MAY 2020

NORTH STAFFORDSHIRE LOCAL AIR QUALITY PLAN

UNAPPROVED OUTLINE BUSINESS CASE

APPENDIX 25 - T2 Local Plan Transport Model Validation Report

Staffordshire County Council

NEWCASTLE UNDER LYME BOROUGH COUNCIL

City of Stoke-on-Trent

Table of contents

Appendices

Executive Summary

The North Staffordshire Multi-Modal (NSMM) transport model has been successfully updated with Automatic Number Place Recognition (ANPR) data to allow the differentiation between compliant and non-complaint cars, LGVs, HGVs and taxis. This has then been successfully validated against traffic count and journey time data.

For most of the validation comparisons the validation is not significantly different to that achieved for the updated 2015 NSMM transport model which confirms that the disaggregation of the demand matrix has only resulted in small changes.

The 2015 base year model validates within acceptable tolerance levels from the previous validation exercise and as a result is suitable to be used for modelling emission strategies across compliant and non-compliant user classes to support the reduction of nitrogen dioxide (NO_2) emissions. Analysis of traffic count data has shown that traffic levels between 2015 and 2018 have not shown any net growth, with the model also validating well against 2018 traffic count data. This therefore removes any need to create an updated 2018 transport model.

This has been confirmed through three validation checks:

- Validation of the 2015 base model following disaggregation of the demand matrices against a conurbation wide dataset to ensure the disaggregation process has not unduly changed the level of validation
- Validation against the 2018 A500 screenline traffic count data
- Validation of the model against the 2019 ANPR data regarding the compliance splits

1 Introduction

1.1 Purpose of the Local Model Validation Report

The Local Model Validation Report (LMVR) describes the current model, the model development undertaken to improve its forecasting capabilities, and the resulting model validation.

The main body of this report is broken down into two sections:

1. **Travel Demand Calibration and Sensitivity Test Section (T2a) (Chapter 3)** that explains in detail the travel demand model calibration and the outcomes of the realism and sensitivity tests in line with TAG Unit M2 requirements
2. **Traffic Assignment Model Validation Section (T2b) (Chapter 4)** that explains in detail how the base year model validates and how it was modified using Automatic Number Plate Recognition (ANPR) data and is validated against real-world data.

This report is part of a suite of documents which must be viewed in collaboration with:

- T1 tracker table - a live document that demonstrates all the transport modelling requirements are being met
- T3 Local Plan Transport Modelling Methodology Report – which outlines the methodology for the transport modelling work to be undertaken

The purpose of the update to the NSMM transport model is to provide an analytical tool that will aid Newcastle-under-Lyme Borough Council (NuLBC), Stoke-on-Trent City Council (SoTCC) and Staffordshire County Council (SCC) in the development and implementation of Air Quality Local Plans. The work undertaken to enhance the model is designed specifically to give the user more granularity regarding classes of road vehicles and users which will enable greater certainty in forecasting the effectiveness of implementing a charging Clean Air Zone (CAZ). This additional detail will allow the users to focus on reducing NO_2 exceedances in North Staffordshire as required by the Ministerial Direction for third wave local authorities.

1.2 Development background

The need to develop this additional capability comes as a direct result from a High Court ruling, where ministers were required to set out any additional steps that could be taken by the councils to speed up compliance with the NO_2 limits, which have been exceeded since 2010. The Government said it will work with the authorities through its Joint Air Quality Unit (JAQU) to support and develop plans to help reduce NO_2 emissions.

1.3 Report structure

This LMVR is divided into the following sections:

Chapter 2 – provides background information on the NSMM transport model including the scope and specification of the modelled network and traffic zones as well as vehicle disaggregation

Chapter 3 – Travel Demand Calibration and Sensitivity Tests (T2a)

Chapter 4 – Traffic Assignment Model Validation Section (T2b)

Chapter 5 – Summary of the validation of the updated NSMM transport model and whether it is fit for purpose

2 Model description and specification

The NSMM transport model covers the whole of the urban areas of Stoke-on-Trent and Newcastle-under-Lyme and extends into the surrounding and wider areas. The full model extent is shown in Figure 2-1 with the detailed and peripheral model extents shown in Figure 2-2 and Figure 2-3. Both road and rail links are modelled. Within the detailed model area junctions are modelled as shown in Figure 2-4.

2.1 Structure of the NSMM transport model

The structure of the NSMM transport model consists of three main modules:

- Highway Assignment Model
- Public Transport Assignment Model
- Demand Model

The highway model is both link and junction based.

2.2 Transport modelling software

The NSMM transport model has been refined and updated using CUBE Voyager Version 6.4 transport modelling software.

2.3 Modelled time periods

The modelled time periods are as follows:

- AM peak hour (08:00 - 09:00hrs)
- Inter-Peak (IP) hour (14:00 - 15:00hrs)
- PM peak hour (17:00 - 18:00hrs)

2.4 NSMM transport model zones and sectors

The NSMM transport model has 288 zones which are split as follows:

- Internal zones 1 – 207 and 275 – 288 zones (see Figure 2-5, Figure 2-6 and Figure 2-7)
- Peripheral zones 208 – 233 (see Figure 2-8)
- Regional zones 234 – 255 (see Figure 2-9)
- National zones 256 – 274 (see Figure 2-10)

The internal zones and modelled transport network represent the greatest level of detail to capture local routing and travel demand responses. The peripheral zones form a ring of buffer zones just outside the detailed modelled area, with a dimension a little larger than the internal zones to provide realistic travel demand to and from these areas.

Regional and national zones are far coarser, for example Scotland is represented by a single zone, this permits representation of destination choice and travel opportunities between external zones and between internal and external zones. Capturing external to external demand is important in the NSMM transport model area, as it includes roads carrying significant through traffic such as the M6, A500 and A50 Trunk Roads.

As part of the NSMM model update for the Etruria Valley Link Road (EVLR) Project, an additional 14 zones (zones 275 to 288) were added in the Etruria Valley, Festival Park and Middleport areas and are shown in Figure 2-11.

Figure 2-1: Extent of modelled road and rail network

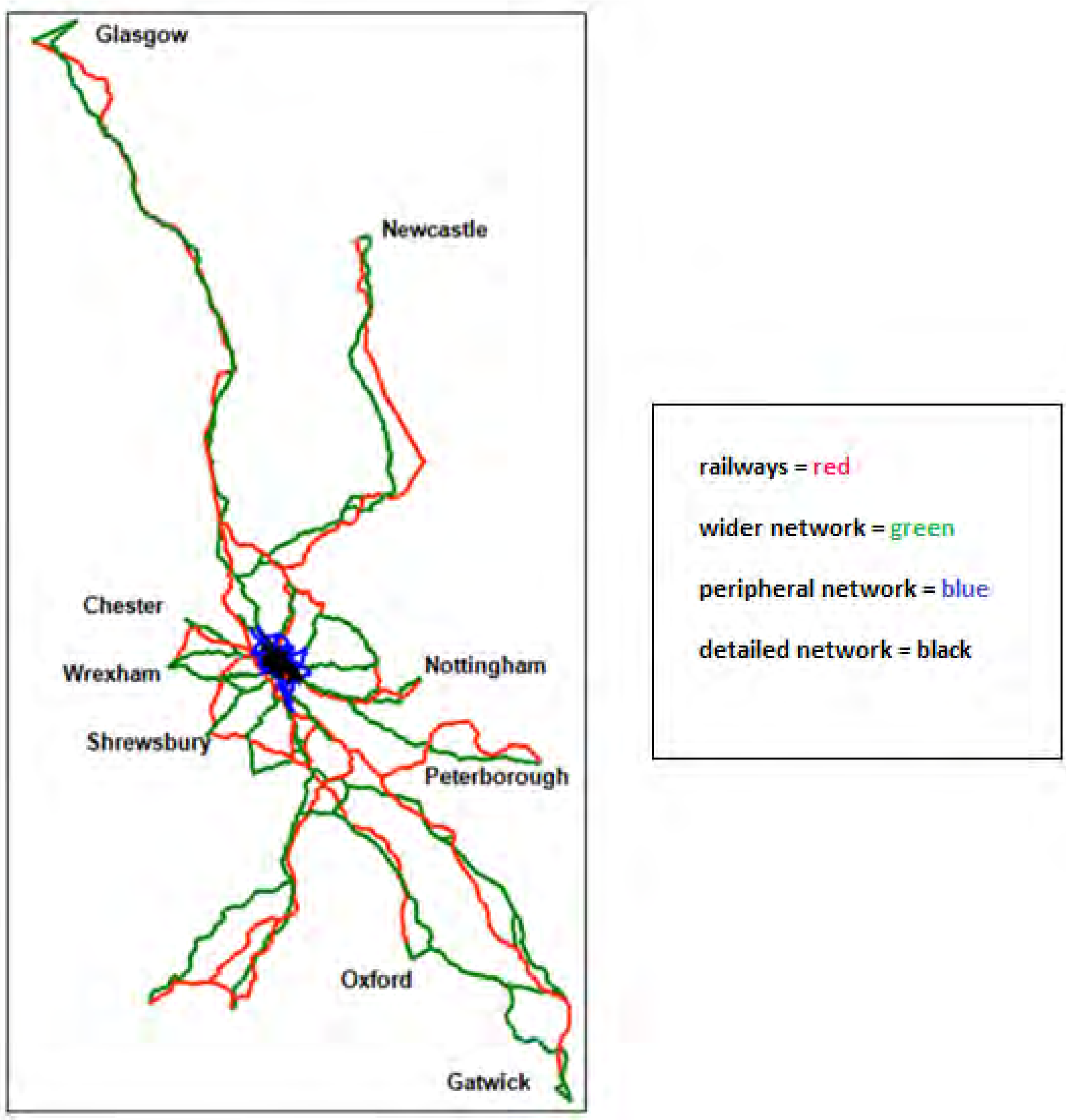

Figure 2-2: Extent of modelled peripheral and internal road and rail networks

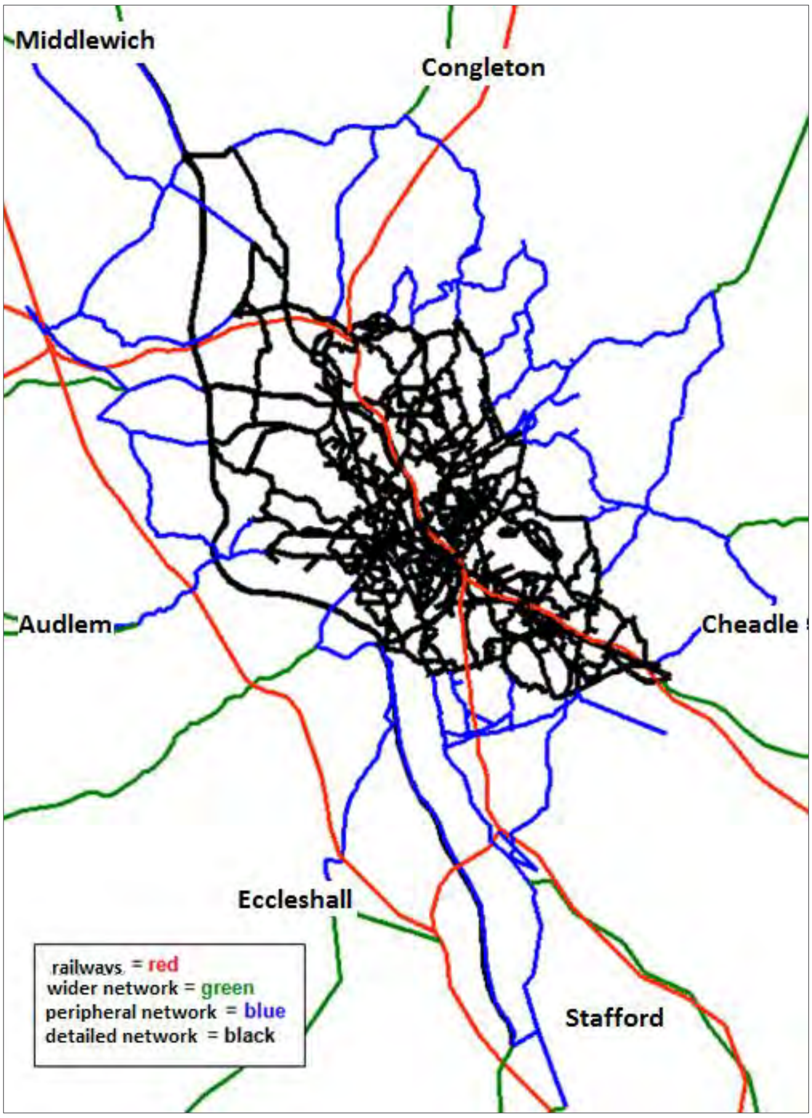

Figure 2-3: Modelled internal road network

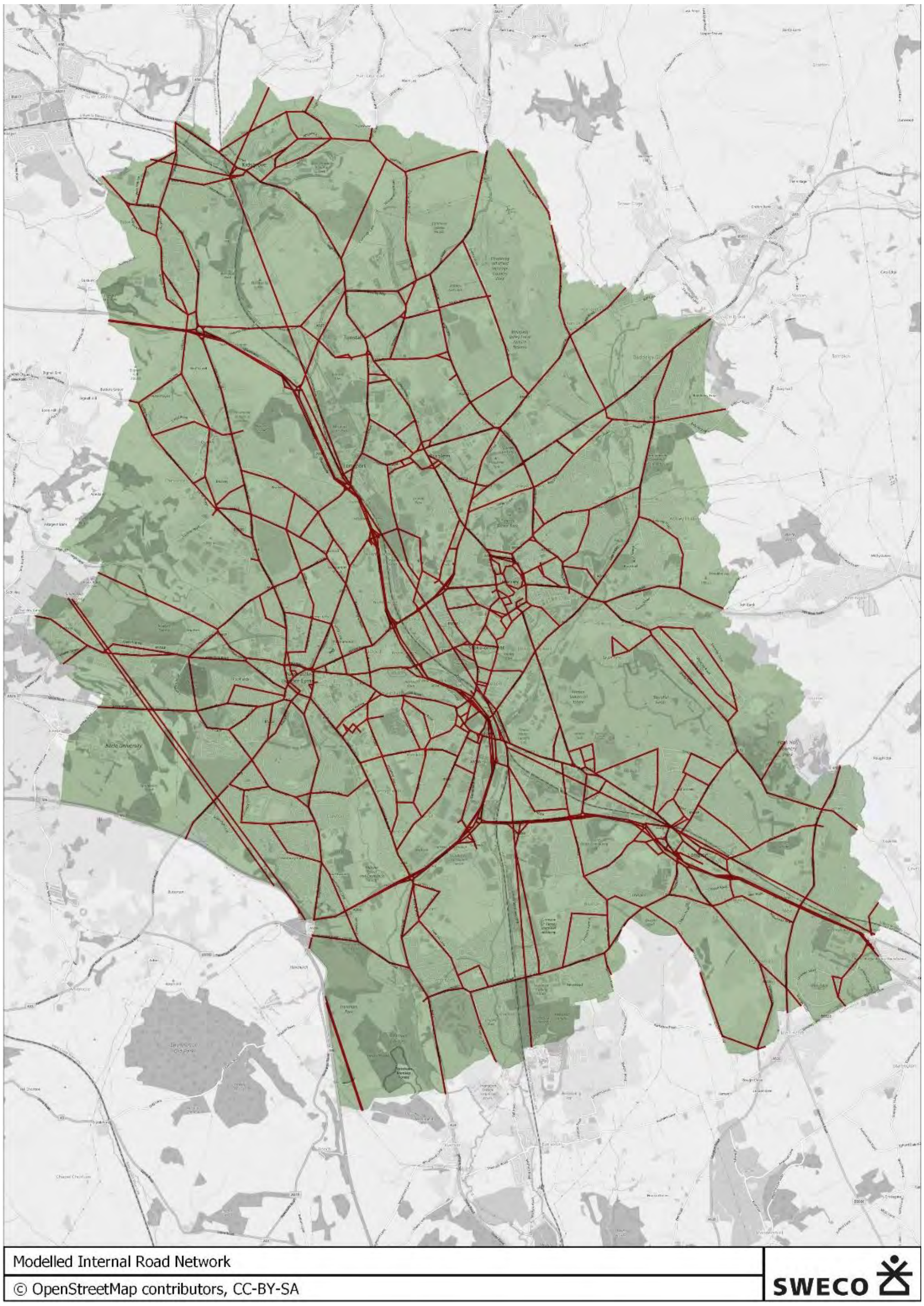

Figure 2-4: Modelled junction

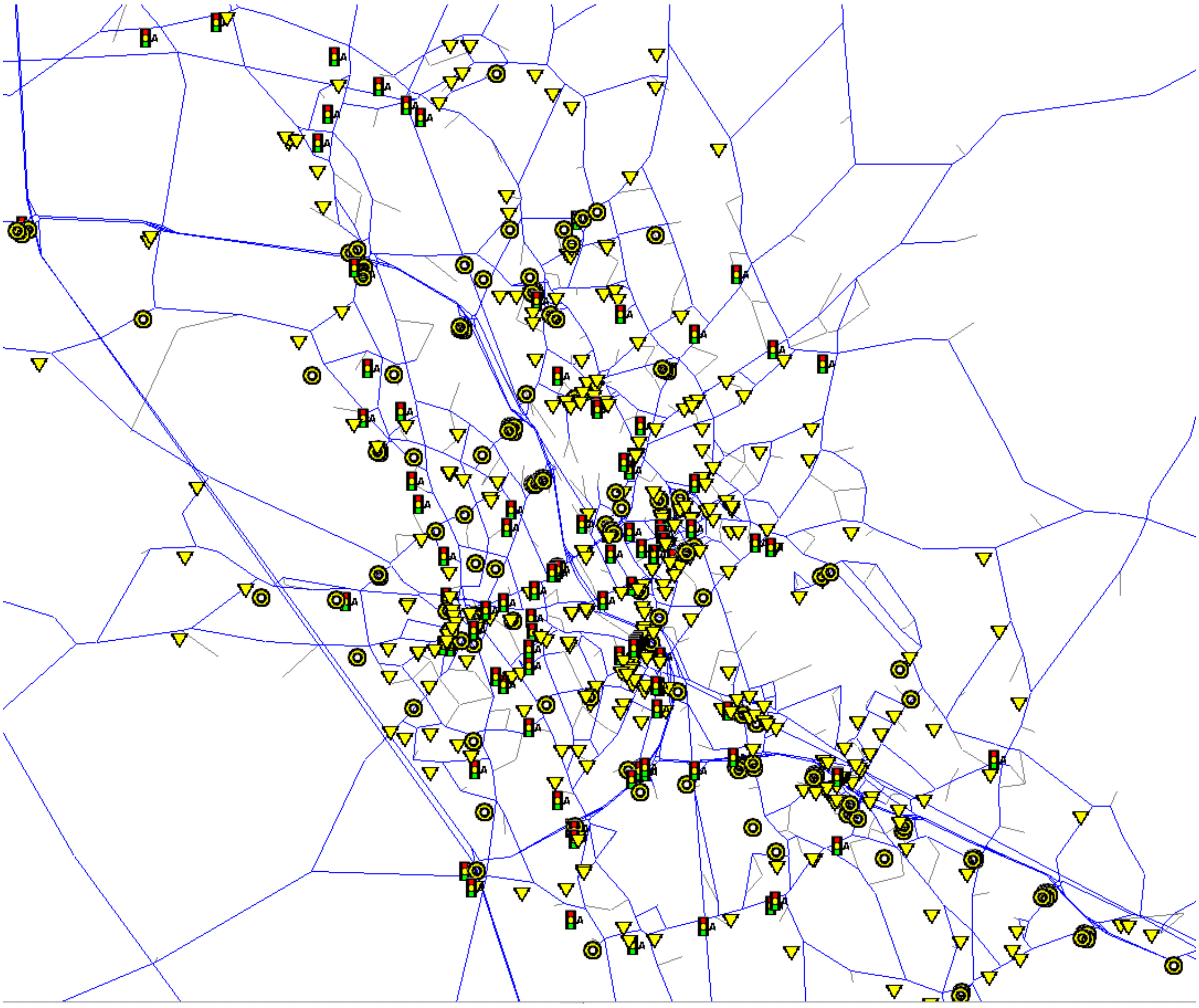

Figure 2-5: Internal transport model zones (north)

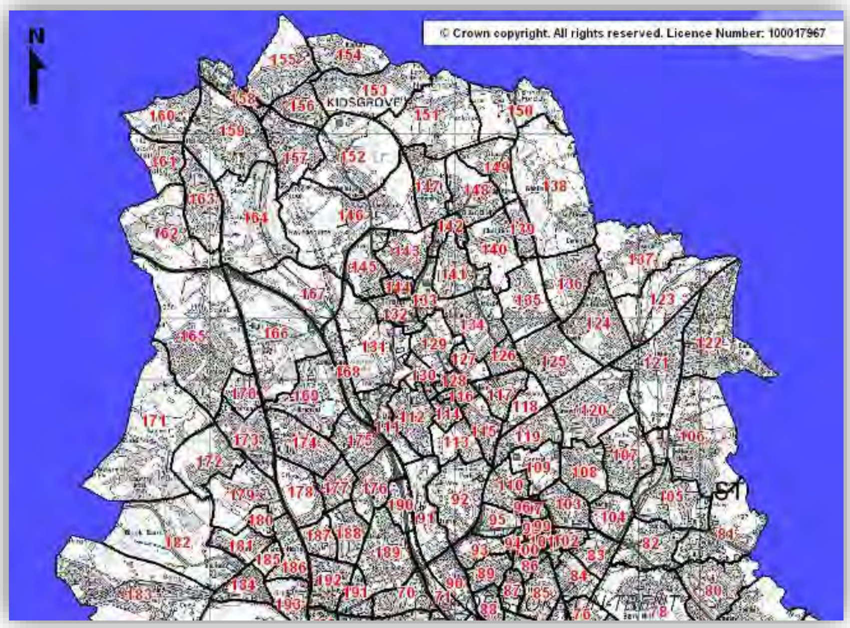

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Figure 2-6: Internal transport model zones (south)

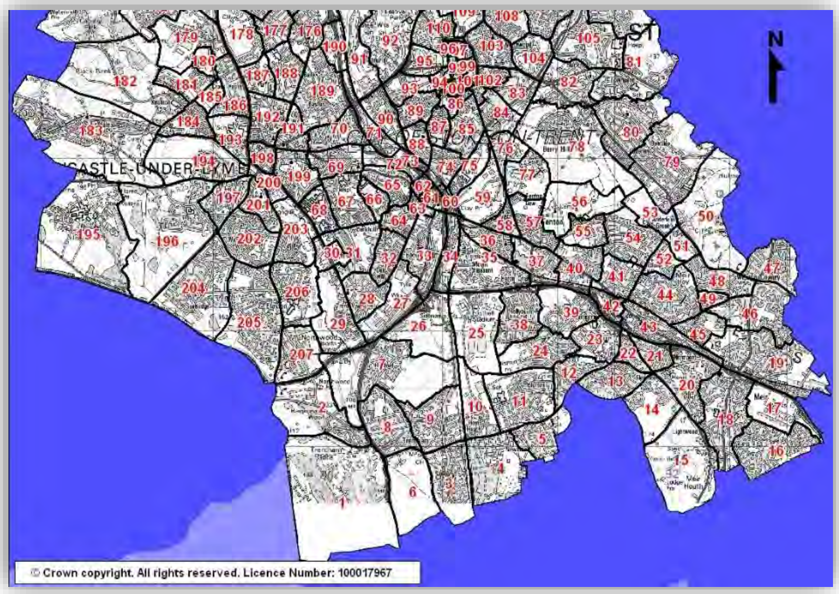

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Figure 2-7: Internal transport model zones (central area)

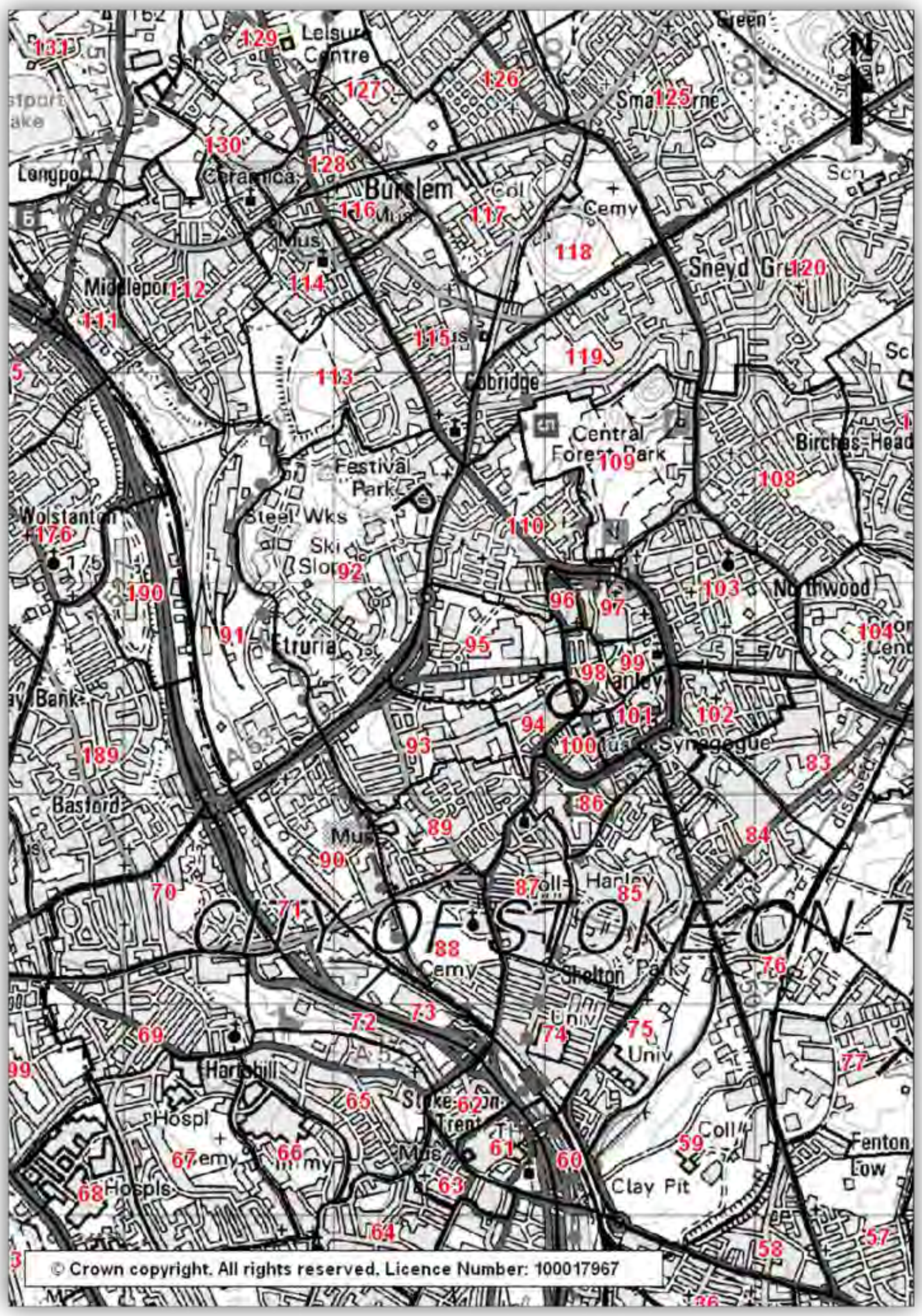

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Figure 2-8: Peripheral transport model zones

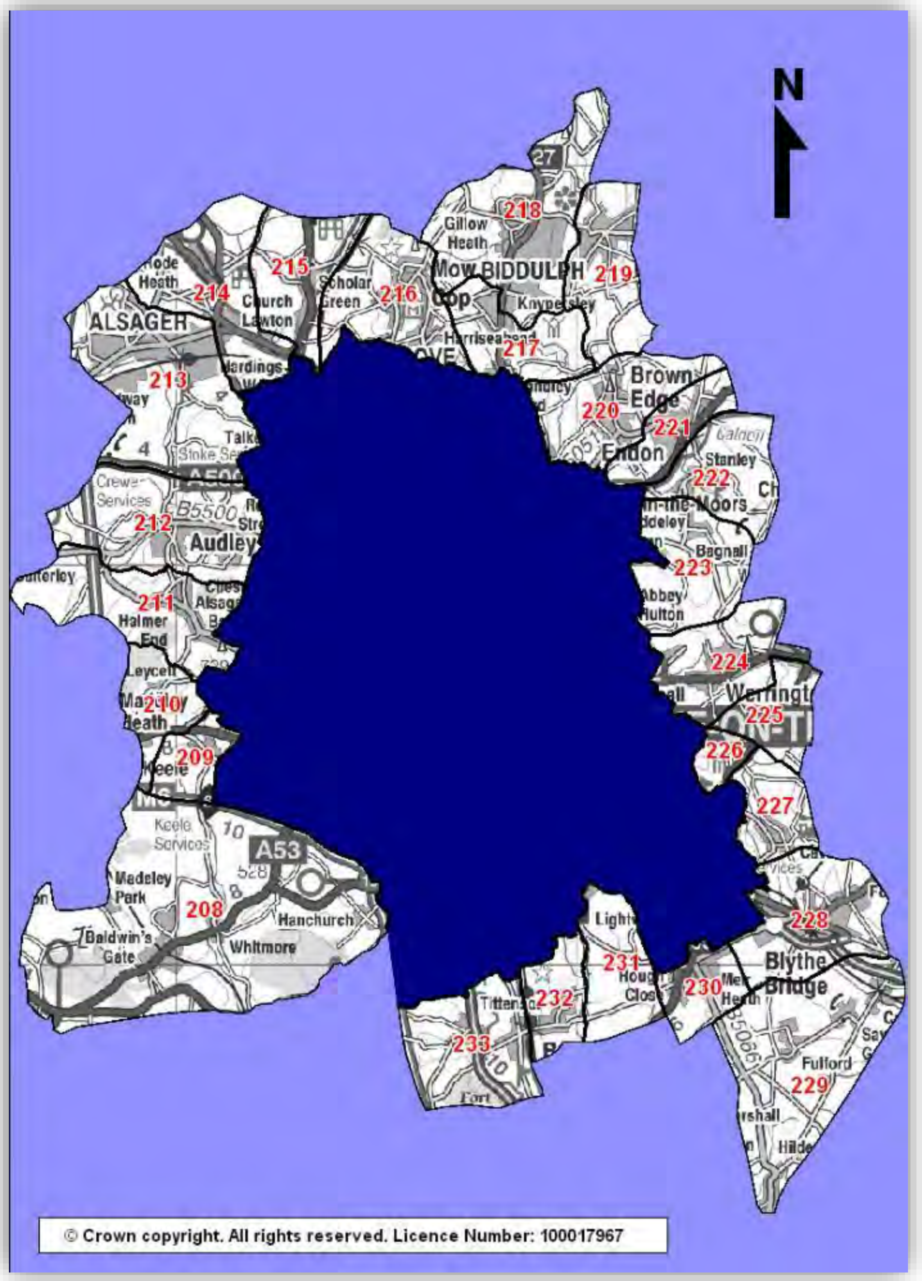

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Figure 2-9: Regional transport model zones

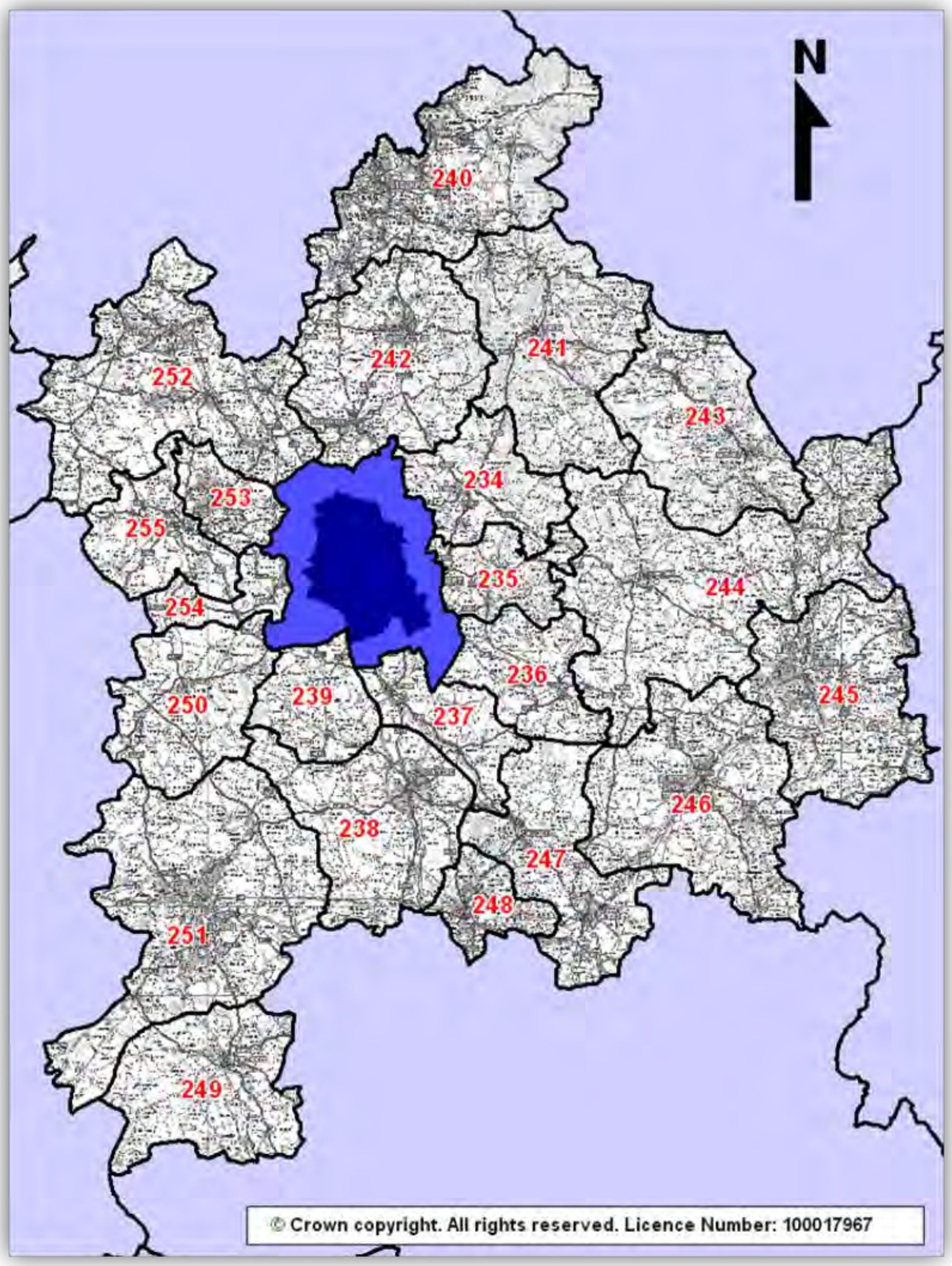


Figure 2-10: National transport model zones

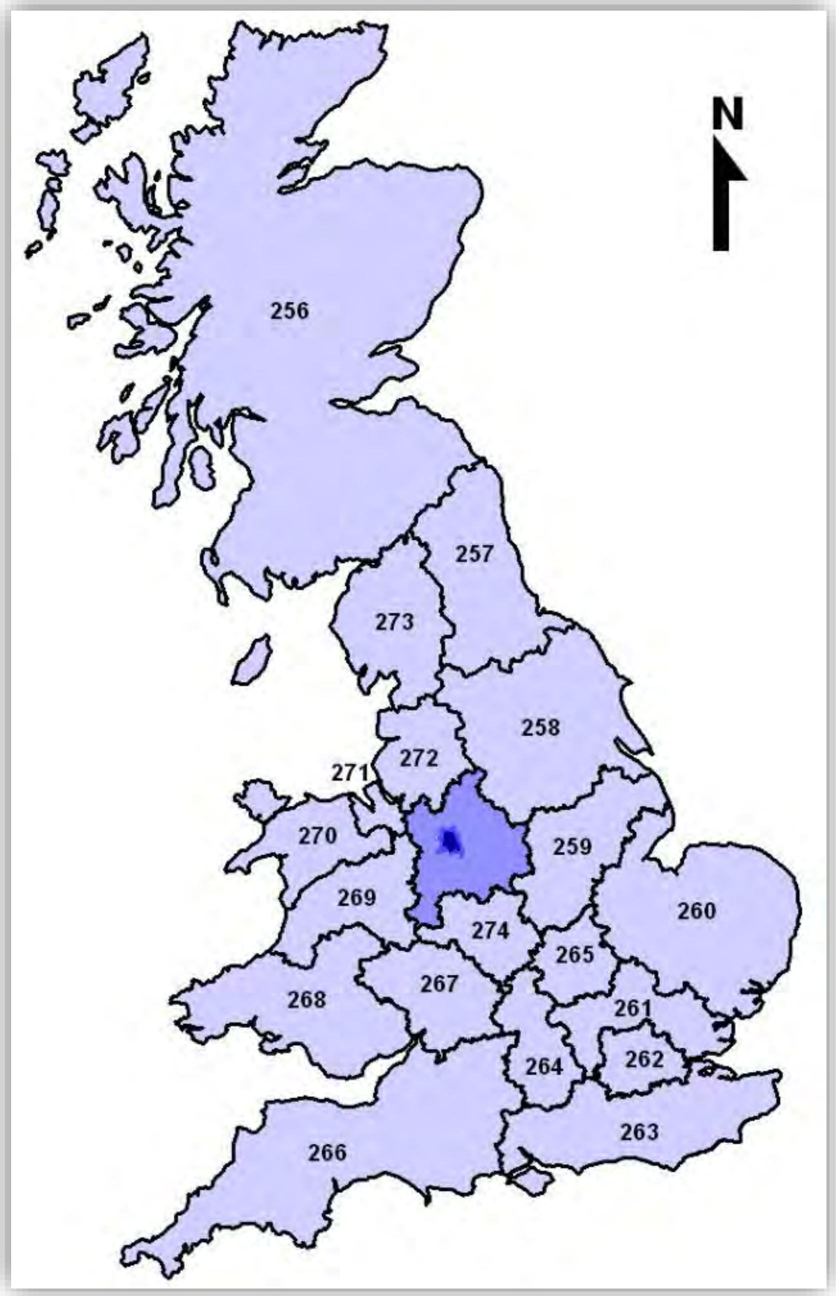
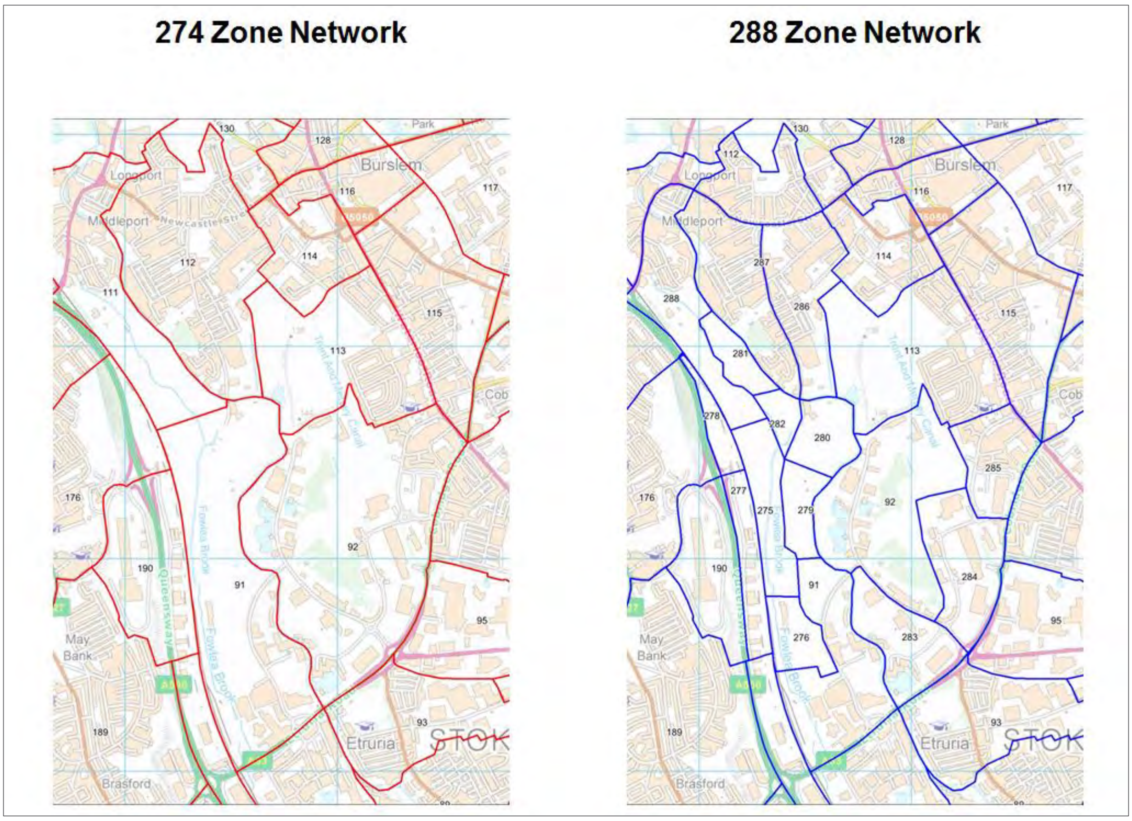


Figure 2-11: Disaggregation of internal transport model zones (central area)



2.5 Model Base Year

The NSMM transport model has a base year of 2015. As part of the refinement and update to the modelled trip matrices a review of the traffic growth between 2015 and 2018 was undertaken to determine if the model needed to be rebased to 2018.

Table 2-1 shows that the traffic growth on a screenline to the east of the A500 between 2015 and 2018 was either negative or marginal. Figure 2-12 shows the location of these counts. Given the lack of traffic growth and the extensive nature of the 2015 base model calibration and validation, as discussed in chapters 3 and 4, it was agreed with JAQU that the model development work would be undertaken on the previously calibrated and validated 2015 model, albeit that model would be disaggregated.

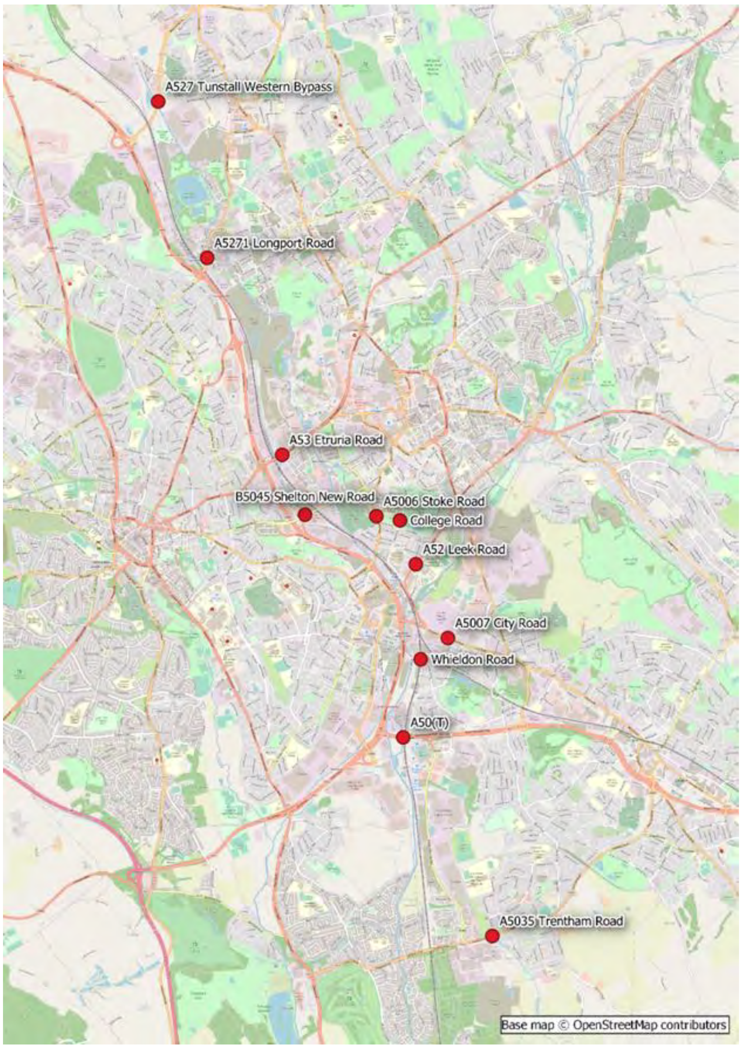
The traffic growth shows that the A50 trunk road has the highest growth in total and for cars, however this is only 4-5% growth between 2015 and 2018 and it is also on the strategic road network which would not form part of the air quality assessment. The A52 Leek Road has the lowest growth between 2015 and 2018 however this is likely to have been affected by roadworks. Leek Road aside, there are no locations that have big changes, total traffic growth between 2015 and 2018 at each location is within +/- 5%.

Table 2-1: Traffic growth between 2015 and 2018

Road	2015 - 2018 Growth				
	Cars	LGVs	HGVs	Buses	Total
A527 Tunstall Western Bypass	1.006	1.078	1.306	1.178	1.027
A5271 Longport Road	0.976	1.071	0.919	0.514	0.983
A53 Etruria Road	1.032	1.064	0.947	0.79	1.032
B5045 Shelton New Road	1.015	0.974	1.093	0.99	1.012
A5006 Stoke Road	0.957	0.897	1.27	1.432	0.956
College Road	1.005	1.141	0.629	0.64	0.981
A52 Leek Road*	0.624	0.557	0.822	0.487	0.617
A5007 City Road	0.947	1.134	0.908	0.769	0.964
Whieldon Road	1.029	0.833	0.583	0.667	0.982
A50(T)	1.046	1.117	0.929	1.204	1.041
A5035 Trentham Road	0.934	1.063	0.823	1	0.946
Total	**0.99**	**1.051**	**0.953**	**0.785**	**0.994**

** 2018 observed trafic flows affected by long-term major roadworks*

Figure 2-12: Location of 2015 / 2018 traffic counts



3 Travel demand calibration and sensitivity tests (T2a)

This section details the variable demand model and its update to enable the modelling of a charging Clean Air Zone (CAZ). It also covers the segmentation of vehicle type matrices by CAZ compliance status using ANPR survey data.

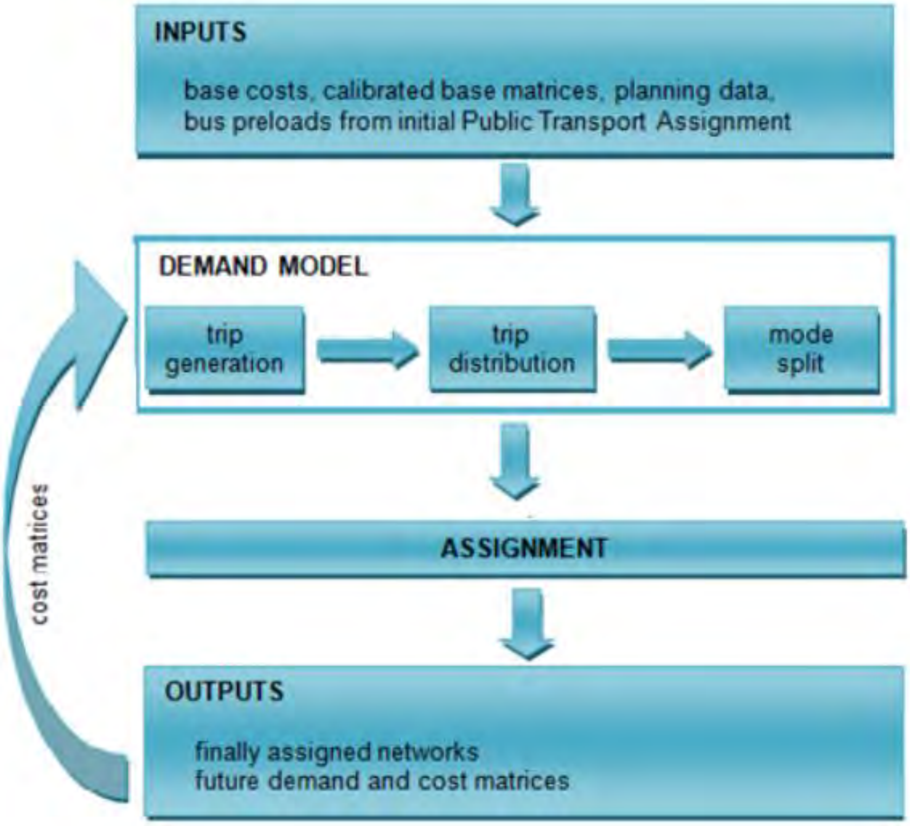
The NSMM demand model was recently calibrated as part of the EVLR Project in line with TAG unit M2 including appropriate realism testing. The demand model forecasts change in trip patterns in terms of trip generation, distribution and mode split due to changes to the highway network, public transport service provision and changes to planning data.

