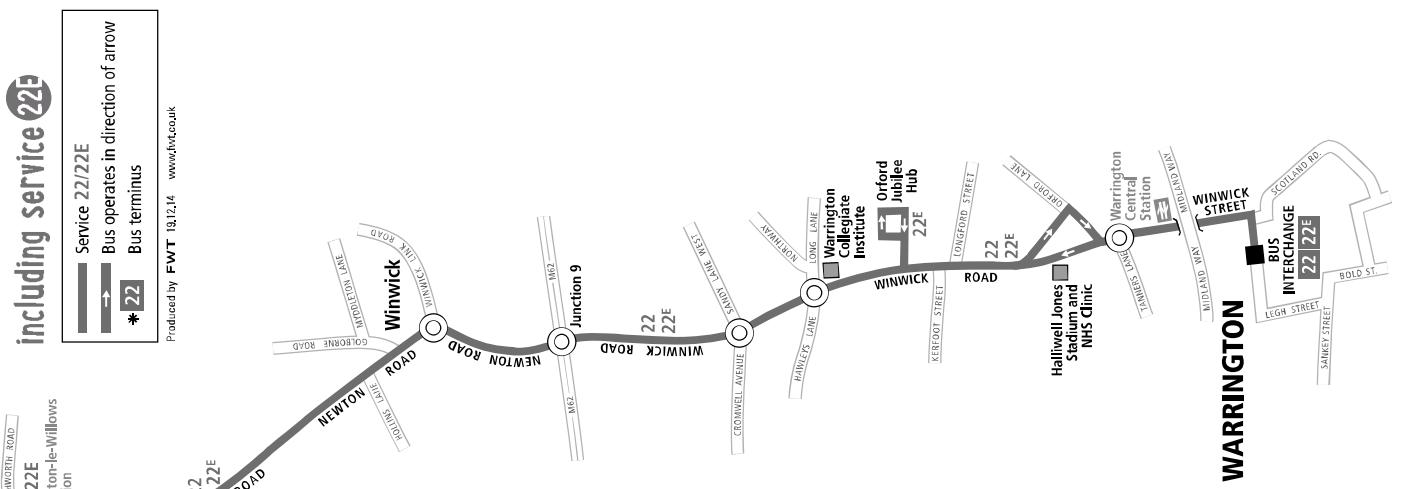
**21 WARRINGTON - ORFORD/LONGFORD (CIRCULAR) VIA ORFORD PARK CENTRE****21A WARRINGTON - ORFORD/LONGFORD (CIRCULAR) VIA DALLAM - WARRINGTON HOSPITAL****SUNDAY & PUBLIC HOLIDAYS**

	<b>21A</b>	<b>21</b>	<b>21A</b>	<b>21</b>	<b>21A</b>	<b>21</b>
<b>Warrington</b> , Interchange [3]	0900	0930	00	30	1700	1730
<b>Warrington</b> , Central Station	0901	0931	01	31	1701	1731
<b>Orford Avenue</b>	0907	0937	07	37	1707	1737
<b>Poplars Avenue</b> , Cleveland Road	0914	0944	14	44	1714	1744
<b>Longford</b> , Cotswold Road	0916	0946	16	46	1716	1746
<b>Winwick Road</b> , Collegiate Inst		0952	and		52	1752
<b>Orford Park Centre</b>		0954	then		54	1754
<b>Winwick Road</b> , McDonalds		0958	at		58	1758
<b>Warrington</b> , Central Station		1000	these		00	1800
<b>Dallam</b> , Harrison Square	0922		22			1722
<b>Folly Lane</b> , Tyrol House	0925		25			1725
<b>General Hospital</b>	0927		27			1727
<b>Warrington</b> , Interchange	0934	1001	34	01		1734
						1801



from  
26 January  
2015

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**Newton-le-  
Willows**

CROW LANE EAST  
CROW LANE WEST  
ASHTON ROAD  
MARSHALL AVENUE  
STATION STREET  
MARIAN AVENUE  
ROSSALL LANE  
VICTORIA ROAD  
EARLESTOWN STATION  
WAR GRAVE ROAD  
WINWICK ROAD  
MILL LANE  
NEWTON LANE  
BOLTON LANE  
GOLDSTONE ROAD  
MATTHEW LANE  
WINWICK LANE  
WINWICK ROAD  
JUNCTION 9  
CROMWELL AVENUE  
BANNETS LANE  
LONG LANE  
ORFORD JUBILEE HUB  
WARRINGTON COLLEGIATE INSTITUTE  
HALLIWELL JONES STADIUM AND NHS CLINIC  
WARRINGTON CENTRAL STATION  
LAWERS LANE  
LEGH STREET  
SCOTLAND ROAD  
BOLD STREET  
MULWARD WAY  
WINWICK STREET  
BUS INTERCHANGE  
WARRINGTON

**WARRINGTON'S LOCAL BUS COMPANY**



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# BUS TIMETABLE

**22E** EARLESTOWN - WARRINGTON VIA NEWTON-LE-WILLOWS - WINWICK

**22** VULCAN - WARRINGTON VIA EARLESTOWN - NEWTON-LE-WILLOWS - WINWICK

**MONDAY TO FRIDAY** [excluding Public Holidays]

	22	22	22	22	22	22	22	22	22	22	22	22	22	22E	22E	22E	22E	22E
<b>Vulcan, Manchester Row</b>	-	-	0930	1032	1132	1232	1332	1434	1542	1653	1806	1838	-	-	-	-	-	-
<b>Wargrave, School</b>	-	-	0931	1033	1133	1233	1333	1435	1543	1654	1807	1839	-	-	-	-	-	-
<b>Earlestown, Bus Stn (Stand 2) [2]</b>	0710	0807	0938	1040	1140	1240	1340	1442	1550	1701	1812	1844	1855	1938	2038	2138	2238	
<b>Sefton Street, Valentine Road</b>	0714	0812	0942	1044	1144	1244	1344	1446	1554	1705	1816	1847	1857	1940	2040	2140	2240	
<b>Crow Lane West, Vista Road</b>	0717	0816	0945	1047	1147	1247	1347	1449	1557	1708	1819	1850	1900	1943	2043	2143	2243	
<b>Newton-le-Willows, Railway Stn [C]</b>	0726	0826	0955	1055	1155	1255	1355	1457	1606	1718	1826	1857	1906	1949	2049	2148	2248	
<b>Newton, Old Colliery Entrance</b>	0728	0828	0957	1057	1157	1257	1357	1459	1608	1721	1828	1859	1908	1951	2051	2150	2250	
<b>Winwick, Church</b>	0731	0833	1000	1100	1200	1300	1400	1502	1612	1726	1831	1901	1910	1953	2053	2152	2252	
<b>Winwick, B&amp;Q</b>	0734	0837	1002	1102	1202	1302	1402	1504	1615	1729	1833	1903	1912	1955	2055	2154	2254	
<b>Winwick Road, Collegiate Inst</b>	0740	0847	1007	1107	1207	1307	1407	1509	1621	1735	1837	1907	1916	1959	2059	2158	2258	
<b>Orford Park Centre</b>													1917	2000	2100	2159	2259	
<b>Winwick Road, McDonalds</b>	0742	0850	1009	1109	1209	1309	1409	1511	1623	1737	1839	1909	1919	2002	2102	2201	2301	
<b>Warrington, Central Station</b>	0747	0855	1013	1113	1213	1313	1413	1516	1628	1742	1842	1912	1922	2005	2105	2204	2304	
<b>Warrington, Interchange</b>	0749	0857	1015	1115	1215	1315	1415	1518	1630	1744	1844	1914	1923	2006	2106	2205	2305	

**22** WARRINGTON - VULCAN VIA WINWICK - NEWTON-LE-WILLOWS - EARLESTOWN

**22E** WARRINGTON - EARLESTOWN VIA WINWICK - NEWTON-LE-WILLOWS

**MONDAY TO FRIDAY** [excluding Public Holidays]

	22	22	22	22	22	22	22	22	22	22	22	22	22	22E	22E	22E	22E	NE
<b>Warrington, Interchange [5]</b>	0725	0843	0948	1048	1148	1248	1348	1448	1600	1710	1750	1820	1910	2010	2110	2210	2310	
<b>Warrington, Central Station</b>	0726	0844	0949	1049	1149	1249	1349	1449	1601	1711	1751	1821	1911	2011	2111	2211	2311	
<b>Winwick Road, McDonalds</b>	0729	0847	0952	1052	1152	1252	1352	1453	1605	1715	1755	1824	1914	2014	2114	2214	2314	
<b>Orford Park Centre</b>													1916	2016	2116	2216	2316	
<b>Winwick Road, Collegiate Inst</b>	0731	0849	0954	1054	1154	1254	1354	1455	1607	1721	1757	1826	1917	2017	2117	2217	2317	
<b>Winwick, B&amp;Q</b>	0737	0855	1000	1100	1200	1300	1400	1502	1614	1728	1803	1832	1921	2021	2121	2221	2321	
<b>Winwick, Church</b>	0740	0858	1002	1102	1202	1302	1402	1505	1617	1730	1805	1834	1922	2022	2122	2222	2322	
<b>Newton, Old Colliery Entrance</b>	0742	0900	1004	1104	1204	1304	1404	1507	1619	1732	1807	1836	1924	2024	2124	2224	2324	
<b>Newton-le-Willows, Railway Stn [D]</b>	0746	0904	1007	1107	1207	1307	1407	1511	1623	1737	1812	1838	1926	2026	2126	2226	2326	
<b>Crow Lane West, Vista Road</b>	0753	0911	1014	1114	1214	1314	1415	1520	1631	1745	1820	1845	1932	2032	2132	2232	-	
<b>Sefton Street, Valentine Road</b>	0757	0914	1017	1117	1217	1317	1418	1523	1635	1749	1823	1847	1934	2034	2134	2234	-	
<b>Earlestown, Bus Stn (Stand 2) [2]</b>	0803												1850	1937	2037	2137	2237	-
<b>Earlestown, Bus Stn (Stand 1) [1]</b>	-	0920	1022	1122	1222	1322	1424	1529	1641	1755	1828	-	-	-	-	-	-	
<b>Wargrave, School</b>	-	0924	1026	1126	1226	1326	1428	1535	1645	1759	1832	-	-	-	-	-	-	
<b>Vulcan, Manchester Row</b>	-	0927	1029	1129	1229	1329	1431	1538	1649	1803	1835	-	-	-	-	-	-	

