

Appendix 52

HTp/1107/TN/07/Addendum – Traffic Growth (October 2016)

Highgate *Transportation*

**Land at Peel Hall, Warrington
Technical Note on Traffic Growth
(HTp/1107/TN/07/Addendum)**

October 2016

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1.0 Introduction

- 1.1 This Technical Note has been prepared by Highgate Transportation Limited (HTp) on behalf of Satnam Millennium Limited further to discussions with Warrington Borough Council (WBC) and Highways England (HE) regarding the appropriateness of the previous growth rates used in the modelling for the Peel Hall site. It was agreed further to the joint meeting held on 12th September 2016 that the review would be carried out and issued to WBC and HE for comment.
- 1.2 HTp and AECOM have reviewed the TEMPRO data and assumptions in line with Warrington's Local Plan, to ascertain if there has been an element of double-counting trip growth in the forecasting, and the extent of this.
- 1.3 It is acknowledge that TEMPRO 6 (version 6.2) has recently been superseded by TEMPRO 7. However, at the time of Matrix construction and production of the Peel Hall Transport Assessment, TEMPRO 6.2 remained current. Therefore, to ensure a direct comparison between the growth rates used in the Transport Assessment and supportive VISSIM modelling, TEMPRO 6.2 growth rates have been used within this exercise.
- 1.4 HTp seek to agree the methodology outlined in this Technical Note with WBC and for WBC to confirm what has been used within the forecasting in TEMPRO by Warrington. HTp also seek to agree this approach with HE.
- 1.5 Technical Note TN/07 on Growth Rates dated May 2016 set out that there was an agreement to use Motorway growth rates for the VISSIM model for the Warrington (00EU1) dataset. It should be noted that this represents an over-estimate for the traffic growth over much of the VISSIM modelling network in any event because it is the highest growth factor from this dataset in the TEMPRO programme; it will nevertheless provide even more confidence in the modelling results and, as pointed out previously, will include for any trips from the OMEGA development (see **Section 3.0**).

2.0 Growth Rates

- 2.1 The AM and PM 2015 base flows, growth, growth plus committed flows and all plus the Peel Hall development flows, including a table of development flows are tabulated in **Appendix 1** for reference.
- 2.2 The originally agreed growth rates for base traffic on the Peel Hall VISSIM network from TEMPRO v6.2 are set out in **Table 2.1** below.

Table 2.1 – Original growth rates

| | AM | PM |
|-----------|--------|--------|
| 2015-2019 | 1.0672 | 1.0679 |
| 2015-2029 | 1.2460 | 1.2504 |

- 2.3 The review of the assumptions used in TEMPRO was carried out to ascertain the quantum of housing supply and future jobs included for within the programme. The table contained in **Appendix 2** sets out the current assumptions in TEMPRO v6.2; these were therefore accounted for in the Peel Hall VISSIM flows that have been run to date. An extract is shown as **Table 2.2** below for ease of reference.

Table 2.2 – Current TEMPRO assumptions 2015-2019

| Area | Current Assumptions | | | |
|---------------------------------|---------------------|-----------|-----------|-------------|
| | Base HH | Base Jobs | Future HH | Future Jobs |
| NW (region) | 3093300 | 3383313 | 3186664 | 3429987 |
| Cheshire County | 450923 | 566330 | 462657 | 578410 |
| Warrington (Authority) | 87184 | 116965 | 89160 | 119044 |
| Rural (warrington) (00EU0) | 5825 | 11082 | 6009 | 11291 |
| Warrington (00EU1) | 36679 | 61689 | 37124 | 62748 |
| Great Sankey (00EU2) | 17585 | 17397 | 18100 | 17733 |
| Stockton Heath/Thelwall (00EU3) | 12227 | 5587 | 12637 | 5696 |
| Risley (00EU4) | 5597 | 16544 | 5750 | 16818 |
| Lymm (00EU5) | 4620 | 2572 | 4746 | 2624 |
| Culcheth (00EU6) | 3212 | 1538 | 3319 | 1568 |
| Burtonwood (00EU7) | 1438 | 555 | 1474 | 566 |

- 2.4 From these figures it is evident that there is an element of double-counting associated with future jobs and potentially housing supply, because the Warrington Local Plan (see **Appendix 3** and **Appendix 4** for Housing Supply Evidence and Local Plan Employment Evidence respectively) already contains the developments of Peel Hall, Calver Park and Birchwood Park. As these sites are all contained within the adopted Plan, they should be accounted for within TEMPRO.
- 2.5 The information contained in **Appendix 3** sets out what Warrington have forecast in terms of the build out rates at Peel Hall included within the SHLAA and hence these values will more than likely have been fed into TEMPRO.
- 2.6 **Appendix 3** shows that, in terms of Peel Hall phasing, it has been estimated that 90 dwellings are assumed to be occupied by 2019, and 1,335 dwellings by 2029.

2.7 Therefore, the alternative assumptions facility within TEMPRO has been used to derive an alternative forecast of traffic growth based on Warrington's forecast build out rates for Peel Hall (see **Appendix 2**). **Table 2.3** is an extract from this table for ease of reference.

Table 2.3 – Alternative TEMPRO assumptions 2015-2019

| Area | Alternative Assumptions | | | |
|---------------------------------|-------------------------|-----------|-----------|------------|
| | Base HH | Base Jobs | Future HH | Future Job |
| NW (region) | 3093300 | 3383313 | 3186664 | 3429987 |
| Cheshire County | 450923 | 566330 | 462657 | 578410 |
| Warrington (Authority) | 87184 | 116965 | 89160 | 119044 |
| Rural (warrington) (00EU0) | 5825 | 11082 | 6009 | 11291 |
| Warrington (00EU1) | 36679 | 61689 | 37034 | 62748 |
| Great Sankey (00EU2) | 17585 | 17397 | 18100 | 17733 |
| Stockton Heath/Thelwall (00EU3) | 12227 | 5587 | 12637 | 5696 |
| Risley (00EU4) | 5597 | 16544 | 5750 | 16818 |
| Lymm (00EU5) | 4620 | 2572 | 4746 | 2624 |
| Culcheth (00EU6) | 3212 | 1538 | 3319 | 1568 |
| Burtonwood (00EU7) | 1438 | 555 | 1474 | 566 |

- 2.8 As can be seen, this edit in the alternative assumption of TEMPRO only equates to a minor amount (90 dwellings) in 2019 in line with the SHLAA documentation (**paragraph 2.6**); see the Future Households column in **Table 2.2** for row Warrington (00EU1) and the deliverability section of the screen shot in **Appendix 3** for build-out rate up to 2019. However, as set out in **paragraph 2.6**, this is a noticeable volume in 2029, of 1,335 dwellings (see **Appendix 2**).
- 2.9 Two of the employment sites identified as committed developments; Calver Park (ref: 2015/26685 and 2013/22533) and Birchwood Park (ref: 2015/26044, 214/23358 and 2008/12744), are included in the Local Plan. Therefore it can reasonably be assumed that an estimation of the volume of trips these developments would generate will have been provided by Warrington and feed into TEMPRO. Evidence of this is provided in the Local Plan Employment extract from Warrington's website, contained in **Appendix 4**.
- 2.10 Hence there is an argument that these two developments should be removed from the committed development list included for within the Peel Hall VISSIM model as they will be captured within any future year forecasting in TEMPRO.
- 2.11 Consequently, it can be concluded that the future year trip volumes used within the existing modelling will have included more trips than is appropriate and thus double-counting of trips from these two employment developments and the actual Peel Hall site itself has occurred.