It is acknowledged that given the Stated Preference (SP) surveys were only undertaken in early September 2019, further work will be required to refine the demand model for option testing which will be detailed in due course, the approach is also outlined in the T3 report.

3.1 Form of the NSMM demand model

The demand model has the same spatial, geographic and temporal extent as the assignment model as outlined in sections 2.3 and 2.4 of this report. The basic structure of the NSMM demand model is shown diagrammatically in Figure 3-1. It is an absolute model applied incrementally in that the absolute change between the base and future synthetic trip matrices are added to the calibrated base assignment trip matrices. Any resultant negatives, following the addition of the absolute change to the calibrated base trip matrices are redistributed at sector level. This is as described in section 4.3.6 of TAG unit M2 – Variable Demand Modelling.

Figure 3-1: Demand model structure



3.2 Model segmentation

In order to produce a robust demand model, calculations at each stage are undertaken separately for each of the demand segments. 'Segmentation' is the division of travel, traveller and transport attributes into different categories so that all travellers in the same category can be treated in the same way. This segmentation assists the estimation of how much and what type of demand each zone produces or attracts and also reflects the different variation in responsiveness to changes in travel costs and conditions by traveller type.

At the trip generation stage, home based person trips are segmented into:

- Six socio-economic groupings (HH1 to HH6), see Table 3-1.
- Three car ownership categories (0, 1, 2 or more)
- Four trip purposes:
    - Home-based work (HBW)
    - Home-based education (HBE)
    - Home-based shopping (HBS)
    - Home-based other (HBO)

This gives a total of 72 home-based demand segments.

Non-home-based trips are divided into two segments:

- Non-home-based employer's business (NHBEB)
- Non-home-based other (NHBO)

Goods vehicle trips are divided into two segments:

- LGV trips (all purposes)
- HGV trips (all purposes)

The demand segmentation is largely derived from surveyed demand data. The six socio-economic groupings shown in Table 3-1 are based on the percentage of economic households within each Output Area using 2011 Census data. The information will be used to derive an approximation of household income for each socio-economic grouping which can be used to segment demand for modelling different charging schemes. This will be undertaken once the SP survey work is complete and this report will be appropriately updated.

Table 3-1: NSMM transport model socio-economic groupings

Category	Household Size	No. Employed People
1	1	0
2	>1	0
3	1-2	1
4	3+	1
5	1-3	2+
6	4+	2+

3.3 Trip generation

The trip generation stage determines the number of trips that are being generated by and attracted to each zone in the transport model. This process is undertaken slightly differently for home based and non-home based person trips and for non-home based goods vehicle trips.

3.3.1 Home-Based person trips

Trip rates were derived from 2009 household interview surveys and roadside interviews. They have subsequently been reviewed and benchmarked against home-based trip rates from TRICS, resulting in the application of the home-based production trip rates detailed in Table 3-2 to the forecast changes in the number of households. Note the rates below are just applied to the changes in future households not the total number of future households. The same approach is applied for all future land use change.

Table 3-3 shows the target attraction rates which are used to calculate the home-based purpose splits in order to correct the trip attractions. To calculate productions and attractions for home-based trips the demand model uses the following planning data:

- Residential units (split by the 6 socio-economic categories)
- Number of jobs
- Number of school places
- Retail GFA

Table 3-2: Target household production trip rates by time period

Land Use	AM Peak-Hour	Inter-Peak Hour	PM Peak-Hour
Household (per house)	0.72	0.414	0.621

Table 3-3: Target attraction trip rates by time period

Land Use	AM Peak-Hour	Inter-Peak Hour	PM Peak-Hour
Employment (per job)	0.31	0.09	0.28
Primary School (per school place)	0.688	0.053	0.133
Secondary School (per school place)	0.298	0.306	0.034
College / University (per school place)	0.136	0.066	0.08
Food Superstore (GFA)	0.06032	0.13985	0.14824
Shopping Centre – Local Shops (GFA)	0.14888	0.17531	0.20459
Non-food Retail (GFA)	0.0066	0.07734	0.04583
Mixed Shopping Malls (GFA)	0.01428	0.04836	0.01785

The demand model calculates the number of home-based productions in each zone by multiplying the household information by an appropriate trip rate for each of the 72 home-based demand segments. For the forecast change in households these are then factored to the target household trip rates outlined in Table 3-2.

Target home-based attractions for the forecast change in other land uses are calculated using the trip rates in Table 3-3.The resulting target home-based attractions are then solely used to inform the home-based production split by purpose. This therefore ensures that the total attractions match the total productions.

3.3.2 Non-Home-Based person trips

Non-home-based trips occur between employment, education, shopping and other locations. Roadside interview and public transport interview data have been used to derive origin and destination person trip rates for employment, education, shopping and leisure. Origin and destination person trip ends for non-home based activity are calculated by multiplying the planning data by these rates. ‘Employer’s business’ trips are assumed to occur between employment locations while other trips may occur between any combinations of locations. In each modelled peak-hour the proportion of trips made on employer’s business is given by the survey data and this is used to split the work-based trips into ‘employer’s business’ trips and other trips. Both origins and destinations are factored to match their average total.

Non-home-based business trip ends are derived through multiplying the number of jobs by the non -home based business trip rate. The non-home-based other trips are derived by multiplying jobs, school places, retail gross floor area and leisure site gross floor area by the equivalent non home-based trip rate and adding these together.

3.3.3 Non-Home-Based goods vehicle trips

All good vehicle trips are calculated using origin and destination rates calculated from roadside interview data. The origin and destination trip end values calculated are factored to match the average total.

3.4 Trip distribution

The trip distribution process takes the factored trip ends produced by the trip generation process and decides how to distribute movements to and from each zone across all of the zones. This is done automatically using CUBE Voyager’s gravity model functionality. The inputs to this process are the trip ends, cost matrices and friction and K-factors.

3.4.1 Derivation of composite costs

For person trips by private transport the initial composite cost matrix is produced as follows:

1. Private transport cost skims (in minutes) are taken from the appropriate calibrated model run
2. For home-based trips these matrices are partially transposed
3. Parking charges are converted to costs in minutes
4. Three separate values of time based on the TAG Databook are calculated for the following trip purposes:
    - Home-based work trips
    - Home-based education, shopping and other and non-home based other
    - Non-home-based employer’s business

1. Production (or origin for non-home based) end walk times are added on as are attraction (or destination) end search and walk times and parking costs in minutes. To

be comparable with public transport fares the parking costs used are half of the anticipated actual parking costs

2. Intra-zonal costs are set to the lowest inter-zonal cost multiplied by 0.5

After the first run through of the demand model the input cost matrices used are those calculated from the integral assignment.

For person trips by public transport the initial composite cost matrix is produced in a similar fashion as follows:

1. Public transport total trip time (walk time + ride time), wait time and fare cost skims are taken from the appropriate model run
2. All time-based costs are summed to a single total
3. For home-based trips time and cost matrices are partially transposed
4. Fares are converted to costs in minutes
5. As previously, three separate values of time are used:
    - Home-based work trips
    - Home-based education, shopping and other and non-home based other
    - Non-home-based – employer’s business

1. Fares (in minutes) are added to the time-based costs to give a total time-based cost
2. Intra-zonal costs are set to the lowest inter-zonal cost multiplied by 0.5

Again, after the first run through of the demand model the input cost matrices used are those calculated from the integral assignment.

For goods vehicles the process is simpler as they are assumed not to experience complications caused by a requirement to park at a distance from their destination and there is no mode choice and therefore no requirement for calculation of the composite cost. Separate productions and attractions are derived for LGVs and HGVs and they are distributed separately through the distribution model to produce separate LGV and HGV trip matrices. The goods vehicle cost matrices are calculated as follows:

1. Goods vehicle cost skims (in minutes) are taken from the appropriate model run
2. The mean values of the LGV and HGV cost skims are taken separately
3. Intra-zonal costs are set to the lowest inter-zonal cost multiplied by 0.5

It should be noted that the demand model excludes any cost damping.

Home-based shopping and home-based other are singly constrained gravity models at the production end, whilst home-based work, education, non-home-based, and goods vehicle trips are doubly constrained at both the production and attraction ends.

3.4.2 Friction factors

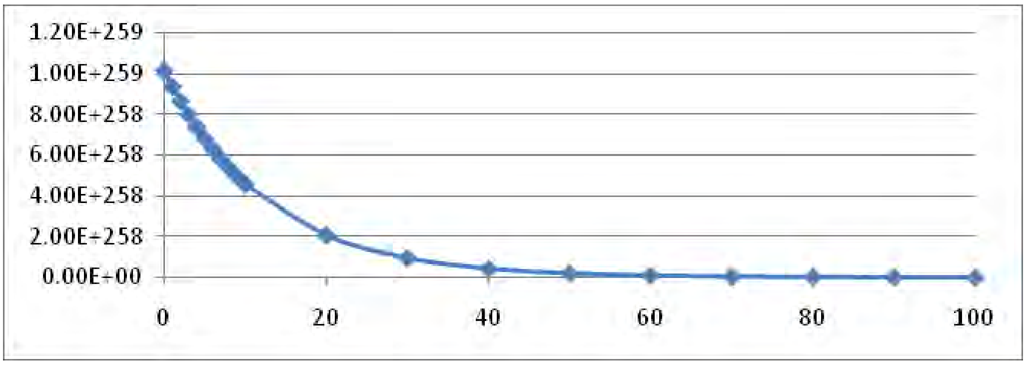
Friction factors are used to indicate how popular low-cost trips are in comparison to high cost trips. In this case a logit model has been used such that, at the most basic level, the friction factor is given by the exponential function $\exp(-\beta c_{ij})$. However, in practice even the most homogenous trip purposes include a range of behaviour types. An illustration of this is that while most trips to work will follow a standard distribution curve some people have journeys to work which are governed by the home location requirements of their families and so travel much further than is typical. This means that values of β which give a good result for the shorter sections of the trip length distribution are unable to match the longer sections. For this reason, the precise form of the friction factor equation used is:

$$Friction\ Factor = Ae^{-\beta_A c} + Be^{-\beta_B c} + \ Ce^{-\beta_C c}$$

The overall friction factor values are not important: it is only the relative values at different costs which are significant and so the values of A, B and C are chosen such that the widest possible range of costs have finite friction factor values. For this reason A is always equal to$1\ x\ 10^{259}$, this being the largest factor which can be accommodated by the software. The values of B and C are always at least an order of magnitude lower and so the greatest part of the friction factor curve comes from the first term.

The general form of a typical friction factor curve in shown in Figure 3-2.

Figure 3-2: Typical friction factor curve



3.4.3 K-Factors

The use of K-factors is generally advised against and in this case, they are all set to 1.

3.4.4 Calibration

The trip distribution model is calibrated by adjusting the β values and constants used in the friction factor equation to calculate the friction factor curves.

In order to produce an overall total number of trips which is correct following distribution then blanking global correction factors are also applied. In most cases these are close to 1. The β values and constants found to give the best match to the observed trip length distributions in each modelled peak hour are given in Table 3-4 to Table 3-6.

Table 3-4: AM peak-hour β values and constants

Demand Segment	A	β_A	B	β_B	C	β_C	Global Factor
HBW	$1x10^{259}$	0.08	$1x10^{257}$	0.03	$3x10^{255}$	0.010	1.49
HBE	$1x10^{259}$	0.06	$5x10^{255}$	0.02	$5x10^{255}$	0.010	1.40
HBS	$1x10^{259}$	0.80	$1x10^{256}$	0.08	$4x10^{253}$	0.020	0.81
HBO	$1x10^{259}$	0.30	$3x10^{257}$	0.06	$1x10^{255}$	0.020	0.90
NHB	$1x10^{259}$	0.60	$1x10^{257}$	0.08	$7x10^{254}$	0.020	0.73
LGV	$1x10^{259}$	0.30	$5x10^{257}$	0.06	$1x10^{257}$	0.030	1.06
HGV	$1x10^{259}$	0.30	$6x10^{257}$	0.05	$2x10^{255}$	0.010	1.10

Table 3-5: Inter-Peak hour β values and constants

Demand Segment	A	β_A	B	β_B	C	β_C	Global Factor
HBW	$1x10^{259}$	0.10	$1x10^{258}$	0.06	$1x10^{256}$	0.015	2.26
HBE	$1x10^{259}$	0.20	0	0.02	0	0.010	3.17
HBS	$1x10^{259}$	0.70	$1x10^{256}$	0.06	$4x10^{253}$	0.015	0.99
HBO	$1x10^{259}$	0.50	$2x10^{256}$	0.06	$4x10^{253}$	0.015	0.88
NHB	$1x10^{259}$	0.10	$2x10^{257}$	0.06	$4x10^{256}$	0.020	1.05
LGV	$1x10^{259}$	0.30	$1x10^{258}$	0.06	$1x10^{256}$	0.019	1.05
HGV	$1x10^{259}$	0.30	$1x10^{258}$	0.06	$1x10^{256}$	0.013	1.14

Table 3-6: PM Peak-hour β values and constants

Demand Segment	A	β_A	B	β_B	C	β_C	Global Factor
HBW	$1x10^{259}$	0.10	$5x10^{258}$	0.06	$2x10^{256}$	0.014	1.43
HBE	$1x10^{259}$	0.20	$3x10^{257}$	0.06	$1x10^{254}$	0.010	2.30
HBS	$1x10^{259}$	0.60	$5x10^{256}$	0.08	$2x10^{254}$	0.020	0.82
HBO	$1x10^{259}$	0.50	$1x10^{257}$	0.08	$2x10^{254}$	0.020	0.90
NHB	$1x10^{259}$	0.60	$5x10^{256}$	0.08	$3x10^{254}$	0.020	0.91
LGV	$1x10^{259}$	0.20	$2x10^{258}$	0.06	$5x10^{256}$	0.020	0.99
HGV	$1x10^{259}$	0.30	$5x10^{257}$	0.06	$7x10^{255}$	0.012	1.13

The trip distribution model for 2009 has been recalibrated as part of the update of the 2015 demand model to improve the level of validation of the car and goods vehicle trip distribution model against 2009 observed data. For this re-calibration of the distribution modelling, the $\boldsymbol{\beta}$, A, B and C values have not been altered. Instead the friction factors have been reviewed and adjusted for the 38 generalised cost bands for which they are applied, in order to get a better fit between the output trip length distribution and the observed data.

3.5 Mode choice

The mode choice model splits the person trip matrix into car and public transport trip matrices on the basis of the respective costs of the use of each mode and lambda (or mode split) constants.

The zero car ownership demand segments (HBW0, HBE0, HBS0 and HBO0) are considered captive to public transport and are not included in the mode split model. For the one and two-plus car ownership demand segments CUBE Voyager's XCHOICE logit choice module is used to carry out mode choice on the basis of the input costs and lambda values.

The output car trip matrix is divided by a car occupancy factor to give a vehicle (rather than a person) trip matrix. Trips less than one kilometre by public transport are multiplied by 1/3 and those between one and two kilometres by 2/3 as it is assumed that a high proportion of these trips will actually be made on foot.

The mode choice model is calibrated by adjusting the lambda values used by XCHOICE and the mode constants used in the calculation of the cost matrices. The values found to give the best match to the observed mode splits in each modelled time period are given in Table 3-7.

Table 3-7 Mode split lambda values and constants

Demand Segment	AM Peak Hour		Inter-Peak Hour		PM Peak Hour	
	Lambda	Mode Constant	Lambda	Mode Constant	Lambda	Mode Constant
HBW	0.096	20 (one car) 20 (two+ cars)	0.2	20 (one car) 20 (two+ cars)	0.21	20 (one car) 20 (two+ cars)
HBE	0.096	20 (one car) 20 (two+ cars)	0.12	20 (one car) 20 (two+ cars)	0.42	20 (one car) 20 (two+ cars)
HBS	0.96	30 (one car) 40 (two+ cars)	0.91	26 (one car) 32 (two+ cars)	0.9	26 (one car) 32 (two+ cars)
HBO	0.48	30 (one car) 40 (two+ cars)	0.75	35 (one car) 50 (two+ cars)	0.85	30 (one car) 40 (two+ cars)
NHB	0.96	24	0.2	30	0.9	24

3.6 Demand response to a CAZ

For modelling a charging CAZ, the NSMM transport model will be adapted to ensure it can model all the possible demand responses to trips entering, travelling within or routeing through a CAZ. This will include undertaking some sensitivity testing to sense check the reduction in highway demand following the introduction of a charging CAZ is logical as well as checking demand changes when applying different CAZ charges. The demand responses and the methodology for modelling them are outlined in Table 3-8. It should be noted that Table 3-8 does not provide a hierarchy of response but just outlines the different demand responses that will be captured in the updated NSMM transport model. This report will be updated following the SP surveys carried out in early September and the resultant completion of the demand model update.

Table 3-8: CAZ demand responses

Response	Demand Response to CAZ	Methodology
1	Replacing or upgrading vehicle	Choice modelling will be applied using stated preference data to ascertain the likelihood of non-compliant car, taxis, LGV and HGV users that travel through, within or to and from the CAZ to upgrade their vehicle to a compliant one. This choice modelling for non-compliant cars will be undertaken using income segmentation making use of the socio-economic categories which will permit a calculation of the proportion of households in different income categories based on the number of people in employment.
2	Cancelling trip	A multinomial choice model will derive the percentage of non-compliant car demand by income category that cancel their trip for cars, this will also be undertaken for taxis, LGVs and HGVs that travel through, within or to and from the CAZ. These trips will be removed from the final assigned matrices.
3	Change of destination	A multinomial choice model will derive the percentage of non-compliant car demand by income category with a destination in the CAZ (but an origin outside). These trips will then be redistributed to non-CAZ destinations. Goods vehicles will be excluded from this demand response as they don't have a choice to change their destination as their delivery destinations would be fixed irrespective of a CAZ charge.
4	Modal shift	A multinomial choice model will derive the percentage of demand by income category that change mode from the car, for non-compliant car trips that travel through, within or to and from the CAZ. The NSMM transport model does not explicitly model walking and cycling trips, so a percentage reduction in car trips will be needed for related policies.

5	Change route to avoid CAZ	A multiple select link analysis will be undertaken on the 2022 Reference Case at the inbound cordon locations to the CAZ. Non-compliant cars, LGVs and HGVs select link matrices will be filtered to identify through trips only, external to the CAZ. A multinomial choice model for non-compliant cars, LGVs and HGVs will derive the percentage of these through trips that would re-route to avoid the CAZ. The NSMM assignment model will allow for a single cordon CAZ charge affecting trips currently routing through the CAZ and therefore reassigning some through demand onto more attractive (non -charged) routes. This will be represented on the network by having a CAZ charge on a cordon of links forming the charging zone in both directions which will be picked up by the model and allowed for in the generalised cost for the routing assignment. The charge on each charging link will be modally consistent however will be permitted to differ for cars, LGVs and HGVs as appropriate. Sense checks will be undertaken on the level of reassignment. Additional scripting will be required using demand matrices for specific OD movements to capture charges for internal movements only (i.e. within the CAZ charge area), in addition further scripting will be required to avoid anyone being charged more than once
6	Pay the CAZ charge	Following the above demand responses, the remaining car, taxi, LGV and HGV trips that start or end their journey in the CAZ or go through it will continue to do so (but pay a daily charge). Modelling responsiveness and payment of CAZ charging will use income segmentation derived from the socio-economic groupings.

3.7 Demand model calibration

The NSMM demand model will be further updated and calibrated using regression analysis on the SP survey to update the choice modelling to reflect responses to a charging CAZ. This will be reported in an updated version of this report.

This section therefore centres on the calibration of the existing demand model matrices against observed data. Checks of the 2015 synthetic demand trip matrices have been carried out by comparing the trip length distributions of these matrices with 2009 observed trip matrices derived from roadside interviews. The comparisons have been carried out using the 2009 matrices as these are based on observed data and will therefore accurately reflect actual travel patterns.

Table 3-9 shows the distance class banding used in the comparisons of the trip length distributions for the 2009 observed and 2015 synthetic trip matrices. The match between the observed and synthetic trip length distributions are shown in Figure 3-3 to Figure 3-5 for car and public transport trips for the AM peak hour, IP hour and PM peak hour time periods, respectively. The equivalent information for the LGV trip matrices are shown in Figure 3-6 to Figure 3-8 and for the HGV trip matrices in Figure 3-9 to Figure 3-11.

As can been seen from Figure 3-3 to Figure 3-11, the 2015 synthetic trip length distributions show a very close match with the equivalent observed information for all modes of travel and time periods confirming that the demand matrices have been calibrated to a very good level of accuracy.

Table 3-9: Distance class banding for trip length distribution

Distance Class	Range (km)
1	< 1
2	1 – 2
3	2 – 3
4	3 – 5
5	5 – 10
6	10 – 15
7	15 – 25
8	25 – 35
9	35 – 50
10	50 – 100
11	100 – 200
12	> 200

Figure 3-3: AM peak hour car and public transport trip length distribution comparisons

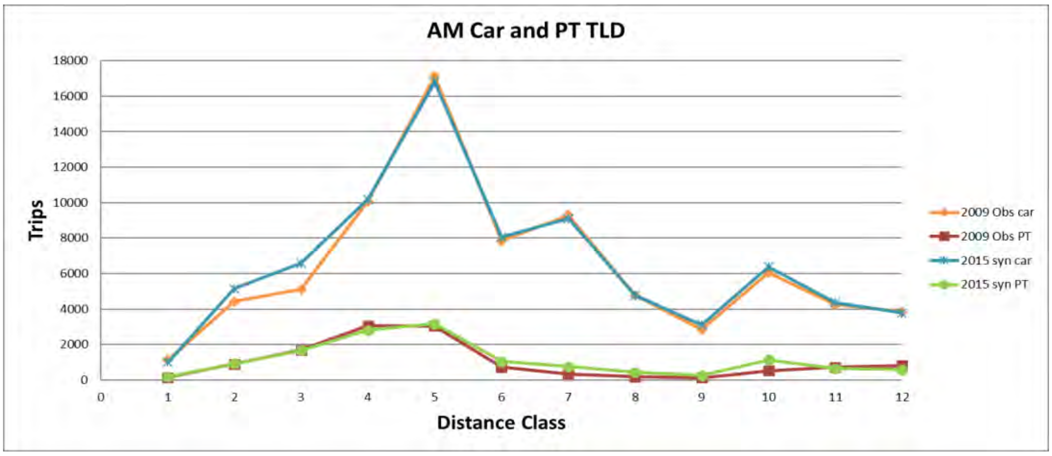


Figure 3-4: IP hour car and public transport trip length distribution comparisons

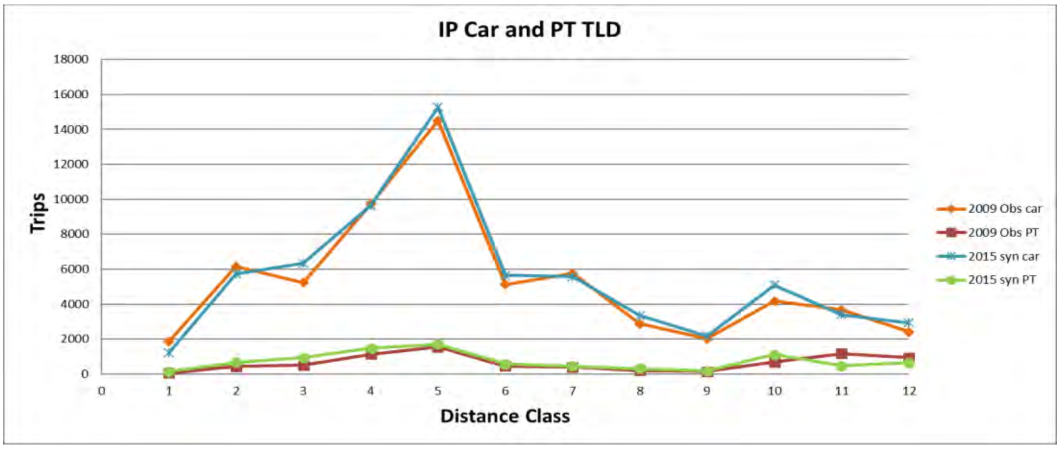


Figure 3-5: PM peak hour car and public transport trip length distribution comparisons

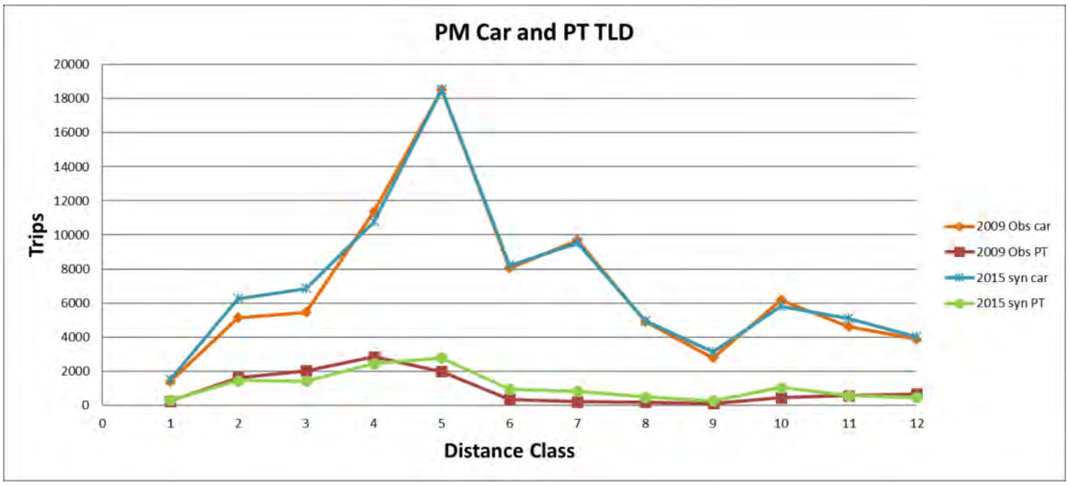


Figure 3-6: AM peak hour LGV trip length distribution comparisons

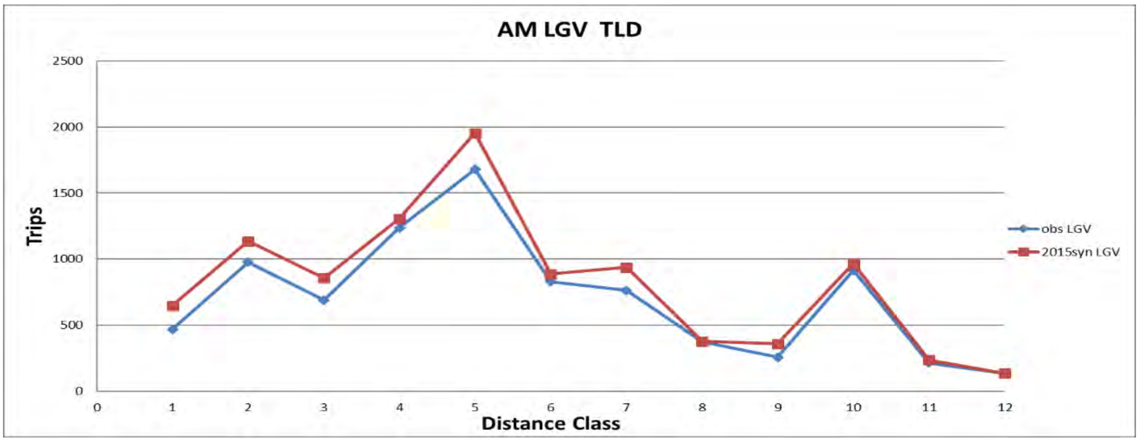


Figure 3-7: IP hour LGV trip length distribution comparisons

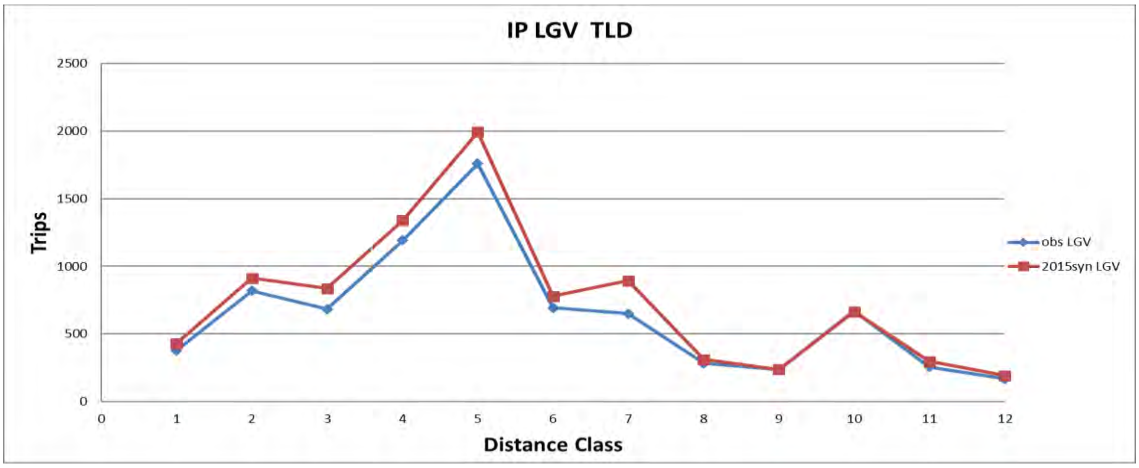


Figure 3-8: PM peak hour LGV trip length distribution comparisons

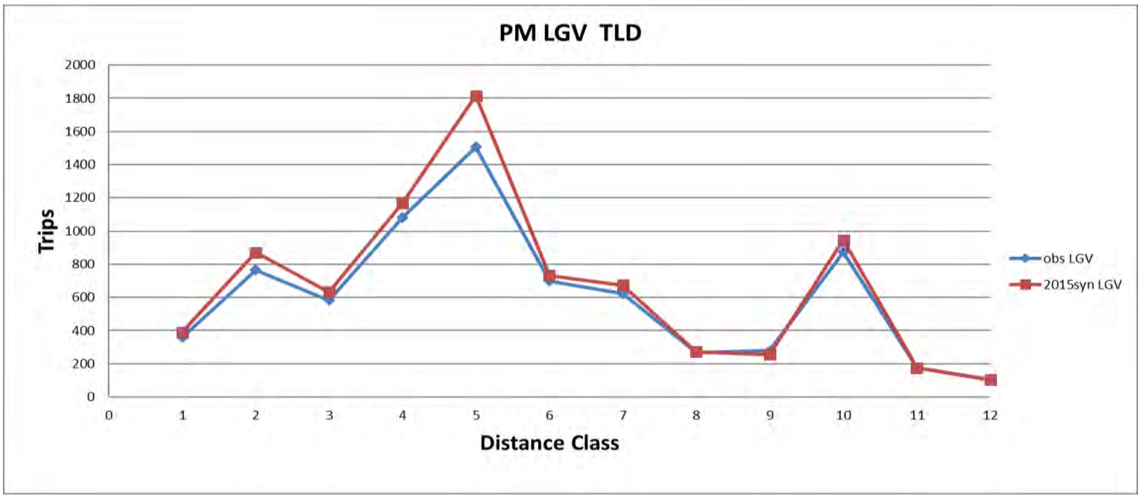


Figure 3-9: AM peak hour HGV trip length distribution comparisons

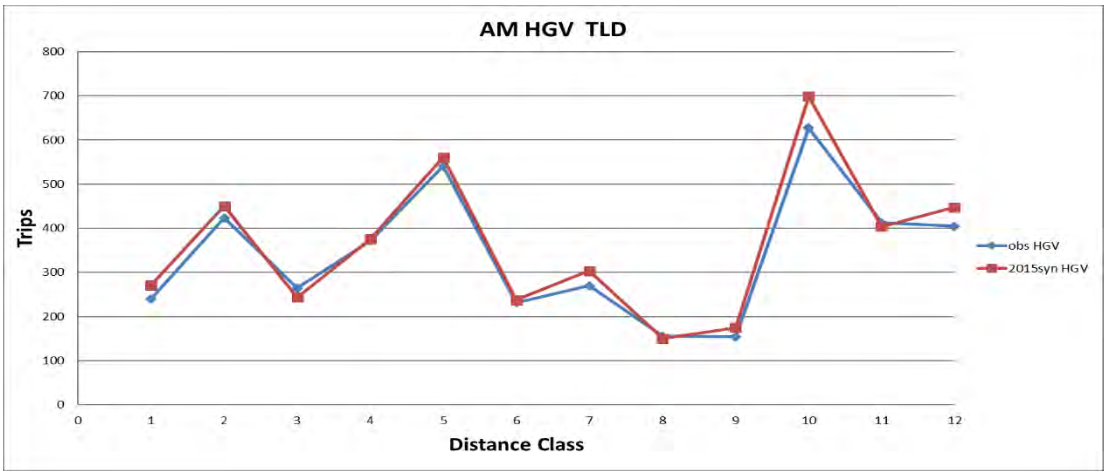


Figure 3-10: IP peak hour HGV trip length distribution comparisons

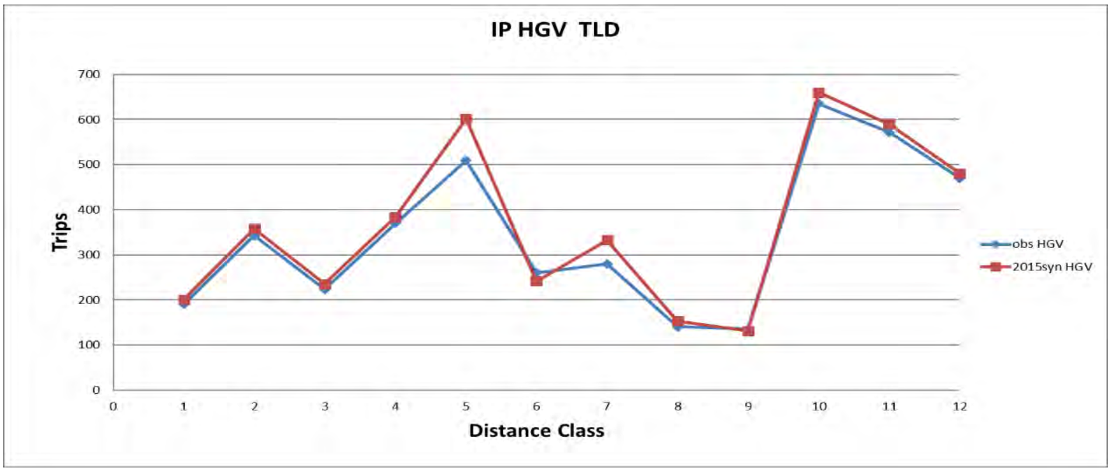
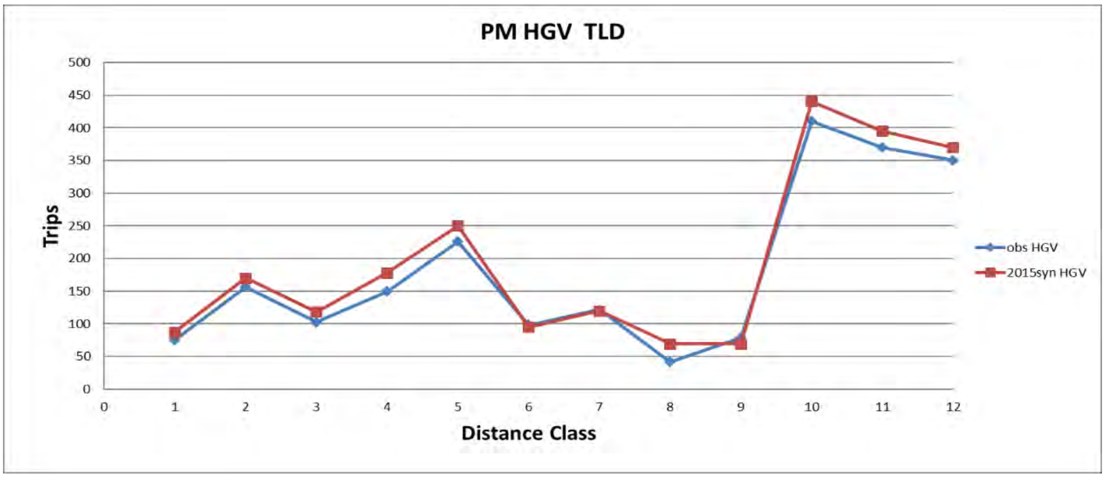


Figure 3-11: PM peak hour HGV trip length distribution comparisons



3.8 Realism testing

It is essential to ensure that a variable demand model behaves 'realistically' by changing the various components of travel costs and times and checking that the overall demand response accords with general experience. The acceptability of the demand model's responses is determined by its demand elasticities. These demand elasticities are calculated by changing a cost or time component by a small global proportionate amount and calculating the proportionate change in travel made.

In line with Section 6.4 of TAG Unit M2 – Variable Demand Modelling, three realism tests have been undertaken for the updated 2015 demand model by calculating its demand elasticities based on applying the following changes in travel costs and times as follows:

- Private transport fuel costs increased by 10% and 20%
- Public transport fares increased by 10% and 20%
- Private transport journey times increased by 10%

The realism tests for private transport fuel costs and public transport fares have been carried out by trip purpose (employer's business, commuting and other) and by time period (AM peak-hour, Inter-Peak hour, PM peak-hour and 12-hour time period) as well as for all traffic for an annual situation. The realism test for private journey times has been carried out for all traffic for an annual situation.

3.8.1 Calculation of demand elasticities

The modelled AM peak hour, inter-peak hour and PM peak hour demand figures have been converted to 12-hour figures using the following formula:

$$D_{12hr} = F_{AM}D_{AM} + F_{IP}D_{IP} + F_{PM}D_{PM}$$

Where: D_{12hr}, D_{AM}, D_{IP} and D_{PM} refer to the 12-hour, AM peak hour, inter-peak hour and PM peak hour demands, respectively.

The corresponding F values (detailed in Table 3-10) are factors which have been derived from observed traffic count information. A factor of 253 has been applied to the derived 12-hour demand figures to estimate an annual situation.

Table 3-10: 12-hour time period factors

Factor	Correction	Value	
		Private Transport	Public Transport
F_{AM}	Modelled morning peak-hour to 07:00 to 10:00 morning peak	2.605	2.784
F_{IP}	Modelled inter-peak hour to 10:00 to 16:00 inter-peak	5.828	5.861
F_{PM}	Modelled evening peak-hour to 16:00 to 19:00 evening peak	2.696	2.721

The formula used to calculate the model's elasticity is the arc elasticity formation:

$$e = \frac{\log(T^1) - \log(T^0)}{\log(C^1) - \log\,(C^0)}$$

Where: *e = elasticity*

T = demand

C = cost

the superscript 0 refers to the base model and 1 to the test model

This can also be expressed as:

$$e = \frac{\log\left(\frac{T^1}{T^0}\right)}{\log\left(\frac{C^1}{C^0}\right)}$$

3.8.2 Private transport fuel costs

Two tests are required for the calculation of private transport fuel cost elasticities; one using matrix-based model outputs and the other using network-based outputs.

3.8.2.1 Matrix-based outputs

In order to calculate the private transport fuel cost elasticity for the matrix-based test, the converged synthetic matrices from the test run are compared to the converged synthetic matrices from the base year model and the zonal car kilometre totals compared across all zones.

3.8.2.2 Network-based outputs

To calculate the private transport fuel cost elasticity on a network basis then this is carried out on the model outputs pertaining only to the area of the modelled network that has been calibrated and validated using car vehicle kilometres from the output networks before and after the fuel cost change.

3.8.3 Public transport fares

In order to calculate the public transport fare cost elasticity, the converged demand model test is compared to the converged base demand model and the public transport demand compared across the full range of zones using a matrix-based approach.

The demand elasticities calculated for private transport fuel costs and public transport fares by trip purpose and time period using the above approaches and assuming a 10% and 20% increase in costs are detailed in Tables Table 3-11 and Table 3-12, respectively.

Table 3-11: Demand elasticities for private transport fuel costs and public transport fares (10% increase in costs)

Trip Purpose	**Time Period**	**Private Transport Fuel Costs**		**Public Transport Fares**
		Matrix Based	**Network Based**	
Employer's Business	AM	-0.18	-0.12	-1.26
	IP	-0.24	-0.21	-0.83
	PM	-0.27	-0.21	-1.49
	12-hour	-0.24	-0.19	-1.00
Commuting	AM	-0.21	-0.13	-0.20
	IP	-0.29	-0.18	-0.15
	PM	-0.31	-0.17	-0.22
	12-hour	-0.27	-0.16	-0.19
Other	AM	-0.18	-0.11	-0.13
	IP	-0.18	-0.15	-0.12
	PM	-0.36	-0.20	-0.16
	12-hour	-0.21	-0.15	-0.13
All	Annual	-0.23	-0.14	-0.18
Recommended Annual Average Elasticity Ranges (TAG Unit M2)		**-0.25 to -0.35**	**-0.25 to -0.35**	**-0.2 to -0.9**

Table 3-12: Demand elasticities for private transport fuel costs and public transport fares (20% increase in costs)

Trip Purpose	**Time Period**	**Private Transport Fuel Costs**		**Public Transport Fares**
		Matrix Based	**Network Based**	
Employer's Business	AM	-0.17	-0.13	-1.79
	IP	-0.27	-0.30	-0.92
	PM	-0.30	-0.29	-0.60
	12-hour	-0.26	-0.27	-0.99
Commuting	AM	-0.26	-0.21	-0.20
	IP	-0.31	-0.28	-0.15
	PM	-0.30	-0.23	-0.18
	12-hour	-0.29	-0.24	-0.18
Other	AM	-0.23	-0.18	-0.10
	IP	-0.28	-0.27	-0.12
	PM	-0.41	-0.29	-0.11
	12-hour	-0.30	-0.26	-0.11
All	Annual	-0.28	-0.24	-0.17
Recommended Annual Average Elasticity Ranges (TAG Unit M2)		**-0.25 to -0.35**	**-0.25 to -0.35**	**-0.2 to -0.9**

As can be seen from Table 3-11, for the 10% increase in private transport fuel costs the elasticities are generally lower than the recommended annual average elasticity range of -0.25 to -0.35 for the majority of trip purposes and time periods for both the matrix and network based approaches. The elasticity of -0.23 for the annual demand for all trip purposes using the matrix-based approach is marginally outside the accepted range and the value of -0.14 using the network-based approach is significantly outside the accepted range. However, these weaker values of fuel cost elasticities can readily be attributed to the significant number of shorter car trip lengths in the North Staffordshire conurbation due to its polycentric nature.

Similarly, for the 10% increase in public transport fares the elasticities do not fall within the recommended annual average elasticity range of -0.2 to -0.9 for the majority of trip purposes and time periods. The elasticity of -0.18 for the annual demand for all trip purposes is also marginally outside the accepted range.

As can be seen from Table 3-12, for the 20% increase in private transport fuel costs the elasticities are generally within the recommended annual average elasticity range of -0.25 to -0.35 for the majority of trip purposes and time periods for both the matrix and network-based approaches. The elasticity of -0.28 for the annual demand for all trip purposes using the matrix-based approach is within the accepted range and the value of -0.24 using the network-based approach is only marginally outside the accepted range. However, as previously discussed this slightly weaker value of fuel cost elasticity can readily be attributed to the significant number of shorter car trip lengths in the North Staffordshire conurbation.

For the 20% increase in public transport fares the elasticities still do not fall within the recommended annual average elasticity range of -0.2 to -0.9 for the majority of trip purposes and time periods. The elasticity of -0.17 for the annual demand for all purposes is also still marginally outside the accepted range. However, it should be noted that the elasticity for the annual demand is within the short-term elasticities reported in Table 6.1 of TAG Unit M2 where a low value of -0.16 is reported for a 1 year range. Furthermore, the elasticities are also logical when comparing peak period elasticities with inter-peak period values, with the latter generally being lower as per the guidance.

It should also be noted that the demand model parameters have been estimated from local data collected from public transport and household interviews as recommended by TAG. Concessionary fares are not excluded which will likely have a significant impact. The public transport and car trip length distributions and mode splits of the demand model have also been calibrated and validated against observed data to a very good level of accuracy. Therefore, since the demand model is based on local data rather than using imported model parameters then it is not appropriate to make adjustments to the parameters or values of time to ensure that the model satisfies the expected elasticities for each mode.

3.8.4 Private transport journey times

To calculate the private transport journey time cost elasticity a single run of the demand model test is compared to the converged base demand model and the private transport demand compared across the full range of zones.

Assuming a 10% increase in private transport journey times, this gives an elasticity of -0.16 for an annual situation which is compatible with the requirements of TAG that it be less elastic than -2.0.

3.9 Sensitivity tests

As stated in section 6.6 of TAG Unit M2 – Variable Demand Modelling, sensitivity testing, as distinct from realism testing, is aimed at identifying the relative impact of altering key demand model parameters on the outcome of a scheme appraisal. It is important to understand how sensitive the appraisal results are to these uncertainties so that confidence can be invested in the conclusions.

It is therefore proposed that as part of the appraisal of the project that appropriate sensitivity tests will be undertaken as part of scheme forecasting and appraisal including changes in values of time and different economic growth forecasts.

3.10 Segmentation by vehicle type and CAZ compliance status

In order to provide the necessary euro vehicle classifications and associated vehicle compliance splits Automatic Number Plate Recognition (ANPR) data was collected. ANPR surveys were carried out at 15 locations across North Staffordshire, as agreed with JAQU (see Figure 3-12).

The ANPR data was collected by Nationwide Data Collection (NDC) and processed by DEFRA. The surveys were conducted over a 7-day period between the 2nd and 8th of April 2019 and between 00:00 and 24:00 each day. April was chosen as it is a neutral survey month. The survey utilised mast-based high definition (HD) ANPR cameras supplied by MAV Systems Ltd with infra-red illumination to give excellent quality image capture both day and night. After collection, accuracy checks were carried out before the data was passed to Defra for further processing.