**22E** EARLESTOWN - WARRINGTON VIA NEWTON-LE-WILLOWS - WINWICK

**22** VULCAN - WARRINGTON VIA EARLESTOWN - NEWTON-LE-WILLOWS - WINWICK

**SATURDAY**

	22	22	22	22	22	22	22	22	22	22	22	22	22E	22E	22E	22E	22E	
<b>Vulcan, Manchester Row</b>	-	0928	1028	1132	1232	1332	1432	1535	1647	1759	1832	-	-	-	-	-	-	
<b>Wargrave, School</b>	-	0929	1029	1133	1233	1333	1433	1536	1648	1800	1833	-	-	-	-	-	-	
<b>Earlestown, Bus Stn (Stand 2) [2]</b>	0818	0936	1036	1140	1240	1340	1440	1543	1655	1806	1838	1903	1938	2038	2138	2238		
<b>Sefton Street, Valentine Road</b>	0821	0940	1040	1144	1244	1344	1444	1547	1659	1808	1840	1905	1940	2040	2140	2240		
<b>Crow Lane West, Vista Road</b>	0824	0944	1044	1147	1247	1347	1447	1550	1702	1811	1843	1908	1943	2043	2143	2243		
<b>Newton-le-Willows, Railway Stn [C]</b>	0831	0953	1053	1155	1255	1355	1455	1558	1710	1818	1849	1914	1949	2049	2148	2248		
<b>Newton, Old Colliery Entrance</b>	0833	0955	1055	1157	1257	1357	1457	1600	1712	1820	1851	1916	1951	2051	2150	2250		
<b>Winwick, Church</b>	0835	0958	1058	1200	1300	1400	1500	1603	1715	1822	1853	1918	1953	2053	2152	2252		
<b>Winwick, B&amp;Q</b>	0836	1000	1100	1202	1302	1402	1502	1605	1717	1824	1855	1920	1955	2055	2154	2254		
<b>Winwick Road, Collegiate Inst</b>	0841	1006	1106	1207	1307	1407	1507	1610	1722	1829	1900	1924	1959	2059	2158	2258		
<b>Orford Park Centre</b>												1925						
<b>Winwick Road, McDonalds</b>	0843	1008	1108	1209	1309	1409	1509	1612	1724	1831	1902	1927	2001	2101	2200	2300		
<b>Warrington, Central Station</b>	0846	1013	1113	1213	1313	1413	1513	1616	1728	1834	1905	1930	2004	2104	2203	2303		
<b>Warrington, Interchange</b>	0848	1015	1115	1215	1315	1415	1515	1618	1730	1836	1906	1931	2005	2105	2204	2304		

**22 WARRINGTON - VULCAN VIA WINWICK - NEWTON-LE-WILLOWS - EARLESTOWN****22E WARRINGTON - EARLESTOWN VIA WINWICK - NEWTON-LE-WILLOWS****SATURDAY**

	22	22	22	22	22	22	22	22	22	22	22	22	22	22E	22E	22E	22E	22E
<b>Warrington</b> , Interchange [5]	0743	0846	0946	1048	1148	1248	1348	1448	1600	1712	1748	1830	1910	2010	2110	2210	2310	
<b>Warrington</b> , Central Station	0744	0847	0947	1049	1149	1249	1349	1449	1601	1713	1749	1831	1911	2011	2111	2211	2311	
<b>Winwick Road</b> , McDonalds	0746	0849	0949	1052	1152	1252	1352	1452	1604	1716	1752	1834	1914	2014	2114	2214	2314	
<b>Orford Park Centre</b>													1916					
<b>Winwick Road</b> , Collegiate Inst	0748	0851	0951	1054	1154	1254	1354	1455	1607	1719	1754	1836	1917	2016	2116	2216	2316	
<b>Winwick</b> , B&Q	0753	0856	0956	1100	1200	1300	1400	1501	1613	1725	1800	1842	1921	2020	2120	2220	2320	
<b>Winwick</b> , Church	0755	0858	0958	1102	1202	1302	1402	1503	1615	1727	1802	1844	1922	2021	2121	2221	2321	
<b>Newton</b> , Old Colliery Entrance	0757	0900	1000	1104	1204	1304	1404	1505	1617	1729	1804	1846	1924	2023	2123	2223	2323	
<b>Newton-le-Willows</b> , Railway Stn [D]	0800	0903	1003	1107	1207	1307	1407	1508	1620	1732	1807	1848	1926	2025	2125	2225	2325	
<b>Crow Lane West</b> , Vista Road	0806	0909	1009	1114	1214	1314	1414	1515	1627	1739	1814	1854	1932	2031	2131	2231	-	
<b>Sefton Street</b> , Valentine Road	0809	0912	1012	1117	1217	1317	1417	1518	1630	1742	1817	1857	1934	2033	2133	2233	-	
<b>Earlestown</b> , Bus Stn (Stand 2)	0814											1900	1937	2036	2136	2236	-	
<b>Earlestown</b> , Bus Stn (Stand 1) [1]	-	0917	1017	1122	1222	1322	1422	1524	1636	1748	1822	-	-	-	-	-	-	
<b>Wargrave</b> , School	-	0921	1021	1126	1226	1326	1426	1528	1640	1752	1826	-	-	-	-	-	-	
<b>Vulcan</b> , Manchester Row	-	0924	1024	1129	1229	1329	1429	1531	1643	1755	1829	-	-	-	-	-	-	

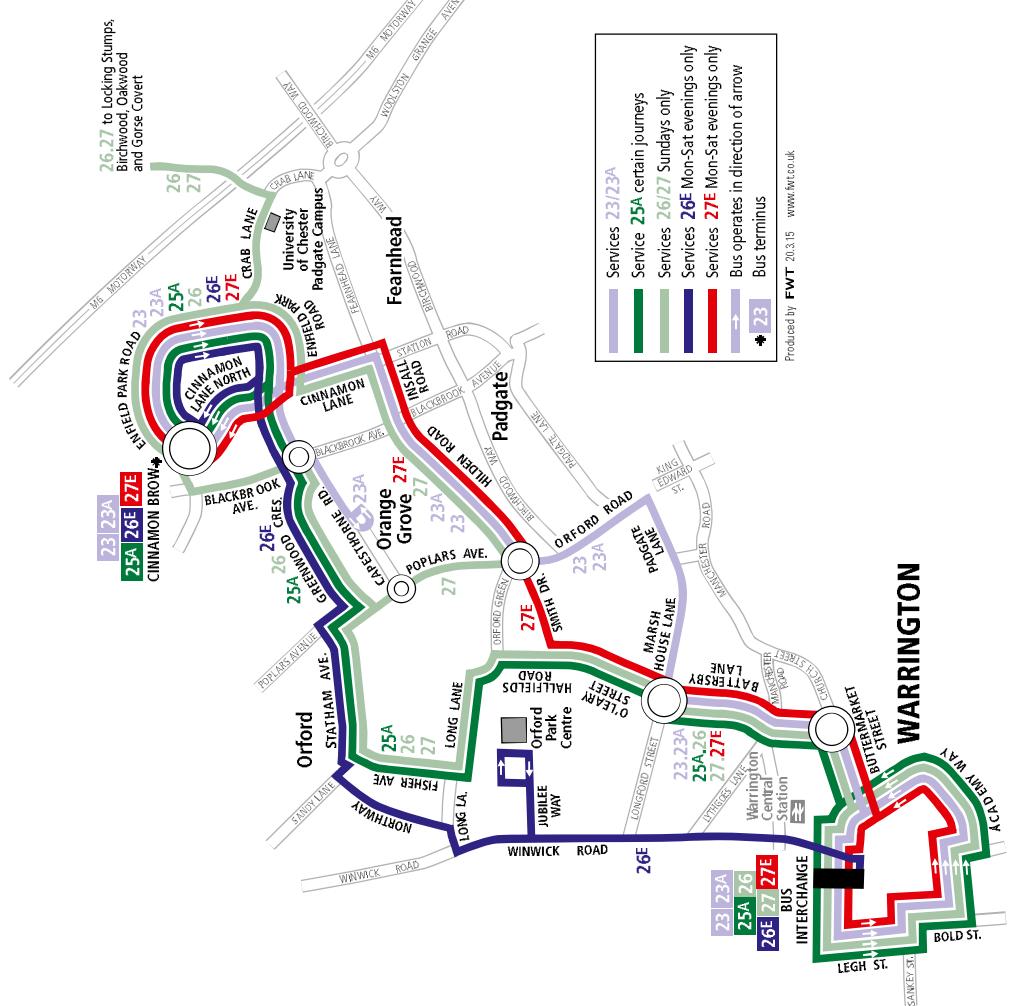
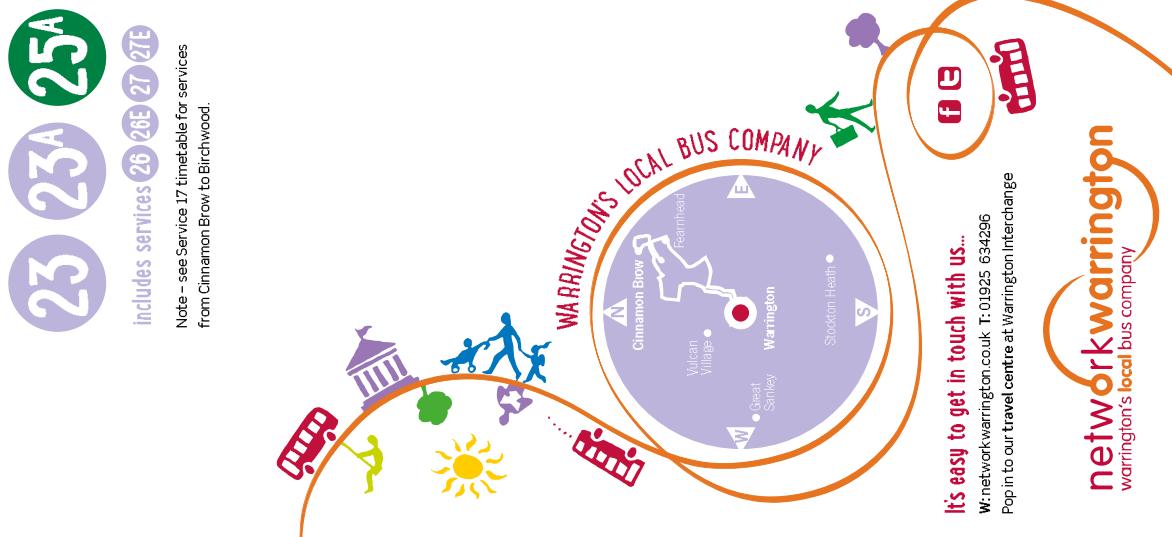
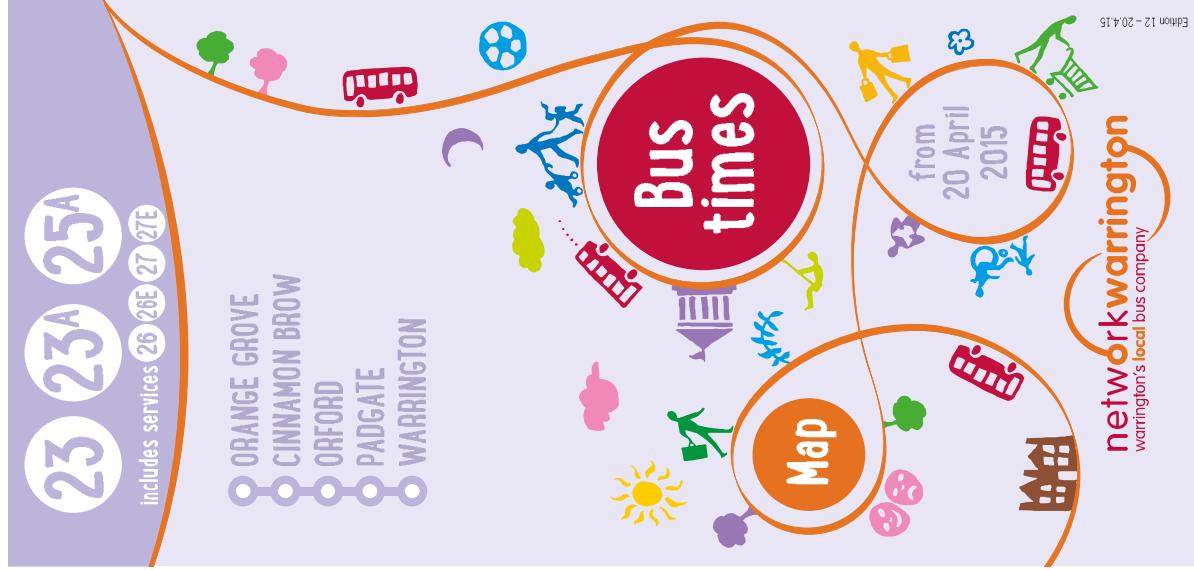
NE Runs from Newton to Earlestown on request only