Summary

2.12 **Table 2.4** below sets out the proposed revised TEMPRO growth rates to be used in the Peel Hall VISSIM modelling, which removes the forecast build-out rate for the Peel Hall site which is included for within the SHLAA. The screen captures are contained in **Appendix 5** for reference. **Table 2.5** demonstrates the actual reduction in growth for reference.

Table 2.4 – Revised growth rates

| | AM | PM |
|-----------|--------|--------|
| 2015-2019 | 1.0662 | 1.0669 |
| 2015-2029 | 1.2294 | 1.2341 |

Table 2.5 – Summary reduction in growth rates

| | AM | PM |
|-----------|---------|---------|
| 2015-2019 | -0.0010 | -0.0010 |
| 2015-2029 | -0.0166 | -0.0163 |

2.13 The revised AM and PM data for the growthed 2015 base flows to 2019 and 2029, growthed plus committed flows and all plus the Peel Hall development flows are contained in **Appendix 6**. The resulting reduction of vehicle trips in real terms is set out in **Table 2.6** below for TEMPRO, **Table 2.7** for the removal of Calver Park from the committed developments currently accounted for in the VISSIM model, and **Table 2.8** for the removal of Birchwood Park from the committed developments list.

Table 2.6 – Number of vehicle trips to be removed from the VISSIM as a result of the reduction to growth rates

| | | Cars | LGVs | HGVs | Total Traffic |
|--|------------------|------|------|------|---------------|
| TEMPRO Growth 2015-2019 (all two-way trips) | | | | | |
| AM Peak | 0700-0800 | 16 | 2 | 1 | 19 |
| | 0800-0900 | 18 | 2 | 1 | 22 |
| | 0900-0930 | 7 | 1 | 1 | 9 |
| PM Peak | 1600-1700 | 22 | 1 | 1 | 24 |
| | 1700-1800 | 22 | 1 | 1 | 24 |
| | 1800-1830 | 10 | 1 | 0 | 11 |
| TEMPRO Growth 2015-2029 (all two-way trips) | | | | | |
| AM Peak | 0700-0800 | 263 | 27 | 21 | 311 |
| | 0800-0900 | 304 | 34 | 22 | 360 |
| | 0900-0930 | 121 | 14 | 10 | 145 |
| PM Peak | 1600-1700 | 357 | 20 | 14 | 391 |
| | 1700-1800 | 358 | 19 | 12 | 390 |
| | 1800-1830 | 165 | 12 | 5 | 181 |

Table 2.7 – Number of vehicle trips to be removed from the VISSIM model as a result of not adding Calver Park into the committed developments list

| | | Arrival | Departure | Two-way |
|----------------|--------------------|---------|-----------|---------|
| AM Peak | 0700 - 0800 | 35 | 10 | 45 |
| | 0800 - 0900 | 56 | 47 | 103 |
| | 0900 - 0930 | 20 | 15 | 35 |
| PM Peak | 1600 - 1700 | 19 | 40 | 59 |
| | 1700 - 1800 | 15 | 39 | 54 |
| | 1800 - 1830 | 2 | 12 | 14 |

Table 2.8 – Number of vehicle trips to be removed from the VISSIM model as a result of not adding Birchwood Park into the committed developments list

| | | Arrival | Departure | Two-way |
|----------------|--------------------|---------|-----------|---------|
| AM Peak | 0700 - 0800 | 330 | 37 | 367 |
| | 0800 - 0900 | 745 | 89 | 834 |
| | 0900 - 0930 | 283 | 56 | 339 |
| PM Peak | 1600 - 1700 | 97 | 480 | 577 |
| | 1700 - 1800 | 79 | 648 | 727 |
| | 1800 - 1830 | 30 | 267 | 297 |

2.14 Therefore, if the above methodology can be agreed, then the volumes of trips removed off the network will be as set out in **Table 2.9** below.

Table 2.9 – Number of vehicle trips to be removed from the VISSIM network

| Year | Time Period | Two way Trips | | Time Period | Two way Trips | |
|------|-------------|---------------|-------------|-------------|---------------|-------------|
| 2019 | 0700 - 0800 | 431 | 1772 | 1600 - 1700 | 660 | 1787 |
| | 0800 - 0900 | 959 | | 1700 - 1800 | 805 | |
| | 0900 - 0930 | 383 | | 1800 - 1830 | 322 | |
| 2029 | 0700 - 0800 | 723 | 2539 | 1600 - 1700 | 1027 | 2690 |
| | 0800 - 0900 | 1297 | | 1700 - 1800 | 1171 | |
| | 0900 - 0930 | 383 | | 1800 - 1830 | 492 | |

2.15 It is considered that this level of trip reduction is appropriate to apply to the Peel Hall VISSIM network, and that the methodology used has been robust. Furthermore, motorway growth rate data is also being used on the non-motorway links within the model, and in reality the Warrington road network is constrained in any event.

3.0 OMEGA Trips

- 3.1 A short summary is now provided regarding the quantum of trips that the agreed OMEGA VISSIM assessments assigned to the links that are included for within the Peel Hall VISSIM network.
- 3.2 It has previously been considered that the use of the Motorway trip rates for the whole VISSIM network will capture the OMEGA development trips across the network.
- 3.3 **Table 3.1** below sets out the actual traffic flow figures from the agreed OMEGA Zones 3-6 VISSIM model (residential/hotel/pub/care home/local centre with 2,000sqm food store) and the OMEGA Section 73 (the variation of prior planning permission at Zones 1 and 2), that travel to those links also included for within the Peel Hall model; M62 junction 9, A49 north and south of this, and Delph Lane as illustrated below in **Figure 3.1**.

Figure 3.1 – OMEGA VISSIM network (overlap with Peel Hall VISSIM highlighted in red)

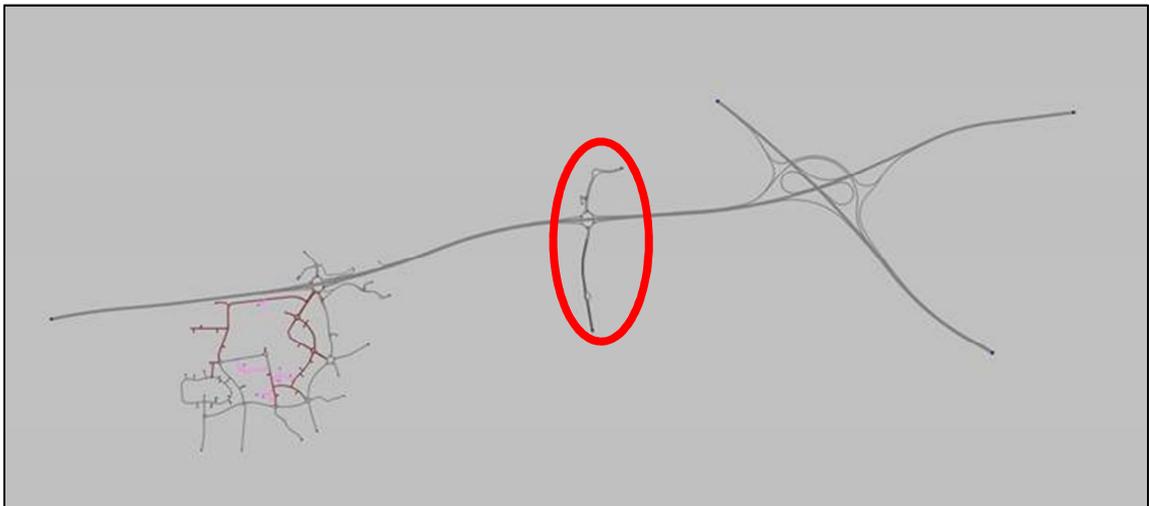


Table 3.1 – Trip distribution for the OMEGA Zones 3-6 and Zones 1-2 S.73 application

