Stamford 2016 Model Update

Local Model Validation Report

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1 Introduction

1.1 Background

Mouchel (more recently WSP) have been commissioned under the Lincolnshire County Council Technical Services Partnership to produce an updated traffic assignment model for Stamford.

The previous Stamford model development was conducted in 2009 and, assuming a base year validity period of around 5 years, is now considered to be life expired. Therefore the need for a full update was established.

The updated model is will be used to identify the impacts of forecast traffic growth within the town and also specifically to act as a tool capable of evaluating masterplan development proposals anticipated for the town. The model has therefore been developed from the perspective of general application to a Local Plan and specific application to Stamford North.

At the request of Lincolnshire County Council (LCC), Mouchel carried out a review of the original modelling work and then developed a methodology and work programme to support the latest transport modelling and forecasting. This report covers the base model development. A subsequent Traffic Forecast Update Report covers the model application to a proposed masterplan development.

1.2 Purpose of this Report

This Local Model Validation Report (LMVR) describes the development of the updated Stamford Model and its validation against observed traffic data, based on criteria set out by Unit M3-1 of the WebTAG series of documents. This report seeks to demonstrate that the model provides an accurate representation of highway travel patterns in the Stamford area.

1.3 Structure of this Report

Subsequent sections of this report are structured as follows:

- Model Review; covering the 2009 model status
- Re-calibration to 2016; providing an overview of the project objectives
- Traffic Data; indicating information to support the model development
- Matrix Development; covering trip making in the study area
- Model Standards; identifying the target criteria for the model validation

- Model Update; indicating the network updates and enhancements included.
- Matrix Calibration; verifying the source data used in the model development
- Assignment Calibration and Validation; demonstrating the extent to which the model matches the target criteria
- Conclusion; providing comment on the model suitability for forecast application.

2 2009 Model Review

2.1 Introduction

This section of the report provides a review of the 2009 Stamford Transport Model.

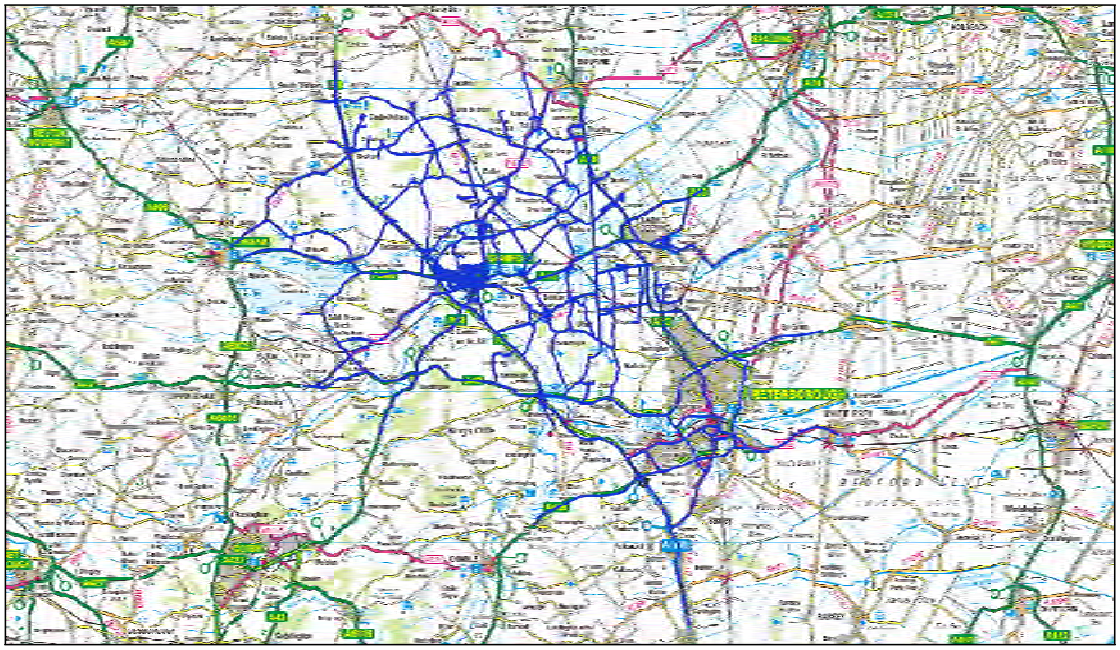
2.2 Modelling Software

The Stamford Model was originally developed using PTV VISUM software V11.52-02.