**22 EARLESTOWN - WARRINGTON VIA NEWTON & WINWICK****SUNDAY & PUBLIC HOLIDAYS**

<b>Earlestown</b> , Bus Stn (Stand 2) [2]	0911	0951	1751
<b>Sefton Street</b> , Valentine Road	0914	0954	1754
<b>Crow Lane West</b> , Vista Road	0917	0957	1757
<b>Newton-le-Willows</b> , Railway Stn [C]	0924	1004	and 1804
<b>Newton</b> , Old Colliery Entrance	0926	1006	then 1806
<b>Winwick</b> , Church	0928	1008	every 1808
<b>Winwick</b> , B&Q	0930	1010	hour 1810
<b>Winwick Road</b> , Collegiate Inst	0934	1014	until 1814
<b>Winwick Road</b> , McDonalds	0936	1016	1816
<b>Warrington</b> , Central Station	0940	1020	1820
<b>Warrington</b> , Interchange	0942	1022	1822

**22 WARRINGTON - EARLESTOWN VIA WINWICK & NEWTON****SUNDAY & PUBLIC HOLIDAYS**

<b>Warrington</b> , Interchange [5]	0840	0920	1720
<b>Warrington</b> , Central Station	0841	0921	1721
<b>Winwick Road</b> , McDonalds	0844	0924	1724
<b>Winwick Road</b> , Collegiate Inst	0846	0926	and 1726
<b>Winwick</b> , B&Q	0850	0930	then 1730
<b>Winwick</b> , Church	0852	0932	every 1732
<b>Newton</b> , Old Colliery Entrance	0854	0934	hour 1734
<b>Newton-le-Willows</b> , Railway Stn [D]	0856	0936	until 1736
<b>Crow Lane West</b> , Vista Road	0902	0942	1742
<b>Sefton Street</b> , Valentine Road	0904	0944	1744
<b>Earlestown</b> , Bus Stn (Stand 2) [2]	0909	0949	1749



# BUS TIMETABLE

**23 CINNAMON BROW - WARRINGTON VIA PADGATE**

**23A ORANGE GROVE - CINNAMON BROW - WARRINGTON VIA PADGATE**

**MONDAY TO FRIDAY** [excluding Public Holidays]

	23	23	23	23	23	23A	23		23A	23	23A	23	23	23	23	23	23	23	23	23
Orange Grove, Avery Close	-	-	-	-	0932	-		28	-	1428	-	1530	-	-	-	-	-	-	-	-
Cinnamon Lane North	0715	0749	0826	0859	0935	0958		31	01	mins	1431	1501	1533	1603	1633	1708	1738	1808	1831	
Cinnamon Brow, Millhouse Rdbt	0716	0750	0827	0900	0936	0959	and then	32	02	past	1432	1502	1534	1604	1634	1709	1739	1809	1832	
Enfield Park Rd, Stirrup Cl	0718	0752	0829	0902	0938	1001	at these	34	04	each	1434	1504	1536	1606	1636	1711	1741	1811	1834	
Insall Road, Valiant Close	0721	0755	0832	0905	0941	1004		37	07	hour	1437	1507	1539	1609	1639	1714	1744	1814	1837	
Padgate Stores	0727	0801	0838	0911	0948	1011		43	13	until	1443	1513	1545	1615	1645	1720	1750	1820	1843	
Warrington, Interchange	0738	0816	0853	0922	1001	1024		54	24		1454	1526	1558	1628	1658	1733	1803	1833	1854	

**23 WARRINGTON - CINNAMON BROW VIA PADGATE**

**23A WARRINGTON - CINNAMON BROW VIA PADGATE - ORANGE GROVE**

**MONDAY TO FRIDAY** [excluding Public Holidays]

	23	23	23	23	23	23A	23	23A		23	23A	23	23	23	23	23	23	23	23	23
Warrington, Interchange [13]	0655	0728	0805	0838	0910	0937	1006		40	06	1440	1506	1540	1610	1645	1715	1745	1810		
Padgate Stores	0706	0740	0817	0850	0922	0949	1018		52	18	mins	1452	1520	1554	1624	1659	1729	1759	1822	
Insall Road, Valiant Close	0712	0746	0823	0856	0928	0955	1024		58	24	past	1458	1526	1600	1630	1705	1735	1805	1828	
Orange Grove, Avery Close					0932		1028			28	each		1530							
Cinnamon Lane North	0715	0749	0826	0859	0935	0958	1031		01	31	hour	1501	1533	1603	1633	1708	1738	1808	1831	
Cinnamon Brow, Millhouse Rdbt	0716	0750	0827	0900	0936	0959	1032		02	32	until	1502	1534	1604	1634	1709	1739	1809	1832	
Enfield Park Rd, Stirrup Cl	0718	0752	0829	0902	0938	1001	1034		04	34		1504	1536	1606	1636	1711	1741	1811	1834	

**23 CINNAMON BROW - WARRINGTON**

**23A ORANGE GROVE - CINNAMON BROW - WARRINGTON VIA PADGATE**

**SATURDAY**

	23	23	23	23	23A		23	23A		23	23A	23	23	23	23	23	23	23	23	23
Orange Grove, Avery Close	-	-	-	0928			-	28		-	1528	-	-	-	-	-	-	-	-	-
Cinnamon Lane North	0802	0831	0901	0931			01	31		mins	1501	1531	1557	1627	1657	1727	1756	1824		
Cinnamon Brow, Millhouse Rdbt	0803	0832	0902	0932			02	32		past	1502	1532	1558	1628	1658	1728	1757	1825		
Enfield Park Rd, Stirrup Cl	0805	0834	0904	0934			04	34		each	1504	1534	1600	1630	1700	1730	1759	1827		
Insall Road, Valiant Close	0808	0837	0907	0937			07	37		hour	1507	1537	1603	1633	1703	1733	1802	1830		
Padgate Stores	0813	0843	0913	0943			13	43		until	1513	1543	1609	1639	1709	1739	1807	1835		
Warrington, Interchange	0824	0854	0924	0954			24	54			1524	1554	1620	1650	1720	1750	1817	1845		

**23 WARRINGTON - CINNAMON BROW VIA PADGATE**

**23A WARRINGTON - CINNAMON BROW VIA PADGATE - ORANGE GROVE**

**SATURDAY**

	23	23	23	23	23A		23	23A		23	23A	23	23	23	23	23	23	23	23	23
Warrington, Interchange [13]	0743	0810	0840	0906			40	06		1440	1506	1536	1606	1636	1706	1735	1805			
Padgate Stores	0754	0822	0852	0918			52	18		mins	1452	1518	1548	1618	1648	1718	1747	1816		
Insall Road, Valiant Close	0759	0828	0858	0924			58	24		past	1458	1524	1554	1624	1654	1724	1753	1821		
Orange Grove, Avery Close				0928				28		each		1528								
Cinnamon Lane North	0802	0831	0901	0931			01	31		hour	1501	1531	1557	1627	1657	1727	1756	1824		
Cinnamon Brow, Millhouse Rdbt	0803	0832	0902	0932			02	32		until	1502	1532	1558	1628	1658	1728	1757	1825		
Enfield Park Rd, Stirrup Cl	0805	0834	0904	0934			04	34			1504	1534	1600	1630	1700	1730	1759	1827		

**26E****CINNAMON BROW - WARRINGTON VIA WINWICK ROAD****27E****CINNAMON BROW - WARRINGTON VIA ORFORD****MONDAY TO FRIDAY** [excluding Public Holidays]

	27E	27E	26E	27E	26E	27E	26E	27E	26E
Cinnamon Brow, Millhouse Rdbt	1911	1941	2010	2041	2110	2143	2213	2243	2313
Enfield Park Rd, Stirrup Cl	1913	1943	2012	2043	2112	2145	2215	2245	2315
Insall Road, Valiant Close	1915	1945		2045		2147		2247	
Greenwood Crescent, Merrick Cl			2013		2113		2216		2316
Statham Avenue, Kirkstone Av			2016		2116		2219		2319
Winwick Road, Collegiate Inst			2018		2118		2221		2321
Orford Park Centre			2019		2119		2222		2322
O'Leary Street	1919	1949		2049		2151		2251	-
Warrington, Interchange	1926	1956	2027	2056	2127	2156	2228	2256	-

**26E****WARRINGTON - CINNAMON BROW VIA WINWICK ROAD****27E****WARRINGTON - CINNAMON BROW VIA ORFORD****MONDAY TO FRIDAY** [excluding Public Holidays]

	27E	26E	27E	26E	27E	26E	27E	26E	27E
	@@				@@		@@		
	@@				@@		@@		
Warrington, Interchange	1854	1923	1954	2023	2054	2127	2159	2227	2259
Orford Park Centre		1929		2029		2133		2233	
Winwick Road, Collegiate Inst		1930		2030		2134		2234	
O'Leary Street	1901		2001		2101		2206		2306
Insall Rd, Valiant Cl	1906		2006		2106		2210		2310
Statham Avenue, Kirkstone Av		1933		2033		2136		2236	
Greenwood Crescent, Merrick Cl		1937		2038		2140		2240	
Cinnamon Brow, Millhouse Rdbt	1911	1941	2010	2041	2110	2143	2213	2243	2313

@@ Does NOT operate via Rylands Street or Academy Way.

**26E****CINNAMON BROW - WARRINGTON VIA WINWICK ROAD****27E****CINNAMON BROW - WARRINGTON VIA ORFORD****SATURDAY**

	27E	27E	26E	27E	26E	27E	26E	27E	26E
Cinnamon Brow, Millhouse Rdbt	1911	1941	2010	2041	2110	2143	2213	2243	2313
Enfield Park Rd, Stirrup Cl	1913	1943	2012	2043	2112	2145	2215	2245	2315
Insall Road, Valiant Close	1915	1945		2045		2147		2247	
Greenwood Crescent, Merrick Cl			2013		2113		2216		2316
Statham Avenue, Kirkstone Av			2016		2116		2219		2319
O'Leary Street	1919	1949		2049		2151		2251	
Winwick Road, Collegiate Inst			2018		2118		2221		2321
Orford Park Centre			2019						
Warrington, Interchange	1926	1956	2027	2056	2126	2156	2227	2256	-

**26E****WARRINGTON - CINNAMON BROW VIA WINWICK ROAD****27E****WARRINGTON - CINNAMON BROW VIA ORFORD****SATURDAY**

	27E	26E	27E	26E	27E	26E	27E	26E	27E
	@@				@@		@@		
	@@				@@		@@		
Warrington, Interchange [14]	1854	1923	1954	2023	2054	2129	2159	2229	2259
Orford Park Centre		1929							
Winwick Road, Collegiate Inst		1930		2028		2134		2234	
O'Leary Street	1901		2001		2101		2206		2306
Statham Avenue, Kirkstone Av		1933		2031		2136		2236	
Greenwood Crescent, Merrick Cl		1937		2036		2140		2240	
Insall Rd, Valiant Cl	1906		2006		2106		2210		2310
Cinnamon Brow, Millhouse Rdbt	1911	1941	2010	2041	2110	2143	2213	2243	2313

**26 GORSE COVERT - WARRINGTON VIA BIRCHWOOD - LOCKING STUMPS - CINNAMON BROW - ORFORD**  
**27 GORSE COVERT - WARRINGTON VIA BIRCHWOOD - LOCKING STUMPS - FEARNSIDE - ORFORD**