| | OMEGA development trips | AM Peak Hour (0800-0900) | | PM Peak Hour (1700-1800) | |
|----------------------------------|---------------------------|--------------------------|-------------------------|--------------------------|-------------------------|
| | | Arrivals (to OMEGA) | Departures (from OMEGA) | Arrivals (to OMEGA) | Departures (from OMEGA) |
| OMEGA Zones 3-6 | Delph Lane (M62 J9 North) | 0 | 0 | 0 | 0 |
| | A49 North (M62 J9) | 3 | 7 | 7 | 4 |
| | A49 South (M62 J9) | 0.5 | 1.2 | 1.1 | 0.7 |
| | <i>Total</i> | 4 | 8 | 8 | 5 |
| | M62 Junction 10 North | 10 | 24 | 23 | 14 |
| | M62 East (M62 J10) | 52 | 120 | 119 | 72 |
| | M62 J10 South | 13 | 29 | 28 | 17 |
| <i>Total Trips (OMEGA Z3-6)</i> | | 79 | 182 | 177 | 108 |
| OMEGA Zones 1-2 | Delph Lane (M62 J8 North) | 0 | 0 | 0 | 0 |
| | A49 North (M62 J9) | 4 | 1 | 1 | 5 |
| | A49 South (M62 J9) | 6 | 2 | 2 | 3 |
| | <i>Total</i> | 10 | 3 | 3 | 8 |
| | M62 Junction 10 North | 10 | 4 | 3 | 11 |
| | M62 East (M62 J10) | 11 | 5 | 4 | 10 |
| | M6 J10 South | 14 | 6 | 4 | 12 |
| <i>Total Trips (OMEGA Z1-2)*</i> | | 45 | 19 | 14 | 41 |

* This row includes for rounding of previous figures

- 3.4 As can be seen from the table above, the level of trips from the OMEGA application proposed to travel onto the non-motorway links of the Peel Hall VISSIM network are so low as to be immaterial.
- 3.5 However, those trips associated with the OMEGA Zones 3-6 application that stay on the Motorway network through the extent of the Peel Hall model have been considered further in **Table 3.2** below.

Table 3.2 – Comparison of OMEGA motorway contained trips through Peel Hall model and the growth applied.

| M62 Flows 2015 Base Model | | | M62 2019* | Total Increase in Trips 2015-2019 | OMEGA Z1-6 | OMEGA % Impact 2019 |
|---------------------------|----|-------|-----------|-----------------------------------|------------|---------------------|
| Eastbound | AM | 9065 | 9665 | 600 | 188 | 2% |
| | PM | 10107 | 10783 | 676 | 136 | 1% |
| Westbound | AM | 10017 | 10680 | 663 | 110 | 1% |
| | PM | 12138 | 12950 | 812 | 184 | 1% |

* This row includes for the new growth rate figures

- 3.6 This table clearly shows that the OMEGA trips contained to the M62 are also more than accounted for within the motorway growth rates that have been applied to the Peel Hall VISSIM model.

Appendix 1

AM and PM Base Growth Rate and Trip Data

2015 AM Base

| Time Period | Cars | LGV | HGV | All Traffic |
|-------------|------|-----|-----|-------------|
| 0700-0715 | 3349 | 293 | 289 | 3931 |
| 0715-0730 | 3627 | 352 | 296 | 4275 |
| 0730-0745 | 4133 | 419 | 330 | 4882 |
| 0745-0800 | 4763 | 535 | 347 | 5645 |
| 0800-0815 | 4573 | 500 | 318 | 5391 |
| 0815-0830 | 4579 | 493 | 314 | 5386 |
| 0830-0845 | 4578 | 518 | 312 | 5408 |
| 0845-0900 | 4602 | 531 | 355 | 5488 |
| 0900-0915 | 3647 | 431 | 288 | 4366 |
| 0915-0930 | 3647 | 429 | 296 | 4372 |

| | | | | |
|-------------|-------|------|------|-------|
| 0700 - 0800 | 15872 | 1599 | 1262 | 18733 |
| 0800 - 0900 | 18332 | 2042 | 1299 | 21673 |
| 0900 - 0930 | 7294 | 860 | 584 | 8738 |

| | | | | |
|--------------|-------|------|------|-------|
| Model Period | 41498 | 4501 | 3145 | 49144 |
|--------------|-------|------|------|-------|

2019 AM Growth

| Time Period | Cars | LGV | HGV | All Traffic |
|-------------|------|-----|-----|-------------|
| 0700-0715 | 3574 | 313 | 308 | 4195 |
| 0715-0730 | 3871 | 376 | 316 | 4562 |
| 0730-0745 | 4411 | 447 | 352 | 5210 |
| 0745-0800 | 5083 | 571 | 370 | 6024 |
| 0800-0815 | 4880 | 534 | 339 | 5753 |
| 0815-0830 | 4887 | 526 | 335 | 5748 |
| 0830-0845 | 4886 | 553 | 333 | 5771 |
| 0845-0900 | 4911 | 567 | 379 | 5857 |
| 0900-0915 | 3892 | 460 | 307 | 4659 |
| 0915-0930 | 3892 | 458 | 316 | 4666 |

| | | | | |
|-------------|-------|------|------|-------|
| 0700 - 0800 | 16939 | 1706 | 1347 | 19992 |
| 0800 - 0900 | 19564 | 2179 | 1386 | 23129 |
| 0900 - 0930 | 7784 | 918 | 623 | 9325 |

| | | | | |
|--------------|-------|------|------|-------|
| Model Period | 44287 | 4803 | 3356 | 52446 |
|--------------|-------|------|------|-------|

2019 AM Growth + Committed

| Time Period | Cars | LGV | HGV | All Traffic |
|-------------|------|-----|-----|-------------|
| 0700-0715 | 3679 | 313 | 308 | 4300 |
| 0715-0730 | 3957 | 376 | 316 | 4648 |
| 0730-0745 | 4522 | 447 | 352 | 5321 |
| 0745-0800 | 5215 | 571 | 370 | 6156 |
| 0800-0815 | 5154 | 534 | 339 | 6027 |
| 0815-0830 | 5120 | 526 | 335 | 5981 |
| 0830-0845 | 5110 | 553 | 333 | 5995 |
| 0845-0900 | 5169 | 567 | 379 | 6115 |
| 0900-0915 | 4183 | 460 | 307 | 4950 |
| 0915-0930 | 4074 | 458 | 316 | 4848 |

| | | | | |
|-------------|-------|------|------|-------|
| 0700 - 0800 | 17373 | 1706 | 1347 | 20426 |
| 0800 - 0900 | 20553 | 2179 | 1386 | 24118 |
| 0900 - 0930 | 8257 | 918 | 623 | 9798 |

| | | | | |
|--------------|-------|------|------|-------|
| Model Period | 46183 | 4803 | 3356 | 54342 |
|--------------|-------|------|------|-------|