2.3 Study Area

The model covers the urban area of Stamford and surrounding countryside. The area extends from Oakham in the east to Peterborough in the west and Bourne in the north to Stilton in the south. Effectively the study area extends to cover the north western quadrant of the Peterborough Travel to Work Area (TTWA) which encompasses Stamford within Lincolnshire, and elements of neighbouring Rutland and Cambridgeshire.

Figure 2-1: Map of Study Area – Model network shown in blue



2.4 Zoning System

The zoning system designed for the Stamford transport model comprises 145 zones, of which 105 are internal zones (Figure 2-2) within the study area, 40 are external zones, of which 25 are buffer zones representing the wards/districts adjacent to the internal zones, 7 are external zones representing the regions surrounding the East Midlands region, and 8 are termed as External Input Zones. The External Input Zones were located at the boundary of the ANPR cordon however they were not defined in terms of area coverage in the accompanying Local Model Validation Report (LMVR). This was also the case for the 25 buffer zones and 7 external zones.

Figure 2-2: Internal model zones

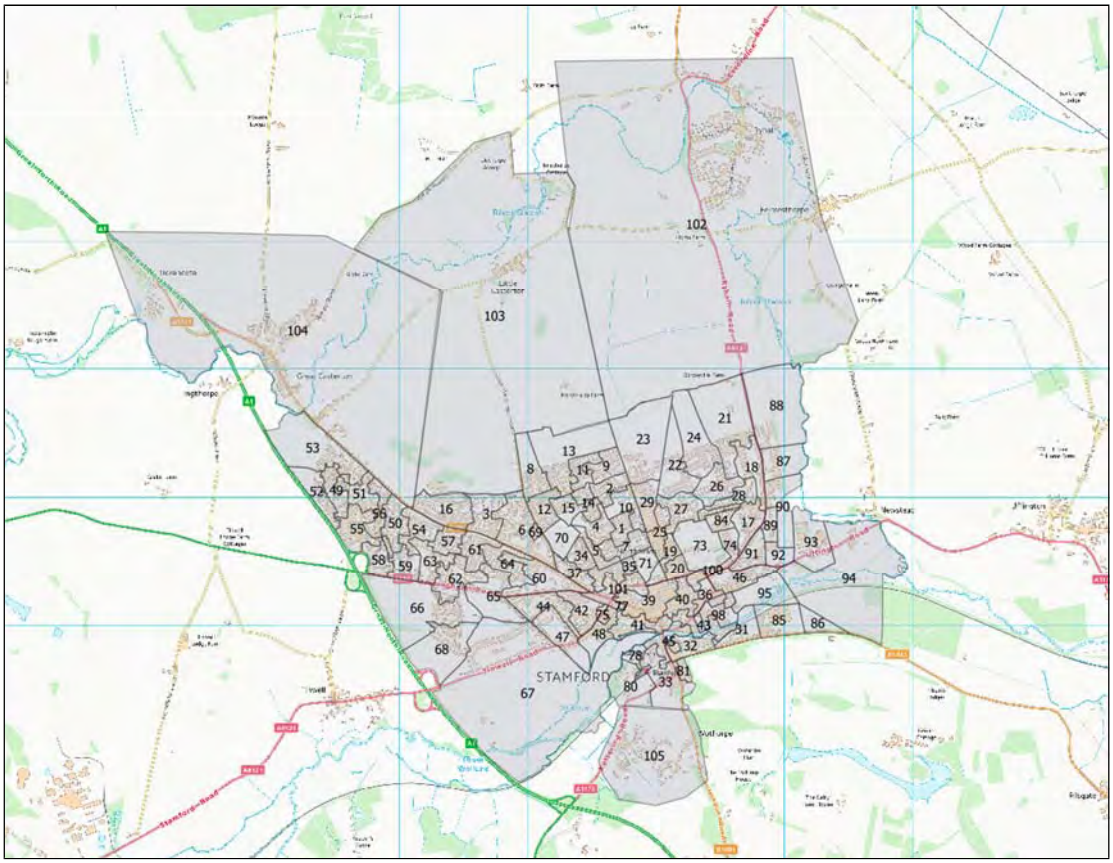


Figure 2-3: External Input zones (10001-10009)

2.5 Modelled Time Periods

Two time periods have been modelled in order to represent the different travel patterns that exist during a typical weekday:

- AM Peak hour (08:00 – 09:00); and
- PM Peak hour (17:00 – 18:00);

The above AM and PM Peak hours were identified through analysis and verification of Automatic Traffic Count (ATC).

2.6 Vehicle Classes

Two separate vehicle classes were included in the original VISUM model, namely Light vehicles and Heavy vehicles. This was due to a limited number of LGVs being captured during the Automatic Number Plate Recognition (ANPR) survey. As a result the Car and LGV classes were merged into a single table.

2.7 Modelled Highway Network

Within the study area, the modelled network includes all 'A' and 'B' class roads and most minor roads. Within Stamford, residential roads that act as distributor routes or rat-runs have also been included in the model. Outside the study area, a coarse network of buffer links have been defined to include all major 'A' roads. This ensures that all long distance traffic is properly routed into and through the Stamford area.