From the processed data, the vehicle types were split into multiple categories which were then collated into five vehicle types, namely:

- Car
- Light Goods Vehicle (LGV)
- Heavy Goods Vehicle (HGV)
- Taxis
- Bus and coach

The propulsion type was also defined and then refined into three categories:

- Petrol, Petrol Gas and Gas
- Diesel, Gas Diesel
- Electric, Gas Bi-Fuel, Hybrid, Electric Diesel, New Fuel Technology

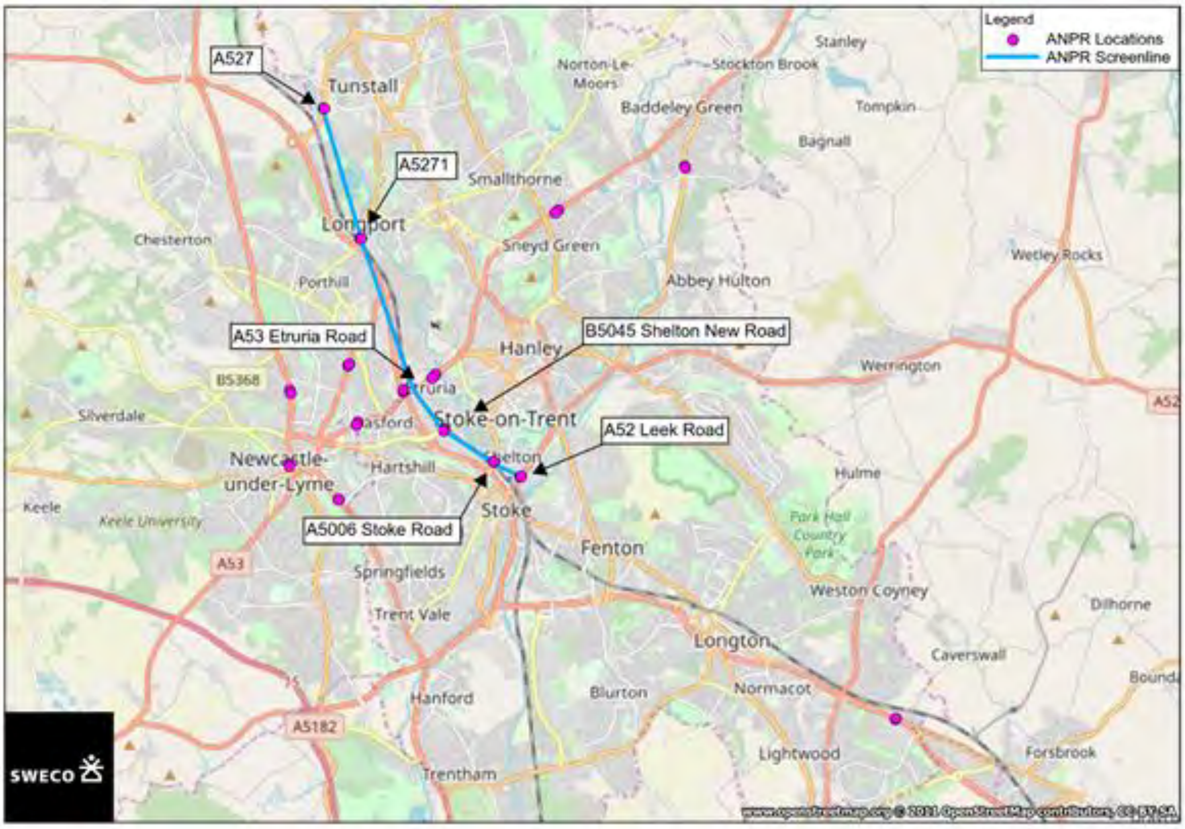
The collected ANPR data and information from the DVLA database has been used to identify different compliance types by fuel type and Euro Standard for emissions. This information was processed to determine the compliancy split by vehicle type to segment the NSMM transport model trip matrices into the following demand segments:

- Car compliant
- Car non-compliant
- LGV compliant
- LGV non-compliant
- HGV compliant
- HGV non-compliant

- Taxis compliant
- Taxis non-compliant

A screenline was used to determine the compliance splits, as it avoids double counting vehicles which might pass through multiple ANPR locations. Six sites to the east of the A500 were formed to construct a screenline, as shown in Figure 3-12, to ensure a robust and comprehensive sample of traffic movements are intercepted.

Figure 3-12 ANPR screenline data collection locations



The taxi compliance percentage split could not be derived from the ANPR surveys. Therefore, the percentage split was derived from licence data provided by NuLBC. This percentage split was then applied to the ANPR taxi count to identify the number of compliant taxi vehicles.

The resulting compliance splits are shown in Table 3-13 based on processed data for Monday to Thursday to be commensurate with the NSMM transport model modelled weekday.

Table 3-13 ANPR compliance splits (2019)

Car		HGV		LGV		Taxi		Bus/Coach	
Comp	Non-comp	Comp	Non-comp	Comp	Non-comp	Comp	Non-comp	Comp	Non-comp
61%	39%	63%	38%	30%	70%	18%	82%	19%	81%

4 Traffic assignment model validation (T2b)

4.1 Overview

This Section compares observed and modelled traffic flows at a screenline and link level, presents the results of the validation of modelled journey times, compares observed and modelled vehicle compliance splits and details the convergence of the highway assignment model.

It is important to understand the development of the NSMM model from its original build in 2009 to its update in 2015 as part of the modelling work for EVLR, sections 4.2 and 4.3 describe the network and matrix development.

4.2 Network development

This section provides a brief summary of the NSMM transport model network development.

The modelled highway network is defined by a series of link types which are defined on the basis of the following link characteristics:

- Location (detailed, peripheral or wider network and position in relation to central business districts)
- Road quality (good, typical, poor)
- Road width (wider than usual)
- Number of lanes
- Number of bus lanes
- Speed limit
- Allowed modes (i.e. bus only or not)
- Level of development
- Being a slip road

Road quality is primarily based on road class with adjustments for roads which are of an unusually good or poor quality for their class. Roads are classified as wide along stretches which have central pedestrian refuges or ghost islands.

Each individual link type has an associated speed flow curve. Link types 1 to 5 include railways, station access links, connectors and links in the wider network and all use fixed speeds.

All other link types vary speed according to link flow. These curves are based on COBA 11 curves and all take the following form down to a defined minimum speed, V_{min}:

below Q = Qb then $V = V_{\max} - QS$

above Q = Qb then $V = V_b - (Q - Q_b)S_b$

- *V = speed on link in kph*

- *Vmax = free flow speed on link in kph*
- *Vb = speed on link in kph at break point*
- *Q = flow on link in vehicles*
- *Qb = flow on link in vehicles at break point*
- *S = slope of curve below break point*
- *Sb = slope of curve above break point*

Slip roads are constructed to allow vehicles to gain or lose speed before joining or after leaving a high-speed link. As a general rule these are constructed to the same standard and have the same speed limit as the high-speed links, they join but it is necessarily the case that vehicles maintain lower average speeds while on them than is the case for the high speed links themselves. To correct for this speed on slip roads are further corrected by multiplying by a factor of 0.6 (down to Vmin).

Within Cube Voyager it is not possible to code speed flow curves in this way and the following (essentially identical) format has been used.

$$V = MAX\left[V_{\min}, \frac{V_{\max} - QS - MAX(Q - Q_b, 0)(S_b - S)}{MAX\left(1, \dfrac{S^p}{0.6}\right)}\right]$$

- *S^p = 1 for slip roads, 0 otherwise*
- *Q = flow on link in vehicles (weighted sum of all iterations up to the current one)*

In the peripheral network where junctions are not modelled the curves are tailed down to a comparatively low value for V_{min}. In the detailed network the curves are not tailed.

The following four types of junctions are explicitly modelled in the detailed network of the NSMM transport model:

- Priority Junctions
- Signals (Adaptive signals)
- Roundabouts (Empirical coding)
- Merges

Standard 'give-way' and 'stop' controlled priority junctions are modelled using Cube Voyager's "Priority/Two-Way Yield Controlled, Saturation Flows" option. This function uses a standard linear relationship to determine delay, based on the saturation of conflicting movements. The function requires information on the layout of the junction and turn saturation flow (per lane). Saturation flows are calculated using the PICADY formulae as shown in Table 4-1. For priority junctions, it is considered that vehicles are able to enter any flare lane faster than they can leave it and so any flare lanes present can be treated as though they are a full additional lane.

Signalised junctions were modelled using Cube Voyager's "Adaptive Signal, Saturation Flows" option which required information on junction geometry, phasing, minimum and maximum green times and saturation flows. This option optimises the signal settings at each junction to minimise delay for the modelled traffic flows using the junction. This replicates the behaviour of "real-world" signal controllers and produces representative levels of delay. The capacity of a signalised junction is affected by "flare lanes" which effectively provide an additional lane of capacity for a short period at the start of each green signal until they are discharged. Calculation of the capacity provided by the flare is therefore quite complicated and is dependent on the length of the flare, the cycle time of the signals, the length of the relevant signal stage and the number of vehicles making the relevant turning movement. Most of these parameters are likely to change between, and even during model assignments, but the junction modelling requires a fixed value for a saturation flow.

For longer flares (greater than 50m) at signalised junctions it has been assumed that the flare operates as effectively as a full additional lane and is modelled as such (see Table 3-1). Shorter flares will only provide additional capacity for a short time during each signal cycle and so the additional capacity will be lower. In order to model this effect, the short flare lanes were not explicitly coded as a separate lane in the junction layout. However, to approximate the effect on capacity of the flare the saturation flow of the flaring lane was adjusted as shown in Table 4-1.

Table 4-1: Saturation flows for priority and signalised junctions

Junction Type	Turn	Saturation Flow
Priority / Give-way	Minor arm left	$745(1+0.094(w-3.65))$
	Minor arm, ahead and right	$627(1+0.094(w-3.65))$
	Major arm right	$745(1+0.094(w-3.65))$
	Major arm left and ahead	As signals
Signals	From nearside lanes to all destinations (including flare lanes >50m in length)	$\frac{2080-140-42g+100(w-3.25)}{1+1.5/r}+FLA$ *g = gradient (%)* *w = lane width (m)* *r = turning radius (m)*
	From offside lanes to all destinations (including flare lanes >50m in length)	$\frac{2080-42g+100(w-3.25)}{1+1.5/r}+FLA$ *g = gradient (%)* *w = lane width (m)* *r = turning radius (m)*
	Adjustment for flare lanes <50m in length	$FLA=8l/N$ *l = flare length (m)* *N = number of turning movements from lane*
A 5% slope was assumed for significant gradients		

Small roundabouts with no more than four arms which do not have significant U-turn movements are modelled using Cube Voyager's "Roundabout/Merge, Empirical" option. This function uses the standard equations developed by TRL and which are used in ARCADY and other standard transport modelling software packages. Roundabouts are coded using the geometry of entry width, approach width, flare length, inscribed diameter, entry radius and entry angle for each approach arm. The same process is also used for large “exploded” roundabouts but the parameters for the circulating arm are set so that minimal delays are calculated.

For nodes representing merges, the methodology specified by COBA 11 is used to calculate delays. This specifies that the delay on both the main and merging arms of merges (in seconds per vehicle) is equal to 227(CapacityRatio - 0.75), with CapacityRatio being the total approach flow divided by the capacity of the downstream link (which is taken as 1900 multiplied by the number of lanes). As this methodology is not available within Cube Voyager these delays are calculated within a separate script and applied on the link downstream of the merge. In practice a value in minutes is required and when flows are low the value of (CapacityRatio – 0.75) can drop below zero resulting in a negative delay. Within the model the delay is therefore calculated as:

$$d = MAX\left(\frac{1}{60}, \frac{227(CapacityRatio - 0.75)}{60}\right)$$

4.2.1 Public transport

The model contains local bus services and rail services. Long distance coach services are excluded due to the low levels of service. Bus service routes, stopping patterns and frequencies are based on published timetables. Overall route run times are corrected to the full route run time as taken from the published timetables. Two wait curves are used in the model, namely; for initial and transfer waits. For initial waits (where users board their first bus or train) there is a minimum wait of 0.5 minutes. For services with headways between 1 and 20 minutes it is assumed that the user has no knowledge of the timetable and the wait is taken as half the headway. For less frequently running services it is assumed that the user has knowledge of the timetable and will only wait for 10 minutes. For transfers it is assumed that waits will be half the headway for headways of 1 to 60 minutes with a minimum wait of 0.5 minutes and a maximum wait of 30 minutes.

Bus fares are based on a simplified distance-based fare derived on the basis of the main operator and whether it is peak or off peak. Rail fares are derived in a similar way.

4.3 Matrix development

The NSMM transport model was originally developed in 2009. The 2009 observed trip matrices were derived from roadside interviews and traffic counts, with the resultant prior observed matrices being matrix estimated.

The 2009 NSMM base-year highway model has successfully been calibrated and validated in accordance with WebTAG. It represents the following vehicle classes:

- Car
- LGV
- HGV

Further details on the development of the 2009 base-year trip matrices are provided in the NSMM Model Calibration and Validation Report (SKM Colin Buchanan, March 2011).

Following liaison with the Department for Transport (DfT), it was agreed to develop the updated 2015 transport model using the existing forecast models. This required two runs of the demand model:

1) A 2009 run (identical to the calibrated version of the model) with the refined 288 zones (i.e. taking account of the disaggregation of the model zones in the Etruria Valley and Middleport areas)
2) A 2015 run with the latest planning data and transport network changes

As the model is incremental, the change in the demand between scenarios (1) and (2) above was constrained to NTEM traffic forecasts and was additively applied to the 2009 assigned base-year trip matrices to produce updated 2015 trip matrices for each of the modelled time periods.

As part of the modelling work undertaken for EVLR, a Present Year Validation (PYV) was carried out of the updated 2015 NSMM transport model based on the ‘forecast’ 2015 trip matrices. The results of the PYV showed that an unacceptable level of fit was achieved between the modelled traffic flow and journey time data when compared with the corresponding observed data.

In order to improve the validation of the 2015 NSMM transport model, and as recommended by DfT, a calibration exercise was undertaken through the application of screenline factoring to the derived 2015 trip matrices using the five calibration screenlines shown in Figure 4-1. The screenline factoring was undertaken separately for cars, LGVs and HGVs, for each modelled time period and was applied by direction. This factoring was only undertaken once.

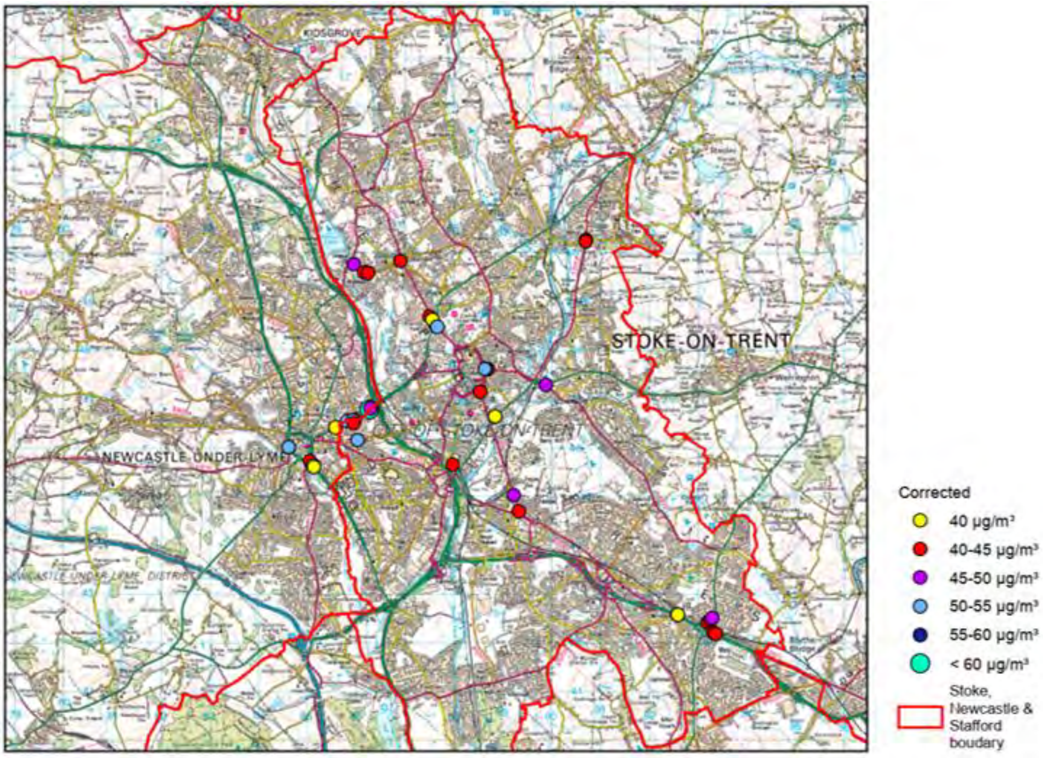
For the modelling work undertaken for air quality local plan, the 2015 EVLR modelling was used as a starting point. The 2015 matrices were segmented by vehicle type and CAZ compliant status, using ANPR data, as outlined in section 4.9 As agreed with JAQU, there was not time to undertake a full data collection exercise of new traffic count data for this work, nor to update and fully recalibrate and validate a 2018 model, given the timeframes of the ministerial direction.

Figure 4-1: EVLR modelling calibration screenlines used for screenline factoring

4.4 Model validation

The model validation work for the air quality local plan centres on key local roads in the North Staffordshire conurbation including those links in exceedance of the annual average NO_2 limit value in 2017 based on the monitored locations shown in Figure 4-2. Further comparisons will be undertaken at the exceedance locations identified from the 2022 air quality modelling work.

Figure 4-2 Locations of monitored NO_2 exceedances in 2017 (SoTCC)



4.5 Observed traffic counts

Figure 4-3 shows the locations of the observed link counts and screenlines used to validate the NSMM transport model. In total there are 156 link counts for the AM, 141 for the PM and 156 for the inter-peak modelled periods. Four lots of bi-directional screenlines and a cordon have been formed from some of the counts, namely:

- Northbound/Southbound Screenline (to the north of Hanley City Centre and Newcastle-under-Lyme Town Centre)
- Eastbound/Westbound (to the east of the A500)
- West of A500 Screenline (to the east of the A500)
- East of A50 Screenline (Along the A50 from Tunstall towards Hanley)
- Cordon (around the North Staffordshire conurbation)

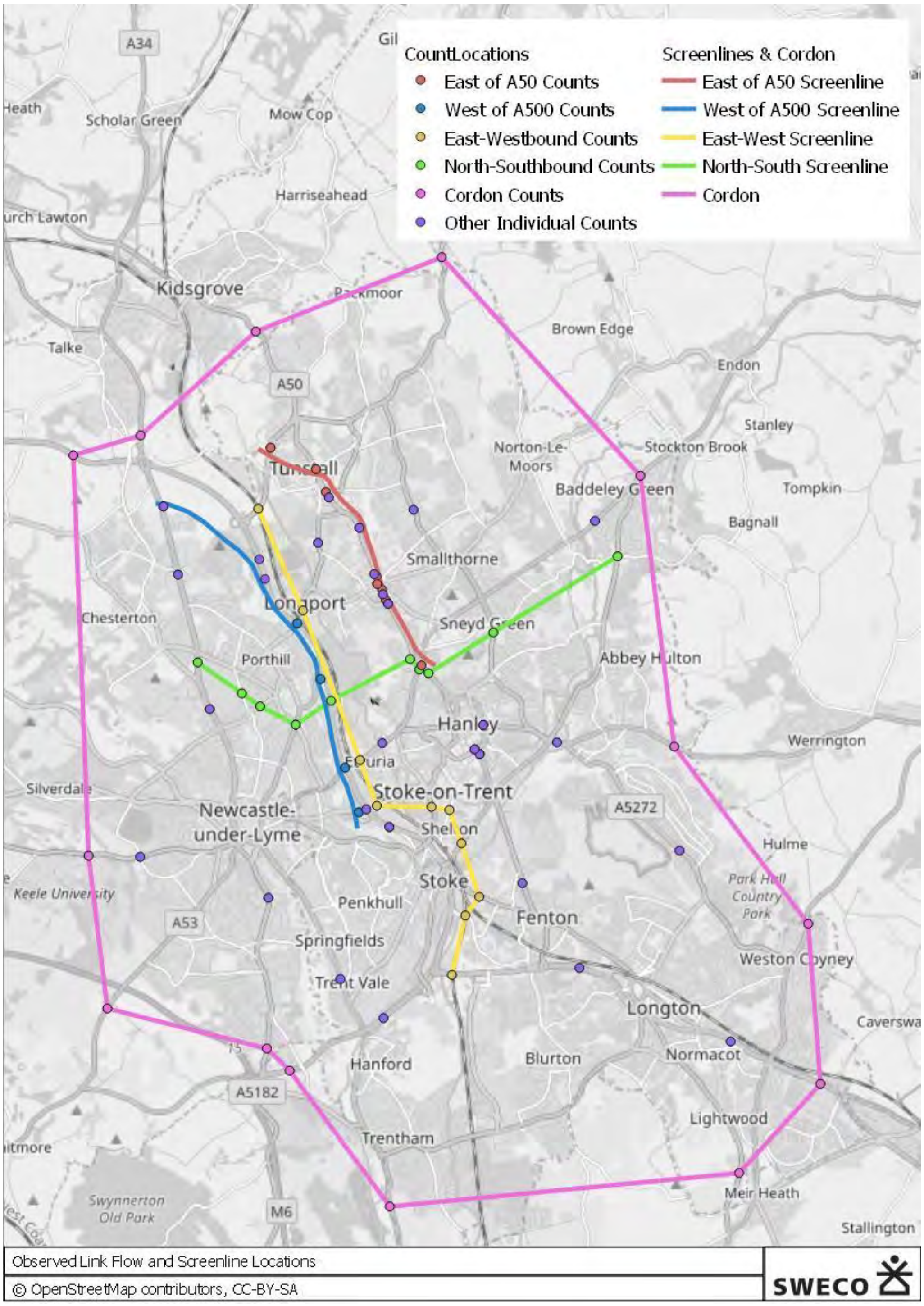
It should be noted that the cordon is not watertight but it does however capture the key roads into the conurbation.

The observed traffic counts are generally from 2015 and are formed from a range of sources, namely:

- Passing counts from data.gov.uk
- Staffordshire County Council turning counts
- Stoke-on-Trent City Council manual and automatic passing counts
- Sky High passing and turning counts

As detailed in Section 3.5, there has been no traffic growth between 2015 and 2018, hence the use of the 2015 NSMM model as a starting point for this work to inform the development of a 2018 base year air quality model.

Figure 4-3: Observed link flow and screenline locations



Observed Link Flow and Screenline Locations

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4.6 Screenline validation

The modelled screenline flows have been calibrated against the two criteria documented in the Design Manual for Roads and Bridges (DMRB) Volume 12, Section 2, Part 1, Chapter 4, Table 4.2 with the target that all (or nearly all) of the screenlines should pass these criteria. The first criterion relates to the modelled flow across the screenline being within 5% of the observed value. The second criterion is based on the GEH statistic which should have a value of less than 4 to pass the test.

The GEH statistic is defined by the formula:

$$GEH = \sqrt{\frac{(M-C)^2}{(M\ +\ C)/2}}$$

- *M = the modelled flow*
- *C = the observed flow*

Table 4-2 to Table 4-4 show the performance of the model for individual vehicles and total vehicles for each screenline in the AM peak-hour, Inter-Peak hour and PM peak-hour, respectively. The total modelled flows pass screenline criteria of being within 5% of the observed for 60% of screenlines in the AM peak-hour, 70% of screenlines in the Inter-Peak hour and 60% of the screenlines in the PM peak-hour.

In the AM peak hour the model is slightly over estimating northbound total vehicles across the North- South screenline and overestimating eastbound total vehicles across the East-West screenline. The opposite directions however provide a good match between total modelled and observed flows.

The inter-peak hour and PM peak hour show a good match between modelled and observed total vehicles, with screenline validation criteria only very narrowly outside the 5% or GEH 4 or less thresholds in the inter-peak.

The goods vehicles total do not validate so well across the screenlines due to the small numbers of LGVs and HGVs making it difficult to meet the tight criteria.

Table 4-2: AM peak hour screenline validation (total vehicles)

	Observed Total				Modelled				Car		LGV		HGV		Total		Car				LGV				HGV				Total			
	Car	LGV	HGV	Total	Car	HGV	LGV	Total	Difference	% Diff	Difference	% Diff	Difference	% Diff	Difference	% Diff	GEH	Difference<5%	GEH<4	DMRB or GEH	GEH	Difference<5%	GEH<4	DMRB or GEH	GEH	Difference<5%	GEH<4	DMRB or GEH	GEH	Difference<5%	GEH<4	DMRB or GEH
Cordon Validation Counts - In	10,401	1,350	695	14,953	11,674	890	1,316	16,445	1,273	12%	-34	-2%	195	28%	1,492	10%	12.1	✗	✗	✗	0.9	✓	✓	✓	6.9	✗	✗	✗	11.9	✗	✗	✗
Cordon Validation Counts - Out	7,326	1,762	820	11,888	7,650	909	1,424	12,224	324	4%	-338	-19%	89	11%	336	3%	3.7	✓	✓	✓	8.5	✗	✗	✗	3.0	✗	✓	✓	3.1	✓	✓	✓
North-South Screenline NB	6,271	1,032	505	7,810	6,989	484	809	8,282	718	11%	-223	-22%	-21	-4%	472	6%	8.8	✗	✗	✗	7.3	✗	✗	✗	1.0	✓	✓	✓	5.3	✗	✗	✗
North-South Screenline SB	8,578	1,053	485	10,912	8,864	555	596	10,872	286	3%	-457	-43%	70	14%	-40	0%	3.1	✓	✓	✓	15.9	✗	✗	✗	3.1	✗	✓	✓	0.4	✓	✓	✓
East-West Screenline EB	8,660	1,364	530	10,617	9,589	668	1,171	11,431	929	11%	-193	-14%	138	26%	814	7.66%	9.7	✗	✗	✗	5.4	✗	✗	✗	5.6	✗	✗	✗	7.7	✗	✗	✗
East-West Screenline WB	9,184	1,522	518	11,224	9,684	688	1,080	11,464	500	5%	-442	-29%	170	33%	240	2%	5.2	✗	✗	✗	12.2	✗	✗	✗	6.9	✗	✗	✗	2.3	✓	✓	✓
West of A500 Screenline - EB	4,040	488	131	4,659	4,215	156	428	4,799	175	4%	-60	-12%	25	19%	140	3.00%	2.7	✓	✓	✓	2.8	✗	✓	✓	2.1	✗	✓	✓	2.0	✓	✓	✓
West of A500 Screenline - WB	3,381	548	128	4,057	3,671	177	431	4,279	290	9%	-117	-21%	49	38%	222	5%	4.9	✗	✗	✗	5.3	✗	✗	✗	3.9	✗	✓	✓	3.4	✗	✓	✓
East of A50 Screenline - EB	2,896	503	137	3,536	2,779	155	431	3,365	-117	-4%	-72	-14%	18	13%	-171	-4.82%	2.2	✓	✓	✓	3.3	✗	✓	✓	1.5	✗	✓	✓	2.9	✓	✓	✓
East of A50 Screenline - WB	4,449	617	134	5,200	5,063	198	410	5,671	614	14%	-207	-34%	64	48%	471	9%	8.9	✗	✗	✗	9.1	✗	✗	✗	5.0	✗	✗	✗	6.4	✗	✗	✗

Table 4-3: IP hour screenline validation (total vehicles)

	Observed Total				Modelled				Car		LGV		HGV		Total		Car				LGV				HGB				Total			
	Car	LGV	HGV	Total	Car	HGV	LGV	Total	Difference	% Diff	Difference	% Diff	Difference	% Diff	Difference	% Diff	GEH	Difference<5%	GEH<4	DMRB or GEH<4	GEH	Difference<5%	GEH<4	DMRB or GEH<4	GEH	Difference<5%	GEH<4	DMRB or GEH<4	GEH	Difference<5%	GEH<4	DMRB or GEH<4
Cordon Validation Counts - In	5,648	1,254	981	9,055	6,173	646	1,314	9,424	525	9%	60	5%	-335	-34%	369	4%	6.8	✗	✗	✗	1.7	✓	✓	✓	11.8	✗	✗	✗	3.8	✓	✓	✓
Cordon Validation Counts - Out	5,950	1,313	772	9,239	6,636	662	1,124	9,585	686	12%	-189	-14%	-110	-14%	346	4%	8.7	✗	✗	✗	5.4	✗	✗	✗	4.1	✗	✗	✗	3.6	✓	✓	✓
North-South Screenline NB	7,119	948	594	9,122	7,544	421	691	8,656	425	6%	-257	-27%	-173	-29%	-466	-5%	5.0	✗	✗	✗	9.0	✗	✗	✗	7.7	✗	✗	✗	4.9	✗	✗	✗
North-South Screenline SB	6,301	920	549	7,842	6,695	307	807	7,808	394	6%	-113	-12%	-242	-44%	-34	0%	4.9	✗	✗	✗	3.9	✗	✓	✓	11.7	✗	✗	✗	0.4	✓	✓	✓
East-West Screenline EB	7,876	1,530	539	9,945	7,730	481	1,260	9,480	-146	-2%	-270	-18%	-58	-11%	-465	-4.68%	1.7	✓	✓	✓	7.2	✗	✗	✗	2.6	✗	✓	✗	4.7	✓	✗	✓
East-West Screenline WB	7,474	1,429	509	9,412	8,038	535	1,199	9,771	564	8%	-230	-16%	26	5%	359	4%	6.4	✗	✗	✗	6.4	✗	✗	✗	1.1	✗	✓	✗	3.7	✓	✓	✓
West of A500 Screenline - EB	2,524	358	139	3,021	2,912	156	389	3,457	388	15%	31	9%	17	13%	436	14.45%	7.4	✗	✗	✗	1.6	✗	✓	✓	1.4	✗	✓	✗	7.7	✗	✗	✗
West of A500 Screenline - WB	2,873	357	166	3,396	3,286	129	418	3,834	413	14%	61	17%	-37	-22%	438	13%	7.4	✗	✗	✗	3.1	✗	✓	✓	3.0	✗	✓	✗	7.3	✗	✗	✗
East of A50 Screenline - EB	3,722	492	173	4,387	3,641	144	429	4,214	-81	-2%	-63	-13%	-29	-17%	-173	-3.93%	1.3	✓	✓	✓	2.9	✗	✓	✓	2.3	✗	✓	✗	2.6	✓	✓	✓
East of A50 Screenline - WB	3,032	502	122	3,656	3,042	130	500	3,672	10	0%	-2	0%	8	6%	16	0%	0.2	✓	✓	✓	0.1	✓	✓	✓	0.7	✗	✓	✗	0.3	✓	✓	✓

Table 4-4: PM peak hour screenline validation (total vehicles)

	Car	LGV	HGV	Total	Car	HGV	LGV	Total	Difference	% Diff	Difference	% Diff	Difference	% Diff	Difference	% Diff	GEH	Difference<5%	GEH<4	DMRB or GEH<4	GEH	Difference<5%	GEH<4	DMRB or GEH<4	GEH	Difference<5%	GEH<4	DMRB or GEH<4	GEH	Difference<5%	GEH<4	DMRB or GEH<4
	Observed Total				Modelled				Car		LGV		HGV		Total		Car				LGV				HGB				Total			
Cordon Validation Counts - In	9,158	1,398	515	13,273	9,914	777	1,338	14,265	756	8%	-60	-4%	262	51%	992	7%	7.7	✗	✗	✗	1.6	✓	✓	✓	10.3	✗	✗	✗	8.5	✗	✗	✗
Cordon Validation Counts - Out	10,533	1,188	446	14,690	12,162	651	1,194	16,555	1,629	15%	6	1%	205	46%	1,865	13%	15.3	✗	✗	✗	0.2	✓	✓	✓	8.8	✗	✗	✗	14.9	✗	✗	✗
North-South Screenline NB	10,538	981	237	11,756	10,326	398	799	11,522	-212	-2%	-182	-19%	161	68%	-234	-2%	2.1	✓	✓	✓	6.1	✗	✗	✗	9.0	✗	✗	✗	2.2	✓	✓	✓
North-South Screenline SB	7,826	804	258	9,389	7,550	357	671	9,057	-276	-4%	-133	-17%	99	38%	-332	-4%	3.1	✓	✓	✓	4.9	✗	✗	✗	5.7	✗	✗	✗	3.5	✓	✓	✓
East-West Screenline EB	10,605	1,252	224	12,081	10,639	409	1,208	12,263	34	0%	-44	-4%	185	82%	182	1.51%	0.3	✓	✓	✓	1.3	✓	✓	✓	10.4	✗	✗	✗	1.7	✓	✓	✓
East-West Screenline WB	10,193	985	272	11,450	10,101	414	1,131	11,649	-92	-1%	146	15%	142	52%	199	2%	0.9	✓	✓	✓	4.5	✗	✗	✗	7.6	✗	✗	✗	1.9	✓	✓	✓
West of A500 Screenline - EB	3,560	318	54	3,741	3,555	94	460	4,109	-5	0%	142	45%	40	74%	368	9.84%	0.1	✓	✓	✓	7.2	✗	✗	✗	4.6	✗	✗	✗	5.9	✗	✗	✗
West of A500 Screenline - WB	4,834	409	77	5,320	4,387	143	527	5,057	-447	-9%	118	29%	66	86%	-263	-5%	6.6	✗	✗	✗	5.5	✗	✗	✗	6.3	✗	✗	✗	3.6	✓	✓	✓
East of A50 Screenline - EB	5,098	544	41	5,683	5,363	70	583	6,032	265	5%	39	7%	29	71%	349	6.14%	3.7	✗	✓	✓	1.6	✗	✓	✓	3.9	✗	✓	✗	4.6	✗	✗	✗
East of A50 Screenline - WB	3,561	387	48	3,996	3,319	62	450	3,831	-242	-7%	63	16%	14	28%	-165	-4%	4.1	✗	✗	✗	3.1	✗	✓	✓	1.8	✗	✓	✗	2.6	✓	✓	✓

4.7 Link flow validation

The DfT guidelines for the validation of highway models are described in TAG unit M3.1 and the DMRB Volume 12, Section 2, Part 1, Chapter 4.

There are two separate sets of criteria for link flow validation against which the modelled flow and count comparisons should be measured. In both cases the criteria are expected to be met in at least 85% of cases. The two sets of criteria are:

GEH Statistic:

- Links should have a GEH value of less than 5

DMRB Vehicle Flow Comparison (DMRB criteria 1-3):

- Where the observed flow is less than 700 vehicles per hour, the modelled flow should be within 100 vehicles of the observed flow
- Where the observed flow is between 700 and 2,700 vehicles per hour, the modelled flow should be within 15% of the observed flow
- Where the observed flow is greater than 2,700 vehicles per hour, the modelled flow should be within 400 vehicles of the observed flow

The DfT offers guidance on the suitability of validation statistics in TAG unit 3.19

Section 3.2.7. It provides guidance for counts meeting GEH and DMRB criteria, stating that: “These two measures are broadly consistent and link flows that meet either criterion should be regarded as satisfactory.” Validation checks have been undertaken in line with these criteria.

Table 4-5 to Table 4-7 show the AM peak hour, inter-peak hour and PM peak hour modelled link flow validation statistics for all of the observed count locations. For total flows, the model shows a good correlation between modelled and observed flows with 83%, 75% and 78% of links passing either the GEH or DMRB criteria in the AM peak hour, inter-peak hour and PM peak hour, respectively.

A good correlation can also be seen between the modelled and observed data for cars, LGVs and HGVs for each modelled time period with the GEH or DMRB criteria being met in at least of 75% of cases.

Appendix A details the validation results on a link by link basis for each modelled period.

Table 4-5: AM peak-hour link validation statistics

	No. of Counts	DMRB	GEH <5	GEH<5 or DMRB
Cars	137	73%	72%	75%
LGV	137	91%	83%	91%
HGV	137	99%	88%	99%
Total	**156**	**79%**	**79%**	**83%**

Table 4-6: Inter-peak-hour link validation statistics

	No. of Counts	DMRB	GEH <5	GEH<5 or DMRB
Cars	135	75%	74%	80%
LGV	135	90%	86%	90%
HGV	135	89%	80%	89%
Total	**141**	**68%**	**69%**	**75%**

Table 4-7: PM peak-hour link validation statistics

	No. of Counts	DMRB	GEH <5	GEH<5 or DMRB
Cars	139	73%	75%	79%
LGV	139	94%	88%	94%
HGV	139	94%	85%	94%
Total	**156**	**74%**	**73%**	**78%**

Figure 4-4 to Figure 4-6 illustrate the difference between modelled link flows and observed traffic counts based on the GEH statistic, for each modelled time period. Links coloured green have a GEH value less than 5 and therefore meet TAG criteria, links in orange narrowly fail with a GEH value between 5 and 7 and red show links with a GEH value of greater than 7, showing a poorer validation. The figures show no clear trend regarding locations that do not meet the criteria with a slight tendency for the poorer validates sites to be away from areas of monitored air quality exceedances.

Figure 4-4: AM peak hour link flow validation performance against GEH criteria

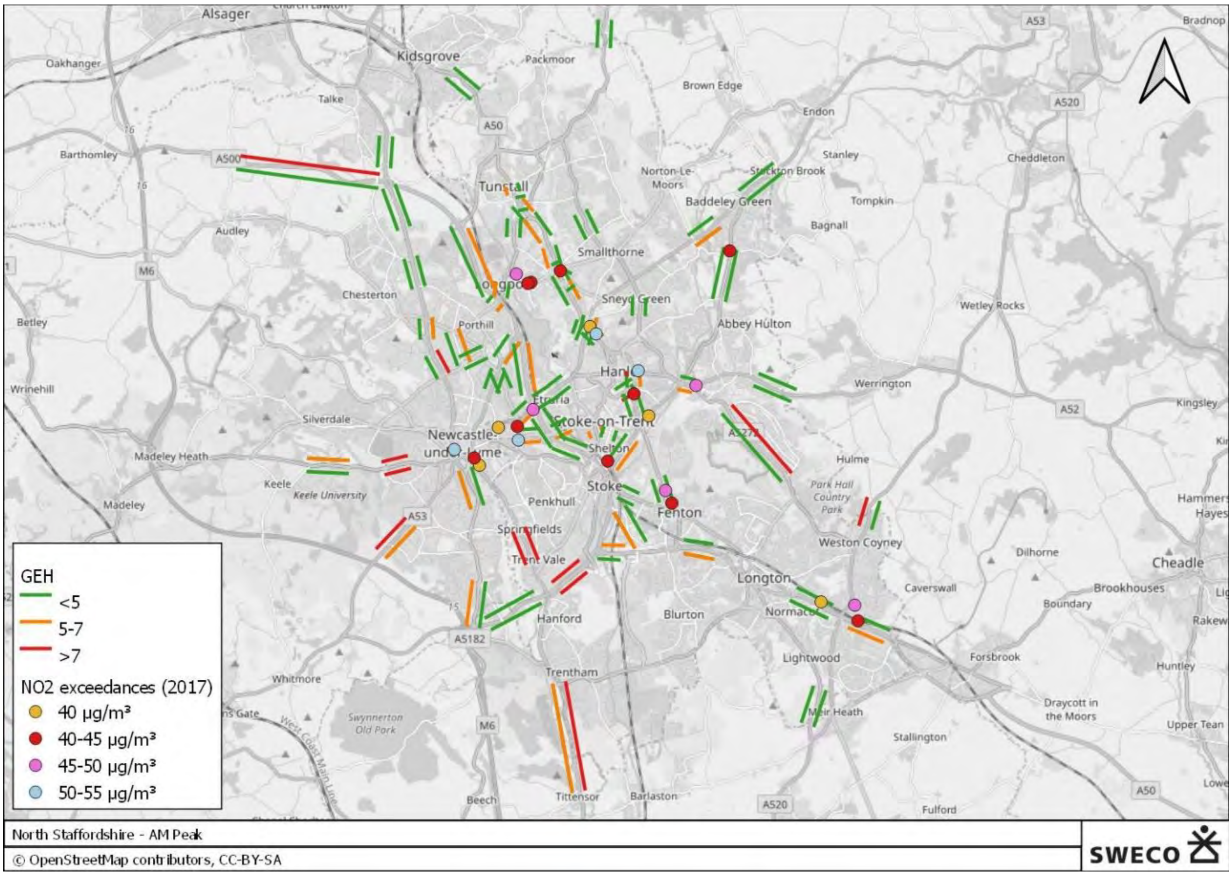


Figure 4-5: Inter-peak hour link flow validation performance against GEH criteria

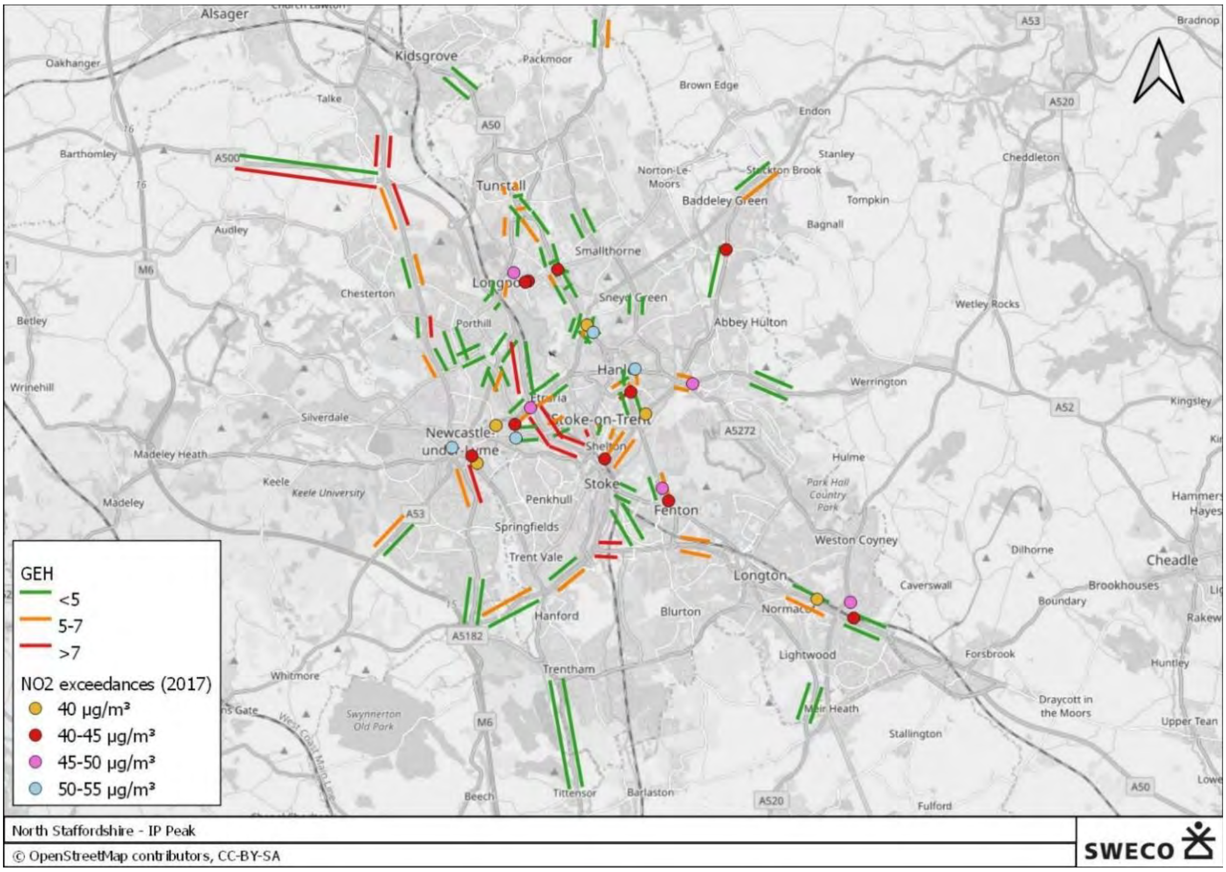
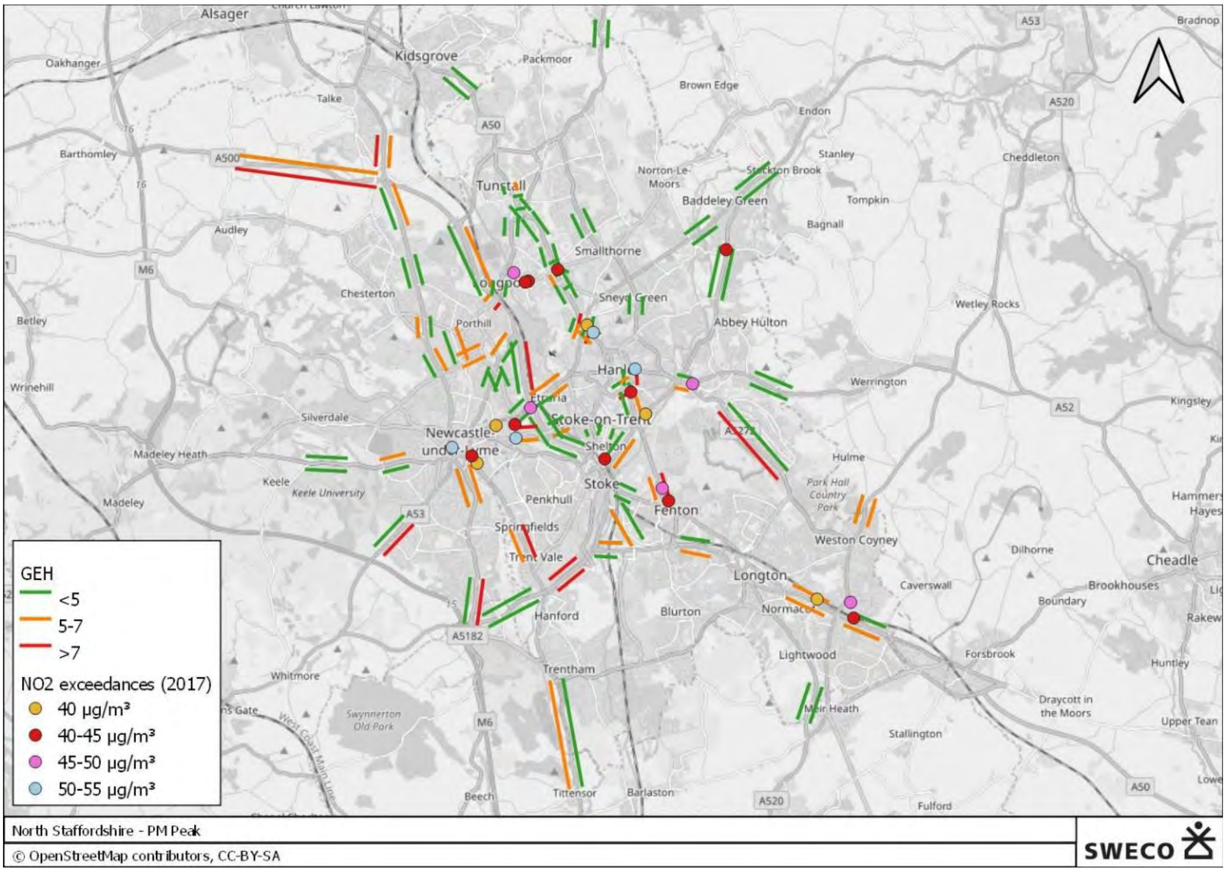


Figure 4-6: PM peak hour link flow validation performance against GEH criteria



4.8 Modelled flow validation at predicted exceedance locations

Table 4-8 identifies the locations predicted to be air quality exceedances in 2022 and provides commentary on the level of flow validation achieved in the base model. Figure 4-4 to Figure 4-6 show the difference between modelled link flows and observed traffic counts for these locations based on the GEH statistic, for each modelled time period. Links coloured green have a GEH less than 5 and therefore meet TAG criteria, links in orange narrowly fail with a GEH between 5 and 7 and red show links with a GEH of greater than 7, showing a poorer validation. Table 4-9 and Table 4-10 summarise the flow validation by vehicle type (cars, LGVs and HGVs) at the 3 exceedance locations for the AM and PM peaks.

Table 4-8: Flow validation at predicted exceedance locations

Predicted Exceedance Location	Flow Validation Summary
A53 – Basford	The nearest count site is on the A53 just to the west of the A500 which shows a good match of model flows with observed flows. In the AM and IP, eastbound has a GEH of less than 5 whilst westbound has a GEH of less than 7. Traffic going up the hill towards Newcastle, which is more crucial in terms of air quality forecasts are therefore better represented. For PM, both directions have a GEH less than 5.
Bucknall New Road	The nearest count is on Bucknall Road to the east of the A52. Generally, a reasonable match, with the AM and PM eastbound flow comparison less than a GEH of 5 and the other time periods and direction just outside the range but less than a GEH of 7.
Victoria Road	The nearest count is adjacent to the point of exceedance and has an excellent match in the AM with both directions having a GEH of less than 5. In the IP, northbound is excellent whilst southbound has a GEH slightly outside 5 In the PM, northbound falls just slightly outside a GEH of 5 whilst southbound has a less good match.