2019 AM Growth + Committed + Dev

| Time Period | Cars | LGV | HGV | All Traffic |
|-------------|------|-----|-----|-------------|
| 0700-0715 | 3859 | 313 | 308 | 4480 |
| 0715-0730 | 4134 | 376 | 316 | 4825 |
| 0730-0745 | 4708 | 447 | 352 | 5507 |
| 0745-0800 | 5412 | 571 | 370 | 6353 |
| 0800-0815 | 5406 | 534 | 339 | 6279 |
| 0815-0830 | 5371 | 526 | 335 | 6232 |
| 0830-0845 | 5358 | 553 | 333 | 6243 |
| 0845-0900 | 5426 | 567 | 379 | 6372 |
| 0900-0915 | 4439 | 460 | 307 | 5206 |
| 0915-0930 | 4176 | 458 | 316 | 4950 |

| | | | | |
|-------------|-------|------|------|-------|
| 0700 - 0800 | 18113 | 1706 | 1347 | 21166 |
| 0800 - 0900 | 21561 | 2179 | 1386 | 25126 |
| 0900 - 0930 | 8615 | 918 | 623 | 10156 |

| | | | | |
|--------------|-------|------|------|-------|
| Model Period | 48289 | 4803 | 3356 | 56448 |
|--------------|-------|------|------|-------|

2029 AM Growth

| Time Period | Cars | LGV | HGV | All Traffic |
|-------------|------|-----|-----|-------------|
| 0700-0715 | 4173 | 365 | 360 | 4898 |
| 0715-0730 | 4519 | 439 | 369 | 5327 |
| 0730-0745 | 5150 | 522 | 411 | 6083 |
| 0745-0800 | 5935 | 667 | 432 | 7034 |
| 0800-0815 | 5698 | 623 | 396 | 6717 |
| 0815-0830 | 5705 | 614 | 391 | 6711 |
| 0830-0845 | 5704 | 645 | 389 | 6738 |
| 0845-0900 | 5734 | 662 | 442 | 6838 |
| 0900-0915 | 4544 | 537 | 359 | 5440 |
| 0915-0930 | 4544 | 535 | 369 | 5448 |

| | | | | |
|-------------|-------|------|------|-------|
| 0700 - 0800 | 19777 | 1992 | 1572 | 23341 |
| 0800 - 0900 | 22842 | 2544 | 1619 | 27005 |
| 0900 - 0930 | 9088 | 1072 | 728 | 10888 |

| | | | | |
|--------------|-------|------|------|-------|
| Model Period | 51707 | 5608 | 3919 | 61233 |
|--------------|-------|------|------|-------|

2029 AM Growth + Committed

| Time Period | Cars | LGV | HGV | All Traffic |
|-------------|------|-----|-----|-------------|
| 0700-0715 | 4278 | 365 | 360 | 5003 |
| 0715-0730 | 4605 | 439 | 369 | 5413 |
| 0730-0745 | 5261 | 522 | 411 | 6194 |
| 0745-0800 | 6067 | 667 | 432 | 7166 |
| 0800-0815 | 5972 | 623 | 396 | 6991 |
| 0815-0830 | 5938 | 614 | 391 | 6944 |
| 0830-0845 | 5928 | 645 | 389 | 6962 |
| 0845-0900 | 5992 | 662 | 442 | 7096 |
| 0900-0915 | 4835 | 537 | 359 | 5731 |
| 0915-0930 | 4726 | 535 | 369 | 5630 |

| | | | | |
|-------------|-------|------|------|-------|
| 0700 - 0800 | 20211 | 1992 | 1572 | 23775 |
| 0800 - 0900 | 23831 | 2544 | 1619 | 27994 |
| 0900 - 0930 | 9561 | 1072 | 728 | 11361 |

| | | | | |
|--------------|-------|------|------|-------|
| Model Period | 53603 | 5608 | 3919 | 63129 |
|--------------|-------|------|------|-------|

2029 AM Growth + Committed + Dev

| Time Period | Cars | LGV | HGV | All Traffic |
|-------------|------|-----|-----|-------------|
| 0700-0715 | 4458 | 365 | 360 | 5183 |
| 0715-0730 | 4782 | 439 | 369 | 5590 |
| 0730-0745 | 5447 | 522 | 411 | 6380 |
| 0745-0800 | 6264 | 667 | 432 | 7363 |
| 0800-0815 | 6224 | 623 | 396 | 7243 |
| 0815-0830 | 6189 | 614 | 391 | 7195 |
| 0830-0845 | 6176 | 645 | 389 | 7210 |
| 0845-0900 | 6249 | 662 | 442 | 7353 |
| 0900-0915 | 5091 | 537 | 359 | 5987 |
| 0915-0930 | 4828 | 535 | 369 | 5732 |

| | | | | |
|-------------|-------|------|------|-------|
| 0700 - 0800 | 20951 | 1992 | 1572 | 24515 |
| 0800 - 0900 | 24839 | 2544 | 1619 | 29002 |
| 0900 - 0930 | 9919 | 1072 | 728 | 11719 |

| | | | | |
|--------------|-------|------|------|-------|
| Model Period | 55709 | 5608 | 3919 | 65235 |
|--------------|-------|------|------|-------|

| Development Trips |
|-------------------|
| 180 |
| 177 |
| 186 |
| 197 |
| 252 |
| 251 |
| 248 |
| 257 |
| 256 |
| 102 |

| |
|------|
| 740 |
| 1008 |
| 358 |

| |
|------|
| 2106 |
|------|

2015 PM Base

| Time Period | Cars | LGV | HGV | All Traffic |
|-------------|------|-----|-----|-------------|
| 1600-1615 | 5219 | 302 | 209 | 5730 |
| 1615-1630 | 5523 | 296 | 229 | 6048 |
| 1630-1645 | 5630 | 301 | 212 | 6143 |
| 1645-1700 | 5548 | 310 | 189 | 6047 |
| 1700-1715 | 5625 | 307 | 217 | 6149 |
| 1715-1730 | 5558 | 295 | 187 | 6040 |
| 1730-1745 | 5519 | 296 | 166 | 5981 |
| 1745-1800 | 5284 | 282 | 183 | 5749 |
| 1800-1815 | 5137 | 355 | 175 | 5667 |
| 1815-1830 | 4956 | 355 | 155 | 5466 |

| | | | | |
|-------------|-------|------|-----|-------|
| 1600 - 1700 | 21920 | 1209 | 839 | 23968 |
| 1700 - 1800 | 21984 | 1180 | 753 | 23917 |
| 1800 - 1830 | 10093 | 709 | 330 | 11133 |

| | | | | |
|--------------|-------|------|------|-------|
| Model Period | 53997 | 3098 | 1922 | 59017 |
|--------------|-------|------|------|-------|