The review of the model network revealed several inconsistencies that need to be addressed before the model is used to produce future year forecasts. These inconsistencies are highlighted in the following paragraphs.

A number of links have been identified as closed to certain vehicle categories. This was not always supported by the existing road signs in the vicinity of those links. Similarly a number of junctions were coded with bans for certain vehicle categories. These restrictions have been reviewed against the existing road signs and in most occasions they could not be justified.

Several centroid connectors have been identified as being connected directly to nodes representing junctions within the model simulation area. This is against good practice advice.

2.8 Matrix Development

The process of demand development has been updated from earlier versions of the model which relied wholly on synthetic demand derivation.

The 2009 base year matrices have been compressed into sectors representing the internal, buffer, external and External Input zones. The sector totals are presented in Table 2-1 and Table 2-2 below. It can be observed that movements associated with the External Input zones are occurring exclusively between those zones (Sector 4).

Table 2-1: 2009 AM Base matrix (Car and LGV trips) – Sector totals

2009 AM TRIPS	Sector 1	Sector 2	Sector 3	Sector 4	Total
Sector 1 – Local zones	2,696	1,815	375	0	**4,886**
Sector 2 – Buffer zones	2,181	431	25	0	**2,638**
Sector 3 – External zones	555	38	1,532	0	**2,125**
Sector 4 – External Input	0	0	0	605	**605**
Total	**5,432**	**2,285**	**1,932**	**605**	**10,254**

Table 2-2: 2009 PM Base matrix (Car and LGV trips) – Sector totals

2009 PM TRIPS	Sector 1	Sector 2	Sector 3	Sector 4	Total
Sector 1 – Local zones	3,118	1,975	440	0	**5,533**
Sector 2 – Buffer zones	1,935	280	23	0	**2,238**
Sector 3 – External zones	510	24	2,085	0	**2,619**
Sector 4 – External Input	0	0	0	489	**489**
Total	**5,563**	**2,279**	**2,548**	**489**	**10,879**

2.9 Highway Assignment Process

The VISUM version files for the 2009 model did include only the basic stages of the assignment process and therefore it was not possible to review the steps followed in running the matrix estimation process. The model was run for the existing procedures stored in the model and the resulting model flows were observed to be almost identical to the peak hour flows that have been reported in the 2009 LMVR.