**SUNDAY & PUBLIC HOLIDAYS**

	27	26	27	26	27	26	27	26	27	26
Gorse Covert, Spar Store	0908	1026	1124	1226	1324	1426	1524	1626	1724	1826
Oakwood, Keyes Close	0914	1032	1130	1232	1330	1432	1530	1632	1730	1832
Birchwood, Railway Station	0919	1037	1135	1237	1335	1437	1535	1637	1735	1837
Birchwood Centre	0920	1038	1136	1238	1336	1438	1536	1638	1736	1838
Heathfield House	0925	1043	1141	1243	1341	1443	1541	1643	1741	1843
Locking Stumps, Copperfield Cl	0928	1046	1144	1246	1344	1446	1544	1646	1744	1846
Crab Lane, Uni of Chester	0932	1050	1148	1250	1348	1450	1548	1650	1748	1850
Enfield Park Rd, Shetland Cl		1053		1253		1453		1653		1853
Greenwood Crescent, Merrick Cl		1055		1255		1455		1655		1855
Enfield Park Rd, Stirrup Cl	0934		1150		1350		1550		1750	
Insall Road, Valiant Close	0937		1153		1353		1553		1753	
Statham Avenue, Kirkstone Av	0942	1058	1158	1258	1358	1458	1558	1658	1758	1858
O'Leary Street	0948	1104	1204	1304	1404	1504	1604	1704	1804	1904
Warrington, Interchange	0954	1110	1210	1310	1410	1510	1610	1710	1810	1910

**26 WARRINGTON - GORSE COVERT VIA ORFORD - CINNAMON BROW - LOCKING STUMPS - BIRCHWOOD**

**27 WARRINGTON - GORSE COVERT VIA ORFORD - FEARNSIDE - LOCKING STUMPS - BIRCHWOOD**

**SUNDAY & PUBLIC HOLIDAYS**

	26	27	26	27	26	27	26	27	26	27
Warrington, Interchange [14]	0825	0941	1041	1141	1241	1341	1441	1541	1641	1741
O'Leary Street	0833	0949	1049	1149	1249	1349	1449	1549	1649	1749
Statham Avenue, Kirkstone Av	0839	0955	1055	1155	1255	1355	1455	1555	1655	1755
Greenwood Crescent, Merrick Cl	0842		1058		1258		1458		1658	
Enfield Park Rd, Shetland Cl	0844		1100		1300		1500		1700	
Insall Road, Valiant Close		1000		1200		1400		1600		1800
Enfield Park Rd, Stirrup Cl		1003		1203		1403		1603		1803
Crab Lane, Uni of Chester	0847	1005	1103	1205	1303	1405	1503	1605	1703	1805
Locking Stumps, Copperfield Cl	0851	1009	1107	1209	1307	1409	1507	1609	1707	1809
Heathfield House	0854	1012	1110	1212	1310	1412	1510	1612	1710	1812
Birchwood Centre	0859	1017	1115	1217	1315	1417	1515	1617	1715	1817
Birchwood, Railway Station	0901	1019	1117	1219	1317	1419	1517	1619	1717	1819
Oakwood, Keyes Close	0905	1023	1121	1223	1321	1423	1521	1623	1721	1823
Gorse Covert, Spar Store	0908	1026	1124	1226	1324	1426	1524	1626	1724	1826

**25A CINNAMON BROW - WARRINGTON VIA ORFORD**

**MONDAY TO FRIDAY** [excluding Public Holidays]

Cinnamon Brow, Millhouse Rd	0525	0625
Enfield Park Road, Stirrup Cl	0527	0627
Greenwood Crescent, Merrick Cl	0529	0629
Statham Avenue, Kirkstone Av	0531	0631
O'Leary Street	0536	0636
Warrington, Interchange	0542	0642

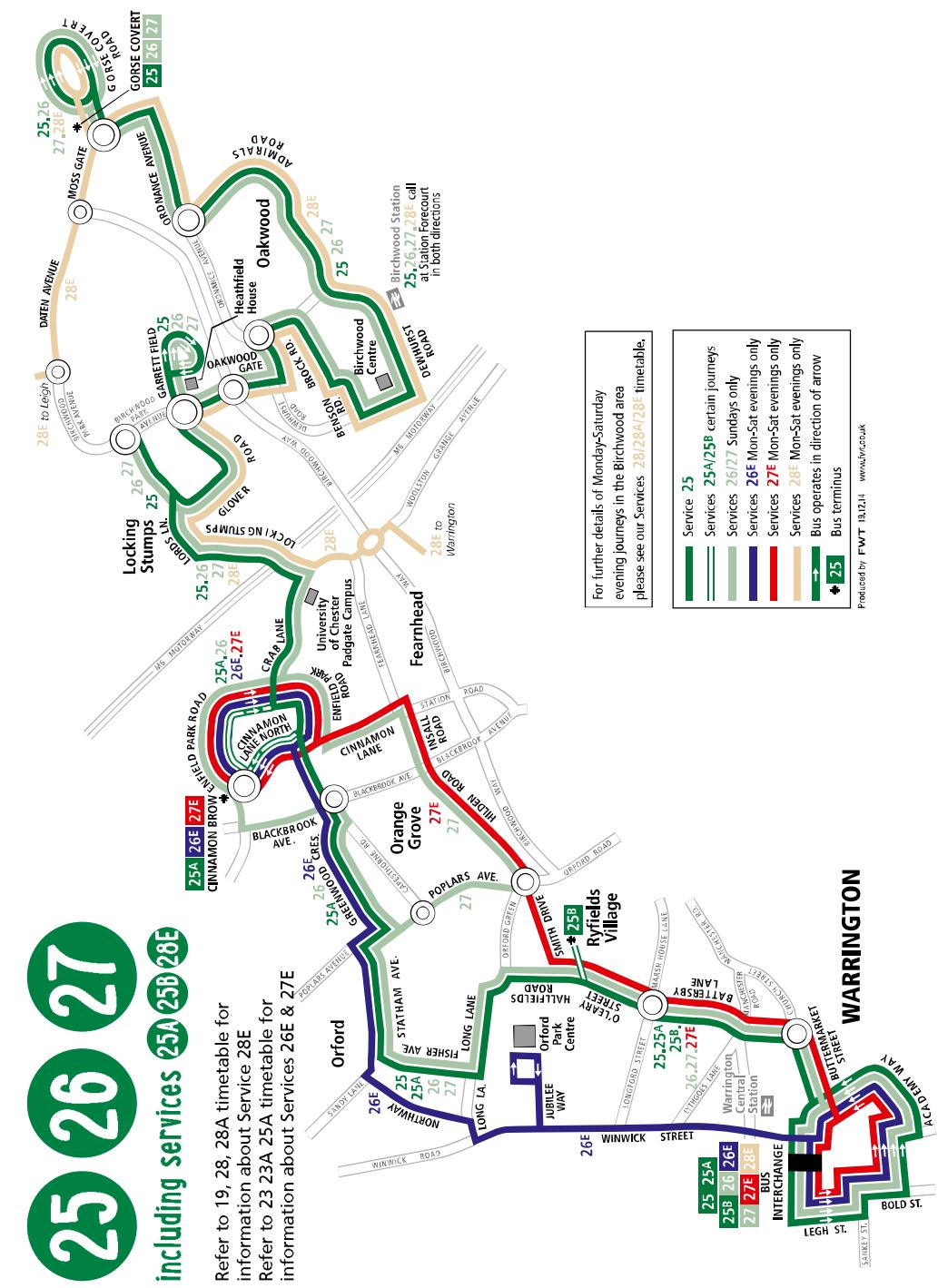
**25A WARRINGTON - CINNAMON BROW VIA ORFORD**

**MONDAY TO FRIDAY** [excluding Public Holidays]

	D
Warrington, Interchange [14]	- 0607
Wilderspool, St James Church	0509
O'Leary Street	0514 0614
Statham Avenue, Kirkstone Avenue	0520 0620
Greenwood Crescent, Merrick Close	0522 0622
Cinnamon Lane North	0524 0624
Cinnamon Brow, Enfield Pk Rd, Shetland Cl	0525 0625

D From Wilderspool, St James Church (at 0509) via Warrington Bridge and Mersey Street to Fennel Street.

**25 26 27**  
including services 25A 25B 28E



Refer to 19, 28, 28A timetable for information about Service 28E  
Refer to 23 23A 25A timetable for information about Services 26E & 27E

**GORSE COVERT**  
**BIRCHWOOD**  
**FEARNHEAD**  
**GREENWOOD CRESCENT**  
**HILDEN ROAD**  
**WARRINGTON**

# Bus times

from  
26 January  
2015

# Map

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# 25 GORSE COVERT - WARRINGTON VIA BIRCHWOOD - LOCKING STUMPS - ORFORD

**MONDAY TO FRIDAY** [excluding Public Holidays]

Gorse Covert, Spar Store	0629	0646	0707	0723	0739	0759	0817	0844	0914	0944	14	44	1414	1444	1520	1550	1617	
Gorse Covert, Ashdown Lane	0631	0648	0709	0725	0741	0801	0819	0846	0916	0946	16	46	1416	1446	1522	1552	1619	
Oakwood, Keyes Close	0635	0652	0713	0729	0745	0805	0824	0851	0920	0950	20	50	1420	1450	1527	1556	1623	
Birchwood, Railway Station	0639	0657	0717	0733	0750	0810	0830	0856	0924	0954	24	54	1424	1454	1532	1601	1628	
<b>Birchwood Centre</b>	<b>0640</b>	<b>0658</b>	<b>0718</b>	<b>0734</b>	<b>0751</b>	<b>0811</b>	<b>0831</b>	<b>0857</b>	<b>0925</b>	<b>0955</b>	<b>25</b>	<b>55</b>	<b>1425</b>	<b>1455</b>	<b>1533</b>	<b>1602</b>	<b>1629</b>	
<b>Heathfield House</b>	<b>0646</b>	<b>0704</b>	<b>0724</b>	<b>0741</b>	<b>0758</b>	<b>0818</b>	<b>0838</b>	<b>0904</b>	<b>0932</b>	<b>1002</b>	<b>32</b>	<b>02</b>	<b>and then at these</b>	<b>1432</b>	<b>1502</b>	<b>1542</b>	<b>1610</b>	<b>1636</b>
Glover Road, Turf & Feather	0647	0705	0725	0742	0759	0819	0839	0905	0933	1003	33	03		1433	1503	1543	1611	1637
Locking Stumps, Copperfield Cl	0650	0708	0728	0745	0803	0823	0843	0908	0936	1006	36	06		1436	1506	1547	1615	1640
Crab Lane, Uni of Chester	0653	0711	0731	0748	0807	0827	0847	0912	0940	1009	39	09		1440	1510	1551	1619	1644
Enfield Park Rd, Stirrup Cl	0655	0713	0733	0750	0809	0829	0849	0914	0942	1011	41	11		1442	1512	1553	1621	1646
Greenwood Crescent, Merrick Cl	0657	0715	0735	0753	0812	0832	0852	0916	0944	1013	43	13		1444	1515	1556	1624	1648
Statham Avenue, Kirkstone Av	0701	0719	0739	0757	0817	0837	0857	0920	0948	1017	47	17		1448	1519	1601	1628	1652
O'Leary Street	0706	0725	0745	0805	0825	0845	0905	0926	0954	1023	53	23		1454	1525	1609	1635	1659
Warrington, Scotland Road	0713	0733	0753	0813	0833	0853	0913	0933	1001	1029	59	29		1500	1532	1617	1643	1707
Warrington, Interchange	0715	0735	0755	0815	0835	0855	0915	0935	1003	1031	01	31		1502	1534	1619	1645	1709