2019 PM Growth

| Time Period | Cars | LGV | HGV | All Traffic |
|-------------|------|-----|-----|-------------|
| 1600-1615 | 5573 | 323 | 223 | 6119 |
| 1615-1630 | 5898 | 316 | 245 | 6459 |
| 1630-1645 | 6012 | 321 | 226 | 6560 |
| 1645-1700 | 5925 | 331 | 202 | 6458 |
| 1700-1715 | 6006 | 328 | 232 | 6566 |
| 1715-1730 | 5935 | 315 | 200 | 6450 |
| 1730-1745 | 5893 | 316 | 177 | 6387 |
| 1745-1800 | 5642 | 301 | 195 | 6139 |
| 1800-1815 | 5486 | 379 | 187 | 6052 |
| 1815-1830 | 5293 | 379 | 166 | 5837 |

| | | | | |
|-------------|-------|------|-----|-------|
| 1600 - 1700 | 23408 | 1291 | 896 | 25595 |
| 1700 - 1800 | 23477 | 1260 | 804 | 25541 |
| 1800 - 1830 | 10779 | 758 | 353 | 11889 |

| | | | | |
|--------------|-------|------|------|-------|
| Model Period | 57663 | 3309 | 2053 | 63025 |
|--------------|-------|------|------|-------|

2019 PM Growth + Committed

| Time Period | Cars | LGV | HGV | All Traffic |
|-------------|------|-----|-----|-------------|
| 1600-1615 | 5733 | 323 | 223 | 6279 |
| 1615-1630 | 6085 | 316 | 245 | 6646 |
| 1630-1645 | 6250 | 321 | 226 | 6798 |
| 1645-1700 | 6188 | 331 | 202 | 6721 |
| 1700-1715 | 6266 | 328 | 232 | 6826 |
| 1715-1730 | 6176 | 315 | 200 | 6691 |
| 1730-1745 | 6127 | 316 | 177 | 6621 |
| 1745-1800 | 5915 | 301 | 195 | 6412 |
| 1800-1815 | 5769 | 379 | 187 | 6335 |
| 1815-1830 | 5474 | 379 | 166 | 6018 |

| | | | | |
|-------------|-------|------|-----|-------|
| 1600 - 1700 | 24256 | 1291 | 896 | 26443 |
| 1700 - 1800 | 24485 | 1260 | 804 | 26549 |
| 1800 - 1830 | 11243 | 758 | 353 | 12353 |

| | | | | |
|--------------|-------|------|------|-------|
| Model Period | 59983 | 3309 | 2053 | 65345 |
|--------------|-------|------|------|-------|

2019 PM Growth + Committed + Dev

| Time Period | Cars | LGV | HGV | All Traffic |
|-------------|------|-----|-----|-------------|
| 1600-1615 | 5992 | 323 | 223 | 6538 |
| 1615-1630 | 6333 | 316 | 245 | 6894 |
| 1630-1645 | 6499 | 321 | 226 | 7047 |
| 1645-1700 | 6434 | 331 | 202 | 6967 |
| 1700-1715 | 6550 | 328 | 232 | 7110 |
| 1715-1730 | 6451 | 315 | 200 | 6966 |
| 1730-1745 | 6405 | 316 | 177 | 6899 |
| 1745-1800 | 6199 | 301 | 195 | 6696 |
| 1800-1815 | 5997 | 379 | 187 | 6563 |
| 1815-1830 | 5706 | 379 | 166 | 6250 |

| | | | | |
|-------------|-------|------|-----|-------|
| 1600 - 1700 | 25258 | 1291 | 896 | 27445 |
| 1700 - 1800 | 25606 | 1260 | 804 | 27670 |
| 1800 - 1830 | 11703 | 758 | 353 | 12813 |

| | | | | |
|--------------|-------|------|------|-------|
| Model Period | 62566 | 3309 | 2053 | 67928 |
|--------------|-------|------|------|-------|

2029 PM Growth

| Time Period | Cars | LGV | HGV | All Traffic |
|-------------|------|-----|-----|-------------|
| 1600-1615 | 6525 | 378 | 261 | 7164 |
| 1615-1630 | 6906 | 370 | 286 | 7562 |
| 1630-1645 | 7040 | 376 | 265 | 7681 |
| 1645-1700 | 6937 | 388 | 236 | 7561 |
| 1700-1715 | 7033 | 384 | 271 | 7688 |
| 1715-1730 | 6949 | 369 | 234 | 7552 |
| 1730-1745 | 6900 | 370 | 208 | 7478 |
| 1745-1800 | 6606 | 353 | 229 | 7188 |
| 1800-1815 | 6424 | 443 | 219 | 7086 |
| 1815-1830 | 6197 | 443 | 194 | 6835 |

| | | | | |
|-------------|-------|------|------|-------|
| 1600 - 1700 | 27408 | 1512 | 1049 | 29969 |
| 1700 - 1800 | 27489 | 1475 | 942 | 29906 |
| 1800 - 1830 | 12621 | 887 | 413 | 13921 |

| | | | | |
|--------------|-------|------|------|-------|
| Model Period | 67518 | 3874 | 2403 | 73795 |
|--------------|-------|------|------|-------|

2029 PM Growth + Committed

| Time Period | Cars | LGV | HGV | All Traffic |
|-------------|------|-----|-----|-------------|
| 1600-1615 | 6685 | 378 | 261 | 7324 |
| 1615-1630 | 7093 | 370 | 286 | 7749 |
| 1630-1645 | 7278 | 376 | 265 | 7919 |
| 1645-1700 | 7200 | 388 | 236 | 7824 |
| 1700-1715 | 7293 | 384 | 271 | 7948 |
| 1715-1730 | 7190 | 369 | 234 | 7793 |
| 1730-1745 | 7134 | 370 | 208 | 7712 |
| 1745-1800 | 6879 | 353 | 229 | 7461 |
| 1800-1815 | 6707 | 443 | 219 | 7369 |
| 1815-1830 | 6378 | 443 | 194 | 7016 |

| | | | | |
|-------------|-------|------|------|-------|
| 1600 - 1700 | 28256 | 1512 | 1049 | 30817 |
| 1700 - 1800 | 28497 | 1475 | 942 | 30914 |
| 1800 - 1830 | 13085 | 887 | 413 | 14385 |

| | | | | |
|--------------|-------|------|------|-------|
| Model Period | 69838 | 3874 | 2403 | 76115 |
|--------------|-------|------|------|-------|

2029 PM Growth + Committed + Dev

| Time Period | Cars | LGV | HGV | All Traffic |
|-------------|------|-----|-----|-------------|
| 1600-1615 | 6944 | 378 | 261 | 7583 |
| 1615-1630 | 7341 | 370 | 286 | 7997 |
| 1630-1645 | 7527 | 376 | 265 | 8168 |
| 1645-1700 | 7446 | 388 | 236 | 8070 |
| 1700-1715 | 7577 | 384 | 271 | 8232 |
| 1715-1730 | 7465 | 369 | 234 | 8068 |
| 1730-1745 | 7412 | 370 | 208 | 7990 |
| 1745-1800 | 7163 | 353 | 229 | 7745 |
| 1800-1815 | 6935 | 443 | 219 | 7597 |
| 1815-1830 | 6610 | 443 | 194 | 7248 |

| | | | | |
|-------------|-------|------|------|-------|
| 1600 - 1700 | 29258 | 1512 | 1049 | 31819 |
| 1700 - 1800 | 29618 | 1475 | 942 | 32035 |
| 1800 - 1830 | 13545 | 887 | 413 | 14845 |

| | | | | |
|--------------|-------|------|------|-------|
| Model Period | 72421 | 3874 | 2403 | 78698 |
|--------------|-------|------|------|-------|