Figure 2-4 and Figure 2-5 present the AM and PM peak vehicles flows respectively.

Review of the parameters associated with the assignment procedure revealed that no generalised cost parameters were employed in the assignment.

Figure 2-4: AM Model Peak Hour Flows

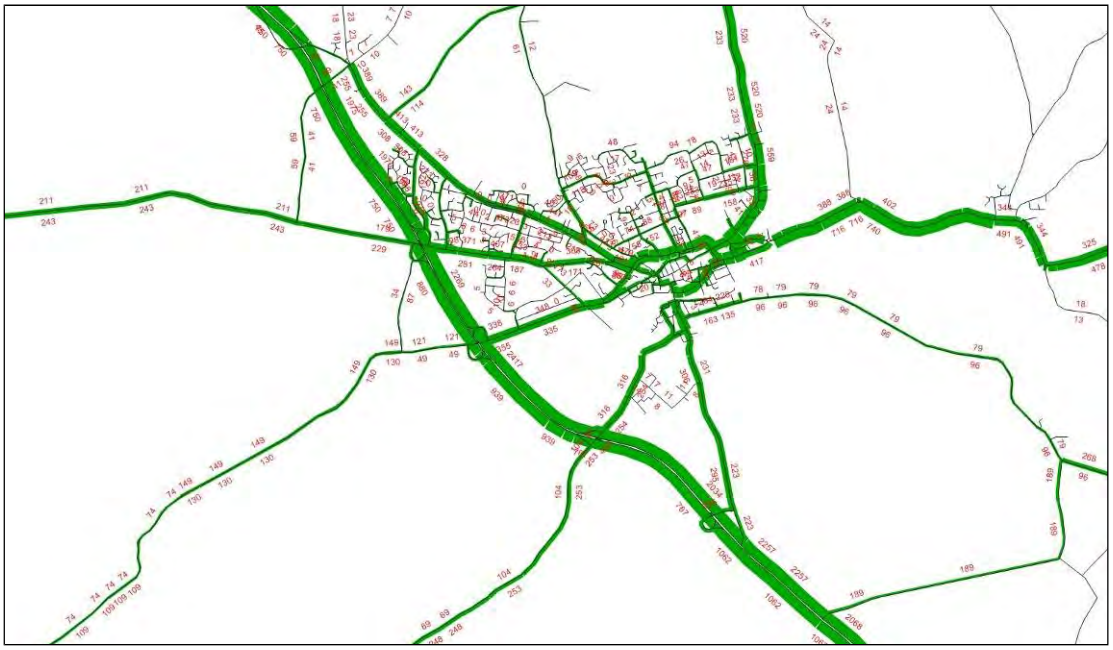


Figure 2-5: PM Model Peak Hour Flows

2.10 Model Calibration

The calibration of the Base Year (2009) traffic models was undertaken using an approach where the network was adjusted to ensure that the model realistically replicated routeing and vehicle speeds through the study area. Matrix estimation was then incorporated in the model calibration process in order to improve overall model validation.

2.11 Model Validation

Network validation was undertaken to establish that the network structure was accurate and that characteristics of the network are suitably represented in the model. A number of range and logic checks were undertaken, including routeing checks. Assignment validation was then undertaken for traffic flows (links and turns) and journey times.

2.12 Conclusions

The following key conclusions are noted:

- The model does not include an IP period. Whilst this is suitable for operational analysis any economic appraisal would require an Interpeak model for reliable prediction.
- Application of an ANPR survey method has limited the use of the model beyond the immediate town centre.
- Some network definition deficiencies were noted.
- The assignment process lacks generalised cost.

From these conclusions it was decided that a full model update was required.