Table 4-9: Flow validation at predicted exceedance locations (AM)

Name	Direction	Observed Flow				Modelled Flow				DMRB OR GEH<5 (Total)
		Car	LGV	HGV	Total	Car	LGV	HGV	Total	
A53 – Basford	EB	2373	270	91	2734	2481	308	94	2884	✓
A53 – Basford	WB	1476	325	84	1885	1716	241	89	2047	✓
Bucknall New Road	EB	760	165	25	950	810	110	50	970	✓
Bucknall New Road	WB	1502	149	17	1668	1720	166	54	1940	✗
Victoria Road	NB	713	146	30	889	820	124	50	994	✓
Victoria Road	SB	430	191	56	677	532	169	50	751	✓

Table 4-10: Flow validation at predicted exceedance locations (PM)

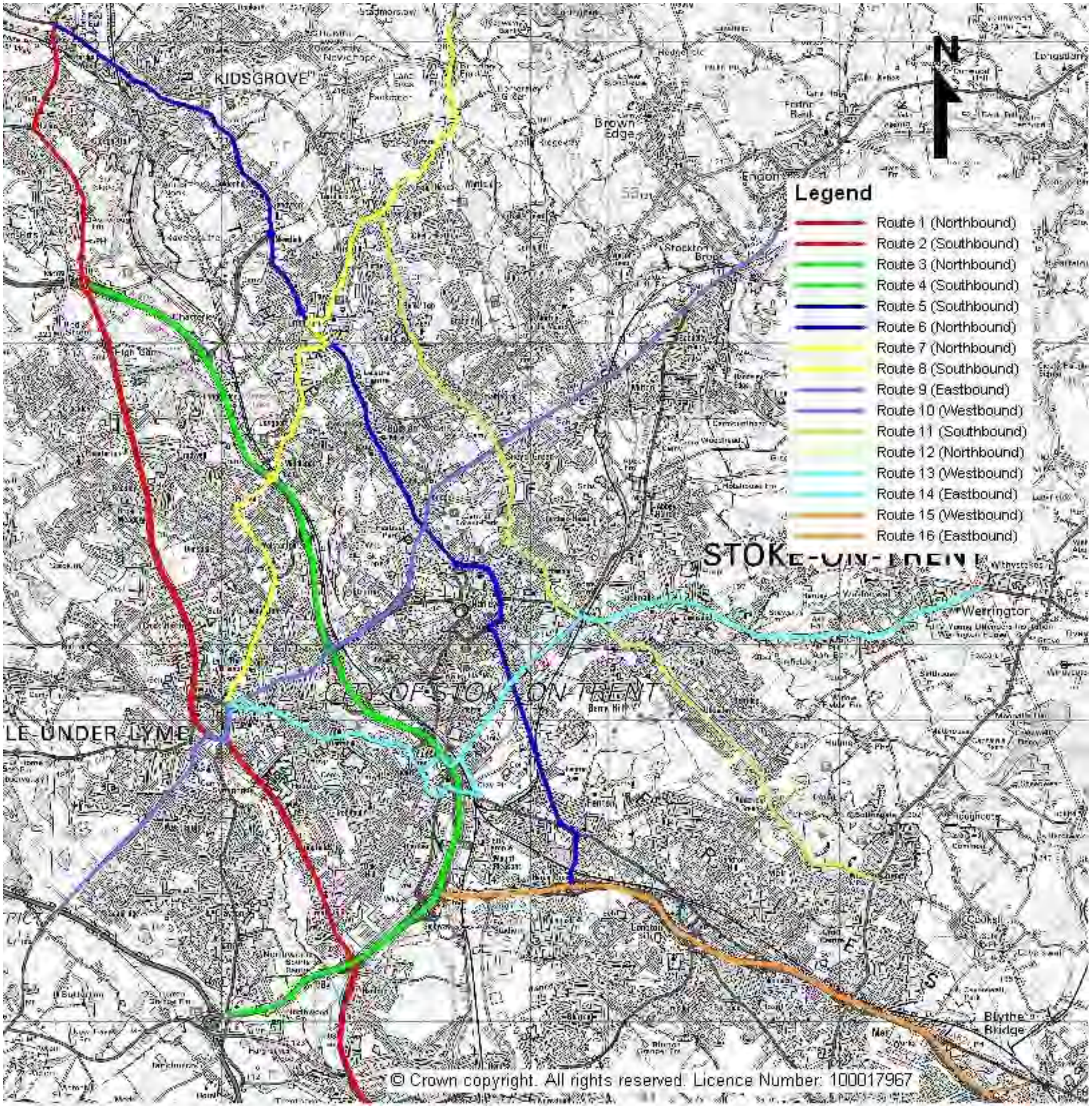
Name	Direction	Observed Flow				Modelled Flow				DMRB OR GEH<5 (Total)
		Car	LGV	HGV	Total	Car	LGV	HGV	Total	
A53 – Basford	EB	1658	198	30	1886	1850	267	33	2150	✓
A53 – Basford	WB	2436	164	31	2631	2274	284	34	2593	✓
Bucknall New Road	EB	1552	146	6	1704	1507	126	15	1648	✓
Bucknall New Road	WB	1174	118	3	1295	983	114	23	1120	✓
Victoria Road	NB	469	50	18	537	571	83	11	665	✗
Victoria Road	SB	730	95	2	827	1034	89	13	1136	✗

4.9 Journey time validation

The DfT guidelines for the validation of modelled journey times are based on those described in WebTAG Unit M3.1 and the DMRB Volume 12, Section 2, Part 1, Chapter 4. The guidance suggests that at least 85% of the total modelled journey times should be within +/- 15% or 1 minute of the observed journey time.

The validation of modelled journey times has been undertaken for a total of eight routes in both directions for each of the modelled time periods. These routes cross the North Staffordshire conurbation and are based on journey times extracted from Trafficmaster data (as shown in Figure 4-7).

Figure 4-7: Journey time validation routes



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The results of the journey time validation for each modelled time period are summarised in Table 4-11. As can be seen, 100% of the journey time routes in the inter-peak and over 85% of the routes in the AM and PM peak hour time periods have modelled times that are within +/-15% or 1 minute of the observed times.

The journey time validation results for each route can be found in Appendix B.

Table 4-11: Journey time validation summary

Modelled Period	% Pass DMRB Criteria (+/-15% or 1 min)
AM	88%
IP	100%
PM	88%

Figure 4-8 and Figure 4-9 shows the differences in travel time between the 2015 NSMM model and 2018 Trafficmaster data for the AM and PM periods on three routes (both directions) along the predicted exceedance locations. These times include both link time and junction delay. The data has been extracted for a short corridor. The corridor approach is better for comparing commensurate times given the differences in defined links between Trafficmaster data and the NSMM model links. The 2015 model journey times match well with the 2018 observed data. For the AM peak 2 routes out of 6 very narrowly fail the TAG criteria (for model flows being less than 15% or 1 minute of observed times) by 1 second for the A53 eastbound and 8 seconds for Bucknall New Road westbound. For the PM peak 5 out of the 6 travel times pass the TAG criteria, showing that the model represents observed speeds well.

Figure 4-8 Travel time difference between 2015 NSMM model and 2018 Trafficmaster data (AM)

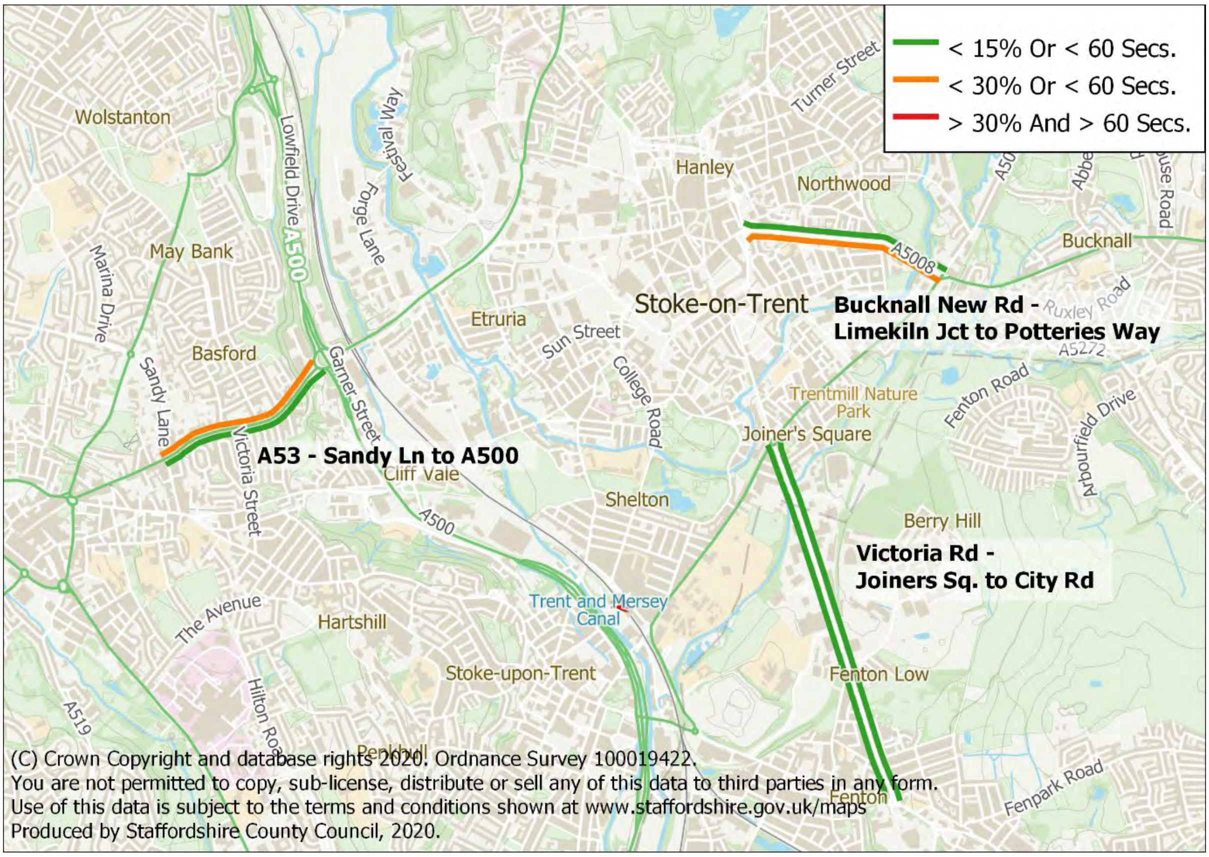

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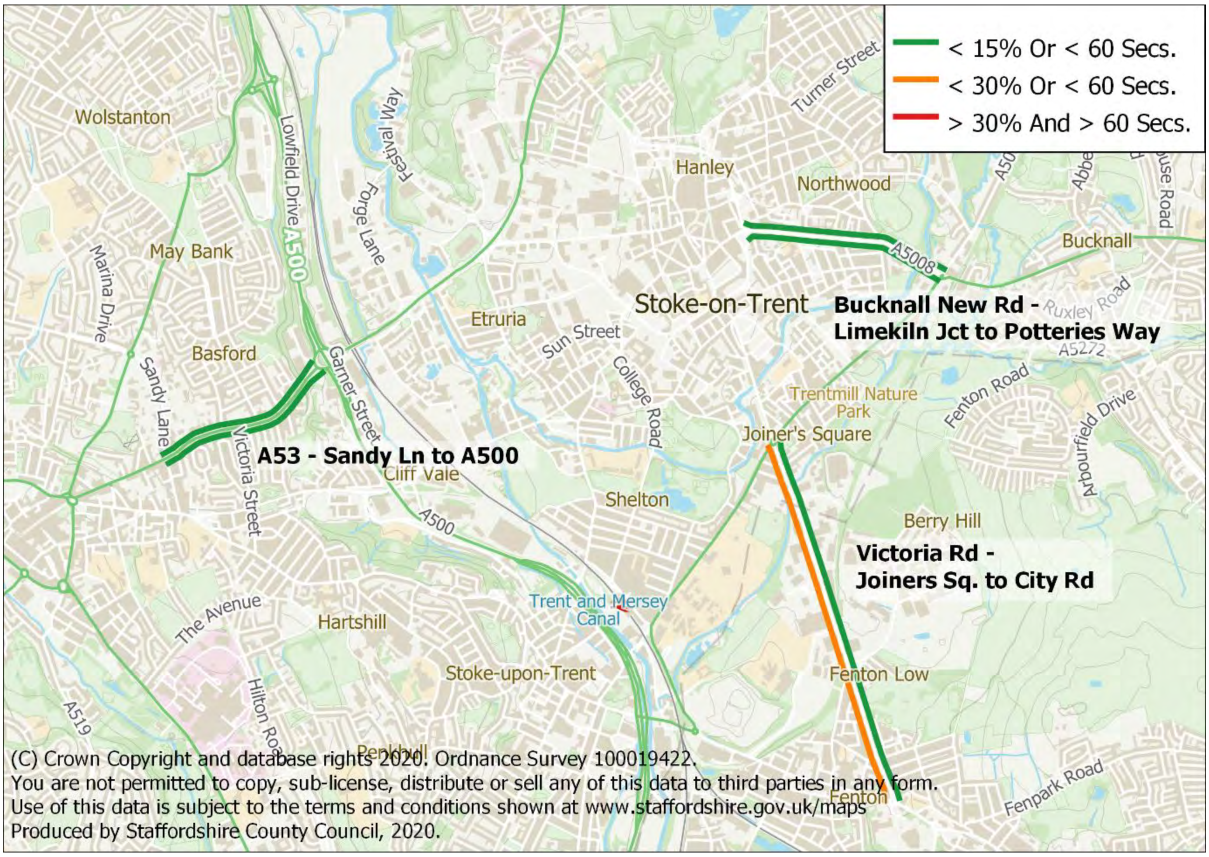
Figure 4-9: Travel time difference between 2015 NSMM model and 2018 Trafficmaster data (PM)



4.10 Highway assignment model convergence

The convergence of the final highway assignment model for each modelled time period is summarised in Table 5-9. TAG Unit M3.1 recommends a %GAP of 0.1% however experience has shown that %GAP values of less than 0.05%, which have been adopted for the NSMM transport model, often provides a more robust case for appraisal. This target was met within the last four assignment iterations as shown below.

Table 4-12 also shows that 100% of links had a flow change from the previous iteration of less than 5% (Pdiff.) for the final four iterations for all model time periods which further confirms the stability of the model.

Table 4-12: Assignment convergence

		Convergence Criteria			
Time Period	**Number of Iterations**	**%Gap**	**Pdiff.**	**AAD**	**RAAD**
		Less than 0.05	**Greater than 95% for four consecutive iterations**	**Equal to/Less than 1 for four consecutive iterations**	**Less than 1% for four consecutive iterations**
AM Peak	53	0.00004	100%	0	0.001
		0.00006	100%	0	0.001
		0.00001	100%	0	0.001
		0.0001	100%	0	0.001
Inter Peak	20	0.00007	100%	1	0.003
		0.00007	100%	1	0.003
		0.00003	100%	1	0.003
		0.0001	100%	1	0.002
PM Peak	57	0.000006	100%	0	0.001
		0.0001	100%	0	0.001
		0.000008	100%	0	0.001
		0.000002	100%	0	0.001

4.11 Comparison with original aggregated NSMM transport model

The NSMM transport model was updated to 2015 as part of the modelling work undertaken for the appraisal of the EVLR Project. Given the lack of traffic growth shown by the analysis of appropriate traffic count information, this model has been used to inform the development of the 2018 base-line air quality model albeit further disaggregated into compliant and non-compliant vehicle types using ANPR data. Table 4-13 provides a comparison of the validation results between the aggregated transport model which only has 3 vehicle types (cars, LGVs and HGVs) and the disaggregated transport model which has 8 vehicle types including taxis and compliant and non-compliant splits. Following the disaggregation of the transport model, the level of validation remains at a high level with screenline and journey time validation results remaining unaltered. The link counts validation results for AM has improved but a very small reduction in the level of validation for IP and PM peak hour time periods has been achieved.

Table 4-13: Validation comparison

Validation	Aggregated for EVLR (3 vehicle types)			Disaggregated Model for CAZ (8 vehicle types)		
	AM	IP	PM	AM	IP	PM
Screenline	60%	60%	60%	60%	60%	60%
Link Count	81%	81%	79%	83%	77%	78%
Journey Times	88%	100%	88%	88%	100%	88%

4.12 Validation against 2018 screenline counts

The 2015 disaggregated transport model will be used to inform the development of the 2018 baseline air quality model. A further validation check has therefore been undertaken on the 2015 disaggregated transport model flows against 22 counts undertaken in 2018 forming a screenline to the east of the A500 as shown in Figure 2-12. Table 4-14 and Table 4-15 summarises the level of validation against the 22 count sites using both the DRMB flow and GEH criteria. Given that no calibration has been undertaken and the 2015 modelled traffic flow data is being compared with 2018 count data, a good fit is still shown between the modelled and observed data. This underlines the point that there is no case for rebasing the 2015 transport model to a 2018 base year, as the 2015 transport model already provides a good representation of 2018 observed flows, which has been demonstrated to be due to the lack of traffic growth in the North Staffordshire area.

Table 4-14: Comparison of 2015 modelled traffic flows against 2018 observed traffic counts - westbound

Vehicle Type	No. of Counts	DMRB	GEH <5	GEH <5 or DMRB
AM Peak-Hour				
Car	11	55%	45%	55%
LGV	11	64%	64%	64%
HGV	11	100%	91%	100%
Total	**11**	**73%**	**64%**	**73%**
Inter-Peak Hour				
Car	11	73%	64%	73%
LGV	11	91%	73%	91%
HGV	11	100%	91%	100%
Total	**11**	**64%**	**64%**	**73%**

PM Peak-Hour				
Car	11	55%	55%	55%
LGV	11	91%	73%	91%
HGV	11	91%	91%	91%
Total	**11**	**64%**	**64%**	**73%**

Table 4-15: Comparison of 2015 modelled traffic flows against 2018 observed traffic counts - eastbound

Vehicle Type	No. of Counts	DMRB	GEH <5	GEH <5 or DMRB
AM Peak-Hour				
Car	11	73%	82%	82%
LGV	11	91%	91%	91%
HGV	11	100%	91%	100%
Total	**11**	**82%**	**82%**	**82%**
Inter-Peak Hour				
Car	11	64%	64%	73%
LGV	11	82%	82%	82%
HGV	11	91%	91%	91%
Total	**11**	**55%**	**55%**	**64%**
PM Peak-Hour				
Car	11	91%	82%	91%
LGV	11	91%	91%	91%
HGV	11	100%	100%	100%
Total	**11**	**91%**	**82%**	**100%**

The detailed analysis of the 2015 disaggregated transport model against the 2018 screenline counts is detailed in Appendix C.

4.13 Validation of vehicle compliance splits

The primary purpose of the 2019 ANPR data was to derive compliance splits by vehicle type. Analysis was also undertaken on the total flow data from the 2019 ANPR surveys, however, following checks it became clear that there had been some under-reporting. It is known that

ANPR surveys are not as accurate as other methods for capturing total vehicle flows. This is because not all number plates get picked up, those that have plates on the rear of the vehicle only (i.e. motorcycles), have dirty or missing plates or plates in an irregular location can get missed. Comparing the 2019 ANPR data against 2018 count data confirmed this, with the ANPR flow data being consistently slightly lower than other observed sources. The ANPR data is, however, still appropriate for deriving compliance splits. A validation was therefore undertaken comparing the vehicle compliance splits recorded by the ANPR surveys across the A500 screenline (as shown in Figure 3-12) by direction against the 2015 disaggregated modelled flows.

Table 4-16 shows the difference between the 2015 disaggregated model flow vehicle compliance percentages and the equivalent percentages derived from the 2019 observed ANPR surveys. The table demonstrates that the 2015 disaggregated model compliance percentages are closely replicating the observed values within an acceptable tolerance level. This further demonstrates that the disaggregation process has been correctly carried out, including the disaggregation of the transport model trip matrices and the refinement of the assignment process.

Table 4-16: Percentage difference between the 2015 disaggregated model and the 2019 ANPR data

Time Period / Direction	% Difference in Compliance Splits					
	Car Comp	Car Non-Comp	LGV Comp	LGV non-Comp	HGV Comp	HGV Non-comp
AM – Westbound	1%	-1%	1%	-1%	-7%	7%
AM – Eastbound	3%	-3%	1%	-1%	-6%	6%
IP – Westbound	-2%	2%	1%	-1%	-7%	7%
IP – Eastbound	-1%	1%	-1%	1%	0%	0%
PM – Westbound	3%	-3%	-1%	1%	2%	-2%
PM – Eastbound	2%	-2%	1%	-1%	-2%	2%
All Periods	1%	-1%	0%	0%	-3%	3%

5 Conclusion

5.1 Summary

Validation of the updated 2015 base NSMM transport model, which has had the modelled trip matrices segmented into CAZ compliant and non-compliant vehicle types, has been undertaken based on the following:

1. Comparison of the original 2015 NSMM base transport model and the updated 2015 disaggregated transport model
2. Comparison of the 2015 disaggregated transport model against 2018 traffic counts
3. Comparison of the 2015 disaggregated transport model flows by vehicle type and compliance splits against ANPR data
4. Validation of the 2015 disaggregated NSMM transport model against conurbation wide link counts, screenlines and journey times

The 2015 segmented transport model shows a good and similar level of validation between observed and modelled data (i.e. individual traffic counts, screenline flows and journey times) as per the original NSMM transport model, which is as would be expected. This confirms the demand segmentation carried out to update the transport model has only resulted in small changes in flows.

The comparison of 2015 and 2018 traffic count data on the screenline to the east of the A500 shows no net traffic growth, therefore confirming that the 2015 transport model could be used instead of creating a 2018 base or forecast year to inform the air quality modelling of a baseline situation. This is reaffirmed by a good fit between 2015 segmented model flows and the 2018 A500 screenline counts. Finally, the comparison of CAZ vehicle compliance splits across the A500 screenline shows a close match with the ANPR data. This demonstrates the demand segmentation process has been correctly carried out regarding updates to the model trip matrices and the refinement of the assignment process within the NSMM transport model.

5.2 Fit for purpose

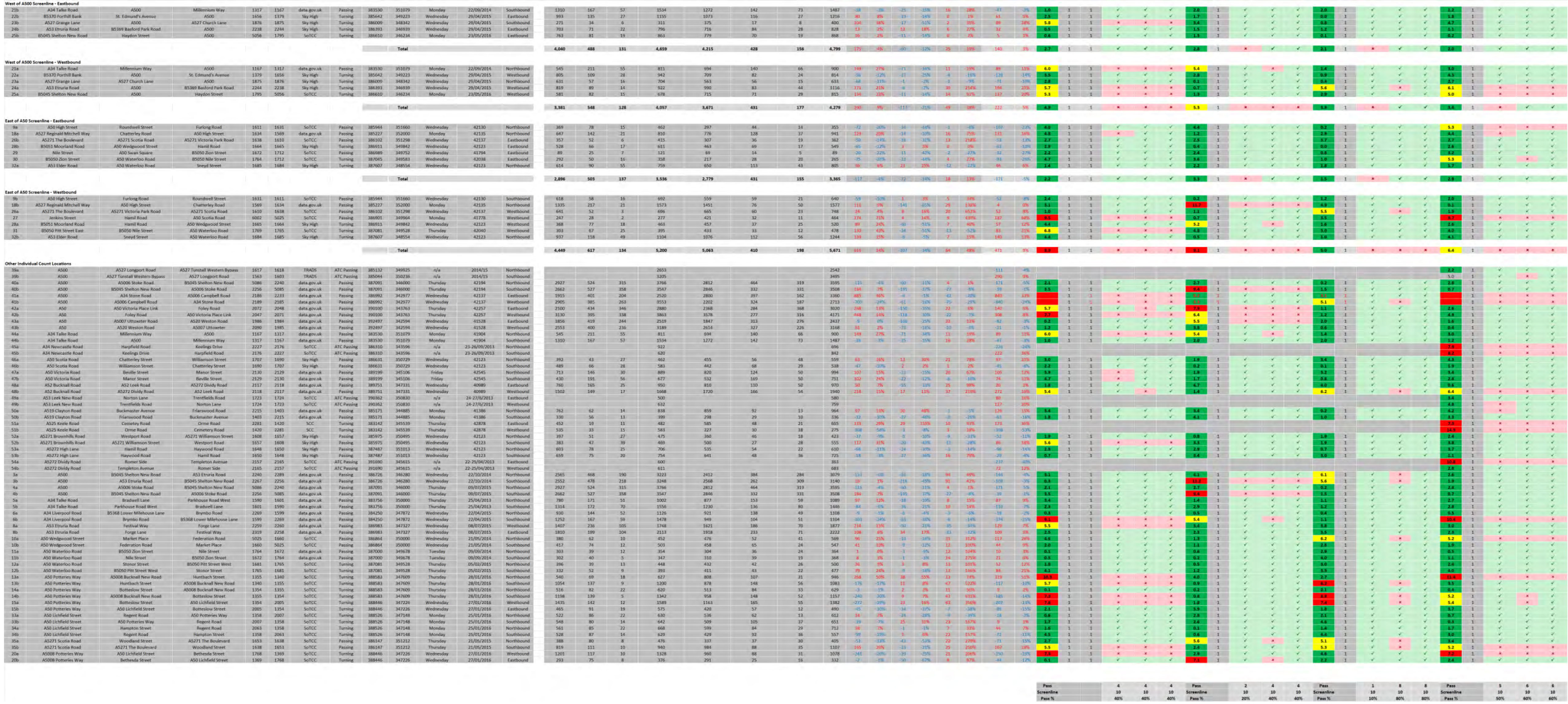
The updated 2015 base-year NSMM transport model validates within acceptable tolerance levels and as a result is suitable to be used for modelling emission strategies across compliant and non-compliant user classes to support the reduction of NO_2 emissions. The output data from the updated NSMM transport model can be used for a 2018 baseline and future year air quality modelling.

Appendix A – 2015 Traffic count validation

AM peak hour

Ref. No.	Road	A-Junction	B-Junction	A-Node	B-Node	Source of Traffic Count	Type of Manual Classified Count	Grid Reference		Day of Count	Date of Count	Direction	AM							
													Observed				Model Flow			
								Easting	Northing				Car	LGV	HGV	AM Peak-Hour (08-0900hrs)	Car	LGV	HGV	Total
Cordon Validation Counts - Inbound																				
1a	A34 Stone Road	Tittensor Road	A5035 Longton Road	1178	2012	data.gov.uk	Passing	387082	339993	Monday	42625	Northbound	880	104	44	1028	932	174	71	1177
2a	A500	A519 Clayton Road	A34 Stone Road	6035	1999	data.gov.uk	Passing	385500	342150	Thursday	41354	Eastbound	1943	252	204	2399	2058	193	222	2473
3a	A519 Clayton Road	A500	Westbury Road	2001	2222	data.gov.uk	Passing	385140	342500	Friday	42482	Northbound	376	54	21	451	474	74	37	584
4a	A53 Whitmore Road	A5182 Trentham Road	Seabridge Lane	1960	2295	data.gov.uk	Passing	382611	343143	Tuesday	41898	Northbound	537	30	7	574	709	44	12	765
5a	A525 Keele Road	Keele Road	University Drive	1962	2280	SCC	Turning	382323	345560	Thursday	42817	Eastbound	779	30	5	814	859	61	17	937
6a	A500	Alsager Road	A34 Talke Road	1299	1549	data.gov.uk	Passing	382105	351890	Tuesday	41163	Eastbound	1498	249	152	1899	1892	196	219	2307
7a	A34 Newcastle Road	Coalpit Hill	Talke Road	5024	1575	data.gov.uk	Passing	383170	352200	Friday	41054	Southbound	956	121	43	1120	923	110	57	1090
8a	A50 Liverpool Road	Stonebank Road	Woodstock Street	5021	1857	data.gov.uk	Passing	385000	353836	Wednesday	42508	Eastbound	578	80	3	661	620	49	9	677
9a	A527 Tunstall Road	Bemersley Road	Bridge Street	1826	1830	data.gov.uk	Passing	387945	355000	Wednesday	41437	Southbound	690	87	8	785	788	52	23	863
10a	A53 Leek New Road	Nursery Avenue	Baddeley Green Lane	1750	1748	SoTCC	ATC Passing	391082	351541	n/a	11-14/11/2013	Southbound				842				806
11a	A52 Werrington Road	Clough Lane	Corneville Road	1954	2338	SoTCC	ATC Passing	391609	347261	n/a	9-12/6/2014	Westbound				844				920
12a	A520 Weston Road	Winterfield Lane	Main Street	2082	2083	SoTCC	ATC Passing	393728	344455	n/a	29/06-07/07/2015	Southbound				562				633
13a	A50	A521 Uttoxeter Road	A520 Weston Road	1982	2096	data.gov.uk	Passing	393920	341921	Monday	41015	Westbound	2164	343	208	2715	2420	363	224	3007
14a	A5005 Lightwood Road	Common Lane	Gravelly Bank	2041	2044	SoTCC	ATC Passing	392628	340512	n/a	28/09-01/10/2015	Northbound				259				205
									Total				10,401	1,350	695	14,953	11,674	1,316	890	16,445
Cordon Validation Counts - Outbound																				
1b	A34 Stone Road	A5035 Longton Road	Tittensor Road	2012	1178	data.gov.uk	Passing	387082	339993	Monday	42625	Southbound	1127	211	70	1408	915	162	78	1155
2b	A500	A34 Stone Road	A519 Clayton Road	2184	6035	data.gov.uk	Passing	385500	342150	Thursday	41354	Westbound	1318	311	216	1845	1411	230	213	1854
3b	A519 Clayton Road	Westbury Road	A500	2222	2001	data.gov.uk	Passing	385140	342500	Friday	42482	Southbound	438	56	10	504	406	53	10	469
4b	A53 Whitmore Road	Seabridge Lane	A5182 Trentham Road	2295	1960	data.gov.uk	Passing	382611	343143	Tuesday	41898	Southbound	151	66	4	221	233	47	10	290
5b	A525 Keele Road	University Drive	Keele Road	2280	1962	SCC	Turning	382323	345560	Thursday	42817	Westbound	317	43	16	376	360	65	20	444
6b	A500	A34 Talke Road	Alsager Road	1620	1304	data.gov.uk	Passing	382105	351890	Tuesday	41163	Westbound	1095	348	185	1628	1297	277	219	1793
7b	A34 Newcastle Road	Talke Road	Coalpit Hill	1575	5024	data.gov.uk	Passing	383170	352200	Friday	41054	Northbound	504	154	46	704	510	96	72	677
8b	A50 Liverpool Road	Woodstock Street	Stonebank Road	1857	5021	data.gov.uk	Passing	385000	353836	Wednesday	42508	Westbound	357	79	8	444	376	88	14	478
9b	A527 Tunstall Road	Bridge Street	Bemersley Road	1830	1826	data.gov.uk	Passing	387945	355000	Wednesday	41437	Northbound	416	112	25	553	497	79	20	595
10b	A53 Leek New Road	Baddeley Green Lane	Nursery Avenue	1748	1750	SoTCC	ATC Passing	391082	351541	n/a	11-14/11/2013	Northbound				702				738
11b	A52 Werrington Road	Corneville Road	Clough Lane	2338	1954	SoTCC	ATC Passing	391609	347261	n/a	9-12/6/2014	Eastbound				471				539
12b	A520 Weston Road	Main Street	Winterfield Lane	2083	2082	SoTCC	ATC Passing	393728	344455	n/a	29/06-07/07/2015	Northbound				526				729
13b	A50	A520 Weston Road	A521 Uttoxeter Road	2093	2098	data.gov.uk	Passing	393920	341921	Monday	41015	Eastbound	1603	382	240	2225	1647	327	253	2227
14b	A5005 Lightwood Road	Gravelly Bank	Common Lane	2044	2041	SoTCC	ATC Passing	392628	340512	n/a	28/09-01/10/2015	Southbound				281				234
									Total				7,326	1,762	820	11,888	7,650	1,424	909	12,224
North-South Screenline - Northbound																				
15a	A34 Liverpool Road	B5500 London Road	B5369 Dimsdale Parade West	1598	1596	Sky High	Passing	384062	348611	Wednesday	29/04/2015	Northbound	517	106	55	678	526	114	44	684
16a	Hassam Parade	B5368 Milehouse Lane	B5369 Dimsdale Parade West	2183	1341	Sky High	Passing	384761	348119	Wednesday	29/04/2015	Northbound	279	34	8	321	286	33	19	337
17a	B5368 Milehouse Lane	Hassam Parade	B5369 Alexandra Road	2183	1692	Sky High	Passing	385050	347913	Wednesday	29/04/2015	Eastbound	338	25	6	369	401	34	11	447
18a	A527 Brampton Road	Greenbank Road	B5369 Alexandra Road	2193	2192	Sky High	Turning	385613	347622	Wednesday	29/04/2015	Northbound	390	35	11	436	411	39	5	455
19a	B5369 Basford Park Road	Downing Avenue	A527 Brampton Road	2182	2192	Sky High	Turning	385613	347622	Wednesday	29/04/2015	Northbound	324	20	6	350	336	28	11	375
20a	A500	A53 Etruria Road	A527 Grange Lane	2266	1700	data.gov.uk	Passing	386174	347998	Monday	15/06/2015	Northbound	2082	451	287	2820	2514	216	282	3011
21a	Greyhound Way	Pavilion Drive	A50 Waterloo Road	6101	1778	Sky High	Passing	387427	348653	Wednesday	29/04/2015	Eastbound	152	10	1	165	146	6	7	159
22a	A53 Cobridge Road	Pavilion Drive	A50 Waterloo Road	2075	1685	Sky High	Passing	387574	348488	Wednesday	29/04/2015	Northbound	797	130	55	982	861	124	50	1035
23a	A50 Waterloo Road	Wayte Street	A53 Cobridge Road	1686	1685	Sky High	Passing	387718	348427	Wednesday	29/04/2015	Northbound	537	59	31	627	503	50	22	575
24a	A5272 Hanley Road	Barthomley Road	Sneyd Street	1753	1732	Sky High	Passing	388747	349070	Wednesday	29/04/2015	Northbound	543	97	33	673	640	75	29	745
25a	A5009 Leek Road	Barratt Gardens		1745	1746	SoTCC	Turning	390718	350270	Wednesday	14/06/2017	Northbound	312	65	12	389	366	91	4	461
									Total				6,271	1,032	505	7,810	6,989	809	484	8,282
North-South Screenline - Southbound																				
15b	A34 Liverpool Road	B5369 Dimsdale Parade West	B5500 London Road	1596	1598	Sky High	Passing	384062	348611	Wednesday	42123	Southbound	1139	111	54	1304	1030	81	43	1154
16b	Hassam Parade	B5369 Dimsdale Parade West	B5368 Milehouse Lane	1341	2183	Sky High	Passing	384761	348119	Wednesday	29/04/2015	Southbound	596	33	5	634	449	41	29	519
17b	B5368 Milehouse Lane	B5369 Alexandra Road	Hassam Parade	1692	2183	Sky High	Passing	385050	347913	Wednesday	29/04/2015	Westbound	335	25	5	365	316	15	10	341
18b	A527 Brampton Road	B5369 Alexandra Road	Greenbank Road	2192	2193	Sky High	Turning	385613	347622	Wednesday	29/04/2015	Southbound	407	26	12	445	410	24	10	444
19b	B5369 Basford Park Road	A527 Brampton Road	Downing Avenue	2192	2182	Sky High	Turning	385613	347622	Wednesday	29/04/2015	Southbound	347	30	7	384	379	21	12	411
20b	A500	A527 Grange Lane	A53 Etruria Road	1698	1705	data.gov.uk	Passing	386174	347998	Monday	15/06/2015	Southbound	3091	494	292	3877	3719	155	322	4196
21b	Greyhound Way	A50 Waterloo Road	Pavilion Drive	1778	6101	Sky High	Passing	387427	348653	Wednesday	42123	Westbound	399	27	5	431	339	37	14	389
22b	A53 Cobridge Road	A50 Waterloo Road	Pavilion Drive	1685	2075	Sky High	Passing	387574	348488	Wednesday	42123	Southbound	1203	158	61	1422	1140	124	62	1327
23b	A50 Waterloo Road	A53 Cobridge Road	Wayte Street	1685	1686	Sky High	Passing	387718	348427	Wednesday	42123	Southbound	559	76	18	653	485	33	18	535
24b	A5272 Hanley Road	Sneyd Street	Barthomley Road	1732	1753	Sky High	Passing	388747	349070	Wednesday	42123	Southbound	502	73	26	601	597	65	36	698
25b	A5009 Leek Road	Millrise Rod	Barratt Gardens	1746	1745	SoTCC	Turning	390718	350270	Wednesday	42900	Southbound				796				858
									Total				8,578	1,053	485	10,912	8,864	596	555	10,872
East-West Screenline - Eastbound																				
27a	A527 Tunstall Western Bypass	Chemical Lane	Chatterley Road	1305	1634	SoTCC	Passing	385032	351038	Tuesday	28/04/2015	Northbound	636	137	39	812	686	107	34	827
28a	A5271 Longport Road	A500	Scott Lidgett Road	1629	1609	SoTCC	Passing	385732	349427	Tuesday	29/04/2015	Northbound	1015	221	53	1289	1250	152	61	1463
29a	A53 Etruria Road	A500	Forge Lane	1937	2257	SoTCC	Passing	386629	347058	Wednesday	30/04/2014	Eastbound	2373	270	91	2734	2481	308	94	2884
30a	B5045 Shelton New Road	A500	Etruscan Street	1792	2242	SoTCC	Passing	386895	346336	Thursday	01/05/2014	Eastbound	729	72	24	825	776	79	18	872
31a	A5006 Stoke Road	Avenue Road	Cemetery Road	2251	1385	SoTCC	Passing	387761	346317	Wednesday	03/05/2017	Northbound	526	40	2	568	397	42	11	450
32a	College Road	Avenue Road	Wellesley Street	2252	1387	SoTCC	Passing	388045	346266	Monday	30/03/2014	Northbound	186	17	0	203	233	25	3	260
33a	A52 Leek Road	Boughey Road	Cauldon Road	1427	2253	SoTCC	Passing	388234	345738	Wednesday	22/04/2015	Northbound	506	91	11	608	547	106	17	670
34a	A5007 City Road	A52 Leek Road	Napier Street	1445	1436	SoTCC	Passing	388514	344891	Wednesday	22/04/2015	Eastbound	407	72	26	568	540	64	25	630
35a	Whieldon Road	Old Whieldon Road	Sutherland Street	2235	2139	SoTCC	Passing	388292	344596	Wednesday	09/04/2014	Eastbound	123	20	2	145	124	14	13	151
									Total				6,501	940	248	7,752	7,094	897	274	8,207
East-West Screenline - Westbound																				
27b	A527 Tunstall Western Bypass	Chatterley Road	Chemical Lane	1634	1305	SoTCC	Passing	385032	351038	Tuesday	28/04/2015	Southbound	1152	176	33	1361	1215	33	49	1297
28b	A5271 Longport Road	Scott Lidgett Road	A500	1609	1629	SoTCC	Passing	385732	349427	Tuesday	29/04/2015	Southbound	879	208	105	1192	1004	88	62	1154
29b	A53 Etruria Road	Forge Lane	A500	1808	1806	SoTCC	Passing	386629	347058	Wednesday	30/04/2014	Westbound	1476	325	84	1885	1716	241	89	2047
30b	B5045 Shelton New Road	Etruscan Street	A500	2242	1792	SoTCC	Passing	386895	346336	Thursday	01/05/2014	Westbound	426	71	13	510	561	65	17	643
31b	A5006 Stoke Road	Cemetery Road	Avenue Road	1385	2251	SoTCC	Passing	387761	346317	Wednesday	03/05/2017	Southbound	474	57	0	531	336	38	12	386
32b	College Road	Wellesley Street	Avenue Road	1387	2252	SoTCC	Passing	388045	346266	Monday	30/03/2014	Southbound	262	28	1	291	183	41	3	227
33b	A52 Leek Road	Cauldon Road	Boughey Road	2253	1427	SoTCC	Passing	388234	345738	Wednesday	22/04/2015	Southbound	540	91	9	640	689	85	34	808
34b	A5007 City Road	Napier Street	A52 Leek Road	1436	1445	SoTCC	Passing	388514	344891	Wednesday	22/04/2015	Westbound	938	99	15	1052	842	132	49	1023
35b	Whieldon Road	Sutherland Street	Old Whieldon Road	2139	2235	SoTCC	Passing	388292	344596	Wednesday	09/04/2014	Westbound	253	42	4	299	195	31	5	232
									Total				6,400	1,097	264	7,761	6,742	755	308	7,816