| Development Trips |
|-------------------|
| 259 |
| 248 |
| 249 |
| 246 |
| 284 |
| 275 |
| 278 |
| 284 |
| 228 |
| 232 |

| |
|------|
| 1002 |
| 1121 |
| 460 |

| |
|------|
| 2583 |
|------|

Appendix 2

Households and Jobs Data

Revised TEMPRO based on updated housing supply values

Aready in TEMPRO

| Area | 2015-2019 | | | | | | | |
|----------------------------------|---------------------|-----------|-----------|-------------------------|---------|-----------|---------|---------|
| | Current Assumptions | | | Alternative Assumptions | | | | |
| | Base HH | Base Jobs | Future HH | Future Jobs | Base HH | Base Jobs | | |
| NW (region) | 3093300 | 3383313 | 3186664 | 3429987 | 3093300 | 3383313 | 3186664 | 3429987 |
| Cheshire County | 450923 | 566330 | 462657 | 578410 | 450923 | 566330 | 462657 | 578410 |
| Warrington (Authority) | 87184 | 116965 | 89160 | 119044 | 87184 | 116965 | 89160 | 119044 |
| Rural (warrington) (00EU0) | 5825 | 11082 | 6009 | 11291 | 5825 | 11082 | 6009 | 11291 |
| Warrington (00EU1) | 36679 | 61689 | 37124 | 62748 | 36679 | 61689 | 37034 | 62748 |
| Great Sankey (00EU2) | 17585 | 17397 | 18100 | 17733 | 17585 | 17397 | 18100 | 17733 |
| Stockton Health/Thelwall (00EU3) | 12227 | 5587 | 12637 | 5696 | 12227 | 5587 | 12637 | 5696 |
| Risley (00EU4) | 5597 | 16544 | 5750 | 16818 | 5597 | 16544 | 5750 | 16818 |
| Lymm (00EU5) | 4620 | 2572 | 4746 | 2624 | 4620 | 2572 | 4746 | 2624 |
| Culcheth (00EU6) | 3212 | 1538 | 3319 | 1568 | 3212 | 1538 | 3319 | 1568 |
| Burtonwood (00EU7) | 1438 | 555 | 1474 | 566 | 1438 | 555 | 1474 | 566 |

Revised Assumptions Used

2015-2029

| Area | 2015-2029 | | | | | | | |
|----------------------------------|---------------------|-----------|-----------|-------------------------|---------|-----------|---------|---------|
| | Current Assumptions | | | Alternative Assumptions | | | | |
| | Base HH | Base Jobs | Future HH | Future Jobs | Base HH | Base Jobs | | |
| NW (region) | 3093300 | 3383313 | 3397917 | 3487536 | 3093300 | 3383313 | 3397917 | 3487536 |
| Cheshire County | 450923 | 566330 | 491043 | 599653 | 450923 | 566330 | 491043 | 599653 |
| Warrington (Authority) | 87184 | 116965 | 94651 | 125120 | 87184 | 116965 | 94651 | 125120 |
| Rural (warrington) (00EU0) | 5825 | 11082 | 6524 | 11893 | 5825 | 11082 | 6524 | 11893 |
| Warrington (00EU1) | 36679 | 61689 | 38329 | 65852 | 36679 | 61689 | 36994 | 65852 |
| Great Sankey (00EU2) | 17585 | 17397 | 19537 | 18679 | 17585 | 17397 | 19537 | 18679 |
| Stockton Health/Thelwall (00EU3) | 12227 | 5587 | 13792 | 6003 | 12227 | 5587 | 13792 | 6003 |
| Risley (00EU4) | 5597 | 16544 | 6177 | 17680 | 5597 | 16544 | 6177 | 17680 |
| Lymm (00EU5) | 4620 | 2572 | 5098 | 2764 | 4620 | 2572 | 5098 | 2764 |
| Culcheth (00EU6) | 3212 | 1538 | 3619 | 1653 | 3212 | 1538 | 3619 | 1653 |
| Burtonwood (00EU7) | 1438 | 555 | 1574 | 595 | 1438 | 555 | 1574 | 595 |

Revised Assumptions Used

Appendix 3

Housing Supply Evidence

Publication of Strategic Housing Land Availability Assessment (SHLAA) 2015

https://www.warrington.gov.uk/info/200564/planning_policy/1905/evidence_base

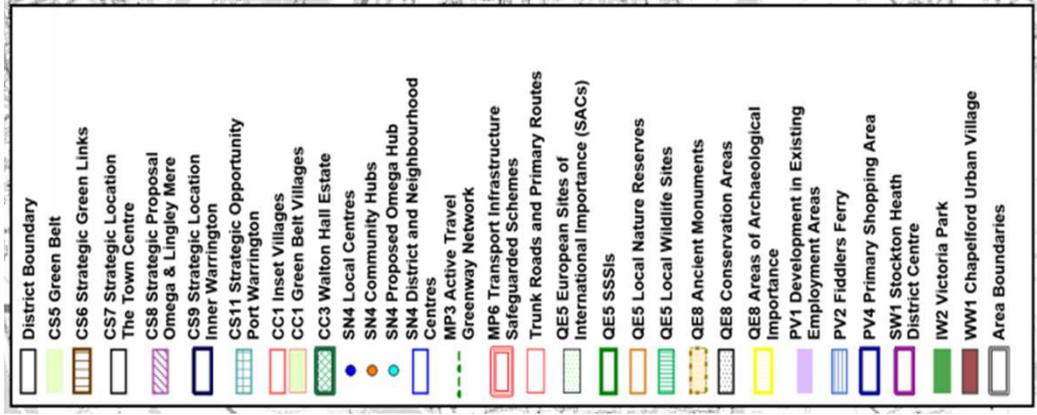
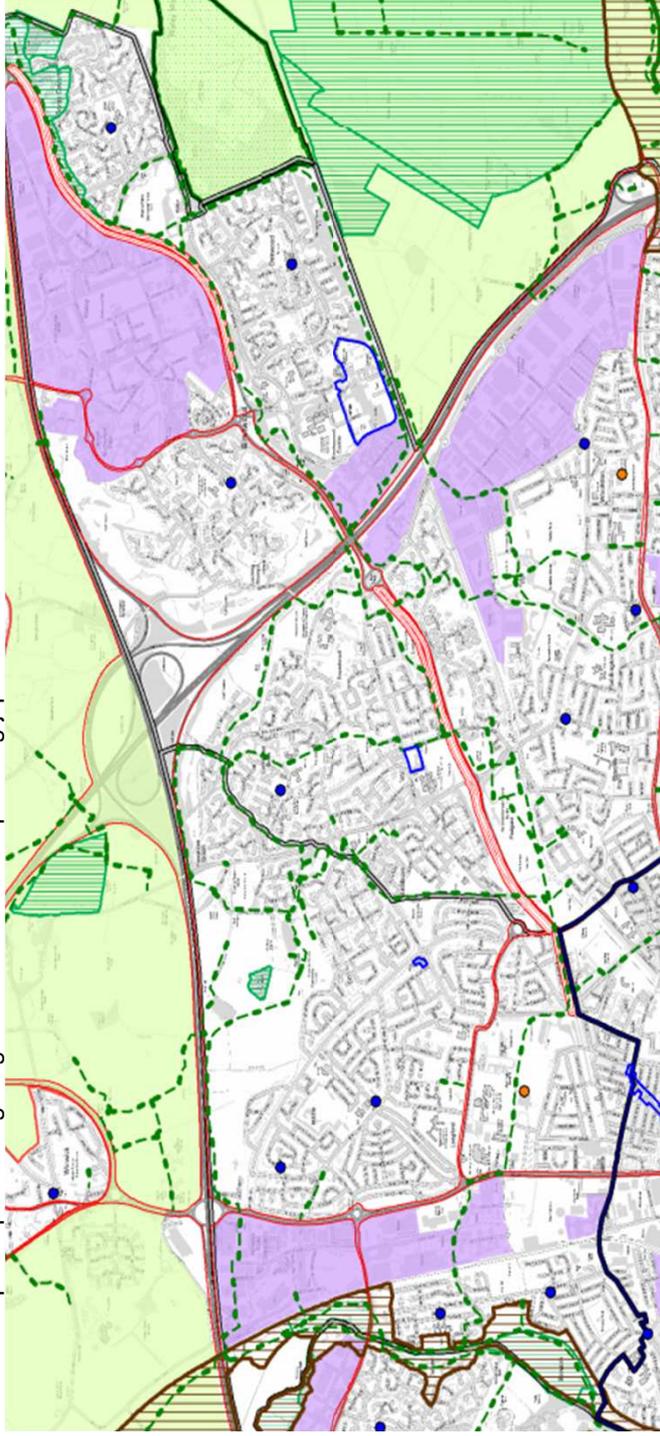
SHLAA Reference - 1506