Gorse Covert, Spar Store	1647	1723	1743	1800	1820	1836	1901	1931
Gorse Covert, Ashdown Lane	1649	1725	1745	1802	1822	1838	1903	1933
Oakwood, Keyes Close	1653	1729	1749	1806	1825	1841	1906	1936
Birchwood, Railway Station	1658	1734	1754	1810	1829	1844	1909	1939
<b>Birchwood Centre</b>	<b>1659</b>	<b>1735</b>	<b>1755</b>	<b>1811</b>	<b>1830</b>	<b>1845</b>	<b>1910</b>	<b>1940</b>
<b>Heathfield House</b>	<b>1706</b>	<b>1742</b>	<b>1802</b>	<b>1818</b>	<b>1836</b>	<b>1851</b>	<b>1916</b>	<b>1946</b>
Glover Road, Turf & Feather	1707	1743	1803	1819	1837	1852	1917	1947
Locking Stumps, Copperfield Cl	1710	1746	1806	1822	1840	1855	1920	1950
Crab Lane, Uni of Chester	1714	1750	1809	1825	1843	1858	1923	1953
Enfield Park Rd, Stirrup Cl	1716	1752	1811	1827	1845	1900	1925	1955
Greenwood Crescent, Merrick Cl	1718	1754	1813	1829	1847	1902	1927	1957
Statham Avenue, Kirkstone Av	1722	1758	1817	1833	1850	1905	1930	2000
O'Leary Street	1730	1806	1824	1838	1855	1910	1935	2005
Warrington, Scotland Road	1738	1813	1831	1844	1900	1915	1940	2010
Warrington, Interchange	1740	1815	1833	1846	1902	1917	1942	2012

# 25 WARRINGTON - GORSE COVERT VIA ORFORD - LOCKING STUMPS - BIRCHWOOD

**MONDAY TO FRIDAY** [excluding Public Holidays]

Warrington, Interchange	0545	0621	0638	0652	0709	0722	0745	0819	0855	0925	55	25	1355	1420	1450	1520	1550	
Warrington, Academy Way	0546	0622	0639	0653	0710	0724	0747	0821	0857	0927	57	27	1357	1422	1452	1522	1552	
O'Leary Street	0553	0629	0646	0700	0718	0732	0755	0829	0905	0935	05	35	1405	1430	1500	1531	1601	
Statham Avenue, Kirkstone Av	0558	0634	0651	0705	0723	0738	0802	0836	0911	0941	11	41	1411	1436	1506	1537	1607	
Greenwood Crescent, Merrick Cl	0602	0638	0655	0709	0727	0743	0807	0841	0915	0945	15	45	<b>and then at these</b>	1415	1441	1511	1542	1612
Enfield Park Rd, Stirrup Cl	0603	0639	0657	0711	0729	0745	0809	0843	0917	0947	17	47		1417	1443	1513	1544	1614
Crab Lane, Uni of Chester	0605	0641	0659	0713	0731	0748	0812	0846	0919	0949	19	49		1419	1446	1516	1547	1617
Locking Stumps, Copperfield Cl	0609	0645	0703	0717	0735	0753	0817	0851	0923	0953	23	53		1423	1450	1520	1551	1621
Glover Road, Turf & Feather	0611	0647	0705	0719	0737	0755	0819	0853	0925	0955	25	55		1425	1452	1522	1553	1623
Heathfield House	0612	0648	0706	0720	0738	0756	0820	0854	0926	0956	26	56		1426	1453	1523	1554	1624
Birchwood Centre	0617	0653	0712	0726	0744	0803	0827	0901	0932	1002	32	02		1432	1503	1533	1601	1631
Birchwood, Railway Station	0618	0654	0713	0727	0746	0805	0829	0903	0934	1004	34	04		1434	1505	1535	1604	1634
Oakwood, Keyes Close	0621	0657	0716	0730	0750	0809	0833	0907	0937	1007	37	07		1437	1509	1539	1608	1638
Gorse Covert, Spar Store	0625	0701	0720	0734	0754	0813	0837	0911	0941	1011	41	11		1441	1514	1544	1612	1642

Warrington, Interchange	1625	1645	1705	1725	1745	1815	1845
Warrington, Academy Way	1627	1647	1707	1727	1747	1817	1847
O'Leary Street	1636	1656	1717	1737	1756	1824	1854
Statham Avenue, Kirkstone Av	1642	1702	1723	1743	1802	1830	1900
Greenwood Crescent, Merrick Cl	1647	1707	1728	1748	1806	1833	1903
Enfield Park Rd, Stirrup Cl	1649	1709	1730	1750	1808	1835	1905
Crab Lane, Uni of Chester	1652	1712	1732	1752	1810	1837	1907
Locking Stumps, Copperfield Cl	1656	1717	1736	1756	1814	1841	1911
Glover Road, Turf & Feather	1658	1719	1738	1758	1816	1843	1913
Heathfield House	1659	1720	1739	1759	1817	1844	1914
Birchwood Centre	1706	1727	1746	1806	1823	1850	1920
Birchwood, Railway Station	1709	1730	1748	1808	1824	1851	1921
Oakwood, Keyes Close	1713	1734	1752	1812	1827	1854	1924
Gorse Covert, Spar Store	1717	1738	1756	1816	1831	1858	1928

**25****GORSE COVERT - WARRINGTON VIA BIRCHWOOD - LOCKING STUMPS - ORFORD****SATURDAY**

Gorse Covert, Spar Store	0719	0749	0814	0844	14	44	1714	1744	1814	1842	1912		
Gorse Covert, Ashdown Lane	0721	0751	0816	0846	16	46	1716	1746	1816	1844	1914		
Oakwood, Keyes Close	0724	0754	0820	0850	20	50	1720	1749	1819	1847	1917		
Birchwood, Railway Station	0728	0758	0824	0854	24	54	min-	1724	1753	1823	1850	1920	
Birchwood Centre	0729	0759	0825	0855	and	25	55	1725	1754	1824	1851	1921	
Heathfield House	0735	0805	0832	0902	then	32	02	past	1732	1800	1830	1857	1927
Glover Road, Turf & Feather	0736	0806	0833	0903	at	33	03	each	1733	1801	1831	1858	1928
Locking Stumps, Copperfield Cl	0739	0809	0836	0906	these	36	06	hour	1736	1804	1834	1901	1931
Crab Lane, Uni of Chester	0742	0812	0839	0909		39	09	until	1739	1807	1837	1904	1934
Enfield Park Rd, Stirrup Cl	0744	0814	0841	0911		41	11		1741	1809	1839	1906	1936
Greenwood Crescent, Merrick Cl	0746	0816	0843	0913		43	13		1743	1811	1841	1908	1938
Statham Avenue, Kirkstone Av	0749	0819	0847	0917		47	17		1747	1814	1844	1911	1941
O'Leary Street	0754	0824	0853	0923		53	23		1753	1819	1849	1916	1946
Warrington, Scotland Road	0759	0829	0859	0929		59	29		1759	1824	1854	1919	1951
Warrington, Interchange	0801	0831	0901	0931		01	31		1801	1826	1856	1921	1953

**25 WARRINGTON - GORSE COVERT VIA ORFORD - LOCKING STUMPS - BIRCHWOOD****SATURDAY**

Warrington, Interchange [14]	0634	0704	0729	0755	0825	0855	25	55	1725	1755	1825	
Warrington, Academy Way	0636	0706	0731	0757	0827	0857	27	57	1727	1757	1827	
O'Leary Street	0642	0712	0737	0805	0835	0905	35	05	1735	1803	1833	
Statham Avenue, Kirkstone Av	0648	0718	0743	0811	0841	0911	41	11	1741	1809	1839	
Greenwood Crescent, Merrick Cl	0651	0721	0746	0815	0845	0915	45	15	1745	1812	1842	
Enfield Park Rd, Stirrup Cl	0653	0723	0748	0817	0847	0917	and	47	17	1747	1814	1844
Crab Lane, Uni of Chester	0655	0725	0750	0819	0849	0919	then	49	19	1749	1816	1846
Locking Stumps, Copperfield Cl	0659	0729	0754	0823	0853	0923	at	53	23	1753	1820	1850
Glover Road, Turf & Feather	0701	0731	0756	0825	0855	0925	these	55	25	1755	1822	1852
Heathfield House	0702	0732	0757	0826	0856	0926		56	26	1756	1823	1853
Birchwood Centre	0707	0737	0802	0832	0902	0932		02	32	1802	1829	1859
Birchwood, Railway Station	0708	0738	0804	0834	0904	0934		04	34	1804	1830	1900
Oakwood, Keyes Close	0711	0741	0807	0837	0907	0937		07	37	1807	1833	1903
Gorse Covert, Spar Store	0715	0745	0811	0841	0911	0941		11	41	1811	1837	1907

**25A CINNAMON BROW - WARRINGTON VIA ORFORD****MONDAY TO FRIDAY** [excluding Public Holidays]

Cinnamon Brow, Millhouse Rdbt	0525	0625
Enfield Park Road, Stirrup Cl	0527	0627
Greenwood Crescent, Merrick Cl	0529	0629
Statham Avenue, Kirkstone Av	0531	0631
O'Leary Street	0536	0636
Warrington, Scotland Road	0540	0640
Warrington, Interchange	0542	0642

**25A WARRINGTON - CINNAMON BROW VIA ORFORD****MONDAY TO FRIDAY** [excluding Public Holidays]

D	
Warrington, Interchange [14]	- 0607
Warrington, Academy Way	- 0609
Wilderspool, St James Church	0509
O'Leary Street	0514 0614
Statham Avenue, Kirkstone Av	0520 0620
Greenwood Crescent, Merrick Cl	0522 0622
Cinnamon Lane North	0524 0624
Cinnamon Brow, Millhouse Rdbt	0525 0625

D From Wilderspool, St James Church (at 0509) via Warrington Bridge and Mersey Street to Fennel Street.