Ref. No.	AM																												
	Car		LGV		HGV		Total		Car						LGV					HGV					Total				
	Difference	% Diff	Difference	% Diff	Difference	% Diff	Difference	% Diff	GEH	Count TOTAL	Count (CAR, HGV, LGV	DMRB Diff test	GEH<5	DMRB OR GEH<5	GEH	Count	DMRB Diff test	GEH<5	DMRB OR GEH<5	GEH	Count	DMRB Diff test	GEH<5	DMRB OR GEH<5	GEH	Count	DMRB Diff test	GEH<5	DMRB OR GEH<5
Cordon Validation Counts - Inbound																													
1a	52	6%	70	68%	27	60%	149	14%	1.7	1	1	✓	✓	✓	6.0	1	✓	×	✓	3.5	1	✓	✓	✓	4.5	1	✓	✓	✓
2a	115	6%	-59	-24%	18	9%	74	3%	2.6	1	1	✓	✓	✓	4.0	1	✓	✓	✓	1.2	1	✓	✓	✓	1.5	1	✓	✓	✓
3a	98	26%	20	36%	16	74%	133	30%	4.7	1	1	✓	✓	✓	2.5	1	✓	✓	✓	2.9	1	✓	✓	✓	5.9	1	×	×	×
4a	172	32%	14	47%	5	68%	191	33%	6.9	1	1	×	×	×	2.3	1	✓	✓	✓	1.6	1	✓	✓	✓	7.4	1	×	×	×
5a	80	10%	31	104%	12	233%	123	15%	2.8	1	1	✓	✓	✓	4.6	1	✓	✓	✓	3.5	1	✓	✓	✓	4.2	1	×	✓	✓
6a	394	26%	-53	-21%	67	44%	408	22%	9.6	1	1	×	×	×	3.5	1	✓	✓	✓	4.9	1	✓	✓	✓	8.9	1	×	×	×
7a	-33	-3%	-11	-9%	14	33%	-30	-3%	1.1	1	1	✓	✓	✓	1.0	1	✓	✓	✓	2.0	1	✓	✓	✓	0.9	1	✓	✓	✓
8a	42	7%	-31	-39%	6	184%	16	2%	1.7	1	1	✓	✓	✓	3.9	1	✓	✓	✓	2.5	1	✓	✓	✓	0.6	1	✓	✓	✓
9a	98	14%	-35	-40%	15	189%	78	10%	3.6	1	1	✓	✓	✓	4.2	1	✓	✓	✓	3.8	1	✓	✓	✓	2.7	1	✓	✓	✓
10a							-36	-4%																	1.2	1	✓	✓	✓
11a							76	9%																	2.6	1	✓	✓	✓
12a							71	13%																	2.9	1	✓	✓	✓
13a	256	12%	20	6%	16	8%	292	11%	5.3	1	1	✓	×	✓	1.1	1	✓	✓	✓	1.1	1	✓	✓	✓	5.5	1	✓	×	✓
14a							-54	-21%																	3.6	1	✓	✓	✓
Total	1,273	12%	-34	-2%	195	28%	1,492	10%	12.1	1	1	×	×	×	0.9	1	✓	✓	✓	6.9	1	×	×	×	11.9	1	×	×	×
Cordon Validation Counts - Outbound																													
1b	-212	-19%	-49	-23%	8	12%	-253	-18%	6.6	1	1	×	×	×	3.8	1	✓	✓	✓	1.0	1	✓	✓	✓	7.1	1	×	×	×
2b	93	7%	-81	-26%	-3	-1%	9	0%	2.5	1	1	✓	✓	✓	4.9	1	✓	✓	✓	0.2	1	✓	✓	✓	0.2	1	✓	✓	✓
3b	-32	-7%	-3	-5%	0	1%	-35	-7%	1.6	1	1	✓	✓	✓	0.4	1	✓	✓	✓	0.0	1	✓	✓	✓	1.6	1	✓	✓	✓
4b	82	54%	-19	-28%	6	140%	69	31%	5.9	1	1	✓	×	✓	2.5	1	✓	✓	✓	2.2	1	✓	✓	✓	4.3	1	✓	✓	✓
5b	43	14%	22	51%	4	22%	68	18%	2.3	1	1	✓	✓	✓	3.0	1	✓	✓	✓	0.8	1	✓	✓	✓	3.4	1	✓	✓	✓
6b	202	18%	-71	-20%	34	18%	165	10%	5.8	1	1	×	×	×	4.0	1	✓	✓	✓	2.4	1	✓	✓	✓	4.0	1	✓	✓	✓
7b	6	1%	-58	-38%	26	56%	-27	-4%	0.3	1	1	✓	✓	✓	5.2	1	✓	×	✓	3.3	1	✓	✓	✓	1.0	1	✓	✓	✓
8b	19	5%	9	11%	6	81%	34	8%	1.0	1	1	✓	✓	✓	1.0	1	✓	✓	✓	1.9	1	✓	✓	✓	1.6	1	✓	✓	✓
9b	81	19%	-33	-30%	-5	-20%	42	8%	3.8	1	1	✓	✓	✓	3.4	1	✓	✓	✓	1.1	1	✓	✓	✓	1.8	1	✓	✓	✓
10b							36	5%																	1.4	1	✓	✓	✓
11b							68	15%																	3.0	1	✓	✓	✓
12b							203	39%																	8.1	1	×	×	×
13b	44	3%	-55	-14%	13	6%	2	0%	1.1	1	1	✓	✓	✓	2.9	1	✓	✓	✓	0.8	1	✓	✓	✓	0.0	1	✓	✓	✓
14b							-47	-17%																	2.9	1	✓	✓	✓
Total	324	4%	-338	-19%	89	11%	336	3%	3.7	1	1	✓	✓	✓	8.5	1	×	×	×	3.0	1	×	✓	✓	3.1	1	✓	✓	✓
North-South Screenline - Northbound																													
15a	9	2%	8	8%	-11	-20%	6	1%	0.4	1	1	✓	✓	✓	0.8	1	✓	✓	✓	1.6	1	✓	✓	✓	0.2	1	✓	✓	✓
16a	7	2%	-1	-4%	11	134%	16	5%	0.4	1	1	✓	✓	✓	0.2	1	✓	✓	✓	2.9	1	✓	✓	✓	0.9	1	✓	✓	✓
17a	63	19%	9	37%	5	89%	78	21%	3.3	1	1	✓	✓	✓	1.7	1	✓	✓	✓	1.8	1	✓	✓	✓	3.8	1	✓	✓	✓
18a	21	5%	4	12%	-6	-55%	19	4%	1.0	1	1	✓	✓	✓	0.7	1	✓	✓	✓	2.2	1	✓	✓	✓	0.9	1	✓	✓	✓
19a	12	4%	8	39%	5	80%	25	7%	0.7	1	1	✓	✓	✓	1.6	1	✓	✓	✓	1.6	1	✓	✓	✓	1.3	1	✓	✓	✓
20a	432	21%	-235	-52%	-5	-2%	191	7%	9.0	1	1	×	×	×	12.9	1	×	×	×	0.3	1	✓	✓	✓	3.5	1	✓	✓	✓
21a	-6	-4%	-4	-42%	6	599%	-6	-4%	0.5	1	1	✓	✓	✓	1.5	1	✓	✓	✓	3.0	1	✓	✓	✓	0.5	1	✓	✓	✓
22a	64	8%	-6	-5%	-5	-9%	53	5%	2.2	1	1	✓	✓	✓	0.6	1	✓	✓	✓	0.7	1	✓	✓	✓	1.7	1	✓	✓	✓
23a	-34	-6%	-9	-15%	-9	-30%	-52	-8%	1.5	1	1	✓	✓	✓	1.2	1	✓	✓	✓	1.8	1	✓	✓	✓	2.1	1	✓	✓	✓
24a	97	18%	-22	-22%	-4	-12%	72	11%	4.0	1	1	✓	✓	✓	2.3	1	✓	✓	✓	0.7	1	✓	✓	✓	2.7	1	✓	✓	✓
25a	54	17%	26	39%	-8	-63%	72	18%	2.9	1	1	✓	✓	✓	2.9	1	✓	✓	✓	2.6	1	✓	✓	✓	3.5	1	✓	✓	✓
Total	718	11%	-223	-22%	-21	-4%	472	6%	8.8	1	1	×	×	×	7.3	1	×	×	×	1.0	1	✓	✓	✓	5.3	1	×	×	×
North-South Screenline - Southbound																													
15b	-109	-10%	-30	-27%	-11	-21%	-150	-12%	3.3	1	1	✓	✓	✓	3.1	1	✓	✓	✓	1.6	1	✓	✓	✓	4.3	1	✓	✓	✓
16b	-147	-25%	8	24%	24	480%	-115	-18%	6.5	1	1	×	×	×	1.3	1	✓	✓	✓	5.8	1	✓	×	✓	4.8	1	×	✓	✓
17b	-19	-6%	-10	-41%	5	97%	-24	-7%	1.0	1	1	✓	✓	✓	2.3	1	✓	✓	✓	1.8	1	✓	✓	✓	1.3	1	✓	✓	✓
18b	3	1%	-2	-8%	-2	-17%	-1	0%	0.2	1	1	✓	✓	✓	0.4	1	✓	✓	✓	0.6	1	✓	✓	✓	0.0	1	✓	✓	✓
19b	32	9%	-9	-31%	5	73%	27	7%	1.7	1	1	✓	✓	✓	1.8	1	✓	✓	✓	1.8	1	✓	✓	✓	1.4	1	✓	✓	✓
20b	628	20%	-339	-69%	30	10%	319	8%	10.8	1	1	×	×	×	18.8	1	×	×	×	1.7	1	✓	✓	✓	5.02	1	✓	×	✓
21b	-60	-15%	10	37%	9	171%	-42	-10%	3.1	1	1	✓	✓	✓	1.8	1	✓	✓	✓	2.8	1	✓	✓	✓	2.1	1	✓	✓	✓
22b	-63	-5%	-34	-21%	1	2%	-95	-7%	1.8	1	1	✓	✓	✓	2.8	1	✓	✓	✓	0.2	1	✓	✓	✓	2.6	1	✓	✓	✓
23b	-74	-13%	-43	-56%	0	-2%	-118	-18%	3.3	1	1	✓	✓	✓	5.8	1	✓	×	✓	0.1	1	✓	✓	✓	4.8	1	×	✓	✓
24b	95	19%	-8	-11%	10	37%	97	16%	4.1	1	1	✓	✓	✓	0.9	1	✓	✓	✓	1.8	1	✓	✓	✓	3.8	1	✓	✓	✓
25b							62	8%																	2.1	1	✓	✓	✓
Total	286	3%	-457	-43%	70	14%	-40	0%	3.1	1	1	✓	✓	✓	15.9	1	×	×	×	3.1	1	×	✓	✓	0.4	1	✓	✓	✓
East-West Screenline - Eastbound																													
27a	50	8%	-30	-22%	-5	-12%	15	2%	1.9	1	1	✓	✓	✓	2.7	1	✓	✓	✓	0.8	1	✓	✓	✓	0.5	1	✓	✓	✓
28a	235	23%	-69	-31%	8	16%	174	14%	7.0	1	1	×	×	×	5.1	1	✓	×	✓	1.1	1	✓	✓	✓	4.7	1	✓	✓	✓
29a	108	5%	38	14%	3	3%	150	5%	2.2	1	1	✓	✓	✓	2.3	1	✓	✓	✓	0.3	1	✓	✓	✓	2.8	1	✓	✓	✓
30a	47	6%	7	9%	-6	-24%	47	6%	1.7	1	1	✓	✓	✓	0.8	1	✓	✓	✓	1.3	1	✓	✓	✓	1.6	1	✓	✓	✓
31a	-129	-24%	2	4%	9	459%	-118	-21%	6.0	1	1	×	×	×	0.3	1	✓	✓	✓	3.6	1	✓	✓	✓	5.2	1	×	×	×
32a	47	25%	8	44%	3		57	28%	3.2	1	1	✓	✓	✓	1.7	1	✓	✓	✓	2.4	1	✓	✓	✓	3.8	1	✓	✓	✓
33a	41	8%	15	17%	6	56%	62	10%	1.8	1	1	✓	✓	✓	1.6	1	✓	✓	✓	1.6	1	✓	✓	✓	2.5	1	✓	✓	✓
34a	133	33%	-8	-10%	-1	-5%	62	11%	6.1	1	1	×	×	×	0.9	1	✓	✓	✓	0.3	1	✓	✓	✓	2.5	1	✓	✓	✓
35a	1	1%	-6	-31%	11	533%	6	4%	0.1	1	1	✓	✓	✓	1.5	1	✓	✓	✓	3.9	1	✓	✓	✓	0.5	1	✓	✓	✓
Total	533	8%	-43	-5%	26	10%	455	6%	6.5	1	1	×	×	×	1.4	1	✓	✓	✓	1.6	1	×	✓	✓	5.1	1	×	×	×
East-West Screenline - Westbound																													
27b	63	5%	-143	-81%	16	47%	-64	-5%	1.8	1	1	✓	✓	✓	14.0	1	×	×	×	2.4	1	✓	✓	✓	1.8	1	✓	✓	✓
28b	125	14%	-120	-58%	-43	-41%	-38	-3%	4.1	1	1	✓	✓	✓	9.9	1	×	×	×	4.7	1	✓	✓	✓	1.1	1	✓	✓	✓
29b	240	16%	-84	-26%	5	7%	162	9%	6.0	1	1	×	×	×	5.0	1	✓	✓	✓	0.6	1	✓	✓	✓	3.7	1	✓	✓	✓
30b	135	32%	-6	-8%	4	28%	133	26%	6.1	1	1	×	×	×	0.7	1	✓	✓	✓	0.9	1	✓	✓	✓	5.5	1	×	×	×
31b	-138	-29%	-19	-33%	12		-145	-27%	6.8	1	1	×	×	×	2.8	1	✓	✓	✓	4.8	1	✓	✓	✓	6.8	1	×	×	×
32b	-79	-30%	13	48%	2	243%	-64	-22%	5.3	1	1	✓	×	✓	2.2	1	✓	✓	✓	1.6	1	✓	✓	✓	4.0	1	✓	✓	✓
33b	149	28%	-6	-7%	25	282%	168	26%	6.0	1	1	×	×	×	0.6	1	✓	✓	✓	5.5	1	✓	×	✓	6.3	1	×	×	×
34b	-96	-10%	33	33%	34	226%	-29	-3%	3.2	1	1	✓	✓	✓	3.1	1	✓	✓	✓	6.0	1	✓	×	✓	0.9	1	✓	✓	✓
35b	-58	-23%	-11	-25%	1	29%	-67	-22%	3.9	1	1	✓	✓	✓	1.7	1	✓	✓	✓	0.5	1	✓	✓	✓	4.1	1	✓	✓	✓
Total	342	5%	-342	-31%	44	17%	55	1%	4.2	1	1	×	×	×	11.3	1	×	×	×	2.6	1	×	✓	✓	0.6	1	✓	✓	✓



West of A500 Screenline - Eastbound

21b	A34 Talke Road	A500	Millennium Way	1317	1167	data.gov.uk	Passing	383530	351079	Monday	22/09/2014	Southbound	1310
22b	B5370 Porthill Bank	St. Edmund's Avenue	A500	1656	1379	Sky High	Turning	385642	349223	Wednesday	29/04/2015	Eastbound	993
23b	A527 Grange Lane	A500	A527 Church Lane	1876	1875	Sky High	Turning	386009	348342	Wednesday	29/04/2015	Southbound	271
24b	A53 Etruria Road	B5369 Basford Park Road	A500	2238	2244	Sky High	Turning	386393	346939	Wednesday	29/04/2015	Eastbound	703
25b	B5045 Shelton New Road	Haydon Street	A500	5056	1795	SoTCC	Turning	386610	346234	Monday	23/05/2016	Eastbound	763
									Total				4,040

West of A500 Screenline - Westbound

21a	A34 Talke Road	Millennium Way	A500	1167	1317	data.gov.uk	Passing	383530	351079	Monday	22/09/2014	Northbound	545
22a	B5370 Porthill Bank	A500	St. Edmund's Avenue	1379	1656	Sky High	Turning	385642	349223	Wednesday	29/04/2015	Westbound	805
23a	A527 Grange Lane	A527 Church Lane	A500	1875	1876	Sky High	Turning	386009	348342	Wednesday	29/04/2015	Northbound	631
24a	A53 Etruria Road	A500	B5369 Basford Park Road	2244	2238	Sky High	Turning	386393	346939	Wednesday	29/04/2015	Westbound	819
25a	B5045 Shelton New Road	A500	Haydon Street	1795	5056	SoTCC	Turning	386610	346234	Monday	23/05/2016	Westbound	581
									Total				3,381

East of A50 Screenline - Eastbound

9a	A50 High Street	Roundwell Street	Furlong Road	1611	1631	SoTCC	Passing	385944	351660	Wednesday	42130	Northbound	369
18a	A527 Reginald Mitchell Way	Chatterley Road	A50 High Street	1634	1569	data.gov.uk	Passing	385227	352000	Monday	42135	Northbound	647
26b	A5271 The Boulevard	A5271 Scotia Road	A5271 Victoria Park Road	1638	1610	SoTCC	Passing	386102	351298	Wednesday	42137	Eastbound	357
28b	B5051 Moorland Road	A50 Wedgwood Street	Hamil Road	1664	1665	Sky High	Turning	386911	349842	Wednesday	42123	Eastbound	528
29	Nile Street	A50 Swan Square	B5050 Zion Street	1672	1712	SoTCC	Passing	386989	349752	Wednesday	41794	Eastbound	89
30	B5050 Zion Street	A50 Waterloo Road	B5050 Nile Street	1764	1712	SoTCC	Turning	387045	349583	Wednesday	42038	Eastbound	292
32a	A53 Elder Road	A50 Waterloo Road	Sneyd Street	1685	1684	Sky High	Turning	387607	348554	Wednesday	42123	Northbound	614
									Total				2,896

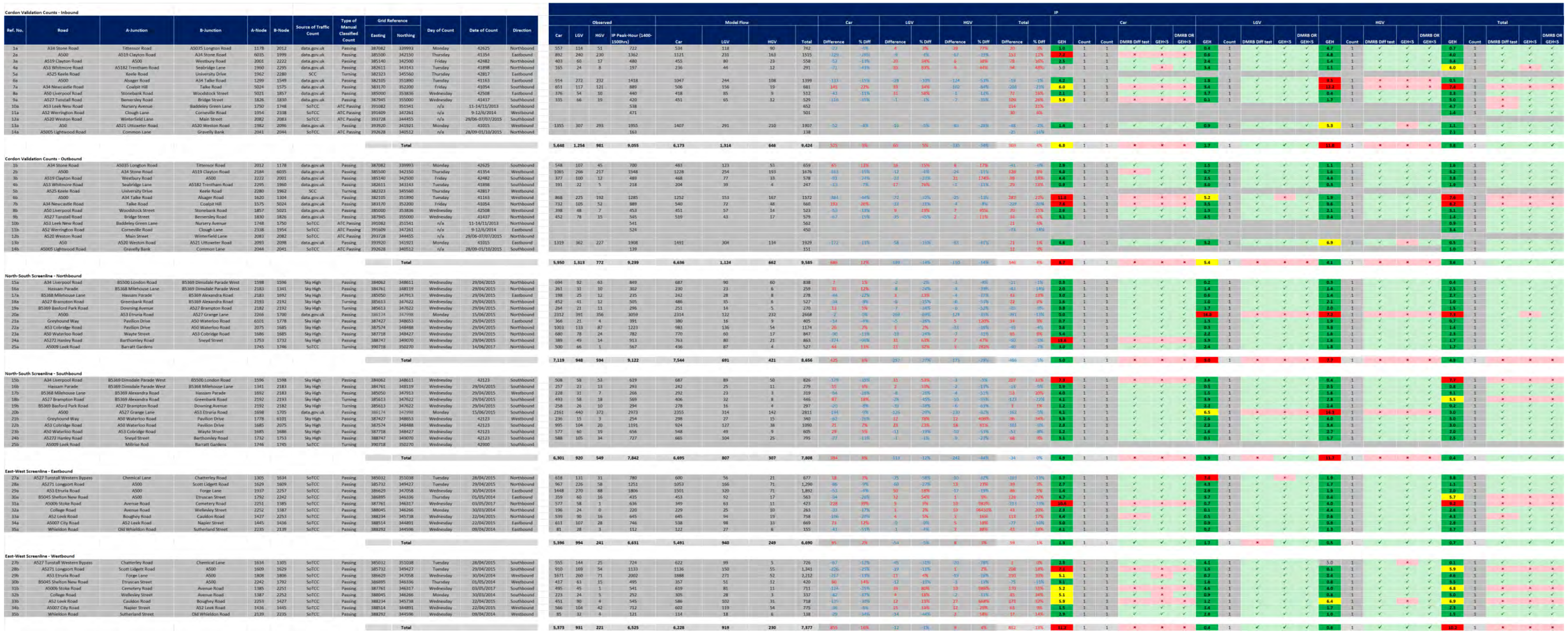
East of A50 Screenline - Westbound

9b	A50 High Street	Furlong Road	Roundwell Street	1631	1611	SoTCC	Passing	385944	351660	Wednesday	42130	Southbound	618
18b	A527 Reginald Mitchell Way	A50 High Street	Chatterley Road	1569	1634	data.gov.uk	Passing	385227	352000	Monday	42135	Northbound	1335
26a	A5271 The Boulevard	A5271 Victoria Park Road	A5271 Scotia Road	1610	1638	SoTCC	Passing	386102	351298	Wednesday	42137	Westbound	641
27	Jenkins Street	Hamil Road	A50 Scotia Road	6002	5025	SoTCC	Passing	386901	349964	Monday	41778	Westbound	247
28a	B5051 Moorland Road	Hamil Road	A50 Wedgwood Street	1665	1664	Sky High	Turning	386911	349842	Wednesday	42123	Westbound	368
31	B5050 Pitt Street East	B5050 Nile Street	A50 Waterloo Road	1769	1765	SoTCC	Turning	387081	349528	Thursday	42040	Westbound	303
32b	A53 Elder Road	Sneyd Street	A50 Waterloo Road	1684	1685	Sky High	Turning	387607	348554	Wednesday	42123	Northbound	937
									Total				4,449

Other Individual Count Locations

39a	A500	A527 Longport Road	A527 Tunstall Western Bypass	1617	1618	TRADS	ATC Passing	385132	349925	n/a	2014/15	Northbound	
39b	A500	A527 Tunstall Western Bypass	A527 Longport Road	1563	1603	TRADS	ATC Passing	385044	350236	n/a	2014/15	Southbound	
40a	A500	A5006 Stoke Road	B5045 Shelton New Road	5086	2240	data.gov.uk	Passing	387091	346000	Thursday	42194	Northbound	2927
40b	A500	B5045 Shelton New Road	A5006 Stoke Road	2256	5085	data.gov.uk	Passing	387091	346000	Thursday	42194	Southbound	2662
41a	A500	A34 Stone Road	A5006 Campbell Road	2186	2233	data.gov.uk	Passing	386992	342977	Wednesday	42137	Eastbound	1915
41b	A500	A5006 Campbell Road	A34 Stone Road	2189	2185	data.gov.uk	Passing	386992	342977	Wednesday	42137	Westbound	2905
42a	A50	A50 Victoria Place Link	Foley Road	2072	2048	data.gov.uk	Passing	390100	343763	Thursday	42257	Eastbound	2100
42b	A50	Foley Road	A50 Victoria Place Link	2047	2071	data.gov.uk	Passing	390100	343763	Thursday	42257	Westbound	3130
43a	A50	A5007 Uttoxeter Road	A520 Weston Road	1986	1984	data.gov.uk	Passing	392497	342594	Wednesday	41528	Eastbound	1856
43b	A50	A520 Weston Road	A5007 Uttoxeter	2090	1985	data.gov.uk	Passing	392497	342594	Wednesday	41528	Westbound	2553
44a	A34 Talke Road	Millennium Way	A500	1167	1317	data.gov.uk	Passing	383530	351079	Monday	41904	Northbound	545
44b	A34 Talke Road	A500	Millennium Way	1317	1167	data.gov.uk	Passing	383530	351079	Monday	41904	Southbound	1310
45a	A34 Newcastle Road	Harpfield Road	Keelings Drive	2227	2176	SoTCC	ATC Passing	386310	343596	n/a	23-26/09/2013	Northbound	
45b	A34 Newcastle Road	Keelings Drive	Harpfield Road	2176	2227	SoTCC	ATC Passing	386310	343596	n/a	23-26/09/2013	Southbound	
46a	A50 Scotia Road	Chatterley Street	Williamson Street	1707	1690	Sky High	Passing	386631	350729	Wednesday	42123	Northbound	392
46b	A50 Scotia Road	Williamson Street	Chatterley Street	1690	1707	Sky High	Passing	386631	350729	Wednesday	42123	Southbound	489
47a	A50 Victoria Road	Beville Street	Manor Street	2130	2129	data.gov.uk	Passing	389199	345106	Friday	42545	Northbound	713
47b	A50 Victoria Road	Manor Street	Beville Street	2129	2130	data.gov.uk	Passing	389199	345106	Friday	42545	Southbound	430
48a	A52 Bucknall Road	A52 Leek Road	A5272 Dividy Road	2117	2118	data.gov.uk	Passing	389751	347331	Wednesday	40989	Eastbound	760
48b	A52 Bucknall Road	A5272 Dividy Road	A52 Leek Road	2118	2117	data.gov.uk	Passing	389751	347331	Wednesday	40989	Westbound	1502
49a	A53 Leek New Road	Norton Lane	Trentfields Road	1723	1724	SoTCC	ATC Passing	390362	350830	n/a	24-27/6/2013	Eastbound	
49b	A53 Leek New Road	Trentfields Road	Norton Lane	1724	1723	SoTCC	ATC Passing	390362	350830	n/a	24-27/6/2013	Westbound	
50a	A519 Clayton Road	Buckmaster Avenue	Friarswood Road	2215	1403	data.gov.uk	Passing	385171	344885	Monday	41386	Northbound	762
50b	A519 Clayton Road	Friarswood Road	Buckmaster Avenue	1403	2215	data.gov.uk	Passing	385171	344885	Monday	41386	Southbound	330
51a	A525 Keele Road	Cemetey Road	Orme Road	2281	1420	SCC	Turning	383142	345539	Thursday	42878	Eastbound	452
51b	A525 Keele Road	Orme Road	Cemetery Road	1420	2281	SCC	Turning	383142	345539	Thursday	42878	Westbound	535
52a	A5271 Brownhills Road	Westport Road	A5271 Williamson Street	1608	1657	Sky High	Passing	385975	350495	Wednesday	42123	Northbound	397
52b	A5271 Brownhills Road	A5271 Williamson Street	Westport Road	1657	1608	Sky High	Passing	385975	350495	Wednesday	42123	Southbound	383
53a	A5272 High Lane	Hamil Road	Haywood Road	1648	1650	Sky High	Passing	387487	351013	Wednesday	42123	Northbound	603
53b	A5272 High Lane	Haywood Road	Hamil Road	1650	1648	Sky High	Passing	387487	351013	Wednesday	42123	Southbound	659
54a	A5272 Dividy Road	Romer Side	Templeton Avenue	2157	2165	SoTCC	ATC Passing	391690	345615	n/a	22-25/04/2013	Eastbound	
54b	A5272 Dividy Road	Templeton Avenue	Romer Side	2165	2157	SoTCC	ATC Passing	391690	345615	n/a	22-25/04/2013	Westbound	
3a	A500	B5045 Shelton New Road	A53 Etruria Road	2240	2289	data.gov.uk	Passing	386726	346280	Wednesday	22/10/2014	Northbound	2565
3b	A500	A53 Etruria Road	B5045 Shelton New Road	2267	2256	data.gov.uk	Passing	386726	346280	Wednesday	22/10/2014	Southbound	2552
4a	A500	A5006 Stoke Road	B5045 Shelton New Road	5086	2240	data.gov.uk	Passing	387091	346000	Thursday	09/07/2015	Northbound	2927
4b	A500	B5045 Shelton New Road	A5006 Stoke Road	2256	5085	data.gov.uk	Passing	387091	346000	Thursday	09/07/2015	Southbound	2662
5a	A34 Talke Road	Bradwell Lane	Parkhouse Road West	1590	1601	data.gov.uk	Passing	383756	350000	Thursday	25/04/2013	Northbound	780
5b	A34 Talke Road	Parkhouse Road West	Bradwell Lane	1601	1590	data.gov.uk	Passing	383756	350000	Thursday	25/04/2013	Southbound	1314
6a	A34 Liverpool Road	B5368 Lower Milehouse Lane	Brymbo Road	2269	1599	data.gov.uk	Passing	384250	347872	Wednesday	22/04/2015	Northbound	930
6b	A34 Liverpool Road	Brymbo Road	B5368 Lower Milehouse Lane	1599	2269	data.gov.uk	Passing	384250	347872	Wednesday	22/04/2015	Southbound	1252
8a	A53 Etruria Road	Festival Way	Forge Lane	2259	2260	data.gov.uk	Passing	386983	347327	Wednesday	08/07/2015	Westbound	1407
8b	A53 Etruria Road	Forge Lane	Festival Way	2319	2258	data.gov.uk	Passing	386983	347327	Wednesday	08/07/2015	Eastbound	1810
10a	A50 Wedgwood Street	Market Place	Federation Road	5025	1660	SoTCC	Passing	386864	350000	Wednesday	21/05/2014	Northbound	380
10b	A50 Wedgwood Street	Federation Road	Market Place	1660	5025	SoTCC	Passing	386864	350000	Wednesday	21/05/2014	Southbound	417
11a	A50 Waterloo Road	B5050 Zion Street	Nile Street	1764	1672	data.gov.uk	Passing	387000	349678	Tuesday	09/09/2014	Northbound	303
11b	A50 Waterloo Road	Nile Street	B5050 Zion Street	1672	1764	data.gov.uk	Passing	387000	349678	Tuesday	09/09/2014	Southbound	302
12a	A50 Waterloo Road	Stonor Street	B5050 Pitt Street West	1681	1765	SoTCC	Turning	387081	349528	Thursday	05/02/2015	Northbound	396
12b	A50 Waterloo Road	B5050 Pitt Street West	Stonor Street	1765	1681	SoTCC	Turning	387081	349528	Thursday	05/02/2015	Southbound	332
13a	A50 Potteries Way	A5008 Bucknall New Road	Huntbach Street	1355	1340	SoTCC	Turning	388583	347609	Thursday	28/01/2016	Northbound	540
13b	A50 Potteries Way	Huntbach Street	A5008 Bucknall New Road	1340	1355	SoTCC	Turning	388583	347609	Thursday	28/01/2016	Southbound	1054
14a	A50 Potteries Way	Botteslow Street	A5008 Bucknall New Road	1354	1355	SoTCC	Turning	388583	347609	Thursday	28/01/2016	Northbound	516
14b	A50 Potteries Way	A5008 Bucknall New Road	Botteslow Street	1355	1354	SoTCC	Turning	388583	347609	Thursday	28/01/2016	Southbound	1198
15a	A50 Potteries Way	Botteslow Street	A50 Lichfield Street	1354	2005	SoTCC	Turning	388446	347226	Wednesday	27/01/2016	Westbound	1435
15b	A50 Potteries Way	A50 Lichfield Street	Botteslow Street	2005	1354	SoTCC	Turning	388446	347226	Wednesday	27/01/2016	Eastbound	465
33a	A50 Lichfield Street	Regent Road	A50 Potteries Way	1358	2007	SoTCC	Turning	388526	347148	Monday	25/01/2016	Northbound	522
33b	A50 Lichfield Street	A50 Potteries Way	Regent Road	2007	1358	SoTCC	Turning	388526	347148	Monday	25/01/2016	Southbound	548
34a	A50 Lichfield Street	Hampton Street	Regent Road	2063	1358	SoTCC	Turning	388526	347148	Monday	25/01/2016	Northbound	561
34b	A50 Lichfield Street	Regent Road	Hampton Street	1358	2063	SoTCC	Turning	388526	347148	Monday	25/01/2016	Southbound	528
35a	A5271 Scotia Road	Woodland Street	A5271 The Boulevard	1653	1638	SoTCC	Passing	386147	351212	Thursday	21/05/2015	Northbound	388
35b	A5271 Scotia Road	A5271 The Boulevard	Woodland Street	1638	1653	SoTCC	Passing	386147	351212	Thursday	21/05/2015	Southbound	819
20a	A5008 Potteries Way	A50 Lichfield Street	Bethesda Street	1768	1369	SoTCC	Turning	388446	347226	Wednesday	27/01/2016	Westbound	1201
20b	A5008 Potteries Way	Bethesda Street	A50 Lichfield Street	1369	1768	SoTCC	Turning	388446	347226	Wednesday	27/01/2016	Eastbound	293

Inter-peak hour



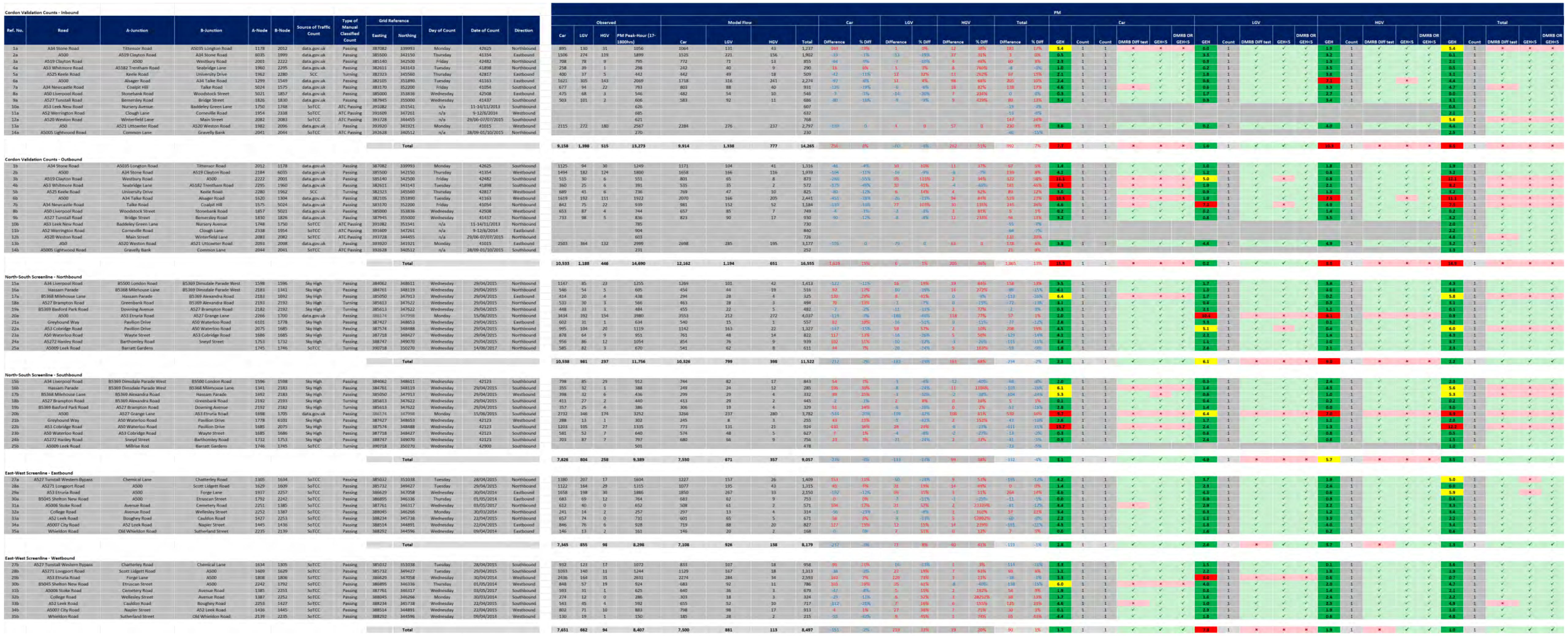
Ref. No.	Road	A-Junction	B-Junction	A-Node	B-Node	Source of Traffic Count	Type of Manual Classified Count	Grid Reference		Day of Count	Date of Count	Direction
								Easting	Northing			
Cordon Validation Counts - Inbound												
1a	A34 Stone Road	Tittensor Road	A5035 Longton Road	1178	2012	data.gov.uk	Passing	387082	339993	Monday	42625	Northbound
2a	A500	A519 Clayton Road	A34 Stone Road	6035	1999	data.gov.uk	Passing	385500	342150	Thursday	41354	Eastbound
3a	A519 Clayton Road	A500	Westbury Road	2001	2222	data.gov.uk	Passing	385140	342500	Friday	42482	Northbound
4a	A53 Whitmore Road	A5182 Trentham Road	Seabridge Lane	1960	2295	data.gov.uk	Passing	382611	343143	Tuesday	41898	Northbound
5a	A525 Keele Road	Keele Road	University Drive	1962	2280	SCC	Turning	382323	345560	Thursday	42817	Eastbound
6a	A500	Alsager Road	A34 Talke Road	1299	1549	data.gov.uk	Passing	382105	351890	Tuesday	41163	Eastbound
7a	A34 Newcastle Road	Coalpit Hill	Talke Road	5024	1575	data.gov.uk	Passing	383170	352200	Friday	41054	Southbound
8a	A50 Liverpool Road	Stonebank Road	Woodstock Street	5021	1857	data.gov.uk	Passing	385000	353836	Wednesday	42508	Eastbound
9a	A527 Tunstall Road	Bemersley Road	Bridge Street	1826	1830	data.gov.uk	Passing	387945	355000	Wednesday	41437	Southbound
10a	A53 Leek New Road	Nursery Avenue	Baddeley Green Lane	1750	1748	SoTCC	ATC Passing	391082	351541	n/a	11-14/11/2013	Southbound
11a	A52 Werrington Road	Clough Lane	Corneville Road	1954	2338	SoTCC	ATC Passing	391609	347261	n/a	9-12/6/2014	Westbound
12a	A520 Weston Road	Winterfield Lane	Main Street	2082	2083	SoTCC	ATC Passing	393728	344455	n/a	29/06-07/07/2015	Southbound
13a	A50	A521 Uttoxeter Road	A520 Weston Road	1982	2096	data.gov.uk	Passing	393920	341921	Monday	41015	Westbound
14a	A5005 Lightwood Road	Common Lane	Gravelly Bank	2041	2044	SoTCC	ATC Passing	392628	340512	n/a	28/09-01/10/2015	Northbound
									Total			
Cordon Validation Counts - Outbound												
1b	A34 Stone Road	A5035 Longton Road	Tittensor Road	2012	1178	data.gov.uk	Passing	387082	339993	Monday	42625	Southbound
2b	A500	A34 Stone Road	A519 Clayton Road	2184	6035	data.gov.uk	Passing	385500	342150	Thursday	41354	Westbound
3b	A519 Clayton Road	Westbury Road	A500	2222	2001	data.gov.uk	Passing	385140	342500	Friday	42482	Southbound
4b	A53 Whitmore Road	Seabridge Lane	A5182 Trentham Road	2295	1960	data.gov.uk	Passing	382611	343143	Tuesday	41898	Southbound
5b	A525 Keele Road	University Drive	Keele Road	2280	1962	SCC	Turning	382323	345560	Thursday	42817	Westbound
6b	A500	A34 Talke Road	Alsager Road	1620	1304	data.gov.uk	Passing	382105	351890	Tuesday	41163	Westbound
7b	A34 Newcastle Road	Talke Road	Coalpit Hill	1575	5024	data.gov.uk	Passing	383170	352200	Friday	41054	Northbound
8b	A50 Liverpool Road	Woodstock Street	Stonebank Road	1857	5021	data.gov.uk	Passing	385000	353836	Wednesday	42508	Westbound
9b	A527 Tunstall Road	Bridge Street	Bemersley Road	1830	1826	data.gov.uk	Passing	387945	355000	Wednesday	41437	Northbound
10b	A53 Leek New Road	Baddeley Green Lane	Nursery Avenue	1748	1750	SoTCC	ATC Passing	391082	351541	n/a	11-14/11/2013	Northbound
11b	A52 Werrington Road	Corneville Road	Clough Lane	2338	1954	SoTCC	ATC Passing	391609	347261	n/a	9-12/6/2014	Eastbound
12b	A520 Weston Road	Main Street	Winterfield Lane	2083	2082	SoTCC	ATC Passing	393728	344455	n/a	29/06-07/07/2015	Northbound
13b	A50	A520 Weston Road	A521 Uttoxeter Road	2093	2098	data.gov.uk	Passing	393920	341921	Monday	41015	Eastbound
14b	A5005 Lightwood Road	Gravelly Bank	Common Lane	2044	2041	SoTCC	ATC Passing	392628	340512	n/a	28/09-01/10/2015	Southbound
									Total			
North-South Screenline - Northbound												
15a	A34 Liverpool Road	B5500 London Road	B5369 Dimsdale Parade West	1598	1596	Sky High	Passing	384062	348611	Wednesday	29/04/2015	Northbound
16a	Hassam Parade	B5368 Milehouse Lane	B5369 Dimsdale Parade West	2183	1341	Sky High	Passing	384761	348119	Wednesday	29/04/2015	Northbound
17a	B5368 Milehouse Lane	Hassam Parade	B5369 Alexandra Road	2183	1692	Sky High	Passing	385050	347913	Wednesday	29/04/2015	Eastbound
18a	A527 Brampton Road	Greenbank Road	B5369 Alexandra Road	2193	2192	Sky High	Turning	385613	347622	Wednesday	29/04/2015	Northbound
19a	B5369 Basford Park Road	Downing Avenue	A527 Brampton Road	2182	2192	Sky High	Turning	385613	347622	Wednesday	29/04/2015	Northbound
20a	A500	A53 Etruria Road	A527 Grange Lane	2266	1700	data.gov.uk	Passing	386174	347998	Monday	15/06/2015	Northbound
21a	Greyhound Way	Pavilion Drive	A50 Waterloo Road	6101	1778	Sky High	Passing	387427	348653	Wednesday	29/04/2015	Eastbound
22a	A53 Cobridge Road	Pavilion Drive	A50 Waterloo Road	2075	1685	Sky High	Passing	387574	348488	Wednesday	29/04/2015	Northbound
23a	A50 Waterloo Road	Wayte Street	A53 Cobridge Road	1686	1685	Sky High	Passing	387718	348427	Wednesday	29/04/2015	Northbound
24a	A5272 Hanley Road	Barthomley Road	Sneyd Street	1753	1732	Sky High	Passing	388747	349070	Wednesday	29/04/2015	Northbound
25a	A5009 Leek Road	Barratt Gardens		1745	1746	SoTCC	Turning	390718	350270	Wednesday	14/06/2017	Northbound
									Total			
North-South Screenline - Southbound												
15b	A34 Liverpool Road	B5369 Dimsdale Parade West	B5500 London Road	1596	1598	Sky High	Passing	384062	348611	Wednesday	42123	Southbound
16b	Hassam Parade	B5369 Dimsdale Parade West	B5368 Milehouse Lane	1341	2183	Sky High	Passing	384761	348119	Wednesday	29/04/2015	Southbound
17b	B5368 Milehouse Lane	B5369 Alexandra Road	Hassam Parade	1692	2183	Sky High	Passing	385050	347913	Wednesday	29/04/2015	Westbound
18b	A527 Brampton Road	B5369 Alexandra Road	Greenbank Road	2192	2193	Sky High	Turning	385613	347622	Wednesday	29/04/2015	Southbound
19b	B5369 Basford Park Road	A527 Brampton Road	Downing Avenue	2192	2182	Sky High	Turning	385613	347622	Wednesday	29/04/2015	Southbound
20b	A500	A527 Grange Lane	A53 Etruria Road	1698	1705	data.gov.uk	Passing	386174	347998	Monday	15/06/2015	Southbound
21b	Greyhound Way	A50 Waterloo Road	Pavilion Drive	1778	6101	Sky High	Passing	387427	348653	Wednesday	42123	Westbound
22b	A53 Cobridge Road	A50 Waterloo Road	Pavilion Drive	1685	2075	Sky High	Passing	387574	348488	Wednesday	42123	Southbound
23b	A50 Waterloo Road	A53 Cobridge Road	Wayte Street	1685	1686	Sky High	Passing	387718	348427	Wednesday	42123	Southbound
24b	A5272 Hanley Road	Sneyd Street	Barthomley Road	1732	1753	Sky High	Passing	388747	349070	Wednesday	42123	Southbound
25b	A5009 Leek Road	Millrise Rod	Barratt Gardens	1746	1745	SoTCC	Turning	390718	350270	Wednesday	42900	Southbound
									Total			
East-West Screenline - Eastbound												
27a	A527 Tunstall Western Bypass	Chemical Lane	Chatterley Road	1305	1634	SoTCC	Passing	385032	351038	Tuesday	28/04/2015	Northbound
28a	A5271 Longport Road	A500	Scott Lidgett Road	1629	1609	SoTCC	Passing	385732	349427	Tuesday	29/04/2015	Northbound
29a	A53 Etruria Road	A500	Forge Lane	1937	2257	SoTCC	Passing	386629	347058	Wednesday	30/04/2014	Eastbound
30a	B5045 Shelton New Road	A500	Etruscan Street	1792	2242	SoTCC	Passing	386895	346336	Thursday	01/05/2014	Eastbound
31a	A5006 Stoke Road	Avenue Road	Cemetery Road	2251	1385	SoTCC	Passing	387761	346317	Wednesday	03/05/2017	Northbound
32a	College Road	Avenue Road	Wellesley Street	2252	1387	SoTCC	Passing	388045	346266	Monday	30/03/2014	Northbound
33a	A52 Leek Road	Boughey Road	Cauldon Road	1427	2253	SoTCC	Passing	388234	345738	Wednesday	22/04/2015	Northbound
34a	A5007 City Road	A52 Leek Road	Napier Street	1445	1436	SoTCC	Passing	388514	344891	Wednesday	22/04/2015	Eastbound
35a	Whieldon Road	Old Whieldon Road	Sutherland Street	2235	2139	SoTCC	Passing	388292	344596	Wednesday	09/04/2014	Eastbound
									Total			
East-West Screenline - Westbound												
27b	A527 Tunstall Western Bypass	Chatterley Road	Chemical Lane	1634	1305	SoTCC	Passing	385032	351038	Tuesday	28/04/2015	Southbound
28b	A5271 Longport Road	Scott Lidgett Road	A500	1609	1629	SoTCC	Passing	385732	349427	Tuesday	29/04/2015	Southbound
29b	A53 Etruria Road	Forge Lane	A500	1808	1806	SoTCC	Passing	386629	347058	Wednesday	30/04/2014	Westbound
30b	B5045 Shelton New Road	Etruscan Street	A500	2242	1792	SoTCC	Passing	386895	346336	Thursday	01/05/2014	Westbound
31b	A5006 Stoke Road	Cemetery Road	Avenue Road	1385	2251	SoTCC	Passing	387761	346317	Wednesday	03/05/2017	Southbound
32b	College Road	Wellesley Street	Avenue Road	1387	2252	SoTCC	Passing	388045	346266	Monday	30/03/2014	Southbound
33b	A52 Leek Road	Cauldon Road	Boughey Road	2253	1427	SoTCC	Passing	388234	345738	Wednesday	22/04/2015	Southbound
34b	A5007 City Road	Napier Street	A52 Leek Road	1436	1445	SoTCC	Passing	388514	344891	Wednesday	22/04/2015	Westbound
35b	Whieldon Road	Sutherland Street	Old Whieldon Road	2139	2235	SoTCC	Passing	388292	344596	Wednesday	09/04/2014	Westbound
									Total			

Ref. No.	Observed				Model Flow				Car		LGV		HGV		Total	
	Car	LGV	HGV	IP Peak-Hour (1400-1500hrs)	Car	LGV	HGV	Total	Difference	% Diff	Difference	% Diff	Difference	% Diff	Difference	% Diff
1a	557	114	51	722	534	118	90	742	-23	-4%	4	3%	39	77%	20	3%
2a	892	240	230	1362	1121	231	163	1515	-229	-26%	-9	-4%	-67	-29%	153	11%
3a	403	60	17	480	455	80	23	558	-52	-13%	20	34%	6	38%	78	16%
4a	165	24	8	197	236	44	12	291	-71	-43%	20	83%	4	44%	94	48%
5a																
6a	914	272	232	1418	1047	244	108	1399	-133	-15%	-28	-10%	-124	-53%	-19	-1%
7a	651	117	121	889	506	156	19	681	145	22%	39	34%	-102	-84%	-208	-23%
8a	376	54	10	440	418	85	9	512	-42	-11%	31	58%	-1	-12%	72	16%
9a	335	66	19	420	451	65	12	529	-116	-35%	-1	-1%	-7	-35%	109	26%
10a				538				652							114	21%
11a				471				501							30	6%
12a																
13a	1355	307	293	1955	1407	291	210	1907	-52	-4%	-16	-5%	-83	-28%	-48	-2%
14a				163				138							-25	-16%
Total	**5,648**	**1,254**	**981**	**9,055**	**6,173**	**1,314**	**646**	**9,424**	525	9%	60	5%	-335	-34%	369	4%
1b	548	107	45	700	483	123	53	659	65	12%	16	15%	8	17%	-41	-6%
2b	1065	266	217	1548	1228	254	193	1676	-163	-15%	-12	-4%	-24	-11%	128	8%
3b	377	100	12	489	468	77	33	578	-91	-24%	-23	-23%	21	174%	89	18%
4b	191	22	5	218	204	39	4	247	-13	-7%	17	76%	-1	-11%	29	13%
5b																
6b	868	225	192	1285	1252	153	167	1572	-384	-44%	-72	-32%	-25	-13%	287	22%
7b	732	105	52	889	540	72	48	660	192	26%	-33	-31%	-4	-8%	-229	-26%
8b	398	48	7	453	451	57	14	523	-53	-13%	9	19%	7	95%	70	15%
9b	452	78	15	545	519	43	17	579	-67	-15%	-35	-45%	2	11%	34	6%
10b				541				562							21	4%
11b				524				450							-74	-14%
12b																
13b	1319	362	227	1908	1491	304	134	1929	-172	-13%	-58	-16%	-93	-41%	21	1%
14b				139				151							12	9%
Total	**5,950**	**1,313**	**772**	**9,239**	**6,636**	**1,124**	**662**	**9,585**	686	12%	-189	-14%	-110	-14%	346	4%
15a	694	92	63	849	687	90	60	838	7	1%	-2	-2%	-3	-4%	-11	-1%
16a	261	31	10	302	230	23	6	259	31	12%	-8	-24%	-4	-39%	-43	-14%
17a	198	25	12	235	242	28	8	278	-44	-22%	3	13%	-4	-37%	43	18%
18a	452	41	12	505	486	35	6	527	-34	-8%	-6	-15%	-6	-53%	22	4%
19a	264	21	11	296	251	14	5	270	13	5%	-7	-34%	-6	-52%	-26	-9%
20a	2312	391	356	3059	2314	122	232	2668	-2	0%	-269	-69%	-124	-35%	-391	-13%
21a	366	21	4	391	380	16	9	405	-14	-4%	-5	-26%	5	120%	14	3%
22a	1003	133	87	1223	983	136	54	1174	20	2%	3	2%	-33	-38%	-49	-4%
23a	680	78	24	782	770	60	17	847	-90	-13%	-18	-24%	-7	-31%	65	8%
24a	389	49	14	913	763	80	21	863	-374	-96%	31	61%	7	47%	-50	-5%
25a	500	66	1	567	436	87	4	527	64	13%	21	32%	3	282%	-40	-7%
Total	**7,119**	**948**	**594**	**9,122**	**7,544**	**691**	**421**	**8,656**	425	6%	-257	-27%	-173	-29%	-466	5%
15b	508	58	53	619	687	89	50	826	-179	-35%	31	53%	-3	-5%	207	33%
16b	257	23	13	293	242	25	11	279	15	6%	2	10%	-2	-13%	-14	-5%
17b	228	31	7	266	292	23	3	319	-64	-28%	-8	-26%	-4	-51%	53	20%
18b	493	58	18	569	406	32	8	446	87	18%	-26	-45%	-10	-55%	-123	-22%
19b	258	26	10	294	278	16	4	297	-20	-8%	-10	-38%	-6	-63%	3	1%
20b	2161	440	372	2973	2355	314	142	2811	-194	-9%	-126	-29%	-230	-62%	-162	-5%
21b	236	15	3	254	298	27	15	340	-62	-26%	12	78%	12	406%	86	34%
22b	995	104	20	1191	924	127	38	1090	71	7%	23	23%	18	91%	-101	-9%
23b	577	60	19	656	548	49	9	605	29	5%	-11	-19%	-10	-53%	-51	-8%
24b	588	105	34	727	665	104	25	795	-77	-13%	-1	-1%	-9	-27%	68	9%
25b																
Total	**6,301**	**920**	**549**	**7,842**	**6,695**	**807**	**307**	**7,808**	394	6%	-113	-12%	-242	-44%	-34	0%
27a	618	131	31	780	600	56	21	677	18	3%	-75	-58%	-10	-32%	-103	-13%
28a	967	226	58	1251	1053	166	71	1,290	-86	-9%	-60	-27%	13	23%	39	3%
29a	1448	270	88	1806	1501	320	71	1,892	-53	-4%	50	18%	-17	-19%	86	5%
30a	359	60	16	435	453	92	17	563	-94	-26%	32	54%	1	9%	128	29%
31a	577	58	1	636	349	63	11	423	228	39%	5	9%	10	982%	-213	-33%
32a	196	24	0	220	229	25	10	263	-33	-17%	1	2%	10	96453%	43	20%
33a	539	90	16	645	645	94	19	758	-106	-20%	4	5%	3	16%	113	17%
34a	611	107	28	746	538	98	33	669	73	12%	-9	-8%	5	18%	-77	-10%
35a	81	28	3	112	122	27	6	155	-41	-51%	-1	-4%	3	88%	43	38%
Total	**5,396**	**994**	**241**	**6,631**	**5,491**	**940**	**249**	**6,690**	95	2%	-54	-5%	8	3%	59	1%
27b	555	144	25	724	622	99	5	726	-67	-12%	-45	-31%	-20	-78%	2	0%
28b	910	169	54	1133	1136	150	55	1,341	-226	-25%	-19	-11%	1	2%	208	18%
29b	1671	260	71	2002	1888	271	52	2,212	-217	-13%	11	4%	-19	-26%	210	10%
30b	417	63	15	495	357	51	12	420	60	14%	-12	-19%	-3	-19%	-75	-15%
31b	495	45	1	541	619	81	11	711	-124	-25%	36	80%	10	986%	170	31%
32b	223	24	5	252	305	28	3	337	-82	-37%	4	18%	-2	-33%	85	34%
33b	451	90	4	545	586	102	31	718	-135	-30%	12	13%	27	668%	173	32%
34b	566	104	42	712	602	119	54	775	-36	-6%	15	14%	12	29%	63	9%
35b	85	32	4	121	114	18	6	138	-29	-34%	-14	-44%	2	58%	17	14%
Total	**5,373**	**931**	**221**	**6,525**	**6,228**	**919**	**230**	**7,377**	855	16%	-12	-1%	9	4%	852	13%