| | | | | | | |
|--|--|--|---|--|--|---|
| <p>Site Name: Peel Hall Site Address: South of the M62 East of the A49 Ward: Poplars & Hulme Existing Use: Vacant Land</p> | <p>Gross Site Area (Ha): 59.45 Net Developable Site Area (Ha): 44.5875 SHLAA Year: 2009</p> | <p>Planning Permission History: N/A</p> | <p>Green Belt: No GF / PDL: GF Flood Zone: 1 Contaminated Land Issues: Yes Ground Conditions Issues: Yes - Capable of being resolved Site Access Issues: Yes - Capable of being resolved Surrounding Land Issues: Yes - Capable of being resolved Infrastructure Issues: Yes - Further evidence required Hazardous Installations Issues: Yes - Further evidence required Amenity Issues: No Ownership / Tenancy Issues: No</p> |  | <p>Active Use: No Site Developable Now: No Promotion by Owner: Yes Developer Interest: Yes Known Demand for Housing: Yes Similar Sites Developed Nearby in last 5 years: Yes</p> <p>Suitable: Yes Available: Yes Available in the future: N/A Achievable: Yes Recommended Gross Capacity: 1480 Residual Net Capacity: 1480 Previous Completions on site: 0</p> | <p>Deliverable 2015-2020: 150 2015/16: 2016/17: 2017/18: 30 2018/19: 60 2019/20: 60 Developable 2020-2025: 635 2020/21: 120 2021/22: 235 2022/23: 180 2023/24: 75 2024/25: 25 Developable 2025-2030: 550 2025/26: 90 2026/27: 180 2027/28: 155 2028/29: 110 2029/30: 15 2030+: 145</p> |
| <p>Concluding Comments: Based on information provided by the landowner / developer, the site is considered constrained to be suitable, available and achievable and is of a sufficient scale to overcome existing constraints and infrastructure requirements, particularly if appropriately phased.</p> | | | | | | |
| <p>Concluding Recommendation: Suitable, available and achievable</p> | | | | | | |

Appendix 4

Local Plan Employment Evidence

Source : <http://maps.warrington.gov.uk:8080/connect/planning.jsp>



Appendix 5

TEMPRO Screen Capture

2015 to 2019 – AM Peak

NTM Traffic Growth Calculations

1: Select NTM Dataset:

| NTM Dataset Description | From | To |
|-------------------------|------|------|
| NTM AF09 Dataset | 2003 | 2035 |
| NTM AF08 Dataset | 2003 | 2025 |

2: Select Areas to make up the geographic region:

- Warrington (00EU1)

3. Select area type:

- Urban
- Rural
- All

4. Select road type:

- Motorway
- Trunk
- Principal
- Minor
- All

5. Select which area it serves:

- Region
- England

Calculate the adjusted local growth figure

Results

| Level | Area | Local Growth Figure |
|-------|------------|---------------------|
| 00EU1 | Warrington | 1.0662 |

2015 to 2019 – PM Peak

NTM Traffic Growth Calculations

1: Select NTM Dataset:

| NTM Dataset Description | From | To |
|-------------------------|------|------|
| NTM AF09 Dataset | 2003 | 2035 |
| NTM AF08 Dataset | 2003 | 2025 |

2: Select Areas to make up the geographic region:

- Warrington (00EU1)

3. Select area type:

- Urban
- Rural
- All

4. Select road type:

- Motorway
- Trunk
- Principal
- Minor
- All

5. Select which area it serves:

- Region
- England

Calculate the adjusted local growth figure

Results

| Level | Area | Local Growth Figure |
|-------|------------|---------------------|
| 00EU1 | Warrington | 1.0669 |

2015 to 2029 – AM Peak

The screenshot shows the TEMPRO main form with a 'Select' dialog box titled 'NTM Traffic Growth Calculations'. The dialog is configured for the AM Peak period (0700 - 0959). The '1: Select NTM Dataset' section shows two datasets: 'NTM AF09 Dataset' (From: 2003, To: 2035) and 'NTM AF08 Dataset' (From: 2003, To: 2025). The '2: Select Areas to make up the geographic region:' section has 'Warrington (00EU1)' selected. The '3: Select area type:' section has 'Urban' selected. The '4: Select road type:' section has 'Motorway' selected. The '5: Select which area it serves:' section has 'Region' selected. A 'Calculate the adjusted local growth figure' button is visible. The 'Results' table shows the following data:

| Level | Area | Local Growth Figure |
|-------|------------|---------------------|
| 00EU1 | Warrington | 1.2294 |

2015 to 2029 – PM Peak

The screenshot shows the TEMPRO main form with a 'Select' dialog box titled 'NTM Traffic Growth Calculations'. The dialog is configured for the PM Peak period (1600 - 1859). The '1: Select NTM Dataset' section shows two datasets: 'NTM AF09 Dataset' (From: 2003, To: 2035) and 'NTM AF08 Dataset' (From: 2003, To: 2025). The '2: Select Areas to make up the geographic region:' section has 'Warrington (00EU1)' selected. The '3: Select area type:' section has 'Urban' selected. The '4: Select road type:' section has 'Motorway' selected. The '5: Select which area it serves:' section has 'Region' selected. A 'Calculate the adjusted local growth figure' button is visible. The 'Results' table shows the following data:

| Level | Area | Local Growth Figure |
|-------|------------|---------------------|
| 00EU1 | Warrington | 1.2341 |