**25B RYFIELDS VILLAGE - WARRINGTON****MONDAY TO FRIDAY** [excluding Public Holidays]

Ryfields Village	0940
O'Leary Street	0942
Warrington, Scotland Road	0946
Warrington, Interchange	0948

**25B WARRINGTON - RYFIELDS VILLAGE****MONDAY TO FRIDAY** [excluding Public Holidays]

Warrington, Interchange [14]	1150
Warrington, Academy Way	1152
O'Leary Street	1158
Ryfields Village	1200

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27**GORSE COVERT - WARRINGTON VIA BIRCHWOOD - LOCKING STUMPS - CINNAMON BROW - ORFORD****GORSE COVERT - WARRINGTON VIA BIRCHWOOD - LOCKING STUMPS - FEARNSHEAD - ORFORD****SUNDAY & PUBLIC HOLIDAYS**

	27	26	27	26	27	26	27	26	27	26
<b>Gorse Covert</b> , Spar Store	0908	1026	1124	1226	1324	1426	1524	1626	1724	1826
<b>Gorse Covert</b> , Ashdown Lane	0911	1029	1127	1229	1327	1429	1527	1629	1727	1829
<b>Oakwood</b> , Keyes Close	0914	1032	1130	1232	1330	1432	1530	1632	1730	1832
<b>Birchwood</b> , Railway Station	0919	1037	1135	1237	1335	1437	1535	1637	1735	1837
<b>Birchwood Centre</b>	0920	1038	1136	1238	1336	1438	1536	1638	1736	1838
<b>Heathfield House</b>	0925	1043	1141	1243	1341	1443	1541	1643	1741	1843
<b>Glover Road</b> , Turf & Feather	0926	1044	1142	1244	1342	1444	1542	1644	1742	1844
<b>Locking Stumps</b> , Copperfield Cl	0928	1046	1144	1246	1344	1446	1544	1646	1744	1846
<b>Crab Lane</b> , Uni of Chester	0932	1050	1148	1250	1348	1450	1548	1650	1748	1850
<b>Enfield Park Rd</b> , Shetland Cl		1053		1253		1453		1653		1853
<b>Greenwood Crescent</b> , Merrick Cl		1055		1255		1455		1655		1855
<b>Enfield Park Rd</b> , Stirrup Cl	0934		1150		1350		1550		1750	
<b>Insall Road</b> , Valiant Close	0937		1153		1353		1553		1753	
<b>Statham Avenue</b> , Kirkstone Av	0942	1058	1158	1258	1358	1458	1558	1658	1758	1858
<b>O'Leary Street</b>	0948	1104	1204	1304	1404	1504	1604	1704	1804	1904
<b>Warrington</b> , Scotland Road	0952	1108	1208	1308	1408	1508	1608	1708	1808	1908
<b>Warrington</b> , Interchange	0954	1110	1210	1310	1410	1510	1610	1710	1810	1910

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**WARRINGTON - GORSE COVERT VIA ORFORD - CINNAMON BROW - LOCKING STUMPS - BIRCHWOOD**

27

**WARRINGTON - GORSE COVERT VIA ORFORD - FEARNSHEAD - LOCKING STUMPS - BIRCHWOOD****SUNDAY & PUBLIC HOLIDAYS**

	26	27	26	27	26	27	26	27	26	27
<b>Warrington</b> , Interchange [14]	0825	0941	1041	1141	1241	1341	1441	1541	1641	1741
<b>Warrington</b> , Academy Way	0827	0943	1043	1143	1243	1343	1443	1543	1643	1743
<b>O'Leary Street</b>	0833	0949	1049	1149	1249	1349	1449	1549	1649	1749
<b>Statham Avenue</b> , Kirkstone Av	0839	0955	1055	1155	1255	1355	1455	1555	1655	1755
<b>Greenwood Crescent</b> , Merrick Cl	0842		1058		1258		1458		1658	
<b>Enfield Park Rd</b> , Shetland Cl	0844		1100		1300		1500		1700	
<b>Insall Road</b> , Valiant Close		1000		1200		1400		1600		1800
<b>Enfield Park Rd</b> , Stirrup Cl		1003		1203		1403		1603		1803
<b>Crab Lane</b> , Uni of Chester	0847	1005	1103	1205	1303	1405	1503	1605	1703	1805
<b>Locking Stumps</b> , Copperfield Cl	0851	1009	1107	1209	1307	1409	1507	1609	1707	1809
<b>Glover Road</b> , Turf & Feather	0853	1011	1109	1211	1309	1411	1509	1611	1709	1811
<b>Heathfield House</b>	0854	1012	1110	1212	1310	1412	1510	1612	1710	1812
<b>Birchwood Centre</b>	0859	1017	1115	1217	1315	1417	1515	1617	1715	1817
<b>Birchwood</b> , Railway Station	0901	1019	1117	1219	1317	1419	1517	1619	1717	1819
<b>Oakwood</b> , Keyes Close	0905	1023	1121	1223	1321	1423	1521	1623	1721	1823
<b>Gorse Covert</b> , Spar Store	0908	1026	1124	1226	1324	1426	1524	1626	1724	1826

**28E LEIGH - WARRINGTON VIA GORSE COVERT & BIRCHWOOD****MONDAY TO FRIDAY** [excluding Public Holidays]

Leigh, Bus Station [B]	1900	2000	2100	2200	2300
<b>Culcheth</b> , Library (dep)	1913	2013	2113	2213	2313
<b>Risley</b> , H.M. Prison	1917	2017	2117	2217	2317
<b>Gorse Covert</b> , Spar Store	1922	2022	2122	2222	2322
<b>Gorse Covert</b> , Ashdown Lane	1924	2024	2124	2224	2324
<b>Oakwood</b> , Keyes Close	1927	2027	2127	2227	2327
<b>Birchwood</b> , Railway Station	1931	2031	2131	2231	2331
<b>Birchwood Centre</b>	1933	2033	2133	2233	2333
<b>Glover Road</b> , Turf & Feather	1938	2038	2138	2238	2338
<b>Crab Lane</b> , Locking Stumps Lane	1941	2041	2141	2241	2341
<b>Longbarn</b> , Blackburn Close	1944	2044	2144	2244	2344
<b>Warrington</b> , Interchange	1956	2056	2156	2256	
<b>Wilderspool</b> , St James Church	-	-	-	-	2354

**28E WARRINGTON - LEIGH VIA BIRCHWOOD & GORSE COVERT****MONDAY TO FRIDAY** [excluding Public Holidays]

	NRA	NRA	NRA
<b>Warrington</b> , Interchange [13]	1900	2000	2100
<b>Longbarn</b> , Blackburn Close	1914	2014	2114
<b>Crab Lane</b> , Locking Stumps Lane	1916	2016	2116
<b>Glover Road</b> , Turf & Feather	1919	2019	2119
<b>Birchwood Centre</b>	1924	2024	2124
<b>Birchwood</b> , Railway Station	1926	2026	2126
<b>Oakwood</b> , Keyes Close	1929	2029	2129
<b>Gorse Covert</b> , Spar Store	1932	2032	2132
<b>Gorse Covert</b> , Ashdown Lane	1934	2034	2134
<b>Risley</b> , H.M. Prison	1939	2039	2139
<b>Culcheth</b> , Library (arr)	1943	2043	2143
<b>Leigh</b> , Bus Station	1956	2056	2156

For more details of Service 28E, please see the leaflet for Services 19, 28, 28A

## 28E LEIGH - WARRINGTON VIA GORSE COVERT & BIRCHWOOD

### SATURDAY

Leigh, Bus Station [B]	1900	2000	2100	2200	2300
<b>Culcheth</b> , Library (dep)	1913	2013	2113	2213	2313
<b>Risley</b> , H.M. Prison	1917	2017	2117	2217	2317
<b>Gorse Covert</b> , Spar Store	1922	2022	2122	2222	2322
<b>Gorse Covert</b> , Ashdown Lane	1924	2024	2124	2224	2324
<b>Oakwood</b> , Keyes Close	1927	2027	2127	2227	2327
<b>Birchwood</b> , Railway Station	1931	2031	2131	2231	2331
<b>Birchwood Centre</b>	1933	2033	2133	2233	2333
<b>Glover Road</b> , Turf & Feather	1938	2038	2138	2238	2338
<b>Crab Lane</b> , Locking Stumps Lane	1941	2041	2141	2241	2341
<b>Longbarn</b> , Blackburne Close	1944	2044	2144	2244	2344
<b>Warrington</b> , Interchange	1956	2056	2156	2256	-
<b>Wilderspool</b> , St James Church	-	-	-	-	2354

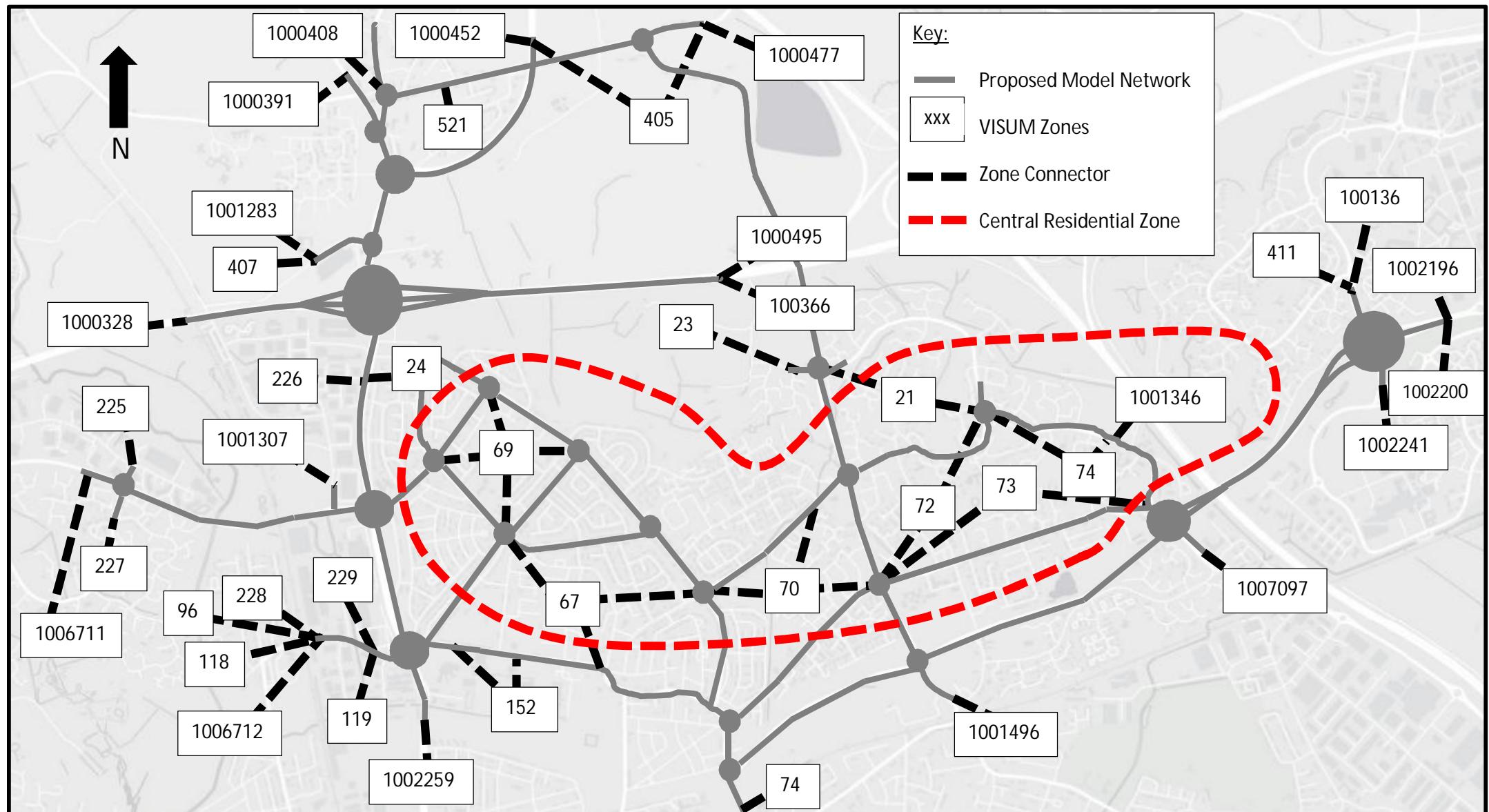
NRA Does NOT operate via Rylands Street or Academy Way.