Ref. No.	IP																				
	Car						LGV					HGV					Total				
	GEH	Count	Count	DMRB Diff test	GEH<5	DMRB OR GEH<5	GEH	Count	DMRB Diff test	GEH<5	DMRB OR GEH<5	GEH	Count	DMRB Diff test	GEH<5	DMRB OR GEH<5	GEH	Count	DMRB Diff test	GEH<5	DMRB OR GEH<5
1a	1.0	1	1	✓	✓	✓	0.4	1	✓	✓	✓	4.7	1	✓	✓	✓	0.7	1	✓	✓	✓
2a	7.2	1	1	✗	✗	✗	0.6	1	✓	✓	✓	4.8	1	✓	✓	✓	4.0	1	✓	✓	✓
3a	2.5	1	1	✓	✓	✓	2.4	1	✓	✓	✓	1.4	1	✓	✓	✓	3.4	1	✓	✓	✓
4a	5.0	1	1	✓	✗	✓	3.4	1	✓	✓	✓	1.1	1	✓	✓	✓	6.0	1	✓	✗	✓
5a																					
6a	4.2	1	1	✓	✓	✓	1.8	1	✓	✓	✓	9.5	1	✗	✗	✗	0.5	1	✓	✓	✓
7a	6.0	1	1	✗	✗	✗	3.4	1	✓	✓	✓	12.2	1	✗	✗	✗	7.4	1	✗	✗	✗
8a	2.1	1	1	✓	✓	✓	3.7	1	✓	✓	✓	0.4	1	✓	✓	✓	3.3	1	✓	✓	✓
9a	5.9	1	1	✗	✗	✗	0.1	1	✓	✓	✓	1.7	1	✓	✓	✓	5.0	1	✗	✓	✓
10a																	4.7	1	✗	✓	✓
11a																	1.4	1	✓	✓	✓
12a																					
13a	1.4	1	1	✓	✓	✓	0.9	1	✓	✓	✓	5.3	1	✓	✗	✓	1.1	1	✓	✓	✓
14a																	2.1	1	✓	✓	✓
Total	6.8	1	1	✗	✗	✗	1.7	1	✓	✓	✓	11.8	1	✗	✗	✗	3.8	1	✓	✓	✓
1b	2.9	1	1	✓	✓	✓	1.5	1	✓	✓	✓	1.1	1	✓	✓	✓	1.6	1	✓	✓	✓
2b	4.8	1	1	✗	✓	✓	0.7	1	✓	✓	✓	1.6	1	✓	✓	✓	3.2	1	✓	✓	✓
3b	4.4	1	1	✓	✓	✓	2.5	1	✓	✓	✓	4.4	1	✓	✓	✓	3.8	1	✓	✓	✓
4b	0.9	1	1	✓	✓	✓	3.0	1	✓	✓	✓	0.3	1	✓	✓	✓	1.9	1	✓	✓	✓
5b																					
6b	11.8	1	1	✗	✗	✗	5.2	1	✓	✗	✓	1.9	1	✓	✓	✓	7.6	1	✗	✗	✗
7b	7.6	1	1	✗	✗	✗	3.5	1	✓	✓	✓	0.6	1	✓	✓	✓	8.2	1	✗	✗	✗
8b	2.6	1	1	✓	✓	✓	1.3	1	✓	✓	✓	2.1	1	✓	✓	✓	3.1	1	✓	✓	✓
9b	3.1	1	1	✓	✓	✓	4.5	1	✓	✓	✓	0.4	1	✓	✓	✓	1.4	1	✓	✓	✓
10b																	0.9	1	✓	✓	✓
11b																	3.4	1	✓	✓	✓
12b																					
13b	4.6	1	1	✓	✓	✓	3.2	1	✓	✓	✓	6.9	1	✓	✗	✓	0.5	1	✓	✓	✓
14b																	1.0	1	✓	✓	✓
Total	8.7	1	1	✗	✗	✗	5.4	1	✗	✗	✗	4.1	1	✗	✗	✗	3.6	1	✓	✓	✓
15a	0.3	1	1	✓	✓	✓	0.2	1	✓	✓	✓	0.3	1	✓	✓	✓	0.4	1	✓	✓	✓
16a	2.0	1	1	✓	✓	✓	1.4	1	✓	✓	✓	1.4	1	✓	✓	✓	2.5	1	✓	✓	✓
17a	3.0	1	1	✓	✓	✓	0.6	1	✓	✓	✓	1.4	1	✓	✓	✓	2.7	1	✓	✓	✓
18a	1.6	1	1	✓	✓	✓	1.0	1	✓	✓	✓	2.1	1	✓	✓	✓	1.0	1	✓	✓	✓
19a	0.8	1	1	✓	✓	✓	1.7	1	✓	✓	✓	2.0	1	✓	✓	✓	1.5	1	✓	✓	✓
20a	0.0	1	1	✓	✓	✓	16.8	1	✗	✗	✗	7.2	1	✗	✗	✗	7.3	1	✓	✗	✓
21a	0.7	1	1	✓	✓	✓	1.3	1	✓	✓	✓	1.9	1	✓	✓	✓	0.7	1	✓	✓	✓
22a	0.6	1	1	✓	✓	✓	0.3	1	✓	✓	✓	3.9	1	✓	✓	✓	1.4	1	✓	✓	✓
23a	3.4	1	1	✓	✓	✓	2.2	1	✓	✓	✓	1.6	1	✓	✓	✓	2.3	1	✓	✓	✓
24a	15.6	1	1	✗	✗	✗	3.9	1	✓	✓	✓	1.6	1	✓	✓	✓	1.7	1	✓	✓	✓
25a	3.0	1	1	✓	✓	✓	2.4	1	✓	✓	✓	1.8	1	✓	✓	✓	1.7	1	✓	✓	✓
Total	5.0	1	1	✗	✗	✗	9.0	1	✗	✗	✗	7.7	1	✗	✗	✗	4.9	1	✗	✗	✗
15b	7.3	1	1	✗	✗	✗	3.6	1	✓	✓	✓	0.4	1	✓	✓	✓	7.7	1	✗	✗	✗
16b	0.9	1	1	✓	✓	✓	0.5	1	✓	✓	✓	0.5	1	✓	✓	✓	0.8	1	✓	✓	✓
17b	4.0	1	1	✓	✓	✓	1.5	1	✓	✓	✓	1.6	1	✓	✓	✓	3.1	1	✓	✓	✓
18b	4.1	1	1	✓	✓	✓	3.9	1	✓	✓	✓	2.8	1	✓	✓	✓	5.5	1	✗	✗	✗
19b	1.2	1	1	✓	✓	✓	2.2	1	✓	✓	✓	2.4	1	✓	✓	✓	0.2	1	✓	✓	✓
20b	4.1	1	1	✓	✓	✓	6.5	1	✗	✗	✗	14.3	1	✗	✗	✗	3.0	1	✓	✓	✓
21b	3.8	1	1	✓	✓	✓	2.6	1	✓	✓	✓	4.0	1	✓	✓	✓	5.0	1	✓	✓	✓
22b	2.3	1	1	✓	✓	✓	2.2	1	✓	✓	✓	3.4	1	✓	✓	✓	3.0	1	✓	✓	✓
23b	1.2	1	1	✓	✓	✓	1.6	1	✓	✓	✓	2.7	1	✓	✓	✓	2.0	1	✓	✓	✓
24b	3.1	1	1	✓	✓	✓	0.1	1	✓	✓	✓	1.7	1	✓	✓	✓	2.5	1	✓	✓	✓
25b																					
Total	4.9	1	1	✗	✗	✗	3.9	1	✗	✓	✓	11.7	1	✗	✗	✗	0.4	1	✓	✓	✓
27a	0.7	1	1	✓	✓	✓	7.8	1	✓	✗	✓	1.9	1	✓	✓	✓	3.8	1	✓	✓	✓
28a	2.7	1	1	✓	✓	✓	4.3	1	✓	✓	✓	1.7	1	✓	✓	✓	1.1	1	✓	✓	✓
29a	1.4	1	1	✓	✓	✓	2.9	1	✓	✓	✓	1.9	1	✓	✓	✓	2.0	1	✓	✓	✓
30a	4.7	1	1	✓	✓	✓	3.7	1	✓	✓	✓	0.4	1	✓	✓	✓	5.7	1	✗	✗	✗
31a	10.6	1	1	✗	✗	✗	0.7	1	✓	✓	✓	4.0	1	✓	✓	✓	9.2	1	✗	✗	✗
32a	2.3	1	1	✓	✓	✓	0.1	1	✓	✓	✓	4.4	1	✓	✓	✓	2.8	1	✓	✓	✓
33a	4.4	1	1	✗	✓	✓	0.5	1	✓	✓	✓	0.6	1	✓	✓	✓	4.3	1	✗	✓	✓
34a	3.0	1	1	✓	✓	✓	0.9	1	✓	✓	✓	0.9	1	✓	✓	✓	2.9	1	✓	✓	✓
35a	4.1	1	1	✓	✓	✓	0.2	1	✓	✓	✓	1.3	1	✓	✓	✓	3.7	1	✓	✓	✓
Total	1.3	1	1	✓	✓	✓	1.7	1	✗	✓	✓	0.5	1	✓	✓	✓	0.7	1	✓	✓	✓
27b	2.8	1	1	✓	✓	✓	4.1	1	✓	✓	✓	5.0	1	✓	✗	✓	0.1	1	✓	✓	✓
28b	7.1	1	1	✗	✗	✗	1.5	1	✓	✓	✓	0.1	1	✓	✓	✓	5.9	1	✗	✗	✗
29b	5.1	1	1	✓	✗	✓	0.7	1	✓	✓	✓	2.4	1	✓	✓	✓	4.6	1	✓	✓	✓
30b	3.1	1	1	✓	✓	✓	1.6	1	✓	✓	✓	0.8	1	✓	✓	✓	3.5	1	✓	✓	✓
31b	5.2	1	1	✗	✗	✗	4.6	1	✓	✓	✓	4.0	1	✓	✓	✓	6.8	1	✗	✗	✗
32b	5.1	1	1	✓	✗	✓	0.9	1	✓	✓	✓	0.8	1	✓	✓	✓	5.0	1	✓	✓	✓
33b	5.9	1	1	✗	✗	✗	1.2	1	✓	✓	✓	6.4	1	✓	✗	✓	6.9	1	✗	✗	✗
34b	1.5	1	1	✓	✓	✓	1.4	1	✓	✓	✓	1.7	1	✓	✓	✓	2.3	1	✓	✓	✓
35b	2.9	1	1	✓	✓	✓	2.8	1	✓	✓	✓	1.0	1	✓	✓	✓	1.5	1	✓	✓	✓
Total	11.2	1	1	✗	✗	✗	0.4	1	✓	✓	✓	0.6	1	✓	✓	✓	10.2	1	✗	✗	✗

West of A500 Screenline - Eastbound																																																	
21b	A34 Talke Road	A500	Millennium Way	1317	1167	data.gov.uk	Passing	383530	351079	Monday	22/09/2014	Southbound	544	137	60	741	838	113	53	1,004	-294	-54%	-24	-17%	-7	-11%	263	36%	11.2	1	1	×	×	×	2.1	1	✓	✓	✓	0.9	1	✓	✓	✓	8.9	1	×	×	×
22b	B5370 Porthill Bank	St. Edmund's Avenue	A500	1656	1379	Sky High	Turning	385642	349223	Wednesday	29/04/2015	Eastbound	620	77	33	730	681	94	42	817	-61	-10%	17	22%	9	29%	87	12%	2.4	1	1	✓	✓	✓	1.8	1	✓	✓	✓	1.5	1	✓	✓	✓	5.1	1	✓	✓	✓
23b	A527 Grange Lane	A500	A527 Church Lane	1876	1875	Sky High	Turning	386009	348342	Wednesday	29/04/2015	Southbound	410	21	9	440	481	32	6	518	-71	-17%	11	51%	-3	-34%	78	18%	3.4	1	1	✓	✓	✓	2.1	1	✓	✓	✓	1.1	1	✓	✓	✓	3.6	1	✓	✓	✓
24b	A53 Etruria Road	B5369 Basford Park Road	A500	2238	2244	Sky High	Turning	386393	346939	Wednesday	29/04/2015	Eastbound	578	66	23	667	481	78	29	588	97	17%	12	19%	6	25%	-79	-12%	4.2	1	1	✓	✓	✓	1.5	1	✓	✓	✓	1.1	1	✓	✓	✓	3.1	1	✓	✓	✓
25b	B5045 Shelton New Road	Haydon Street	A500	5056	1795	SoTCC	Turning	386610	346234	Monday	23/05/2016	Eastbound	372	57	14	443	431	72	26	529	-59	-16%	15	26%	12	86%	86	19%	2.9	1	1	✓	✓	✓	1.9	1	✓	✓	✓	2.7	1	✓	✓	✓	3.9	1	✓	✓	✓
									Total				2,524	358	139	3,021	2,912	389	156	3,457	388	15%	31	9%	17	13%	436	14%	7.4	1	1	×	×	×	1.6	1	×	✓	✓	1.4	1	×	✓	✓	7.7	1	×	×	×
West of A500 Screenline - Westbound																																																	
21a	A34 Talke Road	Millennium Way	A500	1167	1317	data.gov.uk	Passing	383530	351079	Monday	22/09/2014	Northbound	530	106	86	722	769	103	50	922	-239	-45%	-3	-3%	-36	-42%	200	28%	9.4	1	1	×	×	×	0.3	1	✓	✓	✓	4.4	1	✓	✓	✓	7.0	1	×	×	×
22a	B5370 Porthill Bank	A500	St. Edmund's Avenue	1379	1656	Sky High	Turning	385642	349223	Wednesday	29/04/2015	Westbound	719	80	27	826	705	108	21	835	14	2%	28	35%	-6	-22%	9	1%	0.5	1	1	✓	✓	✓	2.9	1	✓	✓	✓	1.2	1	✓	✓	✓	0.3	1	✓	✓	✓
23a	A527 Grange Lane	A527 Church Lane	A500	1875	1876	Sky High	Turning	386009	348342	Wednesday	29/04/2015	Northbound	378	33	11	422	463	31	9	503	-85	-23%	-2	-6%	-2	-18%	81	19%	4.2	1	1	✓	✓	✓	0.3	1	✓	✓	✓	0.6	1	✓	✓	✓	3.8	1	✓	✓	✓
24a	A53 Etruria Road	A500	B5369 Basford Park Road	2244	2238	Sky High	Turning	386393	346939	Wednesday	29/04/2015	Westbound	826	78	27	931	944	118	22	1,084	-118	-14%	40	51%	-5	-17%	153	16%	4.0	1	1	✓	✓	✓	4.1	1	✓	✓	✓	0.9	1	✓	✓	✓	4.8	1	×	✓	✓
25a	B5045 Shelton New Road	A500	Haydon Street	1795	5056	SoTCC	Turning	386610	346234	Monday	23/05/2016	Westbound	420	60	15	495	405	58	27	490	15	4%	-2	-4%	12	81%	-5	-1%	0.8	1	1	✓	✓	✓	0.3	1	✓	✓	✓	2.6	1	✓	✓	✓	0.2	1	✓	✓	✓
									Total				2,873	357	166	3,396	3,286	418	129	3,834	413	14%	61	17%	-37	-22%	438	13%	7.4	1	1	×	×	×	3.1	1	×	✓	✓	3.0	1	×	✓	✓	7.3	1	×	×	×
East of A50 Screenline - Eastbound																																																	
9a	A50 High Street	Roundwell Street	Furlong Road	1611	1631	SoTCC	Passing	385944	351660	Wednesday	42130	Northbound	697	78	11	786	541	54	12	607	156	22%	-24	-31%	1	11%	-179	-23%	6.3	1	1	×	×	×	3.0	1	✓	✓	✓	0.3	1	✓	✓	✓	6.8	1	×	×	×
18a	A527 Reginald Mitchell Way	Chatterley Road	A50 High Street	1634	1569	data.gov.uk	Passing	385227	352000	Monday	42135	Northbound	759	139	35	933	687	67	22	777	72	9%	-72	-51%	-13	-38%	-156	-17%	2.7	1	1	✓	✓	✓	7.0	1	✓	×	✓	2.3	1	✓	✓	✓	5.3	1	×	×	×
26b	A5271 The Boulevard	A5271 Scotia Road	A5271 Victoria Park Road	1638	1610	SoTCC	Passing	386102	351298	Wednesday	42137	Eastbound	465	33	2	500	472	62	19	552	-7	-1%	29	87%	17	833%	52	10%	0.3	1	1	✓	✓	✓	4.2	1	✓	✓	✓	5.2	1	✓	×	✓	2.3	1	✓	✓	✓
28b	B5051 Moorland Road	A50 Wedgwood Street	Hamil Road	1664	1665	Sky High	Turning	386911	349842	Wednesday	42123	Eastbound	632	69	23	724	597	65	26	688	35	6%	-4	-6%	3	14%	-36	-5%	1.4	1	1	✓	✓	✓	0.5	1	✓	✓	✓	0.6	1	✓	✓	✓	1.4	1	✓	✓	✓
29	Nile Street	A50 Swan Square	B5050 Zion Street	1672	1712	SoTCC	Passing	386989	349752	Wednesday	41794	Eastbound	101	21	3	125	76	18	4	98	25	25%	-3	-15%	1	29%	-27	-22%	2.6	1	1	✓	✓	✓	0.7	1	✓	✓	✓	0.5	1	✓	✓	✓	2.6	1	✓	✓	✓
30	B5050 Zion Street	A50 Waterloo Road	B5050 Nile Street	1764	1712	SoTCC	Turning	387045	349583	Wednesday	42038	Eastbound	265	47	16	328	322	41	12	375	-57	-21%	-6	-12%	-4	-24%	47	14%	3.3	1	1	✓	✓	✓	0.9	1	✓	✓	✓	1.0	1	✓	✓	✓	2.5	1	✓	✓	✓
32a	A53 Elder Road	A50 Waterloo Road	Sneyd Street	1685	1684	Sky High	Turning	387607	348554	Wednesday	42123	Northbound	803	105	83	991	946	123	49	1,117	-143	-18%	18	17%	-34	-41%	126	13%	4.8	1	1	×	✓	✓	1.6	1	✓	✓	✓	4.2	1	✓	✓	✓	3.9	1	✓	✓	✓
									Total				3,722	492	173	4,387	3,641	429	144	4,214	-81	-2%	-63	-13%	-29	-17%	-173	-4%	1.3	1	1	✓	✓	✓	2.9	1	×	✓	✓	2.3	1	×	✓	✓	2.6	1	✓	✓	✓
East of A50 Screenline - Westbound																																																	
9b	A50 High Street	Furlong Road	Roundwell Street	1631	1611	SoTCC	Passing	385944	351660	Wednesday	42130	Southbound	527	68	8	603	376	77	14	467	151	29%	9	13%	6	77%	-136	-23%	7.1	1	1	×	×	×	1.1	1	✓	✓	✓	1.8	1	✓	✓	✓	5.9	1	×	×	×
18b	A527 Reginald Mitchell Way	A50 High Street	Chatterley Road	1569	1634	data.gov.uk	Passing	385227	352000	Monday	42135	Northbound	582	137	26	745	732	124	10	865	-150	-26%	-13	-10%	-16	-62%	120	16%	5.8	1	1	×	×	×	1.2	1	✓	✓	✓	3.8	1	✓	✓	✓	4.2	1	×	✓	✓
26a	A5271 The Boulevard	A5271 Victoria Park Road	A5271 Scotia Road	1610	1638	SoTCC	Passing	386102	351298	Wednesday	42137	Westbound	400	39	4	443	469	65	25	559	-69	-17%	26	68%	21	529%	116	26%	3.3	1	1	✓	✓	✓	3.7	1	✓	✓	✓	5.5	1	✓	×	✓	5.2	1	×	×	×
27	Jenkins Street	Hamil Road	A50 Scotia Road	6002	5025	SoTCC	Passing	386901	349964	Monday	41778	Westbound	186	16	2	204	212	27	7	246	-26	-14%	11	68%	5	243%	42	21%	1.9	1	1	✓	✓	✓	2.3	1	✓	✓	✓	2.3	1	✓	✓	✓	2.8	1	✓	✓	✓
28a	B5051 Moorland Road	Hamil Road	A50 Wedgwood Street	1665	1664	Sky High	Turning	386911	349842	Wednesday	42123	Westbound	391	50	14	455	250	47	24	321	141	36%	-3	-6%	10	68%	-134	-30%	7.9	1	1	×	×	×	0.5	1	✓	✓	✓	2.2	1	✓	✓	✓	6.8	1	×	×	×
31	B5050 Pitt Street East	B5050 Nile Street	A50 Waterloo Road	1769	1765	SoTCC	Turning	387081	349528	Thursday	42040	Westbound	277	65	10	352	324	54	14	391	-47	-17%	-11	-17%	4	36%	39	11%	2.7	1	1	✓	✓	✓	1.4	1	✓	✓	✓	1.0	1	✓	✓	✓	2.0	1	✓	✓	✓
32b	A53 Elder Road	Sneyd Street	A50 Waterloo Road	1684	1685	Sky High	Turning	387607	348554	Wednesday	42123	Northbound	669	127	58	854	680	106	37	823	-11	-2%	-21	-16%	-21	-37%	-31	-4%	0.4	1	1	✓	✓	✓	1.9	1	✓	✓	✓	3.1	1	✓	✓	✓	1.1	1	✓	✓	✓
									Total				3,032	502	122	3,656	3,042	500	130	3,672	10	0%	-2	0%	8	6%	16	0%	0.2	1	1	✓	✓	✓	0.1	1	✓	✓	✓	0.7	1	×	✓	✓	0.3	1	✓	✓	✓
Other Individual Count Locations																																																	
39a	A500	A527 Longport Road	A527 Tunstall Western Bypass	1617	1618	TRADS	ATC Passing	385132	349925	n/a	2014/15	Northbound																																					
39b	A500	A527 Tunstall Western Bypass	A527 Longport Road	1563	1603	TRADS	ATC Passing	385044	350236	n/a	2014/15	Southbound																																					
40a	A500	A5006 Stoke Road	B5045 Shelton New Road	5086	2240	data.gov.uk	Passing	387091	346000	Thursday	42194	Northbound	2301	519	407	3227	2167	372	261	2800	134	6%	-147	-28%	-146	-36%	-300	-10%	2.8	1	1	✓	✓	✓	7.0	1	×	×	×	8.0	1	×	×	×	5.5	1	✓	×	✓
40b	A500	B5045 Shelton New Road	A5006 Stoke Road	2256	5085	data.gov.uk	Passing	387091	346000	Thursday	42194	Southbound	2161	500	439	3100	2072	442	158	2672	89	4%	-58	-12%	-281	-64%	-555	-17%	1.9	1	1	✓	✓	✓	2.7	1	✓	✓	✓	16.5	1	×	×	×	10.2	1	×	×	×
41a	A500	A34 Stone Road	A5006 Campbell Road	2186	2233	data.gov.uk	Passing	386992	342977	Wednesday	42137	Eastbound	1674	312	242	2228	1760	330	157	2247	-86	-5%	18	6%	-85	-35%	19	1%	2.1	1	1	✓	✓	✓	1.0	1	✓	✓	✓	6.0	1	✓	×	✓	0.4	1	✓	✓	✓
41b	A500	A5006 Campbell Road	A34 Stone Road	2189	2185	data.gov.uk	Passing	386992	342977	Wednesday	42137	Westbound	1554	351	246	2151	1866	358	152	2375	-312	-20%	7	2%	-94	-38%	224	10%		1	1	×	×	×	0.8	1	✓	✓	✓	6.7	1	✓	×	✓	4.7	1	✓	✓	✓
42a	A50	A50 Victoria Place Link	Foley Road	2072	2048	data.gov.uk	Passing	390100	343763	Thursday	42257	Eastbound	2379	457	435	3271	2479	282	216	2978	-100	-4%	-175	-38%	-219	-50%	-293	-9%	2.0	1	1	✓	✓	✓	9.1	1	×	×	×	12.1	1	×	×	×	5.2	1	✓	×	✓
42b	A50	Foley Road	A50 Victoria Place Link	2047	2071	data.gov.uk	Passing	390100	343763	Thursday	42257	Westbound	2053	390	395	2838	2026	218	294	2538	27	1%	-172	-44%	-101	-26%	-300	-11%	0.6	1	1	✓	✓	✓	9.9	1	×	×	×	5.4	1	×	×	×	5.8	1	✓	×	✓
43a	A50	A5007 Uttoxeter Road	A520 Weston Road	1986	1984	data.gov.uk	Passing	392497	342594	Wednesday	41528	Eastbound	1650	382	320	2352	1798	299	141	2238	-148	-9%	-83	-22%	-179	-56%	-114	-5%	3.6	1	1	✓	✓	✓	4.5	1	✓	✓	✓	11.8	1	×	×	×	2.4	1	✓	✓	✓
43b	A50	A520 Weston Road	A5007 Uttoxeter	2090	1985	data.gov.uk	Passing	392497	342594	Wednesday	41528	Westbound	1582	377	326	2285	1472	267	227	1966	110	7%	-110	-29%	-99	-30%	-319	-14%	2.8	1	1	✓	✓	✓	6.1	1	×	×	×	6.0	1	✓	×	✓	6.9	1	✓	×	✓
44a	A34 Talke Road	Millennium Way	A500	1167	1317	data.gov.uk	Passing	383530	351079	Monday	41904	Northbound	530	106	86	722	769	103	50	922	-239	-45%	-3	-3%	-36	-42%	200	28%	9.4	1	1	×	×	×	0.3	1	✓	✓	✓	4.4	1	✓	✓	✓	7.0	1	×	×	×
44b	A34 Talke Road	A500	Millennium Way	1317	1167	data.gov.uk	Passing	383530	351079	Monday	41904	Southbound	544	137	60	741	838	113	53	1004	-294	-54%	-24	-17%	-7	-11%	263	36%	11.2	1	1	×	×	×	2.1	1	✓	✓	✓	0.9	1	✓	✓	✓	8.9	1	×	×	×
45a	A34 Newcastle Road	Harpfield Road	Keelings Drive	2227	2176	SoTCC	ATC Passing	386310	343596	n/a	23-26/09/2013	Northbound																																					
45b	A34 Newcastle Road	Keelings Drive	Harpfield Road	2176	2227	SoTCC	ATC Passing	386310	343596	n/a	23-26/09/2013	Southbound																																					
46a	A50 Scotia Road	Chatterley Street	Williamson Street	1707	1690	Sky High	Passing	386631	350729	Wednesday	42123	Northbound	530	58	20	608	636	69	22	727	-106	-20%	11	19%	2	10%	119	20%	4.4	1	1	×	✓	✓	1.4	1	✓	✓	✓	0.4	1	✓	✓	✓	4.6	1	×	✓	✓
46b	A50 Scotia Road	Williamson Street	Chatterley Street	1690	1707	Sky High	Passing	386631	350729	Wednesday	42123	Southbound	508	59	26	593	491	100	21	612	17	3%	41	70%	-5	-20%	19	3%	0.8	1	1	✓	✓	✓	4.6	1	✓	✓	✓	1.1	1	✓	✓	✓	0.8	1	✓	✓	✓
47a	A50 Victoria Road	Beville Street	Manor Street	2130	2129	data.gov.uk	Passing	389199	345106	Friday	42545	Northbound	581	147	42	770	569	115	48	732	12	2%	-32	-22%	6	14%	-38	-5%	0.5	1	1	✓	✓	✓	2.8	1	✓	✓	✓	0.8	1	✓	✓	✓	1.4	1	✓	✓	✓
47b	A50 Victoria Road	Manor Street	Beville Street	2129	2130	data.gov.uk	Passing	389199	345106	Friday	42545	Southbound	676	142	24	842	773	155	44	973	-97	-14%	13	9%	20	85%	131	16%	3.6	1	1	✓	✓	✓	1.1	1	✓	✓	✓	3.5	1	✓	✓	✓	4.3	1	×	✓	✓
48a	A52 Bucknall Road	A52 Leek Road	A5272 Dividy Road	2117	2118	data.gov.uk	Passing	389751	347331	Wednesday	40989	Eastbound	1125	189	18	1332	1032	120	32	1183	93	8%	-69	-37%	14	77%	-149	-11%	2.8	1	1	✓	✓	✓	5.6	1	✓	×	✓	2.8	1	✓	✓	✓	4.2	1	✓	✓	✓
48b	A52 Bucknall Road	A5272 Dividy Road	A52 Leek Road	2118	2117	data.gov.uk	Passing	389751	347331	Wednesday	40989	Westbound	828	157	22	1007	975	146	51	1171	-147	-18%	-11	-7%	29	131%	164	16%	4.9	1	1	×	✓	✓	0.9	1	✓	✓	✓	4.8	1	✓	✓	✓	5.0	1	×	✓	✓
49a	A53 Leek New Road	Norton Lane	Trentfields Road	1723	1724	SoTCC	ATC Passing	390362	350830	n/a	24-27/6/2013	Eastbound																																					
49b	A53 Leek New Road	Trentfields Road	Norton Lane	1724	1723	SoTCC	ATC Passing	390362	350830	n/a	24-27/6/2013	Westbound																																					
50a	A519 Clayton Road	Buckmaster Avenue	Friarswood Road	2215	1403	data.gov.uk	Passing	385171	344885	Monday	41386	Northbound	404	37	9	450	528	71	12	611	-124	-31%	34	91%	3	35%	161	36%	5.7	1	1	×	×	×	4.6	1	✓	✓	✓	1.0	1	✓	✓	✓	7.0	1	×	×	×
50b	A519 Clayton Road	Friarswood Road	Buckmaster Avenue	1403	2215	data.gov.uk	Passing	385171	344885	Monday	41386	Southbound	413	37	17	467	569	65	5	639	-156	-38%	28	75%	-12	-70%	172	37%	7.1	1	1	×	×	×	3.9	1	✓	✓	✓	3.6	1	✓	✓	✓	7.3	1	×	×	×
51a	A525 Keele Road	Cemetey Road	Orme Road	2281	1420	SCC	Turning	383142	345539	Thursday	42878	Eastbound																																					
51b	A525 Keele Road	Orme Road	Cemetery Road	1420	2281	SCC	Turning	383142	345539	Thursday	42878	Westbound																																					
52a	A5271 Brownhills Road	Westport Road	A5271 Williamson Street	1608	1657	Sky High	Passing	385975	350495	Wednesday	42123	Northbound	434	69	37	540	336	39	18	393	98	23%	-30	-43%	-19	-52%	-147	-27%	5.0	1	1	✓	×	✓	4.1	1	✓	✓	✓	3.7	1	✓	✓	✓	6.8	1	×	×	×
52b	A5271 Brownhills Road	A5271 Williamson Street	Westport Road	1657	1608	Sky High	Passing	385975	350495	Wednesday	42123	Southbound	394	44	18	456	410	48	8	466	-16	-4%	4	8%	-10	-56%	10	2%	0.8	1	1	✓	✓	✓	0.5	1	✓	✓	✓	2.8	1	✓	✓	✓	0.5	1	✓	✓	✓
53a	A5272 High Lane	Hamil Road	Haywood Road	1648	1650	Sky High	Passing	387487	351013	Wednesday	42123	Northbound	600	79	20	699	563	43	34	640	37	6%	-36	-45%	14	71%	-59	-8%	1.6	1	1	✓	✓	✓	4.5	1	✓	✓	✓	2.7	1	✓	✓	✓	2.3	1	✓	✓	✓
53b	A5272 High Lane	Haywood Road	Hamil Road	1650	1648	Sky High	Passing	387487	351013	Wednesday	42123	Southbound	502	74	24	600	454	84	25	563	48	10%	10	13%	1	3%	-37	-6%	2.2	1	1	✓	✓	✓	1.1	1	✓	✓	✓	0.1	1	✓	✓	✓	1.6	1	✓	✓	✓
54a	A5272 Dividy Road	Romer Side	Templeton Avenue	2157	2165	SoTCC	ATC Passing	391690	345615	n/a	22-25/04/2013	Eastbound																																					
54b	A5272 Dividy Road	Templeton Avenue	Romer Side	2165	2157	SoTCC	ATC Passing	391690	345615	n/a	22-25/04/2013	Westbound																																					
3a	A500	B5045 Shelton New Road	A53 Etruria Road	2240	2289	data.gov.uk	Passing	386726	346280	Wednesday	22/10/2014	Northbound	1983	579	281	2843	1901	280	236	2417	82	4%	-299	-52%	-45	-16%	-426	-15%	1.9	1	1	✓	✓	✓	14.4	1	×	×	×	2.8	1	✓	✓	✓	8.3	1	×	×	×
3b	A500	A53 Etruria Road	B5045 Shelton New Road	2267	2256	data.gov.uk	Passing	386726	346280	Wednesday	22/10/2014	Southbound	2159	516	331	3006	1862	381	134	2377	297	14%	-135	-26%	-197	-60%	-629	-21%	6.6	1	1	✓	×	✓	6.4	1	×	×	×	12.0	1	×	×	×	12.1	1	×	×	×
4a	A500	A5006 Stoke Road	B5045 Shelton New Road	5086	2240	data.gov.uk	Passing	387091	346000	Thursday	09/07/2015	Northbound	2301	519	407	3227	2167	372	261	2800	134	6%	-147	-28%	-146	-36%	-427	-13%	2.8	1	1	✓	✓	✓	7.0	1	×	×	×	8.0	1	×	×	×	7.8	1	×	×	×
4b	A500	B5045 Shelton New Road	A5006 Stoke Road	2256	5085	data.gov.uk	Passing	387091	346000	Thursday	09/07/2015	Southbound	2161	500	439	3100	2072	442	158	2672	89	4%	-58	-12%	-281	-64%	-428	-14%	1.9	1	1	✓	✓	✓	2.7	1	✓	✓	✓	16.3	1	×	×	×	8.0	1	×	×	×
5a	A34 Talke Road	Bradwell Lane	Parkhouse Road West	1590	1601	data.gov.uk	Passing	383756	350000	Thursday	25/04/2013	Northbound	748	152	33	933	833	124	61	1019	-85	-11%	-28	-18%	28	84%	86	9%	3.0	1	1	✓	✓	✓	2.3	1	✓	✓	✓	4.1	1	✓	✓	✓	2.7	1	✓	✓	✓
5b	A34 Talke Road	Parkhouse Road West	Bradwell Lane	1601	1590	data.gov.uk	Passing	383756	350000	Thursday	25/04/2013	Southbound	752	108	38	898	865	110	66	1040	-113	-15%	2	2%	28	73%	142	16%	4.0	1	1	✓	✓	✓	0.2	1	✓	✓	✓	3.8	1	✓	✓	✓	4.6	1	×	✓	✓
6a	A34 Liverpool Road	B5368 Lower Milehouse Lane	Brymbo Road	2269	1599	data.gov.uk	Passing	384250	347872	Wednesday	22/04/2015	Northbound	877	156	60	1093	757	101	49	907	120	14%	-55	-35%	-11	-18%	-186	-17%	4.2	1	1	✓	✓	✓	4.9	1	✓	✓	✓	1.5	1	✓	✓	✓	5.9	1	×	×	×
6b	A34 Liverpool Road	Brymbo Road	B5368 Lower Milehouse Lane	1599	2269	data.gov.uk	Passing	384250	347872	Wednesday	22/04/2015	Southbound	757	126	55	938	709	89	39	836	48	6%	-37	-30%	-16	-29%	-102	-11%	1.8	1	1	✓	✓	✓	3.6	1	✓	✓	✓	2.4	1	✓	✓	✓	3.4	1	✓	✓	✓
8a	A53 Etruria Road	Festival Way	Forge Lane	2259	2260	data.gov.uk	Passing	386983	347327	Wednesday	08/07/2015	Westbound	1668	205	86	1959	1704	202	42	1948	-36	-2%	-3	-2%	-44	-51%	-11	-1%	0.9	1	1	✓	✓	✓	0.2	1	✓	✓	✓	5.6	1	✓	×	✓	0.3	1	✓	✓	✓
8b	A53 Etruria Road	Forge Lane	Festival Way	2319	2258	data.gov.uk	Passing	386983	347327	Wednesday	08/07/2015	Eastbound	1469	183	89	1741	1479	230	72	1780	-10	-1%	47	25%	-17	-19%	39	2%	0.2	1	1	✓	✓	✓	3.2	1	✓	✓	✓	1.9	1	✓	✓	✓	0.9	1	✓	✓	✓
10a	A50 Wedgwood Street	Market Place	Federation Road	5025	1660	SoTCC	Passing	386864	350000	Wednesday	21/05/2014	Northbound	508	56	9	573	554	56	20	630	-46	-9%	0	0%	11	120%	57	10%	2.0	1	1	✓	✓	✓	0.0	1	✓	✓	✓	2.8	1	✓	✓	✓	2.3	1	✓	✓	✓
10b	A50 Wedgwood Street	Federation Road	Market Place	1660	5025	SoTCC	Passing	386864	350000	Wednesday	21/05/2014	Southbound	438	63	22	523	503	78	22	602	-65	-15%	15	23%	0	-1%	79	15%	3.0	1	1	✓	✓	✓	1.7	1	✓	✓	✓	0.1	1	✓	✓	✓	3.3	1	✓	✓	✓
11a	A50 Waterloo Road	B5050 Zion Street	Nile Street	1764	1672	data.gov.uk	Passing	387000	349678	Tuesday	09/09/2014	Northbound	518	51	12	581	436	37	14	487	82	16%	-14	-27%	2	17%	-94	-16%	3.8	1	1	✓	✓	✓	2.1	1	✓	✓	✓	0.6	1	✓	✓	✓	4.1	1	✓	✓	✓
11b	A50 Waterloo Road	Nile Street	B5050 Zion Street	1672	1764	data.gov.uk	Passing	387000	349678	Tuesday	09/09/2014	Southbound	378	46	6	430	340	28	12	380	38	10%	-18	-39%	6	96%	-50	-12%	2.0	1	1	✓	✓	✓	3.0	1	✓	✓	✓	1.9	1	✓	✓	✓	2.3	1	✓	✓	✓
12a	A50 Waterloo Road	Stonor Street	B5050 Pitt Street West	1681	1765	SoTCC	Turning	387081	349528	Thursday	05/02/2015	Northbound	566	73	7	646	600	58	21	680	-34	-6%	-15	-20%	14	205%	34	5%	1.4	1	1	✓	✓	✓	1.8	1	✓	✓	✓	3.8	1	✓	✓	✓	1.3	1	✓	✓	✓
12b	A50 Waterloo Road	B5050 Pitt Street West	Stonor Street	1765	1681	SoTCC	Turning	387081	349528	Thursday	05/02/2015	Southbound	452	65	6	523	452	44	14	509	0	0%	-21	-33%	8	131%	-14	-3%	0.0	1	1	✓	✓	✓	2.9	1	✓	✓	✓	2.5	1	✓	✓	✓	0.6	1	✓	✓	✓
13a	A50 Potteries Way	A5008 Bucknall New Road	Huntbach Street	1355	1340	SoTCC	Turning	388583	347609	Thursday	28/01/2016	Northbound	733	105	11	849	808	94	25	927	-75	-10%	-11	-10%	14	125%	78	9%	2.7	1	1	✓	✓	✓	1.1	1	✓	✓	✓	3.3	1	✓	✓	✓	2.6	1	✓	✓	✓
13b	A50 Potteries Way	Huntbach Street	A5008 Bucknall New Road	1340	1355	SoTCC	Turning	388583	347609	Thursday	28/01/2016	Southbound	808	116	14	938	996	119	31	1145	-188	-23%	3	2%	17	119%	207	22%	6.3	1	1	×	×	×	0.3	1	✓	✓	✓	3.5	1	✓	✓	✓	6.4	1	×	×	×
14a	A50 Potteries Way	Botteslow Street	A5008 Bucknall New Road	1354	1355	SoTCC	Turning	388583	347609	Thursday	28/01/2016	Northbound	682	110	5	797	715	83	27	825	-33	-5%	-27	-24%	22	434%	28	4%	1.2	1	1	✓	✓	✓	2.7	1	✓	✓	✓	5.5	1	✓	×	✓	1.0	1	✓	✓	✓
14b	A50 Potteries Way	A5008 Bucknall New Road	Botteslow Street	1355	1354	SoTCC	Turning	388583	347609	Thursday	28/01/2016	Southbound	835	113	14	962	689	91	25	806	146	17%	-22	-19%	11	79%	-156	-16%	5.3	1	1	×	×	×	2.1	1	✓	✓	✓	2.5	1	✓	✓	✓	5.2	1	×	×	×
15a	A50 Potteries Way	Botteslow Street	A50 Lichfield Street	1354	2005	SoTCC	Turning	388446	347226	Wednesday	27/01/2016	Westbound	773	128	16	917	833	115	32	980	-60	-8%	-13	-10%	16	100%	63	7%	2.1	1	1	✓	✓	✓	1.2	1	✓	✓	✓	3.3	1	✓	✓	✓	2.1	1	✓	✓	✓
15b	A50 Potteries Way	A50 Lichfield Street	Botteslow Street	2005	1354	SoTCC	Turning	388446	347226	Wednesday	27/01/2016	Eastbound	660	90	14	764	619	65	12	696	41	6%	-25	-28%	-2	-17%	-68	-9%	1.6	1	1	✓	✓	✓	2.9	1	✓	✓	✓	0.7	1	✓	✓	✓	2.5	1	✓	✓	✓
33a	A50 Lichfield Street	Regent Road	A50 Potteries Way	1358	2007	SoTCC	Turning	388526	347148	Monday	25/01/2016	Northbound	502	89	17	608	505	65	11	581	-3	-1%	-24	-27%	-6	-38%	-27	-4%	0.1	1	1	✓	✓	✓	2.8	1	✓	✓	✓	1.7	1	✓	✓	✓	1.1	1	✓	✓	✓
33b	A50 Lichfield Street	A50 Potteries Way	Regent Road	2007	1358	SoTCC	Turning	388526	347148	Monday	25/01/2016	Southbound	511	67	12	590	662	86	21	769	-151	-30%	19	29%	9	74%	179	30%	6.2	1	1	×	×	×	2.2	1	✓	✓	✓	2.2	1	✓	✓	✓	6.9	1	×	×	×
34a	A50 Lichfield Street	Hampton Street	Regent Road	2063	1358	SoTCC	Turning	388526	347148	Monday	25/01/2016	Northbound	457	86	16	559	560	74	22	656	-103	-23%	-12	-14%	6	38%	97	17%	4.6	1	1	×	✓	✓	1.4	1	✓	✓	✓	1.4	1	✓	✓	✓	3.9	1	✓	✓	✓
34b	A50 Lichfield Street	Regent Road	Hampton Street	1358	2063	SoTCC	Turning	388526	347148	Monday	25/01/2016	Southbound	479	71	11	561	531	71	18	620	-52	-11%	0	0%	7	66%	59	11%	2.3	1	1	✓	✓	✓	0.0	1	✓	✓	✓	1.9	1	✓	✓	✓	2.4	1	✓	✓	✓
35a	A5271 Scotia Road	Woodland Street	A5271 The Boulevard	1653	1638	SoTCC	Passing	386147	351212	Thursday	21/05/2015	Northbound	730	60	9	799	615	61	28	704	115	16%	1	2%	19	213%	-95	-12%	4.5	1	1	×	✓	✓	0.2	1	✓	✓	✓	4.4	1	✓	✓	✓	3.5	1	✓	✓	✓
35b	A5271 Scotia Road	A5271 The Boulevard	Woodland Street	1638	1653	SoTCC	Passing	386147	351212	Thursday	21/05/2015	Southbound	724	95	9	828	681	123	26	829	43	6%	28	29%	17	187%	1	0%	1.6	1	1	✓	✓	✓	2.6	1	✓	✓	✓	4.0	1	✓	✓	✓	0.1	1	✓	✓	✓
20a	A5008 Potteries Way	A50 Lichfield Street	Bethesda Street	1768	1369	SoTCC	Turning	388446	347226	Wednesday	27/01/2016	Westbound	719	102	15	836	396	56	17	468	323	45%	-46	-45%	2	11%	-368	-44%	13.7	1	1	×	×	×	5.2	1	✓	×	✓	0.4	1	✓	✓	✓	14.4	1	×	×	×
20b	A5008 Potteries Way	Bethesda Street	A50 Lichfield Street	1369	1768	SoTCC	Turning	388446	347226	Wednesday	27/01/2016	Eastbound	366	63	11	440	322	27	9	357	44	12%	-36	-58%	-2	-19%	-83	-19%	2.4	1	1	✓	✓	✓	5.4	1	✓	×	✓	0.7	1	✓	✓	✓	4.1	1	✓	✓	✓
																													Pass			3	3	3	Pass		3	8	8	Pass		2	6	2	Pass		6	6	6
																													Screenline			10	10	10	Screenline		10	10	10	Screenline		10	10	10	Screenline		10	10	10
																													Pass %			30%	30%	30%	Pass %		30%	80%	80%	Pass %		20%	60%	20%	Pass %		60%	60%	60%