Appendix 6

Revised AM and PM Growth Rate and Trip Data

**Revised AM Peak
2015 AM Base**

| Time Period | Cars | LGV | HGV | All Traffic |
|-------------|------|-----|-----|-------------|
| 0700-0715 | 3349 | 293 | 289 | 3931 |
| 0715-0730 | 3627 | 352 | 296 | 4275 |
| 0730-0745 | 4133 | 419 | 330 | 4882 |
| 0745-0800 | 4763 | 535 | 347 | 5645 |
| 0800-0815 | 4573 | 500 | 318 | 5391 |
| 0815-0830 | 4579 | 493 | 314 | 5386 |
| 0830-0845 | 4578 | 518 | 312 | 5408 |
| 0845-0900 | 4602 | 531 | 355 | 5488 |
| 0900-0915 | 3647 | 431 | 288 | 4366 |
| 0915-0930 | 3647 | 429 | 296 | 4372 |

| | | | | |
|-------------|-------|------|------|-------|
| 0700 - 0800 | 15872 | 1599 | 1262 | 18733 |
| 0800 - 0900 | 18332 | 2042 | 1299 | 21673 |
| 0900 - 0930 | 7294 | 860 | 584 | 8738 |

| | | | | |
|--------------|-------|------|------|-------|
| Model Period | 41498 | 4501 | 3145 | 49144 |
|--------------|-------|------|------|-------|

2019 AM Growth

| Time Period | Cars | LGV | HGV | All Traffic |
|-------------|------|-----|-----|-------------|
| 0700-0715 | 3571 | 312 | 308 | 4191 |
| 0715-0730 | 3867 | 375 | 316 | 4558 |
| 0730-0745 | 4407 | 447 | 352 | 5205 |
| 0745-0800 | 5078 | 570 | 370 | 6019 |
| 0800-0815 | 4876 | 533 | 339 | 5748 |
| 0815-0830 | 4882 | 526 | 335 | 5743 |
| 0830-0845 | 4881 | 552 | 333 | 5766 |
| 0845-0900 | 4907 | 566 | 379 | 5851 |
| 0900-0915 | 3888 | 460 | 307 | 4655 |
| 0915-0930 | 3888 | 457 | 316 | 4661 |

| | | | | |
|-------------|-------|------|------|-------|
| 0700 - 0800 | 16923 | 1705 | 1346 | 19973 |
| 0800 - 0900 | 19546 | 2177 | 1385 | 23108 |
| 0900 - 0930 | 7777 | 917 | 623 | 9316 |

| | | | | |
|--------------|-------|------|------|-------|
| Model Period | 44245 | 4799 | 3353 | 52397 |
|--------------|-------|------|------|-------|

2029 AM Growth

| Time Period | Cars | LGV | HGV | All Traffic |
|-------------|------|-----|-----|-------------|
| 0700-0715 | 4117 | 360 | 355 | 4833 |
| 0715-0730 | 4459 | 433 | 364 | 5256 |
| 0730-0745 | 5081 | 515 | 406 | 6002 |
| 0745-0800 | 5856 | 658 | 427 | 6940 |
| 0800-0815 | 5622 | 615 | 391 | 6628 |
| 0815-0830 | 5629 | 606 | 386 | 6622 |
| 0830-0845 | 5628 | 637 | 384 | 6649 |
| 0845-0900 | 5658 | 653 | 436 | 6747 |
| 0900-0915 | 4484 | 530 | 354 | 5368 |
| 0915-0930 | 4484 | 527 | 364 | 5375 |

| | | | | |
|-------------|-------|------|------|-------|
| 0700 - 0800 | 19513 | 1966 | 1552 | 23030 |
| 0800 - 0900 | 22537 | 2510 | 1597 | 26645 |
| 0900 - 0930 | 8967 | 1057 | 718 | 10742 |

| | | | | |
|--------------|-------|------|------|-------|
| Model Period | 51018 | 5534 | 3866 | 60418 |
|--------------|-------|------|------|-------|

**Revised PM Peak
2015 PM Base**

| Time Period | Cars | LGV | HGV | All Traffic |
|-------------|------|-----|-----|-------------|
| 1600-1615 | 5219 | 302 | 209 | 5730 |
| 1615-1630 | 5523 | 296 | 229 | 6048 |
| 1630-1645 | 5630 | 301 | 212 | 6143 |
| 1645-1700 | 5548 | 310 | 189 | 6047 |
| 1700-1715 | 5625 | 307 | 217 | 6149 |
| 1715-1730 | 5558 | 295 | 187 | 6040 |
| 1730-1745 | 5519 | 296 | 166 | 5981 |
| 1745-1800 | 5284 | 282 | 183 | 5749 |
| 1800-1815 | 5137 | 355 | 175 | 5667 |
| 1815-1830 | 4956 | 355 | 155 | 5466 |

| | | | | |
|-------------|-------|------|-----|-------|
| 1600 - 1700 | 21920 | 1209 | 839 | 23968 |
| 1700 - 1800 | 21984 | 1180 | 753 | 23917 |
| 1800 - 1830 | 10093 | 709 | 330 | 11133 |

| | | | | |
|--------------|-------|------|------|-------|
| Model Period | 53997 | 3098 | 1922 | 59017 |
|--------------|-------|------|------|-------|

2019 PM Growth

| Time Period | Cars | LGV | HGV | All Traffic |
|-------------|------|-----|-----|-------------|
| 1600-1615 | 5568 | 322 | 223 | 6113 |
| 1615-1630 | 5892 | 316 | 244 | 6453 |
| 1630-1645 | 6007 | 321 | 226 | 6554 |
| 1645-1700 | 5919 | 331 | 202 | 6452 |
| 1700-1715 | 6001 | 328 | 232 | 6560 |
| 1715-1730 | 5929 | 315 | 200 | 6444 |
| 1730-1745 | 5888 | 316 | 177 | 6381 |
| 1745-1800 | 5637 | 301 | 195 | 6133 |
| 1800-1815 | 5481 | 378 | 187 | 6046 |
| 1815-1830 | 5288 | 378 | 165 | 5832 |

| | | | | |
|-------------|-------|------|-----|-------|
| 1600 - 1700 | 23386 | 1290 | 895 | 25571 |
| 1700 - 1800 | 23455 | 1259 | 803 | 25517 |
| 1800 - 1830 | 10769 | 757 | 352 | 11878 |

| | | | | |
|--------------|-------|------|------|-------|
| Model Period | 57609 | 3306 | 2051 | 62966 |
|--------------|-------|------|------|-------|

2029 PM Growth

| Time Period | Cars | LGV | HGV | All Traffic |
|-------------|------|-----|-----|-------------|
| 1600-1615 | 6440 | 373 | 258 | 7071 |
| 1615-1630 | 6816 | 365 | 283 | 7464 |
| 1630-1645 | 6948 | 371 | 262 | 7581 |
| 1645-1700 | 6847 | 383 | 233 | 7463 |
| 1700-1715 | 6941 | 379 | 268 | 7588 |
| 1715-1730 | 6859 | 364 | 231 | 7453 |
| 1730-1745 | 6810 | 365 | 205 | 7381 |
| 1745-1800 | 6520 | 348 | 226 | 7094 |
| 1800-1815 | 6340 | 438 | 216 | 6994 |
| 1815-1830 | 6116 | 438 | 191 | 6746 |

| | | | | |
|-------------|-------|------|------|-------|
| 1600 - 1700 | 27051 | 1492 | 1035 | 29578 |
| 1700 - 1800 | 27130 | 1456 | 929 | 29516 |
| 1800 - 1830 | 12456 | 875 | 407 | 13739 |

| | | | | |
|--------------|-------|------|------|-------|
| Model Period | 66638 | 3824 | 2372 | 72833 |
|--------------|-------|------|------|-------|