## 28E WARRINGTON - LEIGH VIA BIRCHWOOD & GORSE COVERT

### SATURDAY

	<b>NRA</b>	<b>NRA</b>	<b>NRA</b>
<b>Warrington</b> , Interchange [13]	1900	2000	2100
<b>Longbarn</b> , Blackburne Close	1914	2014	2114
<b>Crab Lane</b> , Locking Stumps Lane	1916	2016	2116
<b>Glover Road</b> , Turf & Feather	1919	2019	2119
<b>Birchwood Centre</b>	1924	2024	2124
<b>Birchwood</b> , Railway Station	1926	2026	2126
<b>Oakwood</b> , Keyes Close	1929	2029	2129
<b>Gorse Covert</b> , Spar Store	1932	2032	2132
<b>Gorse Covert</b> , Ashdown Lane	1934	2034	2134
<b>Risley</b> , H.M. Prison	1939	2039	2139
<b>Culcheth</b> , Library (arr)	1943	2043	2143
<b>Leigh</b> , Bus Station	1956	2056	2156

## Appendix E : VISUM Matrix Zones



Appendix F – WMMTM VISUM Zone Structure

**AECOM**

## Appendix F : Turning Count Flow Comparisons

# Peel Hall

Am Peak Calibration

Time Period 0800 - 0900

Turn counts  
Calibration Statistics

GEH	Cars	LGV	HGV
<5	144	148	143
>5	85%	92%	85%
<10	21	13	26
>10	12%	8%	15%
>10	4	0	0
>20	2%	0%	0%
>20	0	0	0%
Total	169		

## Turn Counts

Junction	Road	Movement	Model			Observed			Difference			Percentage Difference			GEH		
			Cars	LGV	HGV	All Traffic	Cars	LGV	HGV	All Traffic	Cars	LGV	HGV	All Traffic	Cars	LGV	HGV
Southworth Lane / Delph Lane / Myddleton Lane	Left to Delph Lane	79 3 3 85	80 4 5 89	-1 -1 -2 -4	-0.01 -0.28 -0.40 -0.04	0.07 0.60 0.97											
	Southworth Lane W/B to Myddleton Lane	142 14 5 161	142 14 14 170	0 0 -9 -9	0.00 -0.64 -0.05 0.00	0.00 0.00 0.00 0.00	2.92										
	Delph Lane Left to Myddleton Lane	183 0 0 183	177 19 12 208	6 -19 -12 -25	0.03 -1.00 -1.00 -0.12	0.00 0.44 6.16 4.90											
	E/B to Southworth Lane	28 0 0 28	58 3 0 61	-30 -3 -30	-0.52 -1.00 0.00	-0.54 4.58 2.45 0.00											
	Myddleton Lane Right to Delph Lane	335 26 18 379	335 17 16 368	0 9 2 11	0.00 0.56 0.10 0.03	0.01 0.01 2.03 0.38											
Newton Road / A49 / Winwick Park Avenue	Right to Delph Lane	375 26 13 413	328 29 12 369	47 -3 1 44	-0.11 0.14 0.06 0.12	2.48 0.63 0.20											
	Newton Road Entry to Roundabout	657 85 52 794	743 97 88 928	-86 -12 -37 -135	-0.12 -0.13 -0.11 -0.41	-0.14 -0.14 0.24 1.29	4.37										
	A49 (East) Entry to Roundabout	526 101 131 759	527 118 132 777	-1 -17 -1 -18	0.00 -0.14 -0.01 -0.02	0.03 1.58 0.06											
A49 / Delph Lane	A49 (South) Entry to Roundabout	852 143 183 1178	864 178 228 1270	-12 -35 -45 -92	-0.01 -0.20 -0.20 -0.07	0.40 2.77 3.15											
	Left to Newton Road	70 0 5 75	70 2 2 74	0 -2 3 1	0.00 1.50 0.01 0.01	0.01 2.00 1.60											
	Winwick Park Avenue E/B Entry to Roundabout	82 0 0 82	76 0 0 76	6 0 0 6	0.07 0.63 0.00 0.00	0.00 0.00 0.00 0.00											
	A49 (North) S/B to A49 (South)	977 162 182 1322	996 163 175 1334	-19 -1 7 -12	0.02 0.00 0.04 0.01	0.01 0.60 0.05 0.53											
	A49 (North) Right to Delph Lane	59 6 0 64	67 15 5 87	-9 -5 -23 -43	-0.60 -1.00 -0.26 1.07	2.78 3.16											
A49 / Birch Avenue	A49 (South) Left to Delph Lane	178 30 0 208	130 41 7 178	49 -11 7 30	-0.27 -1.06 0.17 0.17	3.90 1.84 3.74											
	A49 (South) W/B to A49 (North)	793 143 178 224	792 143 178 224	-9 -46 -46 -46	-0.01 -0.05 -0.05 0.38	0.38 0.38 0.38 3.26											
	Delph Lane Right to A49 (North)	59 0 5 64	62 14 5 101	-3 -34 -18 -14	-0.05 -0.05 -0.05 0.37	-0.05 0.00 0.00 0.37	0.25 0.25 0.25 0.25										
A49 / Birch Avenue	A49 (North) Left to Birch Avenue	138 51 0 20	108 59 14 181	-8 -14 -14 -14	-0.27 -0.14 -0.14 0.04	0.04 1.13 5.29											
	S/B to A49 (South)	1442 191 241 1824	1483 192 245 1940	-41 -11 -4 -46	-0.03 -0.02 -0.02 0.03	0.01 0.66 0.07 0.27											
	Birch Avenue Left to A49 (South)	19 3 0 22	19 4 0 23	0 1 -1 0	-0.00 -0.00 -0.00 0.04	0.01 0.46 0.00 0.00											
A49 / Sandy Lane West / A574	A49 (North) Left to Sandy Lane West	100 13 8 121	153 25 7 185	-53 -12 1 64	-0.35 -0.35 0.11 0.11	-0.34 4.70 0.65 0.26											
	A49 (North) Entry to roundabout	1361 181 253 1795	1348 176 258 1782	-13 5 5 13	-0.01 0.01 0.02 0.01	0.01 0.36 0.36 0.32											
	Sandy Lane West Left to A49 (South)	29 4 19 51	45 8 5 58	16 4 14 7	0.26 0.48 0.22 0.11	0.70 1.56 1.96											
	A49 (South) Entry to roundabout	240 38 45 323	339 38 46 423	99 0 -1 -100	-0.00 -0.00 -0.02 0.24	0.00 5.83 0.00 0.16											
	A574 Left to A49 (North)	243 46 96 385	244 32 12 396	-1 14 -24 -11	0.00 0.45 0.20 0.03	0.07 2.30 2.35											
Cotswold Road / Cleveland Road / Sandy Lane / Sandy Lane West	A49 (South) Entry to roundabout	714 70 66 850	759 83 78 920	-45 -13 -12 -70	-0.06 -0.15 -0.15 -0.08	-0.08 1.66 1.46 1.39											
	Cotswold Road Left to Cleveland Road	21 0 0 21	4 1 0 5	17 -1 0 16	-1.00 0.00 0.00 0.00	0.29 4.90 1.41 0.00											
	Cotswold Road S/B to Sandy Lane	43 0 0 43	49 5 12 66	-5 -12 -23 -13	-0.00 -0.00 -0.00 0.00	0.00 0.92 3.16 4.90											
	Cotswold Road Right to Sandy Lane West	43 2 10 55	37 4 2 43	5 -2 8 12	-0.17 -0.50 0.28 0.97	0.28 1.15 3.26											
	Cleveland Road Left to Sandy Lane	176 20 9 205	138 15 7 160	38 5 2 45	0.27 0.34 0.33 0.28	0.00 1.22 0.80											
Poplars Avenue / Cleveland Road	Cleveland Road Right to Cotswold Road	0 0 0 0	21 3 2 26	-21 -3 -26 -100	-1.00 -1.00 -1.00 -1.00	6.48 2.45 2.00											
	Sandy Lane Left to Sandy Lane West	74 0 0 74	107 15 5 127	-33 -15 -53 -31	-0.00 -0.00 -0.00 0.00	0.00 5.83 0.00 0.16											
	A49 (South) Entry to roundabout	595 130 238 963	497 129 224 850	98 1 14 113	-0.20 0.20 0.06 0.12	0.19 4.19 0.05 0.92											
	A574 Left to A49 (North)	243 46 96 385	244 32 12 396	-1 14 -24 -11	0.00 0.45 0.20 0.03	0.07 2.30 2.35											
	A574 Entry to roundabout	714 70 66 850	759 83 78 920	-45 -13 -12 -70	-0.06 -0.15 -0.15 -0.08	-0.08 1.66 1.46 1.39											
Poplars Avenue / Howson Road	Cotswold Road Left to Cleveland Road	21 0 0 21	4 1 0 5	17 -1 0 16	-1.00 0.00 0.00 0.00	0.29 4.90 1.41 0.00											
	Poplars Avenue (East) Left to Cleveland Avenue	138 16 1 155	137 13 7 157	1 3 -6 -2	0.24 -0.91 -0.01 0.01	0.09 0.81 0.81 0.24											
	Poplars Avenue (East) W/B to Poplars Avenue (West)	40 0 0 40	28 5 9 42	12 -5 -9 -2	-0.43 -1.00 -1.00 -0.05	0.00 2.06 3.16 4.24											
	Cleveland Road Left to Poplars Avenue (West)	0 0 0 0	2 1 2 5	-2 -1 -2 -5	-1.00 -1.00 -1.00 -1.00	0.00 2.00 1.41 2.00											
	Cleveland Road Right to Poplars Avenue (East)	214 15 7 236	196 19 5 240	220 18 4 2	0.09 -0.19 0.34 0												

## Peel Hall

PM Peak Calibration

Time Period 1700-1800

Turn Counts  
Calibration Statistics

GEH	Cars	LGV	HGV
<5	148	150	159
>5	88%	93%	94%
<10	17.00	11.00	7.00
>10	3.00	0.00	1.00
<20	0	0	1
>20	0%	0%	1%