PM peak hour



Ref. No.	Road	A-Junction	B-Junction	A-Node	B-Node	Source of Traffic Count	Type of Manual Classified Count	Grid Reference		Day of Count	Date of Count	Direction
								Easting	Northing			
Cordon Validation Counts - Inbound												
1a	A34 Stone Road	Tittensor Road	A5035 Longton Road	1178	2012	data.gov.uk	Passing	387082	339993	Monday	42625	Northbound
2a	A500	A519 Clayton Road	A34 Stone Road	6035	1999	data.gov.uk	Passing	385500	342150	Thursday	41354	Eastbound
3a	A519 Clayton Road	A500	Westbury Road	2001	2222	data.gov.uk	Passing	385140	342500	Friday	42482	Northbound
4a	A53 Whitmore Road	A5182 Trentham Road	Seabridge Lane	1960	2295	data.gov.uk	Passing	382611	343143	Tuesday	41898	Northbound
5a	A525 Keele Road	Keele Road	University Drive	1962	2280	SCC	Turning	382323	345560	Thursday	42817	Eastbound
6a	A500	Alsager Road	A34 Talke Road	1299	1549	data.gov.uk	Passing	382105	351890	Tuesday	41163	Eastbound
7a	A34 Newcastle Road	Coalpit Hill	Talke Road	5024	1575	data.gov.uk	Passing	383170	352200	Friday	41054	Southbound
8a	A50 Liverpool Road	Stonebank Road	Woodstock Street	5021	1857	data.gov.uk	Passing	385000	353836	Wednesday	42508	Eastbound
9a	A527 Tunstall Road	Bemersley Road	Bridge Street	1826	1830	data.gov.uk	Passing	387945	355000	Wednesday	41437	Southbound
10a	A53 Leek New Road	Nursery Avenue	Baddeley Green Lane	1750	1748	SoTCC	ATC Passing	391082	351541	n/a	11-14/11/2013	Southbound
11a	A52 Werrington Road	Clough Lane	Corneville Road	1954	2338	SoTCC	ATC Passing	391609	347261	n/a	9-12/6/2014	Westbound
12a	A520 Weston Road	Winterfield Lane	Main Street	2082	2083	SoTCC	ATC Passing	393728	344455	n/a	29/06-07/07/2015	Southbound
13a	A50	A521 Uttoxeter Road	A520 Weston Road	1982	2096	data.gov.uk	Passing	393920	341921	Monday	41015	Westbound
14a	A5005 Lightwood Road	Common Lane	Gravelly Bank	2041	2044	SoTCC	ATC Passing	392628	340512	n/a	28/09-01/10/2015	Northbound
									Total			
Cordon Validation Counts - Outbound												
1b	A34 Stone Road	A5035 Longton Road	Tittensor Road	2012	1178	data.gov.uk	Passing	387082	339993	Monday	42625	Southbound
2b	A500	A34 Stone Road	A519 Clayton Road	2184	6035	data.gov.uk	Passing	385500	342150	Thursday	41354	Westbound
3b	A519 Clayton Road	Westbury Road	A500	2222	2001	data.gov.uk	Passing	385140	342500	Friday	42482	Southbound
4b	A53 Whitmore Road	Seabridge Lane	A5182 Trentham Road	2295	1960	data.gov.uk	Passing	382611	343143	Tuesday	41898	Southbound
5b	A525 Keele Road	University Drive	Keele Road	2280	1962	SCC	Turning	382323	345560	Thursday	42817	Westbound
6b	A500	A34 Talke Road	Alsager Road	1620	1304	data.gov.uk	Passing	382105	351890	Tuesday	41163	Westbound
7b	A34 Newcastle Road	Talke Road	Coalpit Hill	1575	5024	data.gov.uk	Passing	383170	352200	Friday	41054	Northbound
8b	A50 Liverpool Road	Woodstock Street	Stonebank Road	1857	5021	data.gov.uk	Passing	385000	353836	Wednesday	42508	Westbound
9b	A527 Tunstall Road	Bridge Street	Bemersley Road	1830	1826	data.gov.uk	Passing	387945	355000	Wednesday	41437	Northbound
10b	A53 Leek New Road	Baddeley Green Lane	Nursery Avenue	1748	1750	SoTCC	ATC Passing	391082	351541	n/a	11-14/11/2013	Northbound
11b	A52 Werrington Road	Corneville Road	Clough Lane	2338	1954	SoTCC	ATC Passing	391609	347261	n/a	9-12/6/2014	Eastbound
12b	A520 Weston Road	Main Street	Winterfield Lane	2083	2082	SoTCC	ATC Passing	393728	344455	n/a	29/06-07/07/2015	Northbound
13b	A50	A520 Weston Road	A521 Uttoxeter Road	2093	2098	data.gov.uk	Passing	393920	341921	Monday	41015	Eastbound
14b	A5005 Lightwood Road	Gravelly Bank	Common Lane	2044	2041	SoTCC	ATC Passing	392628	340512	n/a	28/09-01/10/2015	Southbound
									Total			
North-South Screenline - Northbound												
15a	A34 Liverpool Road	B5500 London Road	B5369 Dimsdale Parade West	1598	1596	Sky High	Passing	384062	348611	Wednesday	29/04/2015	Northbound
16a	Hassam Parade	B5368 Milehouse Lane	B5369 Dimsdale Parade West	2183	1341	Sky High	Passing	384761	348119	Wednesday	29/04/2015	Northbound
17a	B5368 Milehouse Lane	Hassam Parade	B5369 Alexandra Road	2183	1692	Sky High	Passing	385050	347913	Wednesday	29/04/2015	Eastbound
18a	A527 Brampton Road	Greenbank Road	B5369 Alexandra Road	2193	2192	Sky High	Turning	385613	347622	Wednesday	29/04/2015	Northbound
19a	B5369 Basford Park Road	Downing Avenue	A527 Brampton Road	2182	2192	Sky High	Turning	385613	347622	Wednesday	29/04/2015	Northbound
20a	A500	A53 Etruria Road	A527 Grange Lane	2266	1700	data.gov.uk	Passing	386174	347998	Monday	15/06/2015	Northbound
21a	Greyhound Way	Pavilion Drive	A50 Waterloo Road	6101	1778	Sky High	Passing	387427	348653	Wednesday	29/04/2015	Eastbound
22a	A53 Cobridge Road	Pavilion Drive	A50 Waterloo Road	2075	1685	Sky High	Passing	387574	348488	Wednesday	29/04/2015	Northbound
23a	A50 Waterloo Road	Wayte Street	A53 Cobridge Road	1686	1685	Sky High	Passing	387718	348427	Wednesday	29/04/2015	Northbound
24a	A5272 Hanley Road	Barthomley Road	Sneyd Street	1753	1732	Sky High	Passing	388747	349070	Wednesday	29/04/2015	Northbound
25a	A5009 Leek Road	Barratt Gardens		1745	1746	SoTCC	Turning	390718	350270	Wednesday	14/06/2017	Northbound
									Total			
North-South Screenline - Southbound												
15b	A34 Liverpool Road	B5369 Dimsdale Parade West	B5500 London Road	1596	1598	Sky High	Passing	384062	348611	Wednesday	42123	Southbound
16b	Hassam Parade	B5369 Dimsdale Parade West	B5368 Milehouse Lane	1341	2183	Sky High	Passing	384761	348119	Wednesday	29/04/2015	Southbound
17b	B5368 Milehouse Lane	B5369 Alexandra Road	Hassam Parade	1692	2183	Sky High	Passing	385050	347913	Wednesday	29/04/2015	Westbound
18b	A527 Brampton Road	B5369 Alexandra Road	Greenbank Road	2192	2193	Sky High	Turning	385613	347622	Wednesday	29/04/2015	Southbound
19b	B5369 Basford Park Road	A527 Brampton Road	Downing Avenue	2192	2182	Sky High	Turning	385613	347622	Wednesday	29/04/2015	Southbound
20b	A500	A527 Grange Lane	A53 Etruria Road	1698	1705	data.gov.uk	Passing	386174	347998	Monday	15/06/2015	Southbound
21b	Greyhound Way	A50 Waterloo Road	Pavilion Drive	1778	6101	Sky High	Passing	387427	348653	Wednesday	42123	Westbound
22b	A53 Cobridge Road	A50 Waterloo Road	Pavilion Drive	1685	2075	Sky High	Passing	387574	348488	Wednesday	42123	Southbound
23b	A50 Waterloo Road	A53 Cobridge Road	Wayte Street	1685	1686	Sky High	Passing	387718	348427	Wednesday	42123	Southbound
24b	A5272 Hanley Road	Sneyd Street	Barthomley Road	1732	1753	Sky High	Passing	388747	349070	Wednesday	42123	Southbound
25b	A5009 Leek Road	Millrise Rod	Barratt Gardens	1746	1745	SoTCC	Turning	390718	350270	Wednesday	42900	Southbound
									Total			
East-West Screenline - Eastbound												
27a	A527 Tunstall Western Bypass	Chemical Lane	Chatterley Road	1305	1634	SoTCC	Passing	385032	351038	Tuesday	28/04/2015	Northbound
28a	A5271 Longport Road	A500	Scott Lidgett Road	1629	1609	SoTCC	Passing	385732	349427	Tuesday	29/04/2015	Northbound
29a	A53 Etruria Road	A500	Forge Lane	1937	2257	SoTCC	Passing	386629	347058	Wednesday	30/04/2014	Eastbound
30a	B5045 Shelton New Road	A500	Etruscan Street	1792	2242	SoTCC	Passing	386895	346336	Thursday	01/05/2014	Eastbound
31a	A5006 Stoke Road	Avenue Road	Cemetery Road	2251	1385	SoTCC	Passing	387761	346317	Wednesday	03/05/2017	Northbound
32a	College Road	Avenue Road	Wellesley Street	2252	1387	SoTCC	Passing	388045	346266	Monday	30/03/2014	Northbound
33a	A52 Leek Road	Boughey Road	Cauldon Road	1427	2253	SoTCC	Passing	388234	345738	Wednesday	22/04/2015	Northbound
34a	A5007 City Road	A52 Leek Road	Napier Street	1445	1436	SoTCC	Passing	388514	344891	Wednesday	22/04/2015	Eastbound
35a	Whieldon Road	Old Whieldon Road	Sutherland Street	2235	2139	SoTCC	Passing	388292	344596	Wednesday	09/04/2014	Eastbound
									Total			
East-West Screenline - Westbound												
27b	A527 Tunstall Western Bypass	Chatterley Road	Chemical Lane	1634	1305	SoTCC	Passing	385032	351038	Tuesday	28/04/2015	Southbound
28b	A5271 Longport Road	Scott Lidgett Road	A500	1609	1629	SoTCC	Passing	385732	349427	Tuesday	29/04/2015	Southbound
29b	A53 Etruria Road	Forge Lane	A500	1808	1806	SoTCC	Passing	386629	347058	Wednesday	30/04/2014	Westbound
30b	B5045 Shelton New Road	Etruscan Street	A500	2242	1792	SoTCC	Passing	386895	346336	Thursday	01/05/2014	Westbound
31b	A5006 Stoke Road	Cemetery Road	Avenue Road	1385	2251	SoTCC	Passing	387761	346317	Wednesday	03/05/2017	Southbound
32b	College Road	Wellesley Street	Avenue Road	1387	2252	SoTCC	Passing	388045	346266	Monday	30/03/2014	Southbound
33b	A52 Leek Road	Cauldon Road	Boughey Road	2253	1427	SoTCC	Passing	388234	345738	Wednesday	22/04/2015	Southbound
34b	A5007 City Road	Napier Street	A52 Leek Road	1436	1445	SoTCC	Passing	388514	344891	Wednesday	22/04/2015	Westbound
35b	Whieldon Road	Sutherland Street	Old Whieldon Road	2139	2235	SoTCC	Passing	388292	344596	Wednesday	09/04/2014	Westbound
									Total			

Ref. No.	Observed				Model Flow				Car		LGV		HGV		Total	
	Car	LGV	HGV	PM Peak-Hour (17-1800hrs)	Car	LGV	HGV	Total	Difference	% Diff	Difference	% Diff	Difference	% Diff	Difference	% Diff
1a	895	130	31	1056	1064	131	43	1,237	169	19%	1	0%	12	38%	181	17%
2a	1506	274	119	1899	1525	221	156	1,902	-19	-1%	-53	-19%	37	31%	3	0%
3a	708	78	9	795	772	71	13	855	-64	9%	-7	-10%	4	46%	60	8%
4a	258	39	1	298	242	40	9	290	16	6%	1	3%	8	760%	-8	-3%
5a	400	37	5	442	442	49	18	509	-42	-11%	12	32%	13	262%	67	15%
6a	1621	305	143	2069	1718	316	241	2,274	-97	-6%	11	4%	98	68%	205	10%
7a	677	94	22	793	803	88	40	931	-126	-19%	-6	-6%	18	82%	138	17%
8a	475	68	3	546	482	54	10	546	-7	-1%	-14	-20%	7	234%	0	0%
9a	503	101	2	606	583	92	11	686	-80	-16%	-9	-9%	9	429%	80	13%
10a				626				607							-19	-3%
11a				685				632							-53	-8%
12a				621				768							147	24%
13a	2115	272	180	2567	2284	276	237	2,797	-169	0	4	0	57	0	230	9%
14a				270				230							-40	-15%
Total	**9,158**	**1,398**	**515**	**13,273**	**9,914**	**1,338**	**777**	**14,265**	756	8%	-60	-4%	262	51%	992	7%
1b	1125	94	30	1249	1171	104	41	1,316	-46	-4%	10	10%	11	37%	67	5%
2b	1494	182	124	1800	1658	166	116	1,939	-164	-11%	-16	-9%	-8	-7%	139	8%
3b	515	30	6	551	801	65	8	873	-286	-55%	35	115%	2	34%	322	58%
4b	360	25	6	391	535	35	2	572	-175	-49%	10	41%	-4	-69%	181	46%
5b	689	41	6	736	769	47	10	825	-80	-12%	6	14%	4	62%	89	12%
6b	1619	192	111	1922	2070	166	205	2,441	-451	-28%	-26	-13%	94	84%	519	27%
7b	842	75	22	939	981	152	52	1,184	-139	-16%	77	103%	30	135%	245	26%
8b	653	87	4	744	657	85	7	749	-4	-1%	-2	-3%	3	81%	5	1%
9b	733	98	5	836	823	90	17	930	-90	-12%	-8	-8%	12	233%	94	11%
10b				785				730							-55	-7%
11b				904				840							-64	-7%
12b				603				726							123	20%
13b	2503	364	132	2999	2698	285	195	3,177	-105	0	-79	0	63	0	178	6%
14b				231				252							21	9%
Total	**10,533**	**1,188**	**446**	**14,690**	**12,162**	**1,194**	**651**	**16,555**	1,629	15%	6	1%	205	46%	1,865	13%
15a	1147	85	23	1255	1269	101	42	1,413	-122	-11%	16	19%	19	84%	158	13%
16a	546	54	5	605	454	44	19	516	92	17%	-10	-19%	14	272%	-89	-15%
17a	414	20	4	438	294	28	4	325	120	29%	8	41%	0	-9%	-113	-26%
18a	533	30	3	566	463	28	3	494	70	13%	-2	-7%	0	-15%	-72	-13%
19a	448	33	3	484	455	22	5	482	-7	-2%	-11	-11%	2	77%	-2	0%
20a	3434	392	154	3980	3553	212	272	4,037	-119	-3%	-180	-46%	118	77%	57	1%
21a	602	31	1	634	540	15	1	557	62	10%	-16	-51%	0	-11%	-77	-12%
22a	995	104	20	1119	1142	163	22	1,327	-147	-15%	59	57%	2	10%	208	19%
23a	878	64	9	951	761	48	14	822	117	13%	-16	-26%	5	50%	-129	-14%
24a	956	86	12	1054	854	76	9	939	102	11%	-10	-12%	-3	-26%	-115	-11%
25a	585	82	3	670	541	62	8	611	44	7%	-20	-24%	5	163%	-59	-9%
Total	**10,538**	**981**	**237**	**11,756**	**10,326**	**799**	**398**	**11,522**	-212	-2%	-182	-19%	161	68%	-234	-2%
15b	798	85	29	912	744	82	17	843	54	7%	-3	-4%	-12	-40%	-68	-8%
16b	355	32	1	388	249	24	12	285	106	30%	-8	-24%	11	1104%	-103	-26%
17b	398	32	6	436	299	29	4	332	99	25%	-3	-10%	-2	-38%	-104	-24%
18b	411	27	2	440	413	29	2	445	-2	-1%	2	8%	0	16%	5	1%
19b	357	25	4	386	306	19	4	329	51	14%	-6	-26%	0	2%	-57	-15%
20b	2732	346	174	3252	3266	237	280	3,782	-534	-20%	-109	-32%	106	61%	530	16%
21b	288	13	1	302	245	8	3	255	43	15%	-5	-42%	2	152%	-47	-16%
22b	1203	105	27	1335	773	131	21	924	430	36%	26	24%	-6	-23%	-411	-31%
23b	581	52	7	640	574	48	5	627	7	1%	-4	-8%	-2	-27%	-13	-2%
24b	703	87	7	797	680	66	9	756	23	3%	-21	-24%	2	33%	-41	-5%
25b				501				478							-23	-5%
Total	**7,826**	**804**	**258**	**9,389**	**7,550**	**671**	**357**	**9,057**	-276	-4%	-133	-17%	99	38%	-332	-4%
27a	1380	207	17	1604	1227	157	26	1,409	153	11%	-50	-24%	9	52%	-195	-12%
28a	1122	164	29	1315	1077	195	43	1,315	45	4%	31	19%	14	49%	0	0%
29a	1658	198	30	1886	1850	267	33	2,150	-192	-12%	69	35%	3	11%	264	14%
30a	683	69	12	764	683	62	9	753	0	0%	-7	-11%	-3	-25%	-11	-1%
31a	612	40	0	652	508	61	2	571	104	17%	21	52%	2	2332%	-81	-12%
32a	241	14	2	257	297	13	4	314	-56	-23%	-1	-8%	2	102%	57	22%
33a	657	74	0	731	601	65	5	671	56	8%	-9	-13%	5	52892%	-60	-8%
34a	846	76	6	928	719	88	20	827	127	15%	12	15%	14	239%	-101	-11%
35a	146	13	2	161	146	20	2	168	-0	0%	7	51%	0	12%	7	5%
Total	**7,345**	**855**	**98**	**8,298**	**7,108**	**926**	**138**	**8,179**	-237	-3%	71	8%	40	41%	-119	-1%
27b	932	123	17	1072	833	107	18	958	99	11%	-16	-13%	1	3%	-114	-11%
28b	1093	140	11	1244	1129	167	18	1,313	-36	-3%	27	19%	7	63%	69	6%
29b	2436	164	31	2631	2274	284	34	2,593	162	7%	120	73%	3	11%	-38	-1%
30b	848	57	19	924	683	92	11	786	165	19%	35	61%	-8	-40%	-138	-15%
31b	593	31	1	625	640	36	3	679	-47	-8%	5	15%	2	192%	54	9%
32b	274	12	0	286	303	18	3	324	-29	-11%	6	52%	3	28252%	38	13%
33b	543	45	4	592	655	52	10	717	-112	-21%	7	16%	6	155%	125	21%
34b	802	71	10	883	798	98	17	913	4	1%	27	38%	7	71%	30	3%
35b	130	19	1	150	185	28	2	215	-55	-42%	9	45%	1	74%	65	43%
Total	**7,651**	**662**	**94**	**8,407**	**7,500**	**881**	**113**	**8,497**	-151	-2%	219	33%	19	20%	90	1%

Ref. No.	PM Car						LGV					HGV					Total				
	GEH	Count	Count	DMRB Diff test	GEH<5	DMRB OR GEH<5	GEH	Count	DMRB Diff test	GEH<5	DMRB OR GEH<5	GEH	Count	DMRB Diff test	GEH<5	DMRB OR GEH<5	GEH	Count	DMRB Diff test	GEH<5	DMRB OR GEH<5
1a	5.4	1	1	×	×	×	0.0	1	✓	✓	✓	1.9	1	✓	✓	✓	5.4	1	×	×	×
2a	0.5	1	1	✓	✓	✓	3.3	1	✓	✓	✓	3.2	1	✓	✓	✓	0.1	1	✓	✓	✓
3a	2.3	1	1	✓	✓	✓	0.9	1	✓	✓	✓	1.3	1	✓	✓	✓	2.1	1	✓	✓	✓
4a	1.0	1	1	✓	✓	✓	0.2	1	✓	✓	✓	3.5	1	✓	✓	✓	0.5	1	✓	✓	✓
5a	2.1	1	1	✓	✓	✓	1.8	1	✓	✓	✓	3.8	1	✓	✓	✓	3.1	1	✓	✓	✓
6a	2.4	1	1	✓	✓	✓	0.6	1	✓	✓	✓	7.1	1	✓	×	✓	4.4	1	✓	✓	✓
7a	4.6	1	1	×	✓	✓	0.6	1	✓	✓	✓	3.3	1	✓	✓	✓	4.7	1	×	✓	✓
8a	0.3	1	1	✓	✓	✓	1.7	1	✓	✓	✓	2.7	1	✓	✓	✓	0.0	1	✓	✓	✓
9a	3.4	1	1	✓	✓	✓	0.9	1	✓	✓	✓	3.4	1	✓	✓	✓	3.1	1	✓	✓	✓
10a																	0.8	1	✓	✓	✓
11a																	2.1	1	✓	✓	✓
12a																	5.6	1	×	×	×
13a	3.6	1	1	✓	✓	✓	0.2	1	✓	✓	✓	4.0	1	✓	✓	✓	4.4	1	✓	✓	✓
14a																	2.9	1	✓	✓	✓
Total	7.7	1	1	×	×	×	1.6	1	✓	✓	✓	10.3	1	×	×	×	8.5	1	×	×	×
1b	1.4	1	1	✓	✓	✓	1.0	1	✓	✓	✓	1.8	1	✓	✓	✓	1.9	1	✓	✓	✓
2b	4.1	1	1	✓	✓	✓	1.2	1	✓	✓	✓	0.8	1	✓	✓	✓	3.3	1	✓	✓	✓
3b	11.1	1	1	×	×	×	5.0	1	✓	×	✓	0.8	1	✓	✓	✓	12.1	1	×	×	×
4b	8.3	1	1	×	×	×	1.9	1	✓	✓	✓	2.1	1	✓	✓	✓	8.2	1	×	×	×
5b	3.0	1	1	✓	✓	✓	0.9	1	✓	✓	✓	1.3	1	✓	✓	✓	3.2	1	✓	✓	✓
6b	10.5	1	1	×	×	×	1.9	1	✓	✓	✓	7.5	1	✓	×	✓	11.1	1	×	×	×
7b	4.6	1	1	×	✓	✓	7.1	1	✓	×	✓	4.9	1	✓	✓	✓	7.5	1	×	×	×
8b	0.2	1	1	✓	✓	✓	0.2	1	✓	✓	✓	1.4	1	✓	✓	✓	0.2	1	✓	✓	✓
9b	3.2	1	1	✓	✓	✓	0.8	1	✓	✓	✓	3.5	1	✓	✓	✓	3.2	1	✓	✓	✓
10b																	2.0	1	✓	✓	✓
11b																	2.2	1	✓	✓	✓
12b																	4.8	1	×	✓	✓
13b	3.8	1	1	✓	✓	✓	4.4	1	✓	✓	✓	4.9	1	✓	✓	✓	3.2	1	✓	✓	✓
14b																	1.3	1	✓	✓	✓
Total	15.3	1	1	×	×	×	0.2	1	✓	✓	✓	8.8	1	×	×	×	14.9	1	×	×	×
15a	3.5	1	1	✓	✓	✓	1.7	1	✓	✓	✓	3.4	1	✓	✓	✓	4.3	1	✓	✓	✓
16a	4.1	1	1	✓	✓	✓	1.5	1	✓	✓	✓	4.0	1	✓	✓	✓	3.8	1	✓	✓	✓
17a	6.4	1	1	×	×	×	1.7	1	✓	✓	✓	0.2	1	✓	✓	✓	5.8	1	×	×	×
18a	3.1	1	1	✓	✓	✓	0.4	1	✓	✓	✓	0.5	1	✓	✓	✓	3.1	1	✓	✓	✓
19a	0.3	1	1	✓	✓	✓	2.1	1	✓	✓	✓	1.1	1	✓	✓	✓	0.1	1	✓	✓	✓
20a	2.0	1	1	✓	✓	✓	10.4	1	×	×	×	8.1	1	×	×	×	0.9	1	✓	✓	✓
21a	2.6	1	1	✓	✓	✓	3.1	1	✓	✓	✓	0.1	1	✓	✓	✓	3.2	1	✓	✓	✓
22a	4.5	1	1	✓	✓	✓	5.1	1	✓	×	✓	0.4	1	✓	✓	✓	6.0	1	×	×	×
23a	4.1	1	1	✓	✓	✓	2.2	1	✓	✓	✓	1.4	1	✓	✓	✓	4.3	1	✓	✓	✓
24a	3.4	1	1	✓	✓	✓	1.1	1	✓	✓	✓	1.0	1	✓	✓	✓	3.7	1	✓	✓	✓
25a	1.8	1	1	✓	✓	✓	2.4	1	✓	✓	✓	2.1	1	✓	✓	✓	2.3	1	✓	✓	✓
Total	2.1	1	1	✓	✓	✓	6.1	1	×	×	×	9.0	1	×	×	×	2.2	1	✓	✓	✓
15b	2.0	1	1	✓	✓	✓	0.3	1	✓	✓	✓	2.4	1	✓	✓	✓	2.3	1	✓	✓	✓
16b	6.1	1	1	×	×	×	1.4	1	✓	✓	✓	4.3	1	✓	✓	✓	5.6	1	×	×	×
17b	5.3	1	1	✓	×	✓	0.6	1	✓	✓	✓	1.0	1	✓	✓	✓	5.3	1	×	×	×
18b	0.1	1	1	✓	✓	✓	0.4	1	✓	✓	✓	0.2	1	✓	✓	✓	0.2	1	✓	✓	✓
19b	2.8	1	1	✓	✓	✓	1.4	1	✓	✓	✓	0.0	1	✓	✓	✓	3.0	1	✓	✓	✓
20b	9.7	1	1	×	×	×	6.4	1	×	×	×	7.0	1	×	×	×	8.9	1	×	×	×
21b	2.6	1	1	✓	✓	✓	1.7	1	✓	✓	✓	1.1	1	✓	✓	✓	2.8	1	✓	✓	✓
22b	19.7	1	1	×	×	×	2.4	1	✓	✓	✓	1.3	1	✓	✓	✓	12.2	1	×	×	×
23b	0.3	1	1	✓	✓	✓	0.6	1	✓	✓	✓	0.8	1	✓	✓	✓	0.5	1	✓	✓	✓
24b	0.9	1	1	✓	✓	✓	2.4	1	✓	✓	✓	0.8	1	✓	✓	✓	1.5	1	✓	✓	✓
25b																	1.0	1	✓	✓	✓
Total	1.1	1	1	✓	✓	✓	4.9	1	×	×	×	5.7	1	×	×	×	3.5	1	✓	✓	✓
27a	4.2	1	1	✓	✓	✓	3.7	1	✓	✓	✓	1.9	1	✓	✓	✓	5.0	1	✓	×	✓
28a	1.4	1	1	✓	✓	✓	2.9	1	✓	✓	✓	2.4	1	✓	✓	✓	0.0	1	✓	✓	✓
29a	4.6	1	1	✓	✓	✓	4.5	1	✓	✓	✓	0.6	1	✓	✓	✓	5.9	1	✓	×	✓
30a	0.0	1	1	✓	✓	✓	0.9	1	✓	✓	✓	0.9	1	✓	✓	✓	0.4	1	✓	✓	✓
31a	4.4	1	1	×	✓	✓	2.9	1	✓	✓	✓	2.2	1	✓	✓	✓	3.3	1	✓	✓	✓
32a	3.4	1	1	✓	✓	✓	0.3	1	✓	✓	✓	1.2	1	✓	✓	✓	3.4	1	✓	✓	✓
33a	2.2	1	1	✓	✓	✓	1.1	1	✓	✓	✓	3.5	1	✓	✓	✓	2.2	1	✓	✓	✓
34a	4.5	1	1	✓	✓	✓	1.3	1	✓	✓	✓	4.0	1	✓	✓	✓	3.4	1	✓	✓	✓
35a	0.0	1	1	✓	✓	✓	1.6	1	✓	✓	✓	0.2	1	✓	✓	✓	0.6	1	✓	✓	✓
Total	2.8	1	1	✓	✓	✓	2.4	1	×	✓	✓	3.7	1	×	✓	✓	1.3	1	✓	✓	✓
27b	3.3	1	1	✓	✓	✓	1.5	1	✓	✓	✓	0.1	1	✓	✓	✓	3.6	1	✓	✓	✓
28b	1.1	1	1	✓	✓	✓	2.2	1	✓	✓	✓	1.8	1	✓	✓	✓	1.9	1	✓	✓	✓
29b	3.3	1	1	✓	✓	✓	8.0	1	×	×	×	0.6	1	✓	✓	✓	0.7	1	✓	✓	✓
30b	6.0	1	1	×	×	×	4.0	1	✓	✓	✓	2.0	1	✓	✓	✓	4.7	1	✓	✓	✓
31b	1.9	1	1	✓	✓	✓	0.8	1	✓	✓	✓	1.4	1	✓	✓	✓	2.1	1	✓	✓	✓
32b	1.7	1	1	✓	✓	✓	1.6	1	✓	✓	✓	2.4	1	✓	✓	✓	2.2	1	✓	✓	✓
33b	4.6	1	1	×	✓	✓	1.0	1	✓	✓	✓	2.3	1	✓	✓	✓	4.9	1	×	✓	✓
34b	0.1	1	1	✓	✓	✓	2.9	1	✓	✓	✓	1.9	1	✓	✓	✓	1.0	1	✓	✓	✓
35b	4.4	1	1	✓	✓	✓	1.8	1	✓	✓	✓	0.6	1	✓	✓	✓	4.8	1	✓	✓	✓
Total	1.7	1	1	✓	✓	✓	7.9	1	×	×	×	1.9	1	×	✓	✓	1.0	1	✓	✓	✓

West of A500 Screenline - Eastbound																																																	
21b	A34 Talke Road	A500	Millennium Way	1317	1167	data.gov.uk	Passing	383530	351079	Monday	22/09/2014	Southbound	732	135	33	900	874	139	47	1,060	-142	-19%	4	3%	14	42%	160	18%	5.0	1	1	×	×	×	0.3	1	✓	✓	✓	2.2	1	✓	✓	✓	5.1	1	×	×	×
22b	B5370 Porthill Bank	St. Edmund's Avenue	A500	1656	1379	Sky High	Turning	385642	349223	Wednesday	29/04/2015	Eastbound	966	76	15	1057	795	104	16	916	171	18%	28	37%	1	9%	-141	-13%	5.8	1	1	×	×	×	3.0	1	✓	✓	✓	0.3	1	✓	✓	✓	4.5	1	✓	✓	✓
23b	A527 Grange Lane	A500	A527 Church Lane	1876	1875	Sky High	Turning	386009	348342	Wednesday	29/04/2015	Southbound	483	33	3	519	469	28	4	501	14	3%	-5	-17%	1	46%	-18	-3%	0.6	1	1	✓	✓	✓	1.0	1	✓	✓	✓	0.7	1	✓	✓	✓	0.8	1	✓	✓	✓
24b	A53 Etruria Road	B5369 Basford Park Road	A500	2238	2244	Sky High	Turning	386393	346939	Wednesday	29/04/2015	Eastbound	568	43	2	613	560	111	20	691	8	1%	68	157%	18	923%	78	13%	0.4	1	1	✓	✓	✓	7.7	1	✓	×	✓	5.5	1	✓	×	✓	3.0	1	✓	✓	✓
25b	B5045 Shelton New Road	Haydon Street	A500	5056	1795	SoTCC	Turning	386610	346234	Monday	23/05/2016	Eastbound	811	31	1	652	858	79	6	942	-47	-6%	48	154%	5	463%	290	45%	1.6	1	1	✓	✓	✓	6.4	1	✓	×	✓	2.5	1	✓	✓	✓	10.3	1	×	×	×
									Total				3,560	318	54	3,741	3,555	460	94	4,109	-5	0%	142	45%	40	74%	368	10%	0.1	1	1	✓	✓	✓	7.2	1	×	×	×	4.6	1	×	×	×	5.9	1	×	×	×
West of A500 Screenline - Westbound																																																	
21a	A34 Talke Road	Millennium Way	A500	1167	1317	data.gov.uk	Passing	383530	351079	Monday	22/09/2014	Northbound	1186	121	40	1347	1151	138	68	1,356	35	3%	17	14%	28	69%	9	1%	1.0	1	1	✓	✓	✓	1.5	1	✓	✓	✓	3.8	1	✓	✓	✓	0.3	1	✓	✓	✓
22a	B5370 Porthill Bank	A500	St. Edmund's Avenue	1379	1656	Sky High	Turning	385642	349223	Wednesday	29/04/2015	Westbound	1258	128	20	1406	928	109	16	1,053	330	26%	-19	-15%	-4	-20%	-353	-25%	10.0	1	1	×	×	×	1.7	1	✓	✓	✓	0.9	1	✓	✓	✓	10.1	1	×	×	×
23a	A527 Grange Lane	A527 Church Lane	A500	1875	1876	Sky High	Turning	386009	348342	Wednesday	29/04/2015	Northbound	703	39	4	746	595	28	5	628	108	15%	-11	-28%	1	13%	-118	-16%	4.2	1	1	×	✓	✓	2.0	1	✓	✓	✓	0.3	1	✓	✓	✓	4.5	1	×	✓	✓
24a	A53 Etruria Road	A500	B5369 Basford Park Road	2244	2238	Sky High	Turning	386393	346939	Wednesday	29/04/2015	Westbound	1035	70	10	1115	970	166	47	1,183	65	6%	96	137%	37	373%	68	6%	2.1	1	1	✓	✓	✓	8.8	1	✓	×	✓	7.0	1	✓	×	✓	2.0	1	✓	✓	✓
25a	B5045 Shelton New Road	A500	Haydon Street	1795	5056	SoTCC	Turning	386610	346234	Monday	23/05/2016	Westbound	652	51	3	706	744	86	7	837	-92	-14%	35	69%	4	147%	131	19%	3.5	1	1	✓	✓	✓	4.3	1	✓	✓	✓	1.9	1	✓	✓	✓	4.7	1	×	✓	✓
									Total				4,834	409	77	5,320	4,387	527	143	5,057	-447	-9%	118	29%	66	86%	-263	-5%	6.6	1	1	×	×	×	5.5	1	×	×	×	6.3	1	×	×	×	3.6	1	✓	✓	✓
East of A50 Screenline - Eastbound																																																	
9a	A50 High Street	Roundwell Street	Furlong Road	1611	1631	SoTCC	Passing	385944	351660	Wednesday	42130	Northbound	805	101	3	909	745	83	8	836	60	7%	-18	-18%	5	153%	-73	-8%	2.2	1	1	✓	✓	✓	1.9	1	✓	✓	✓	2.0	1	✓	✓	✓	2.5	1	✓	✓	✓
18a	A527 Reginald Mitchell Way	Chatterley Road	A50 High Street	1634	1569	data.gov.uk	Passing	385227	352000	Monday	42135	Northbound	1426	179	7	1612	1460	190	28	1,678	-34	-2%	11	6%	21	303%	66	4%	0.9	1	1	✓	✓	✓	0.8	1	✓	✓	✓	5.1	1	✓	×	✓	1.6	1	✓	✓	✓
26b	A5271 The Boulevard	A5271 Scotia Road	A5271 Victoria Park Road	1638	1610	SoTCC	Passing	386102	351298	Wednesday	42137	Eastbound	731	58	0	789	633	55	15	703	98	13%	-3	-5%	15	148215%	-86	-11%	3.7	1	1	✓	✓	✓	0.4	1	✓	✓	✓	5.4	1	✓	×	✓	3.1	1	✓	✓	✓
28b	B5051 Moorland Road	A50 Wedgwood Street	Hamil Road	1664	1665	Sky High	Turning	386911	349842	Wednesday	42123	Eastbound	763	56	6	825	879	55	6	940	-116	-15%	-1	-1%	0	-2%	115	14%	4.1	1	1	×	✓	✓	0.1	1	✓	✓	✓	0.0	1	✓	✓	✓	3.9	1	✓	✓	✓
29	Nile Street	A50 Swan Square	B5050 Zion Street	1672	1712	SoTCC	Passing	386989	349752	Wednesday	41794	Eastbound	106	11	0	117	92	7	1	100	14	13%	-4	-38%	1	13428%	-17	-14%	1.4	1	1	✓	✓	✓	1.4	1	✓	✓	✓	1.6	1	✓	✓	✓	1.6	1	✓	✓	✓
30	B5050 Zion Street	A50 Waterloo Road	B5050 Nile Street	1764	1712	SoTCC	Turning	387045	349583	Wednesday	42038	Eastbound	329	41	4	374	309	36	6	351	20	6%	-5	-12%	2	53%	-23	-6%	1.1	1	1	✓	✓	✓	0.8	1	✓	✓	✓	0.9	1	✓	✓	✓	1.2	1	✓	✓	✓
32a	A53 Elder Road	A50 Waterloo Road	Sneyd Street	1685	1684	Sky High	Turning	387607	348554	Wednesday	42123	Northbound	938	98	21	1057	1244	157	22	1,423	-306	-33%	59	60%	1	6%	366	35%	9.3	1	1	×	×	×	5.2	1	✓	×	✓	0.3	1	✓	✓	✓	10.4	1	×	×	×
									Total				5,098	544	41	5,683	5,363	583	70	6,032	265	5%	39	7%	29	71%	349	6%	3.7	1	1	×	✓	✓	1.6	1	×	✓	✓	3.9	1	×	✓	✓	4.6	1	×	×	×
East of A50 Screenline - Westbound																																																	
9b	A50 High Street	Furlong Road	Roundwell Street	1631	1611	SoTCC	Passing	385944	351660	Wednesday	42130	Southbound	548	57	2	607	403	54	5	462	145	26%	-3	-5%	3	147%	-145	-24%	6.7	1	1	×	×	×	0.4	1	✓	✓	✓	1.6	1	✓	✓	✓	6.3	1	×	×	×
18b	A527 Reginald Mitchell Way	A50 High Street	Chatterley Road	1569	1634	data.gov.uk	Passing	385227	352000	Monday	42135	Northbound	919	111	9	1039	994	130	21	1,145	-75	-8%	19	17%	12	134%	106	10%	2.4	1	1	✓	✓	✓	1.7	1	✓	✓	✓	3.1	1	✓	✓	✓	3.2	1	✓	✓	✓
26a	A5271 The Boulevard	A5271 Victoria Park Road	A5271 Scotia Road	1610	1638	SoTCC	Passing	386102	351298	Wednesday	42137	Westbound	458	35	1	494	479	54	6	539	-21	-4%	19	55%	5	532%	45	9%	0.9	1	1	✓	✓	✓	2.9	1	✓	✓	✓	2.8	1	✓	✓	✓	2.0	1	✓	✓	✓
27	Jenkins Street	Hamil Road	A50 Scotia Road	6002	5025	SoTCC	Passing	386901	349964	Monday	41778	Westbound	154	23	1	178	162	24	2	188	-8	-5%	1	4%	1	149%	10	6%	0.6	1	1	✓	✓	✓	0.2	1	✓	✓	✓	1.1	1	✓	✓	✓	0.8	1	✓	✓	✓
28a	B5051 Moorland Road	Hamil Road	A50 Wedgwood Street	1665	1664	Sky High	Turning	386911	349842	Wednesday	42123	Westbound	373	39	5	417	293	40	6	339	80	22%	1	3%	1	21%	-78	-19%	4.4	1	1	✓	✓	✓	0.2	1	✓	✓	✓	0.5	1	✓	✓	✓	4.0	1	✓	✓	✓
31	B5050 Pitt Street East	B5050 Nile Street	A50 Waterloo Road	1769	1765	SoTCC	Turning	387081	349528	Thursday	42040	Westbound	315	51	4	370	331	34	4	369	-16	-5%	-17	-33%	0	7%	-1	0%	0.9	1	1	✓	✓	✓	2.6	1	✓	✓	✓	0.1	1	✓	✓	✓	0.0	1	✓	✓	✓
32b	A53 Elder Road	Sneyd Street	A50 Waterloo Road	1684	1685	Sky High	Turning	387607	348554	Wednesday	42123	Northbound	794	71	26	891	658	114	16	789	136	17%	43	60%	-10	-37%	-102	-11%	5.0	1	1	×	×	×	4.5	1	✓	✓	✓	2.1	1	✓	✓	✓	3.5	1	✓	✓	✓
									Total				3,561	387	48	3,996	3,319	450	62	3,831	-242	-7%	63	16%	14	28%	-165	-4%	4.1	1	1	×	×	×	3.1	1	×	✓	✓	1.8	1	×	✓	✓	2.6	1	✓	✓	✓
Other Individual Count Locations																																																	
39a	A500	A527 Longport Road	A527 Tunstall Western Bypass	1617	1618	TRADS	ATC Passing	385132	349925	n/a	2014/15	Northbound				3382				3604																									3.8	1	✓	✓	✓
39b	A500	A527 Tunstall Western Bypass	A527 Longport Road	1563	1603	TRADS	ATC Passing	385044	350236	n/a	2014/15	Southbound				2873				3217																									6.2	1	✓	×	✓
40a	A500	A5006 Stoke Road	B5045 Shelton New Road	5086	2240	data.gov.uk	Passing	387091	346000	Thursday	42194	Northbound	3129	409	180	3718	3172	389	280	3842	-43	-1%	-20	-5%	100	56%	92	2%	0.8	1	1	✓	✓	✓	1.0	1	✓	✓	✓	6.6	1	×	×	×	2.0	1	✓	✓	✓
40b	A500	B5045 Shelton New Road	A5006 Stoke Road	2256	5085	data.gov.uk	Passing	387091	346000	Thursday	42194	Southbound	3194	365	191	3750	3102	386	261	3748	92	3%	21	6%	70	36%	30	1%	1.6	1	1	✓	✓	✓	1.1	1	✓	✓	✓	4.6	1	✓	✓	✓	0.0	1	✓	✓	✓
41a	A500	A34 Stone Road	A5006 Campbell Road	2186	2233	data.gov.uk	Passing	386992	342977	Wednesday	42137	Eastbound	2868	270	134	3272	2328	312	85	2725	540	19%	42	16%	-49	-37%	-547	-17%		1	1	×	×	×	2.5	1	✓	✓	✓	4.7	1	✓	✓	✓	10.0	1	×	×	×
41b	A500	A5006 Campbell Road	A34 Stone Road	2189	2185	data.gov.uk	Passing	386992	342977	Wednesday	42137	Westbound	2230	327	111	2668	2891	264	82	3237	-601	-30%	-63	-19%	-29	-26%	569	21%		1	1	×	×	×	3.7	1	✓	✓	✓	2.9	1	✓	✓	✓	10.5	1	×	×	×
42a	A50	A50 Victoria Place Link	Foley Road	2072	2048	data.gov.uk	Passing	390100	343763	Thursday	42257	Eastbound	3752	378	225	4355	3939	244	243	4425	-187	-5%	-134	-36%	18	8%	70	2%	3.0	1	1	✓	✓	✓	7.6	1	×	×	×	1.2	1	✓	✓	✓	1.1	1	✓	✓	✓
42b	A50	Foley Road	A50 Victoria Place Link	2047	2071	data.gov.uk	Passing	390100	343763	Thursday	42257	Westbound	2743	326	237	3306	2463	190	272	2925	280	10%	-136	-42%	35	15%	-381	-12%	5.5	1	1	✓	×	✓	8.5	1	×	×	×	2.2	1	✓	✓	✓	6.8	1	✓	×	✓
43a	A50	A5007 Uttoxeter Road	A520 Weston Road	1986	1984	data.gov.uk	Passing	392497	342594	Wednesday	41528	Eastbound	2632	349	126	3107	3018	236	206	3461	-386	-15%	-113	-32%	80	64%	354	11%	7.3	1	1	✓	×	✓	6.6	1	×	×	×	6.2	1	✓	×	✓	6.2	1	✓	×	✓
43b	A50	A520 Weston Road	A5007 Uttoxeter	2090	1985	data.gov.uk	Passing	392497	342594	Wednesday	41528	Westbound	2470	384	165	3019	2196	254	242	2692	274	11%	-130	-34%	77	47%	-327	-11%	5.7	1	1	✓	×	✓	7.3	1	×	×	×	5.4	1	✓	×	✓	6.1	1	✓	×	✓
44a	A34 Talke Road	Millennium Way	A500	1167	1317	data.gov.uk	Passing	383530	351079	Monday	41904	Northbound	1186	121	40	1347	1151	138	68	1356	35	3%	17	14%	28	69%	9	1%	1.0	1	1	✓	✓	✓	1.5	1	✓	✓	✓	3.8	1	✓	✓	✓	0.2	1	✓	✓	✓
44b	A34 Talke Road	A500	Millennium Way	1317	1167	data.gov.uk	Passing	383530	351079	Monday	41904	Southbound	732	135	33	900	874	139	47	1060	-142	-19%	4	3%	14	42%	160	18%	5.0	1	1	×	×	×	0.3	1	✓	✓	✓	2.2	1	✓	✓	✓	5.1	1	×	×	×
45a	A34 Newcastle Road	Harpfield Road	Keelings Drive	2227	2176	SoTCC	ATC Passing	386310	343596	n/a	23-26/09/2013	Northbound				883				727							-156	-18%																	5.5	1	×	×	×
45b	A34 Newcastle Road	Keelings Drive	Harpfield Road	2176	2227	SoTCC	ATC Passing	386310	343596	n/a	23-26/09/2013	Southbound				653				892							239	37%																	8.6	1	×	×	×
46a	A50 Scotia Road	Chatterley Street	Williamson Street	1707	1690	Sky High	Passing	386631	350729	Wednesday	42123	Northbound	653	49	7	709	622	62	8	692	31	5%	13	26%	1	14%	-17	-2%	1.2	1	1	✓	✓	✓	1.7	1	✓	✓	✓	0.4	1	✓	✓	✓	0.6	1	✓	✓	✓
46b	A50 Scotia Road	Williamson Street	Chatterley Street	1690	1707	Sky High	Passing	386631	350729	Wednesday	42123	Southbound	566	40	7	613	478	46	4	528	88	15%	6	14%	-3	-41%	-85	-14%	3.8	1	1	✓	✓	✓	0.9	1	✓	✓	✓	1.2	1	✓	✓	✓	3.6	1	✓	✓	✓
47a	A50 Victoria Road	Beville Street	Manor Street	2130	2129	data.gov.uk	Passing	389199	345106	Friday	42545	Northbound	469	50	18	537	571	83	11	665	-102	-22%	33	66%	-7	-38%	128	24%	4.5	1	1	×	✓	✓	4.0	1	✓	✓	✓	1.8	1	✓	✓	✓	5.2	1	×	×	×
47b	A50 Victoria Road	Manor Street	Beville Street	2129	2130	data.gov.uk	Passing	389199	345106	Friday	42545	Southbound	730	95	2	827	1034	89	13	1136	-304	-42%	-6	-7%	11	527%	309	37%	10.2	1	1	×	×	×	0.9	1	✓	✓	✓	3.9	1	✓	✓	✓	9.9	1	×	×	×
48a	A52 Bucknall Road	A52 Leek Road	A5272 Dividy Road	2117	2118	data.gov.uk	Passing	389751	347331	Wednesday	40989	Eastbound	1552	146	6	1704	1507	126	15	1648	45	3%	-20	-14%	9	156%	-56	-3%	1.2	1	1	✓	✓	✓	1.7	1	✓	✓	✓	2.9	1	✓	✓	✓	1.4	1	✓	✓	✓
48b	A52 Bucknall Road	A5272 Dividy Road	A52 Leek Road	2118	2117	data.gov.uk	Passing	389751	347331	Wednesday	40989	Westbound	1174	118	3	1295	983	114	23	1120	191	16%	-4	-3%	20	683%	-175	-13%	5.8	1	1	×	×	×	0.3	1	✓	✓	✓	5.6	1	✓	×	✓	5.0	1	✓	×	✓
49a	A53 Leek New Road	Norton Lane	Trentfields Road	1723	1724	SoTCC	ATC Passing	390362	350830	n/a	24-27/6/2013	Eastbound				728				710							-18	-2%																	0.7	1	✓	✓	✓
49b	A53 Leek New Road	Trentfields Road	Norton Lane	1724	1723	SoTCC	ATC Passing	390362	350830	n/a	24-27/6/2013	Westbound				526				599							73	14%																	3.1	1	✓	✓	✓
50a	A519 Clayton Road	Buckmaster Avenue	Friarswood Road	2215	1403	data.gov.uk	Passing	385171	344885	Monday	41386	Northbound	583	60	3	646	684	79	6	769	-103	-17%	19	31%	3	111%	123	19%	4.0	1	1	×	✓	✓	2.2	1	✓	✓	✓	1.5	1	✓	✓	✓	4.6	1	×	✓	✓
50b	A519 Clayton Road	Friarswood Road	Buckmaster Avenue	1403	2215	data.gov.uk	Passing	385171	344885	Monday	41386	Southbound	840	56	7	903	1006	80	5	1091	-166	-20%	24	43%	-2	-24%	188	21%	5.5	1	1	×	×	×	2.9	1	✓	✓	✓	0.7	1	✓	✓	✓	6.0	1	×	×	×
51a	A525 Keele Road	Cemetey Road	Orme Road	2281	1420	SCC	Turning	383142	345539	Thursday	42878	Eastbound	557	41	6	604	383	61	15	459	174	31%	20	49%	9	148%	-145	-24%	8.0	1	1	×	×	×	2.8	1	✓	✓	✓	2.8	1	✓	✓	✓	6.3	1	×	×	×
51b	A525 Keele Road	Orme Road	Cemetery Road	1420	2281	SCC	Turning	383142	345539	Thursday	42878	Westbound	438	17	2	457	391	27	11	429	47	11%	10	57%	9	470%	-28	-6%	2.3	1	1	✓	✓	✓	2.1	1	✓	✓	✓	3.6	1	✓	✓	✓	1.4	1	✓	✓	✓
52a	A5271 Brownhills Road	Westport Road	A5271 Williamson Street	1608	1657	Sky High	Passing	385975	350495	Wednesday	42123	Northbound	543	55	31	629	453	81	16	550	90	16%	26	47%	-15	-49%	-79	-13%	4.0	1	1	✓	✓	✓	3.1	1	✓	✓	✓	3.1	1	✓	✓	✓	3.2	1	✓	✓	✓
52b	A5271 Brownhills Road	A5271 Williamson Street	Westport Road	1657	1608	Sky High	Passing	385975	350495	Wednesday	42123	Southbound	407	35	9	451	384	40	4	429	23	6%	5	14%	-5	-51%	-22	-5%	1.1	1	1	✓	✓	✓	0.8	1	✓	✓	✓	1.8	1	✓	✓	✓	1.1	1	✓	✓	✓
53a	A5272 High Lane	Hamil Road	Haywood Road	1648	1650	Sky High	Passing	387487	351013	Wednesday	42123	Northbound	850	81	8	939	802	81	19	902	48	6%	0	1%	11	138%	-37	-4%	1.7	1	1	✓	✓	✓	0.1	1	✓	✓	✓	3.0	1	✓	✓	✓	1.2	1	✓	✓	✓
53b	A5272 High Lane	Haywood Road	Hamil Road	1650	1648	Sky High	Passing	387487	351013	Wednesday	42123	Southbound	620	73	7	700	651	41	13	705	-31	-5%	-32	-44%	6	88%	5	1%	1.2	1	1	✓	✓	✓	4.2	1	✓	✓	✓	1.9	1	✓	✓	✓	0.2	1	✓	✓	✓
54a	A5272 Dividy Road	Romer Side	Templeton Avenue	2157	2165	SoTCC	ATC Passing	391690	345615	n/a	22-25/04/2013	Eastbound				666				605	0	0%	0	0%	0	0%	-61	-9%																	2.4	1	✓	✓	✓
54b	A5272 Dividy Road	Templeton Avenue	Romer Side	2165	2157	SoTCC	ATC Passing	391690	345615	n/a	22-25/04/2013	Westbound				806				566	0	0%	0	0%	0	0%	-240	-30%																	9.2	1	×	×	×
3a	A500	B5045 Shelton New Road	A53 Etruria Road	2240	2289	data.gov.uk	Passing	386726	346280	Wednesday	22/10/2014	Northbound	2775	378	119	3272	2878	321	272	3471	-103	-4%	-57	-15%	153	129%	199	6%	1.9	1	1	✓	✓	✓	3.1	1	✓	✓	✓	10.0	1	×	×	×	3.4	1	✓	✓	✓
3b	A500	A53 Etruria Road	B5045 Shelton New Road	2267	2256	data.gov.uk	Passing	386726	346280	Wednesday	22/10/2014	Southbound	2570	336	152	3058	2634	306	253	3193	-64	-2%	-30	-9%	101	67%	135	4%	1.2	1	1	✓	✓	✓	1.6	1	✓	✓	✓	7.1	1	×	×	×	2.4	1	✓	✓	✓
4a	A500	A5006 Stoke Road	B5045 Shelton New Road	5086	2240	data.gov.uk	Passing	387091	346000	Thursday	09/07/2015	Northbound	3129	409	180	3718	3172	389	280	3842	-43	-1%	-20	-5%	100	56%	124	3%	0.8	1	1	✓	✓	✓	1.0	1	✓	✓	✓	6.6	1	×	×	×	2.0	1	✓	✓	✓
4b	A500	B5045 Shelton New Road	A5006 Stoke Road	2256	5085	data.gov.uk	Passing	387091	346000	Thursday	09/07/2015	Southbound	3194	365	191	3750	3102	386	261	3748	92	3%	21	6%	70	36%	-2	0%	1.6	1	1	✓	✓	✓	1.1	1	✓	✓	✓	4.6	1	✓	✓	✓	0.0	1	✓	✓	✓
5a	A34 Talke Road	Bradwell Lane	Parkhouse Road West	1590	1601	data.gov.uk	Passing	383756	350000	Thursday	25/04/2013	Northbound	1270	92	20	1382	1235	136	70	1441	35	3%	44	47%	50	249%	59	4%	1.0	1	1	✓	✓	✓	4.1	1	✓	✓	✓	7.4	1	✓	×	✓	1.6	1	✓	✓	✓
5b	A34 Talke Road	Parkhouse Road West	Bradwell Lane	1601	1590	data.gov.uk	Passing	383756	350000	Thursday	25/04/2013	Southbound	1190	152	26	1368	1104	144	36	1284	86	7%	-8	-5%	10	37%	-84	-6%	2.5	1	1	✓	✓	✓	0.6	1	✓	✓	✓	1.7	1	✓	✓	✓	2.3	1	✓	✓	✓
6a	A34 Liverpool Road	B5368 Lower Milehouse Lane	Brymbo Road	2269	1599	data.gov.uk	Passing	384250	347872	Wednesday	22/04/2015	Northbound	1359	117	23	1499	1280	114	41	1435	79	6%	-3	-3%	18	79%	-64	-4%	2.2	1	1	✓	✓	✓	0.3	1	✓	✓	✓	3.2	1	✓	✓	✓	1.7	1	✓	✓	✓
6b	A34 Liverpool Road	Brymbo Road	B5368 Lower Milehouse Lane	1599	2269	data.gov.uk	Passing	384250	347872	Wednesday	22/04/2015	Southbound	1304	126	13	1443	1120	101	17	1237	184	14%	-25	-20%	4	28%	-206	-14%	5.3	1	1	✓	×	✓	2.4	1	✓	✓	✓	0.9	1	✓	✓	✓	5.6	1	✓	×	✓
8a	A53 Etruria Road	Festival Way	Forge Lane	2259	2260	data.gov.uk	Passing	386983	347327	Wednesday	08/07/2015	Westbound	1949	129	45	2123	1710	190	28	1928	239	12%	61	48%	-17	-39%	-195	-9%	5.6	1	1	✓	×	✓	4.9	1	✓	✓	✓	2.9	1	✓	✓	✓	4.3	1	✓	✓	✓
8b	A53 Etruria Road	Forge Lane	Festival Way	2319	2258	data.gov.uk	Passing	386983	347327	Wednesday	08/07/2015	Eastbound	1684	173	49	1906	1834	222	30	2086	-150	-9%	49	28%	-19	-39%	180	9%	3.6	1	1	✓	✓	✓	3.5	1	✓	✓	✓	3.0	1	✓	✓	✓	4.0	1	✓	✓	✓
10a	A50 Wedgwood Street	Market Place	Federation Road	5025	1660	SoTCC	Passing	386864	350000	Wednesday	21/05/2014	Northbound	654	48	8	710	558	51	7	617	96	15%	3	6%	-1	-8%	-93	-13%	3.9	1	1	✓	✓	✓	0.4	1	✓	✓	✓	0.2	1	✓	✓	✓	3.6	1	✓	✓	✓
10b	A50 Wedgwood Street	Federation Road	Market Place	1660	5025	SoTCC	Passing	386864	350000	Wednesday	21/05/2014	Southbound	514	46	1	561	517	45	6	567	-3	-1%	-1	-3%	5	476%	6	1%	0.1	1	1	✓	✓	✓	0.2	1	✓	✓	✓	2.6	1	✓	✓	✓	0.3	1	✓	✓	✓
11a	A50 Waterloo Road	B5050 Zion Street	Nile Street	1764	1672	data.gov.uk	Passing	387000	349678	Tuesday	09/09/2014	Northbound	589	40	4	633	434	32	5	472	155	26%	-8	-19%	1	36%	-161	-25%	6.8	1	1	×	×	×	1.8	1	✓	✓	✓	0.7	1	✓	✓	✓	6.8	1	×	×	×
11b	A50 Waterloo Road	Nile Street	B5050 Zion Street	1672	1764	data.gov.uk	Passing	387000	349678	Tuesday	09/09/2014	Southbound	392	24	2	418	330	34	4	369	62	16%	10	43%	2	118%	-49	-12%	3.3	1	1	✓	✓	✓	1.9	1	✓	✓	✓	1.3	1	✓	✓	✓	2.5	1	✓	✓	✓
12a	A50 Waterloo Road	Stonor Street	B5050 Pitt Street West	1681	1765	SoTCC	Turning	387081	349528	Thursday	05/02/2015	Northbound	644	62	5	711	721	41	8	769	-77	-12%	-21	-34%	3	60%	58	8%	2.9	1	1	✓	✓	✓	3.0	1	✓	✓	✓	1.2	1	✓	✓	✓	2.1	1	✓	✓	✓
12b	A50 Waterloo Road	B5050 Pitt Street West	Stonor Street	1765	1681	SoTCC	Turning	387081	349528	Thursday	05/02/2015	Southbound	444	31	2	477	428	42	5	475	16	4%	11	35%	3	145%	-2	-1%	0.8	1	1	✓	✓	✓	1.8	1	✓	✓	✓	1.6	1	✓	✓	✓	0.1	1	✓	✓	✓
13a	A50 Potteries Way	A5008 Bucknall New Road	Huntbach Street	1355	1340	SoTCC	Turning	388583	347609	Thursday	28/01/2016	Northbound	977	87	4	1068	950	105	15	1070	27	3%	18	21%	11	268%	2	0%	0.9	1	1	✓	✓	✓	1.9	1	✓	✓	✓	3.5	1	✓	✓	✓	0.1	1	✓	✓	✓
13b	A50 Potteries Way	Huntbach Street	A5008 Bucknall New Road	1340	1355	SoTCC	Turning	388583	347609	Thursday	28/01/2016	Southbound	974	78	3	1055	1145	93	20	1258	-171	-18%	15	20%	17	561%	203	19%	5.2	1	1	×	×	×	1.7	1	✓	✓	✓	5.0	1	✓	✓	✓	6.0	1	×	×	×
14a	A50 Potteries Way	Botteslow Street	A5008 Bucknall New Road	1354	1355	SoTCC	Turning	388583	347609	Thursday	28/01/2016	Northbound	962	91	3	1056	851	88	23	962	111	12%	-3	-3%	20	665%	-94	-9%	3.7	1	1	✓	✓	✓	0.3	1	✓	✓	✓	5.5	1	✓	×	✓	3.0	1	✓	✓	✓
14b	A50 Potteries Way	A5008 Bucknall New Road	Botteslow Street	1355	1354	SoTCC	Turning	388583	347609	Thursday	28/01/2016	Southbound	878	58	4	940	600	58	15	673	278	32%	0	1%	11	274%	-267	-28%	10.2	1	1	×	×	×	0.0	1	✓	✓	✓	3.6	1	✓	✓	✓	9.4	1	×	×	×
15a	A50 Potteries Way	Botteslow Street	A50 Lichfield Street	1354	2005	SoTCC	Turning	388446	347226	Wednesday	27/01/2016	Westbound	821	55	2	878	780	84	22	886	41	5%	29	53%	20	989%	8	1%	1.4	1	1	✓	✓	✓	3.5	1	✓	✓	✓	5.7	1	✓	×	✓	0.3	1	✓	✓	✓
15b	A50 Potteries Way	A50 Lichfield Street	Botteslow Street	2005	1354	SoTCC	Turning	388446	347226	Wednesday	27/01/2016	Eastbound	917	78	1	996	761	65	12	838	156	17%	-13	-16%	11	1100%	-158	-16%	5.4	1	1	×	×	×	1.5	1	✓	✓	✓	4.3	1	✓	✓	✓	5.2	1	×	×	×
33a	A50 Lichfield Street	Regent Road	A50 Potteries Way	1358	2007	SoTCC	Turning	388526	347148	Monday	25/01/2016	Northbound	629	62	0	691	472	60	3	535	157	25%	-2	-4%	3	26783%	-156	-23%	6.7	1	1	×	×	×	0.3	1	✓	✓	✓	2.3	1	✓	✓	✓	6.3	1	×	×	×
33b	A50 Lichfield Street	A50 Potteries Way	Regent Road	2007	1358	SoTCC	Turning	388526	347148	Monday	25/01/2016	Southbound	584	48	3	635	646	48	10	704	-62	-11%	0	-1%	7	233%	69	11%	2.5	1	1	✓	✓	✓	0.1	1	✓	✓	✓	2.7	1	✓	✓	✓	2.7	1	✓	✓	✓
34a	A50 Lichfield Street	Hampton Street	Regent Road	2063	1358	SoTCC	Turning	388526	347148	Monday	25/01/2016	Northbound	590	59	0	649	565	78	10	653	25	4%	19	32%	10	102983%	4	1%	1.0	1	1	✓	✓	✓	2.3	1	✓	✓	✓	4.5	1	✓	✓	✓	0.2	1	✓	✓	✓
34b	A50 Lichfield Street	Regent Road	Hampton Street	1358	2063	SoTCC	Turning	388526	347148	Monday	25/01/2016	Southbound	477	40	4	521	625	42	8	675	-148	-31%	2	4%	4	110%	154	30%	6.3	1	1	×	×	×	0.3	1	✓	✓	✓	1.8	1	✓	✓	✓	6.3	1	×	×	×
35a	A5271 Scotia Road	Woodland Street	A5271 The Boulevard	1653	1638	SoTCC	Passing	386147	351212	Thursday	21/05/2015	Northbound	864	56	2	922	768	65	18	851	96	11%	9	16%	16	795%	-71	-8%	3.3	1	1	✓	✓	✓	1.1	1	✓	✓	✓	5.0	1	✓	×	✓	2.4	1	✓	✓	✓
35b	A5271 Scotia Road	A5271 The Boulevard	Woodland Street	1638	1653	SoTCC	Passing	386147	351212	Thursday	21/05/2015	Southbound	787	57	1	845	723	68	7	797	64	8%	11	19%	6	574%	-48	-6%	2.3	1	1	✓	✓	✓	1.4	1	✓	✓	✓	2.9	1	✓	✓	✓	1.7	1	✓	✓	✓
20a	A5008 Potteries Way	A50 Lichfield Street	Bethesda Street	1768	1369	SoTCC	Turning	388446	347226	Wednesday	27/01/2016	Westbound	721	46	3	770	440	49	12	501	281	39%	3	6%	9	287%	-269	-35%	11.7	1	1	×	×	×	0.4	1	✓	✓	✓	3.2	1	✓	✓	✓	10.7	1	×	×	×
20b	A5008 Potteries Way	Bethesda Street	A50 Lichfield Street	1369	1768	SoTCC	Turning	388446	347226	Wednesday	27/01/2016	Eastbound	544	54	1	599	520	20	9	548	24	4%	-34	-63%	8	782%	-51	-8%	1.1	1	1	✓	✓	✓	5.6	1	✓	×	✓	3.5	1	✓	✓	✓	2.1	1	✓	✓	✓
																													Pass			5	6	6	Pass		2	5	5	Pass		0	4	0	Pass		6	6	6
																													Screenline			10	10	10	Screenline		10	10	10	Screenline		10	10	10	Screenline		10	10	10
																													Pass %			50%	60%	60%	Pass %		20%	50%	50%	Pass %		0%	40%	0%	Pass %		60%	60%	60%