TOTAL 169

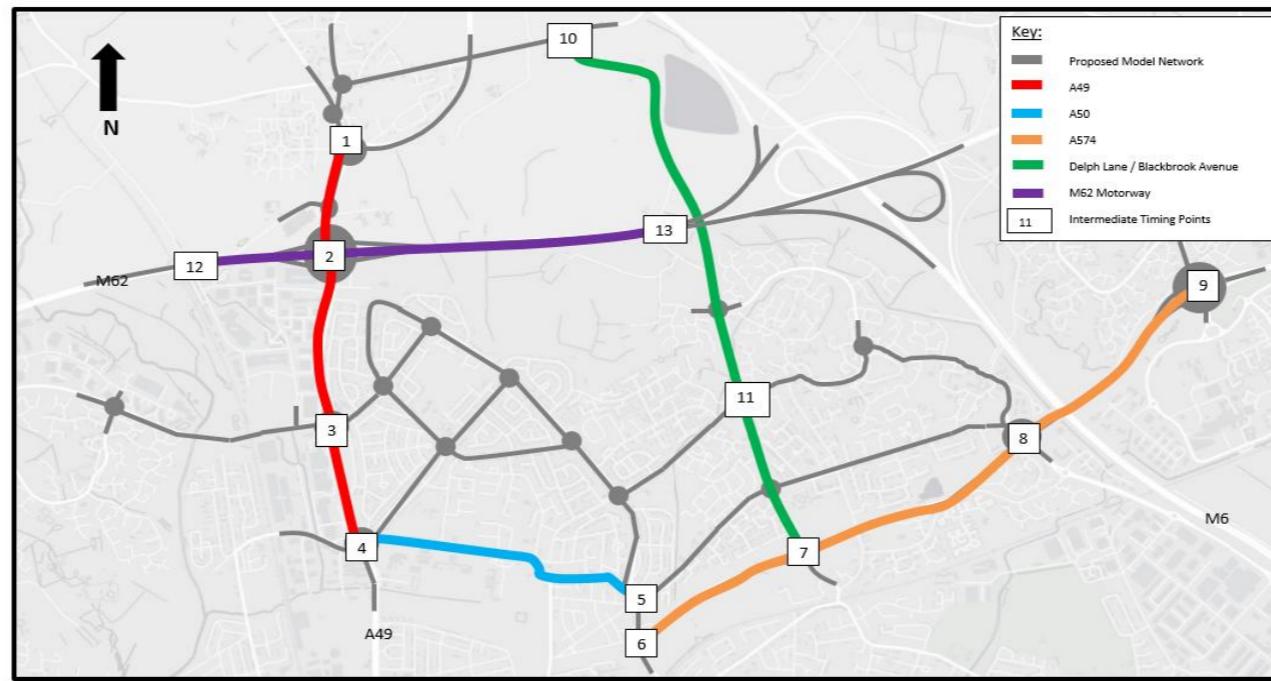
Turn Counts

Junction	Road	Movement	Model	Observed			Difference			Percentage Difference			GEH								
				Cars	LGV	HGV	All Traffic	Cars	LGV	HGV	All Traffic	Cars	LGV	HGV							
Southworth Lane / Delph Lane / Middleton Lane	Southworth Lane	Left to Delph Lane	56	4	0	61	48	4	0	52	8	0	0	9	0.17	0.08	0.00	0.17	1.15	1.16	0.00
	Southworth Lane	W/B to Middleton Lane	382	24	3	409	390	24	6	420	-8	0	-3	-11	-0.02	0.00	-0.52	-0.03	0.43	0.00	1.47
	Delph Lane	Left to Middleton Lane	323	31	14	368	291	32	1	324	32	-1	13	44	0.11	-0.04	13.28	0.14	1.83	0.21	4.80
	Delph Lane	E/B to Southworth Lane	23	0	0	23	23	4	0	27	0	-4	0	-4	0.00	-1.00	0.00	-0.15	0.09	2.83	0.00
	Middleton Lane	E/B to Southworth Lane	159	17	0	176	157	17	3	177	2	0	-3	-1	0.01	0.01	-1.00	0.00	0.17	0.05	2.45
Newton Road / A49 / Winwick Park Avenue	Southworth Lane	Right to Delph Lane	231	16	0	247	302	32	2	336	-71	-16	-2	-89	-0.23	-0.51	-1.00	-0.27	4.34	3.35	2.00
	Newton Road	Entry to Roundabout	712	49	13	773	746	46	17	809	-34	3	-4	-36	-0.05	0.06	-0.25	-0.04	1.27	0.43	1.11
	A49 (East)	Entry to Roundabout	721	90	38	848	723	90	38	851	-2	0	0	-3	0.00	0.00	-0.01	0.00	0.09	0.09	0.05
	A49 (South)	Entry to Roundabout	1630	143	37	1810	1611	144	36	1791	19	-1	1	19	0.01	-0.01	0.03	0.01	0.47	0.08	0.17
	Winwick Park Avenue	Left to Newton Road	33	4	2	39	33	4	1	38	0	0	1	1	0.00	0.00	1.30	0.03	0.01	0.00	1.01
A49 / Delph Lane	Winwick Park Avenue	Left to Winwick Park Avenue	29	5	0	34	27	5	1	33	2	0	-1	1	0.07	0.07	-1.00	0.04	0.38	0.16	1.41
	A49 (North)	S/B to A49 (South)	1104	95	50	1249	1099	98	40	1237	5	-3	-10	12	0.00	-0.03	0.25	0.01	0.16	0.18	1.42
	A49 (North)	Right to Delph Lane	113	11	0	124	230	49	8	287	-17	-36	-8	-163	-0.51	-0.78	-1.00	-0.57	8.94	6.99	4.00
	A49 (South)	Right to Delph Lane	155	42	0	197	151	41	9	201	4	1	-9	-4	0.03	0.03	-1.00	-0.02	0.34	0.18	4.24
	A49 (South)	Left to A49 (North)	149	26	27	1644	1472	123	35	1594	-1	0	10	10	0.03	-0.24	0.48	0.01	0.38	0.16	1.38
A49 / Birch Avenue	Delph Lane	Left to A49 (North)	139	17	10	166	139	17	1	157	0	0	9	9	0.00	0.00	9.14	0.00	0.00	0.00	3.00
	Delph Lane	Right to A49 (South)	169	17	10	167	128	9	1	138	41	6	49	32	0.22	-1.00	0.35	0.39	2.22	1.41	1.41
	A49 (North)	Left to Birch Avenue	119	18	132	83	1412	1207	135	86	1428	-9	3	-16	-0.01	-0.02	0.27	0.29	0.37	0.20	0.00
	A49 (North)	S/B to A49 (South)	1269	130	63	1461	1214	115	51	1380	55	15	12	81	0.05	0.13	0.23	0.06	1.55	1.39	1.54
	Birch Avenue	Left to A49 (South)	32	2	0	14	18	2	0	20	-6	0	0	6	0.31	0.00	0.00	0.29	1.42	0.00	0.00
A49 / Sandy Lane West / A574	A49 (North)	Left to Sandy Lane West	221	24	5	250	231	29	5	265	-10	5	0	-15	-0.04	-0.18	0.00	-0.06	0.68	1.01	0.00
	A49 (North)	Entry to roundabout	989	110	78	1177	922	110	78	1110	67	0	0	67	0.07	0.00	0.00	0.06	2.18	0.01	0.04
	Sandy Lane West	Entry to roundabout	52	0	0	52	53	2	1	56	-1	-2	-1	-4	-0.03	-1.00	-0.08	0.18	2.00	1.41	1.41
	A49 (South)	Left to A574	457	25	12	494	468	32	3	503	-11	-7	9	-9	-0.02	-0.20	3.07	-0.02	0.53	1.21	3.34
	A49 (South)	Entry to roundabout	1269	130	63	1461	1214	115	51	1380	55	15	12	81	0.05	0.13	0.23	0.06	1.55	1.39	1.54
Cotswold Road / Cleveland Road / Sandy Lane / Sandy Lane West	A49 (North)	Left to A49 (North)	369	17	15	401	363	17	14	394	6	0	1	7	0.02	0.00	0.05	0.02	0.33	0.00	0.20
	A49 (North)	Entry to roundabout	627	46	0	673	756	56	17	829	-129	-10	-17	-17	-0.17	-0.17	-1.00	-0.19	4.92	1.31	5.83
	Cotswold Road	Left to Cleveland Road	12	0	0	12	6	0	1	7	-6	0	-1	5	0.96	0.00	-1.00	-0.68	1.94	0.00	1.41
	Cotswold Road	S/B to Sandy Lane	30	0	0	30	30	1	4	35	-13	0	0	-13	-1.00	0.00	0.00	-1.00	5.10	0.00	0.00
	Cotswold Road	Right to Sandy Lane West	34	0	3	37	37	6	1	44	-3	-6	2	-7	-0.07	-1.00	1.61	-0.16	0.45	3.46	1.20
Poplars Avenue / Cleveland Road	Cleveland Road	Left to Sandy Lane	0	0	0	0	13	0	0	13	-13	0	0	-13	-1.00	0.00	0.00	-1.00	5.10	0.00	0.00
	Cleveland Road	Right to Sandy Lane West	5	4	0	10	1	0	1	4	4	0	0	9	0.39	0.00	0.00	0.88	2.46	3.00	0.00
	A49 (North)	Left to A574	135	0	1	136	160	11	1	172	-25	-11	0	-36	-0.16	-1.00	0.44	-0.21	2.09	4.69	0.40
	A49 (South)	Left to A49 (North)	32	0	0	32	30	7	4	41	2	-7	4	-9	-0.08	-1.00	-1.00	-0.21	0.42	3.74	2.83
	A574	Entry to roundabout	627	46	0	673	756	56	17	829	-129	-10	-17	-17	-0.17	-1.00	-0.19	-0.19	4.92	1.31	5.83
Poplars Avenue / Cleveland Road	Poplars Avenue (East)	Left to Cleveland Road	213	30	5	248	198	19	1	218	15	11	4	30	0.08	0.57	3.82</td				

## Appendix G : Full Journey Time Breakdown

Time Period	Description	Route Type	Direction of Travel	Reference	Observed Journey Time	Model Journey Time	Absolute Difference	Validation Achieved
08:00 - 09:00	A49	Whole	NB	4 to 1	283	272	-11	-4%
		Intermediate		4 to 3	97	85	-12	-12%
		Intermediate		3 to 2	84	85	1	1%
		Intermediate		2 to 1	102	100	-2	-2%
		Whole	SB	1 to 4	571	655	84	15%
		Intermediate		1 to 2	136	138	2	1%
		Intermediate		2 to 3	218	257	39	18%
		Intermediate		3 to 4	217	249	32	15%
	A574	Whole	EB	6 to 9	502	224	-278	-55%
		Intermediate		6 to 7	91	58	-33	-36%
		Intermediate		7 to 8	191	69	-122	-64%
		Intermediate		8 to 9	220	98	-122	-55%
		Whole	WB	9 to 6	232	223	-9	-4%
		Intermediate		9 to 8	66	76	10	15%
		Intermediate		8 to 7	81	76	-5	-6%
		Intermediate		7 to 6	85	71	-14	-16%
	A50	Whole	EB	4 to 5	213	189	-24	-11%
		Whole	WB	5 to 4	305	275	-30	-10%
	Delph Lane / Blackbrook Avenue	Whole	NB	7 to 10	332	300	-32	-10%
		Intermediate		7 to 11	185	155	-30	-16%
		Intermediate		11 to 10	147	144	-3	-2%
		Whole	SB	10 to 7	319	310	-9	-3%
		Intermediate		10 to 11	124	143	19	15%
		Intermediate		11 to 7	196	168	-28	-14%
		Whole	EB	12 to 13	162	150	-12	-7%
		Whole	WB	13 to 12	101	89	-12	-12%

Time Period	Description	Route Type	Direction of Travel	Reference	Observed Journey Time	Model Journey Time	Absolute Difference	Validation Achieved
17:00 - 18:00	A49	Whole	NB	4 to 1	409	434	25	6%
		Intermediate		4 to 3	135	116	-19	-14%
		Intermediate		3 to 2	159	183	24	15%
		Intermediate		2 to 1	115	109	-6	-5%
		Whole	SB	1 to 4	484	468	-16	-3%
		Intermediate		1 to 2	171	172	1	1%
		Intermediate		2 to 3	182	154	-28	-15%
		Intermediate		3 to 4	131	141	10	8%
	A574	Whole	EB	6 to 9	221	230	9	4%
		Intermediate		6 to 7	62	59	-3	-5%
		Intermediate		7 to 8	85	75	-10	-12%
		Intermediate		8 to 9	74	95	21	28%
		Whole	WB	9 to 6	316	268	-48	-15%
		Intermediate		9 to 8	113	96	-17	-15%
		Intermediate		8 to 7	125	102	-23	-18%
		Intermediate		7 to 6	78	71	-7	-9%
	A50	Whole	EB	4 to 5	184	200	16	9%
		Whole	WB	5 to 4	392	295	-97	-25%
	Delph Lane / Blackbrook Avenue	Whole	NB	7 to 10	308	298	-10	-3%
		Intermediate		7 to 11	139	149	10	7%
		Intermediate		11 to 10	169	149	-20	-12%
		Whole	SB	10 to 7	310	290	-20	-6%
		Intermediate		10 to 11	138	142	4	3%
		Intermediate		11 to 7	172	148	-24	-14%
		Whole	EB	12 to 13	103	91	-12	-12%
		Whole	WB	13 to 12	93	90	-3	-3%



## Appendix G - Journey Time Validation Outputs

**AECOM**