Appendix B – Journey time validation

AM peak hour

Route No.	Route	Direction	Modelled Time (mins)	Observed Time (mins)	% Diff.	Within 15%	Within 1 Minute	Within 15% or 1 Minute
Routes Across the Wider North Staffordshire Conurbation								
1	A34	Northbound	24.35	26.97	-10%	Yes	No	Yes
1	A34	Southbound	25.83	26.40	-2%	Yes	Yes	Yes
2	A500 (T)	Northbound	10.20	9.44	8%	Yes	Yes	Yes
2	A500 (T)	Southbound	12.12	14.00	-13%	Yes	No	Yes
3	A50	Southbound	28.52	26.60	7%	Yes	No	Yes
3	A50	Northbound	27.31	25.61	7%	Yes	No	Yes
4	A527/ B5370/ A5271	Northbound	19.37	20.67	-6%	Yes	No	Yes
4	A527/ B5370/ A5271	Southbound	20.57	22.36	-8%	Yes	No	Yes
5	A53	Northbound	28.45	28.72	-1%	Yes	Yes	Yes
5	A53	Southbound	28.21	30.37	-7%	Yes	No	Yes
6	A5272	Northbound	18.57	22.32	-17%	No	No	No
6	A5272	Southbound	20.54	21.18	-3%	Yes	Yes	Yes
7	A52	Westbound	22.26	23.20	-4%	Yes	Yes	Yes
7	A52	Eastbound	19.43	19.70	-1%	Yes	Yes	Yes
8	A50(T)	Westbound	8.77	12.97	-32%	No	No	No
8	A50(T)	Eastbound	5.86	6.43	-9%	Yes	Yes	Yes
AM Peak-Hour Total			**320.36**	**336.94**	**% Pass**	**88%**	**44%**	**88%**

Inter-peak hour

Route No.	Route	Direction	Modelled Time (mins)	Observed Time (mins)	% Diff.	Within 15%	Within 1 Minute	Within 15% or 1 Minute
Routes Across the Wider North Staffordshire Conurbation								
1	A34	Northbound	23.06	21.15	9%	Yes	No	Yes
1	A34	Southbound	23.23	22.33	4%	Yes	Yes	Yes
2	A500 (T)	Northbound	9.16	9.40	-3%	Yes	Yes	Yes
2	A500 (T)	Southbound	9.28	9.45	-2%	Yes	Yes	Yes
3	A50	Southbound	28.37	25.62	11%	Yes	No	Yes
3	A50	Northbound	26.62	25.36	5%	Yes	No	Yes
4	A527/ B5370/ A5271	Northbound	18.29	17.54	4%	Yes	Yes	Yes
4	A527/ B5370/ A5271	Southbound	18.32	17.36	6%	Yes	Yes	Yes
5	A53	Northbound	25.49	23.43	9%	Yes	No	Yes
5	A53	Southbound	25.16	22.60	11%	Yes	No	Yes
6	A5272	Northbound	19.01	17.88	6%	Yes	No	Yes
6	A5272	Southbound	19.64	17.89	10%	Yes	No	Yes
7	A52	Westbound	19.95	19.75	1%	Yes	Yes	Yes
7	A52	Eastbound	17.92	17.87	0%	Yes	Yes	Yes
8	A50(T)	Westbound	5.79	6.08	5%	Yes	Yes	Yes
8	A50(T)	Eastbound	5.71	6.38	11%	Yes	Yes	Yes
Inter-Peak Hour Total			**295.00**	**280.08**	**% Pass**	**100%**	**56%**	**100%**

PM Peak hour

Route No.	Route	Direction	Modelled Time (mins)	Observed Time (mins)	% Diff.	Within 15%	Within 1 Minute	Within 15% or 1 Minute
Routes Across the Wider North Staffordshire Conurbation								
1	A34	Northbound	25.45	28.27	-10%	Yes	No	Yes
1	A34	Southbound	25.18	25.45	-1%	Yes	Yes	Yes
2	A500 (T)	Northbound	12.42	10.98	13%	Yes	No	Yes
2	A500 (T)	Southbound	11.90	12.48	-5%	Yes	Yes	Yes
3	A50	Southbound	28.16	28.83	-2%	Yes	Yes	Yes
3	A50	Northbound	27.81	28.34	-2%	Yes	Yes	Yes
4	A527/ B5370/ A5271	Northbound	20.42	23.51	-13%	Yes	No	Yes
4	A527/ B5370/ A5271	Southbound	19.81	19.24	3%	Yes	Yes	Yes
5	A53	Northbound	28.03	34.63	-19%	No	No	No
5	A53	Southbound	27.02	25.47	6%	Yes	No	Yes
6	A5272	Northbound	19.41	19.57	-1%	Yes	Yes	Yes
6	A5272	Southbound	20.84	19.31	8%	Yes	No	Yes
7	A52	Westbound	20.74	22.57	-8%	Yes	No	Yes
7	A52	Eastbound	19.25	21.39	-10%	Yes	No	Yes
8	A50(T)	Westbound	6.44	6.45	0%	Yes	Yes	Yes
8	A50(T)	Eastbound	8.72	6.79	29%	No	No	No
PM Peak-Hour Total			321.60	333.28	% Pass	88%	44%	88%

Appendix C – Validation against 2018 traffic count data

AM Peak Hour EB

Road	AM Peak-Hour (08-0900hrs) - Survey									AM - Model											
										Model								Summed			
	M'cycles	Cars	LGVs	HGVs - Rigid	HGVs - Artic	HGV	Buses	Total	Total (Car/LGV/HGV)	Car Com	Car Non Com	Taxi Com	Taxi No Com	LGV Com	LGV No Com	HGV Com	HGV No Com	Car	LGV	HGV	Total
A527 Tunstall Western Bypass	2	647	158	27	19	46	1	900	851	417	267	0	1	32	75	21	13	684	107	34	826
A5271 Longport Road	7	1026	216	37	9	46	5	1346	1288	761	487	0	2	46	106	38	23	1248	152	61	1461
A53 Etruria Road	10	2526	282	35	22	57	8	2940	2865	1511	966	1	4	93	216	58	36	2476	308	94	2879
B5045 Shelton New Road[1]	3	915	93	30	7	37	4	1089	1045	472	302	0	1	24	55	11	7	774	79	18	871
A5006 Stoke Road	3	516	49	6	0	6	1	581	571	242	155	0	1	13	29	7	4	397	42	11	450
College Road	0	214	23	1	0	1	12	251	238	142	91	0	0	7	17	2	1	232	25	3	260
A52 Leek Road[2]	0	582	90	20	1	21	3	717	693	333	213	0	1	32	74	11	7	545	106	17	669
A5007 City Road	1	460	69	14	4	18	10	576	547	329	210	0	1	19	45	15	9	539	64	25	628
Whieldon Road	0	117	23	0	0	0	0	140	140	76	48	0	0	4	10	8	5	124	14	13	151
A50(T)[3]	16	2520	484	171	188	359	13	3751	3363	1555	994	1	4	82	192	244	150	2550	274	394	3218
A5035 Trentham Road	1	400	62	9	0	9	7	488	471	217	139	0	1	19	45	6	4	356	65	10	431

Road							Results - AM																		
	Diff Car		Diff LGV		Diff HGV		Difference		GEH				Results												
	Difference	% Diff	Difference	% Diff	Difference	% Diff	Difference	% Diff	Car GEH	LGV GEH	HGV GEH	Total GEH	Count	Car DMRB Diff Test	Car GEH<5	Car DMRB OR GEH <%	LGV DMRB Diff Test	LGV GEH<5	LGV DMRB OR GEH <%	HGV DMRB Diff Test	HGV GEH<5	HGV DMRB OR GEH <%	DMRB Diff test	GEH<5	DMRB AND GEH<5
A527 Tunstall Western Bypass	-37	-6%	51	32%	12	25%	25	3%	1.4	4.4	1.8	0.9	1	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
A5271 Longport Road	-222	-22%	64	30%	-15	-33%	-173	-13%	6.6	4.7	2.1	4.7	1	✗	✗	✗	✓	✓	✓	✓	✓	✓	✓	✓	✓
A53 Etruria Road	50	2%	-26	-9%	-37	-65%	-14	0%	1.0	1.5	4.3	0.3	1	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
B5045 Shelton New Road[1]	141	15%	14	16%	19	51%	174	17%	4.9	1.6	3.6	5.6	1	✗	✓	✓	✓	✓	✓	✓	✓	✓	✗	✗	✗
A5006 Stoke Road	119	23%	7	15%	-5	-86%	121	21%	5.6	1.1	1.8	5.4	1	✗	✗	✗	✓	✓	✓	✓	✓	✓	✗	✗	✗
College Road	-18	-9%	-2	-7%	-2	-184%	-22	-9%	1.2	0.3	1.3	1.4	1	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
A52 Leek Road[2]	37	6%	-16	-18%	4	18%	24	3%	1.5	1.7	0.9	0.9	1	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
A5007 City Road	-79	-17%	5	7%	-7	-37%	-81	-15%	3.5	0.6	1.4	3.4	1	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Whieldon Road	-7	-6%	9	40%	-13	-126699%	-11	-8%	0.6	2.1	5.0	0.9	1	✓	✓	✓	✓	✓	✓	✓	✗	✓	✓	✓	✓
A50(T)[3]	-30	-1%	210	43%	-35	-10%	145	4%	0.6	10.8	1.8	2.5	1	✓	✓	✓	✗	✗	✗	✓	✓	✓	✓	✓	✓
A5035 Trentham Road	44	11%	-3	-4%	-1	-15%	40	8%	2.2	0.3	0.4	1.9	1	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

Pass	8	9	9	10	10	10	11	10	11	9	9	9
Counts	11	11	11	11	11	11	11	11	11	11	11	11
% Pass	73%	82%	82%	91%	91%	91%	100%	91%	100%	82%	82%	82%

AM Peak Hour WB

Road	AM Peak-Hour (08-0900hrs) - Survey									AM - Model											
										Model								Summed			
	M'cycles	Cars	LGVs	HGVs - Rigid	HGVs - Artic	HGV	Buses	Total	Total (Car/LGV/HGV)	Car Com	Car Non Com	Taxi Com	Taxi No Com	LGV Com	LGV No Com	HGV Com	HGV No Com	Car	LGV	HGV	Total
A527 Tunstall Western Bypass	8	1159	182	26	14	40	5	1434	1381	740	473	0	2	10	23	30	18	1213	33	49	1294
A5271 Longport Road	9	795	245	45	21	66	9	1190	1106	611	391	0	2	26	62	38	23	1002	88	62	1152
A53 Etruria Road	2	1385	384	44	24	68	5	1912	1837	1045	668	1	3	72	169	55	34	1713	241	89	2044
B5045 Shelton New Road[1]	3	475	76	16	8	24	3	605	575	342	218	0	1	20	46	10	6	560	65	17	642
A5006 Stoke Road	2	489	43	8	0	8	2	552	540	205	131	0	1	11	27	7	4	336	38	12	385
College Road	1	383	38	0	0	0	17	439	421	111	71	0	0	12	29	2	1	183	41	3	227
A52 Leek Road[2]	3	466	103	8	1	9	0	590	578	419	268	0	1	25	59	21	13	687	85	34	807
A5007 City Road	7	863	146	33	4	37	14	1104	1046	512	328	0	1	40	92	30	19	840	132	49	1021
Whieldon Road	1	200	40	5	0	5	0	251	245	119	76	0	0	9	22	3	2	195	31	5	231
A50(T)[3]	15	2606	430	125	170	295	11	3652	3331	1791	1145	1	5	98	228	235	144	2937	326	380	3642
A5035 Trentham Road	1	822	116	8	3	11	1	962	949	451	288	0	1	21	49	10	6	739	69	16	824

Road									Results - AM																
	Diff Car		Diff LGV		Diff HGV		Difference (Total)		GEH				Results												
	Difference	% Diff	Difference	% Diff	Difference	% Diff	Difference	% Diff	Car GEH	LGV GEH	HGV GEH	Total GEH	Count	Car DMRB Diff Test	Car GEH<5	Car DMRB OR GEH <%	LGV DMRB Diff Test	LGV GEH<5	LGV DMRB OR GEH <%	HGV DMRB Diff Test	HGV GEH<5	HGV DMRB OR GEH <%	DMRB Diff test	GEH<5	DMRB AND GEH<5
A527 Tunstall Western Bypass	-54	-5%	149	82%	-9	-21%	87	6%	1.6	14.4	1.3	2.4	1	✓	✓	✓	✗	✗	✗	✓	✓	✓	✓	✓	✓
A5271 Longport Road	-207	-26%	157	64%	4	6%	-46	-4%	6.9	12.2	0.5	1.4	1	✗	✗	✗	✗	✗	✗	✓	✓	✓	✓	✓	✓
A53 Etruria Road	-328	-24%	143	37%	-21	-32%	-207	-11%	8.3	8.1	2.4	4.7	1	✗	✗	✗	✗	✗	✗	✓	✓	✓	✓	✓	✓
B5045 Shelton New Road[1]	-85	-18%	11	14%	7	31%	-67	-12%	3.7	1.3	1.6	2.7	1	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
A5006 Stoke Road	153	31%	5	12%	-4	-45%	155	29%	7.5	0.8	1.1	7.2	1	✗	✗	✗	✓	✓	✓	✓	✓	✓	✗	✗	✗
College Road	200	52%	-3	-7%	-3	-34319%	194	46%	11.9	0.4	2.6	10.8	1	✗	✗	✗	✓	✓	✓	✓	✓	✓	✗	✗	✗
A52 Leek Road[2]	-221	-48%	18	18%	-25	-282%	-229	-40%	9.2	1.9	5.5	8.7	1	✗	✗	✗	✓	✓	✓	✓	✗	✓	✗	✗	✗
A5007 City Road	23	3%	14	10%	-12	-32%	25	2%	0.8	1.2	1.8	0.8	1	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Whieldon Road	5	3%	9	21%	0	-3%	14	6%	0.4	1.4	0.1	0.9	1	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
A50(T)[3]	-331	-13%	104	24%	-85	-29%	-311	-9%	6.3	5.4	4.6	5.3	1	✓	✗	✓	✗	✗	✗	✓	✓	✓	✓	✗	✓
A5035 Trentham Road	83	10%	47	40%	-5	-44%	125	13%	3.0	4.9	1.3	4.2	1	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

Pass	6	5	6	7	7	7	11	10	11	8	7	8
Counts	11	11	11	11	11	11	11	11	11	11	11	11
% Pass	55%	45%	55%	64%	64%	64%	100%	91%	100%	73%	64%	73%

Inter-Peak Hour EB

Road	Inter-Peak Hour (14-1500hrs) - Survey									IP - Model											
										Model								Summed			
	M'cycles	Cars	LGVs	HGVs - Rigid	HGVs - Artic	HGV	Buses	Total	Total (Car/LGV/HGV)	Car Com	Car Non Com	Taxi Com	Taxi No Com	LGV Com	LGV No Com	HGV Com	HGV No Com	Car	LGV	HGV	Total
A527 Tunstall Western Bypass	4	863	196	28	20	48	0	1111	1107	366	234	0	1	17	39	13	8	599	56	21	676
A5271 Longport Road	4	763	195	74	12	86	8	1056	1044	641	410	0	2	50	116	44	27	1051	166	71	1288
A53 Etruria Road	3	1717	302	79	22	101	13	2136	2120	914	584	1	2	96	224	44	27	1498	320	71	1889
B5045 Shelton New Road[1]	3	384	78	11	5	16	3	484	478	276	176	0	1	28	65	11	7	452	92	17	562
A5006 Stoke Road	4	377	39	4	0	4	2	426	420	213	136	0	1	19	44	7	4	348	63	11	423
College Road	3	194	12	0	0	0	15	224	206	139	89	0	0	7	17	6	4	228	25	10	263
A52 Leek Road[2]	6	532	82	21	1	22	0	642	636	393	251	0	1	28	66	12	7	644	94	19	757
A5007 City Road	5	553	93	25	3	28	10	689	674	328	209	0	1	29	68	21	13	537	98	33	668
Whieldon Road	0	116	30	1	0	1	0	147	147	75	48	0	0	8	19	4	2	122	27	6	155
A50(T)[3]	9	2372	471	159	212	371	7	3230	3214	1363	871	1	4	96	224	143	88	2234	319	231	2785
A5035 Trentham Road	4	572	50	8	1	9	11	646	631	244	156	0	1	14	33	9	6	400	47	14	461

Road							Results - IP																		
	Difference Car		Difference		Difference HGV		Difference		GEH				Results												
	Difference	% Diff	Difference	% Diff	Difference	% Diff	Difference	% Diff	Car GEH	LGV GEH	HGV GEH	Total GEH	Count	Car DMRB Diff Test	Car GEH<5	Car DMRB OR GEH <%	LGV DMRB Diff Test	LGV GEH<5	LGV DMRB OR GEH <%	HGV DMRB Diff Test	HGV GEH<5	HGV DMRB OR GEH <%	DMRB Diff test	GEH<5	DMRB OR GEH<5
A527 Tunstall Western Bypass	264	31%	140	72%	27	56%	431	39%	9.8	12.5	4.6	14.4	1	✗	✗	✗	✗	✗	✗	✓	✓	✓	✗	✗	✗
A5271 Longport Road	-288	-38%	29	15%	15	17%	-244	-23%	9.6	2.2	1.7	7.1	1	✗	✗	✗	✓	✓	✓	✓	✓	✓	✗	✗	✗
A53 Etruria Road	219	13%	-18	-6%	30	30%	231	11%	5.5	1.0	3.2	5.2	1	✓	✗	✓	✓	✓	✓	✓	✓	✓	✓	✗	✓
B5045 Shelton New Road[1]	-68	-18%	-14	-18%	-1	-9%	-84	-18%	3.3	1.6	0.4	3.7	1	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
A5006 Stoke Road	29	8%	-24	-62%	-7	-171%	-3	-1%	1.5	3.4	2.5	0.1	1	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
College Road	-34	-18%	-13	-105%	-10	-96453%	-57	-27%	2.4	2.9	4.4	3.7	1	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
A52 Leek Road[2]	-112	-21%	-12	-15%	3	15%	-121	-19%	4.6	1.3	0.7	4.6	1	✗	✓	✓	✓	✓	✓	✓	✓	✓	✗	✓	✓
A5007 City Road	16	3%	-5	-5%	-5	-18%	6	1%	0.7	0.5	0.9	0.2	1	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Whieldon Road	-6	-5%	3	10%	-5	-465%	-8	-5%	0.6	0.6	2.6	0.6	1	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
A50(T)[3]	138	6%	152	32%	140	38%	429	13%	2.9	7.6	8.0	7.8	1	✓	✓	✓	✗	✗	✗	✗	✗	✗	✗	✗	✗
A5035 Trentham Road	172	30%	3	6%	-5	-61%	170	27%	7.8	0.4	1.6	7.3	1	✗	✗	✗	✓	✓	✓	✓	✓	✓	✗	✗	✗

Pass	7	7	8	9	9	9	10	10	10	6	6	7
Counts	11	11	11	11	11	11	11	11	11	11	11	11
% Pass	64%	64%	73%	82%	82%	82%	91%	91%	91%	55%	55%	64%

Inter-Peak Hour WB

Road	Inter-Peak Hour (14-1500hrs) - Survey									IP - Model											
										Model								Summed			
	M'cycles	Cars	LGVs	HGVs - Rigid	HGVs - Artic	HGV	Buses	Total	Total (Car/LGV/HGV)	Car Com	Car Non Com	Taxi Com	Taxi No Com	LGV Com	LGV No Com	HGV Com	HGV No Com	Car	LGV	HGV	Total
A527 Tunstall Western Bypass	4	593	165	19	20	39	2	803	797	379	242	0	1	30	69	3	2	621	99	5	725
A5271 Longport Road	9	832	211	33	3	36	7	1095	1079	691	442	0	2	45	105	34	21	1133	150	55	1339
A53 Etruria Road	4	1639	221	45	22	67	12	1943	1927	1149	735	1	3	81	190	33	20	1884	271	52	2208
B5045 Shelton New Road[1]	5	474	68	15	7	22	3	572	564	217	139	0	1	15	36	7	5	356	51	12	419
A5006 Stoke Road	1	469	38	5	0	5	1	514	512	377	241	0	1	24	57	7	4	618	81	11	710
College Road	3	276	22	2	0	2	17	320	300	186	119	0	1	9	20	2	1	305	28	3	336
A52 Leek Road[2]	2	500	93	7	3	10	0	605	603	356	228	0	1	30	71	19	12	584	102	31	717
A5007 City Road	5	539	120	26	2	28	9	701	687	366	234	0	1	36	83	34	21	600	119	54	774
Whieldon Road	0	80	27	0	0	0	0	107	107	70	44	0	0	5	12	4	2	114	18	6	138
A50(T)[3]	15	1790	390	144	192	336	4	2535	2516	1101	704	1	3	84	196	189	116	1806	280	305	2390
A5035 Trentham Road	1	423	59	11	2	13	2	498	495	251	160	0	1	21	50	12	8	411	71	20	501

Road									Results - IP																
	Difference Car		Difference (LGV)		Difference HGV		Difference (Total)		GEH				Results												
	Difference	% Diff	Difference	% Diff	Difference	% Diff	Difference	% Diff	Car GEH	LGV GEH	HGV GEH	Total GEH	Count	Car DMRB Diff Test	Car GEH<5	Car DMRB OR GEH <%	LGV DMRB Diff Test	LGV GEH<5	LGV DMRB OR GEH <%	HGV DMRB Diff Test	HGV GEH<5	HGV DMRB OR GEH <%	DMRB Diff test	GEH<5	DMRB OR GEH<5
A527 Tunstall Western Bypass	-28	-5%	66	40%	34	86%	72	9%	1.1	5.8	7.1	2.6	1	✓	✓	✓	✓	✗	✓	✓	✗	✓	✓	✓	✓
A5271 Longport Road	-301	-36%	61	29%	-19	-53%	-260	-24%	9.6	4.5	2.8	7.5	1	✗	✗	✗	✓	✓	✓	✓	✓	✓	✗	✗	✗
A53 Etruria Road	-245	-15%	-50	-23%	15	22%	-281	-15%	5.8	3.2	1.9	6.2	1	✓	✗	✓	✓	✓	✓	✓	✓	✓	✓	✗	✓
B5045 Shelton New Road[1]	118	25%	17	25%	10	45%	145	26%	5.8	2.2	2.4	6.5	1	✗	✗	✗	✓	✓	✓	✓	✓	✓	✗	✗	✗
A5006 Stoke Road	-149	-32%	-43	-114%	-6	-117%	-198	-39%	6.4	5.6	2.1	8.0	1	✗	✗	✗	✓	✗	✓	✓	✓	✓	✗	✗	✗
College Road	-29	-10%	-6	-29%	-1	-66%	-36	-12%	1.7	1.3	0.8	2.0	1	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
A52 Leek Road[2]	-84	-17%	-9	-9%	-21	-207%	-114	-19%	3.6	0.9	4.6	4.4	1	✓	✓	✓	✓	✓	✓	✓	✓	✓	✗	✓	✓
A5007 City Road	-61	-11%	1	1%	-26	-93%	-87	-13%	2.6	0.1	4.1	3.2	1	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Whieldon Road	-34	-43%	9	34%	-6	-63276%	-31	-29%	3.5	1.9	3.6	2.8	1	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
A50(T)[3]	-16	-1%	110	28%	31	9%	126	5%	0.4	6.0	1.7	2.5	1	✓	✓	✓	✗	✗	✗	✓	✓	✓	✓	✓	✓
A5035 Trentham Road	12	3%	-12	-20%	-7	-52%	-6	-1%	0.6	1.5	1.7	0.3	1	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

Pass	8	7	8	10	8	10	11	10	11	7	7	8
Counts	11	11	11	11	11	11	11	11	11	11	11	11
% Pass	73%	64%	73%	91%	73%	91%	100%	91%	100%	64%	64%	73%

PM Peak Hour EB

Road	PM Peak-Hour (17-1800hrs) - Survey								
	M'cycles	Cars	LGVs	HGVs - Rigid	HGVs - Artic		Buses	Total	Total (Car/LGV/HGV)
A527 Tunstall Western Bypass	9	1405	212	12	16	28	2	1656	1645
A5271 Longport Road	7	1195	165	27	15	42	6	1415	1402
A53 Etruria Road	9	2026	266	34	20	54	8	2363	2346
B5045 Shelton New Road[1]	10	649	59	5	7	12	5	735	720
A5006 Stoke Road	1	581	41	1	0	1	3	627	623
College Road	2	269	24	1	0	1	17	313	294
A52 Leek Road[2]	3	697	74	6	1	7	0	781	778
A5007 City Road	4	829	99	4	3	7	11	950	935
Whieldon Road	4	254	26	0	0	0	1	285	280
A50(T)[3]	31	3216	384	72	161	233	6	3870	3833
A5035 Trentham Road	8	746	65	1	0	1	4	824	812

Road	PM - Model																			
	Model								Summed				Diff Car		Diff LGV		Diff HGV		Difference	
	Car Com	Car Non Com	Taxi Com	Taxi No Com	LGV Com	LGV No Com	HGV Com	HGV No Com	Car	LGV	HGV	Total	Difference	% Diff	Difference	% Diff	Difference	% Diff	Difference	% Diff
A527 Tunstall Western Bypass	747	477	0	2	47	110	16	10	1224	157	26	1407	181	13%	55	26%	2	8%	238	14%
A5271 Longport Road	656	419	0	2	59	137	27	16	1075	195	43	1313	120	10%	-30	-18%	-1	-3%	89	6%
A53 Etruria Road	1126	720	1	3	80	187	21	13	1846	267	33	2147	180	9%	-1	0%	21	38%	199	8%
B5045 Shelton New Road[1]	416	266	0	1	18	43	6	3	681	62	9	752	-32	-5%	-3	-4%	3	25%	-32	-4%
A5006 Stoke Road	309	198	0	1	18	43	1	1	507	61	2	570	74	13%	-20	-49%	-1	-133%	53	9%
College Road	181	116	0	0	4	9	3	2	296	13	4	313	-27	-10%	11	47%	-3	-304%	-19	-7%
A52 Leek Road[2]	366	234	0	1	19	45	3	2	600	65	5	670	97	14%	9	13%	2	24%	108	14%
A5007 City Road	438	280	0	1	26	61	13	8	718	88	20	826	111	13%	11	12%	-13	-191%	109	12%
Whieldon Road	89	57	0	0	6	14	1	1	146	20	2	168	108	42%	6	24%	-2	-22433%	112	40%
A50(T)[3]	2150	1375	1	6	85	197	168	103	3525	282	270	4077	-309	-10%	102	27%	-37	-16%	-244	-6%
A5035 Trentham Road	396	253	0	1	16	38	4	2	650	54	6	709	96	13%	11	17%	-5	-486%	103	13%

Road	Results - PM																
	GEH				Results												
	Car GEH	LGV GEH	HGV GEH	Total GEH	Count	Car DMRB Diff Test	Car GEH<5	Car DMRB OR GEH <%	LGV DMRB Diff Test	LGV GEH<5	LGV DMRB OR GEH <%	HGV DMRB Diff Test	HGV GEH<5	HGV DMRB OR GEH <%	DMRB Diff test	GEH<5	DMRB OR GEH<5
A527 Tunstall Western Bypass	5.0	4.1	0.4	6.1	1	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
A5271 Longport Road	3.6	2.2	0.2	2.4	1	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
A53 Etruria Road	4.1	0.1	3.1	4.2	1	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
B5045 Shelton New Road[1]	1.3	0.3	0.9	1.2	1	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✗	✓
A5006 Stoke Road	3.2	2.8	1.0	2.2	1	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✗	✓
College Road	1.6	2.6	1.9	1.1	1	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
A52 Leek Road[2]	3.8	1.1	0.7	4.0	1	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
A5007 City Road	4.0	1.2	3.6	3.7	1	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Whieldon Road	7.6	1.3	2.1	7.5	1	✗	✗	✗	✓	✓	✓	✓	✓	✓	✗	✓	✓
A50(T)[3]	5.3	5.6	2.4	3.9	1	✓	✗	✓	✗	✗	✗	✓	✓	✓	✓	✓	✓
A5035 Trentham Road	3.6	1.5	2.6	3.7	1	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

Pass	**10**	**9**	**10**	**10**	**10**	**10**	**11**	**11**	**11**	**10**	**9**	**11**
Counts	**11**	**11**	**11**	**11**	**11**	**11**	**11**	**11**	**11**	**11**	**11**	**11**
% Pass	**91%**	**82%**	**91%**	**91%**	**91%**	**91%**	**100%**	**100%**	**100%**	**91%**	**82%**	**100%**

PM Peak Hour WB

Road	PM Peak-Hour (17-1800hrs) - Survey								
	M'cycles	Cars	LGVs	HGVs - Rigid	HGVs - Artic		Buses	Total	Total (Car/LGV/HGV)
A527 Tunstall Western Bypass	4	811	102	8	8	16	1	934	929
A5271 Longport Road	5	1077	96	9	11	20	4	1202	1193
A53 Etruria Road	16	2124	157	12	9	21	4	2322	2302
B5045 Shelton New Road[1]	2	885	27	3	4	7	2	923	919
A5006 Stoke Road	1	463	27	1	0	1	2	494	491
College Road	1	384	26	0	0	0	16	427	410
A52 Leek Road[2]	4	531	53	1	1	2	2	592	586
A5007 City Road	3	634	90	3	4	7	10	744	731
Whieldon Road	0	177	10	3	0	3	1	191	190
A50(T)[3]	20	2209	324	44	142	186	9	2748	2719
A5035 Trentham Road	6	509	49	1	3	4	2	570	562

Road	PM - Model																			
	Model								Summed				Diff Car		Diff LGV		Diff HGV		Difference (Total)	
	Car Com	Car Non Com	Taxi Com	Taxi No Com	LGV Com	LGV No Com	HGV Com	HGV No Com	Car	LGV	HGV	Total	Difference	% Diff	Difference	% Diff	Difference	% Diff	Difference	% Diff
A527 Tunstall Western Bypass	507	324	0	1	32	75	11	7	831	107	18	956	-20	-2%	-5	-5%	-2	-10%	-27	-3%
A5271 Longport Road	687	439	0	2	50	117	11	7	1126	167	18	1311	-49	-5%	-71	-74%	2	10%	-118	-10%
A53 Etruria Road	1385	885	1	4	85	199	21	13	2270	284	34	2588	-146	-7%	-127	-81%	-13	-63%	-286	-12%
B5045 Shelton New Road[1]	416	266	0	1	28	64	7	4	682	92	11	785	203	23%	-65	-240%	-4	-63%	134	15%
A5006 Stoke Road	390	249	0	1	11	25	2	1	639	36	3	677	-176	-38%	-9	-32%	-2	-192%	-186	-38%
College Road	185	118	0	0	5	13	2	1	303	18	3	324	81	21%	8	30%	-3	-28252%	86	21%
A52 Leek Road[2]	399	255	0	1	16	37	6	4	653	52	10	716	-122	-23%	1	2%	-8	-409%	-130	-22%
A5007 City Road	486	311	0	1	29	68	11	7	796	98	17	911	-162	-26%	-8	-9%	-10	-145%	-180	-25%
Whieldon Road	113	72	0	0	8	19	1	1	185	28	2	214	-8	-4%	-18	-176%	1	42%	-24	-13%
A50(T)[3]	1584	1012	1	4	75	175	186	114	2596	250	300	3147	-387	-18%	74	23%	-114	-62%	-428	-16%
A5035 Trentham Road	266	170	0	1	19	45	6	4	435	64	10	510	74	14%	-15	-31%	-6	-149%	52	9%

Road	Results - PM																
	GEH				Results												
	Car GEH	LGV GEH	HGV GEH	Total GEH	Count	Car DMRB Diff Test	Car GEH<5	Car DMRB OR GEH <%	LGV DMRB Diff Test	LGV GEH<5	LGV DMRB OR GEH <%	HGV DMRB Diff Test	HGV GEH<5	HGV DMRB OR GEH <%	DMRB Diff test	GEH<5	DMRB OR GEH<5
A527 Tunstall Western Bypass	0.7	0.5	0.4	0.9	1	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
A5271 Longport Road	1.5	6.2	0.5	3.3	1	✓	✓	✓	✓	✗	✓	✓	✓	✓	✓	✓	✓
A53 Etruria Road	3.1	8.6	2.5	5.8	1	✓	✓	✓	✗	✗	✗	✓	✓	✓	✓	✓	✓
B5045 Shelton New Road[1]	7.3	8.4	1.4	4.6	1	✗	✗	✗	✓	✗	✓	✓	✓	✓	✓	✓	✓
A5006 Stoke Road	7.5	1.6	1.4	7.7	1	✗	✗	✗	✓	✓	✓	✓	✓	✓	✗	✗	✗
College Road	4.4	1.6	2.4	4.5	1	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✗	✓
A52 Leek Road[2]	5.0	0.1	3.3	5.1	1	✗	✗	✗	✓	✓	✓	✓	✓	✓	✗	✗	✗
A5007 City Road	6.1	0.8	2.9	6.3	1	✗	✗	✗	✓	✓	✓	✓	✓	✓	✗	✓	✓
Whieldon Road	0.6	4.1	0.8	1.7	1	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
A50(T)[3]	7.9	4.4	7.3	7.9	1	✗	✗	✗	✓	✓	✓	✗	✗	✗	✗	✗	✗
A5035 Trentham Road	3.4	2.0	2.3	2.3	1	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

Pass	**6**	**6**	**6**	**10**	**8**	**10**	**10**	**10**	**10**	**7**	**7**	**8**
Counts	**11**	**11**	**11**	**11**	**11**	**11**	**11**	**11**	**11**	**11**	**11**	**11**
% Pass	**55%**	**55%**	**55%**	**91%**	**73%**	**91%**	**91%**	**91%**	**91%**	**64%**	**64%**	**73%**