3 Recalibration Methodology

3.1 Overview

The following sections provide a description of the methodology and data sources employed in the re-calibration of the traffic model from 2009 base year to 2016.

3.2 2016 Survey Data

Traffic data from surveys conducted during 2016 were made available courtesy of the the masterplan project sponsor and LCC. Furthermore all government sources of traffic data have been reviewed in order to identify additional datasets that could be utilised in the model re-calibration. The locations for which 2016 traffic count data are available are presented in Figure 3-1.

Figure 3-1: 2016 Traffic Count Locations

TrafficMaster data have been utilised to provide information of travel times within and in the vicinity of the study area. The TrafficMaster dataset was also used to provide origin destination data for LGV and HGV movements in and around the study area as no other sources of data were available.

3.3 Zoning

Zoning was require to be reconsidered to ensure congruence of MPOD data supplied in MSOA and LSOA definition and original zoning, which was allocated to wards. The 2001 electoral ward boundaries have been utilised to assist in geographically defining

the model buffer and external zones. The 2001 wards were then related to the 2011 ward boundaries which correspond (in their majority) to the 2011 Census MSOA and LSOA definitions.

3.4 Network

Revised signal specification sheets have been received reflecting the most recent updates to the signalised junctions within the study area. These have been incorporated in the traffic model.

Furthermore a review of recent mapping has been undertaken to identify changes in the local highway network that occurred during the period 2009-2016. Finally, a review of bans on certain vehicle types has been conducted to identify links that would have to be modelled accordingly within the study area.

3.5 Matrix development

The 2009 Base year matrix has been re-zoned and the External input zones were removed. This resulted in the number of zones in the model being reduced from 145 to 134 (eight external input and three very small model zones in Stamford were removed).

Mobile Phone Origin Destination (MPOD) data were incorporated into the matrix building, in order to provide detail on the long distance trips that are most likely to use the A1 section to the west of Stamford. This helps to set the right amount of background traffic that exists around Stamford and which may affect what junction is used to turn off the A1 to reach Stamford.

The matrix development process is explained in more detail in section 5 – Matrix Development.

3.6 Growth factors

TEMPRO 7.2 was employed in the derivation of the 2009-2016 growth factors for the recalibration of the model. The derivation process was made complex by the fact that the TEMPRO 7.2 dataset does not cover the period 2009-2011. It was therefore decided to extrapolate the 2011-2016 growth projections in order to obtain an approximation of the growth for the period 2009-2016.

3.7 Development Log

Development details have been extracted from the task brief document provided by the client's Planning Consultant. These have been converted to a number of scenarios with varying phasing and quantities of housing units and development retail/office floor-space.

3.8 Buses

The existing information on bus services, service routes and service frequency has been reviewed and compared to the most recent datasets. Amendments were made where necessary in order to reflect the current situation.

3.9 Limitations

Time and budgetary constraints have precluded the development of an interpeak model and traffic assignment by car trip purpose. In view of the immediate intended uses of the model these decisions are not expected to cause difficulty.

In the event that the model is applied for projects such as funding bids then the necessary data is available to expand the time period coverage and disaggregate the matrix level of detail.

4 Model Standards

4.1 Introduction

As part of the model development process, reference was made to the guidance provided in DfT TAG Unit M3.1, *Highway Assignment Modelling*. Specific reference was made to the criteria and standards appropriate for highway assignment validation and for model convergence.

The target objective of model development has been to exceed the minimum standards wherever possible.

4.2 Calibration/ Validation

The following criteria were used to assess the model's validation levels.

4.2.1 Trip Matrix Validation

The following criteria for matrix validation and acceptability guidelines for matrix validation were targeted in terms of screen line flow validation:

Table 4-1 Screenline Validation Criteria

Measure	Acceptability Guideline
Differences between modelled flows and counts should be less than 5% of counts	all or nearly all screen lines

4.2.2 Link Flow and Turning Movement Validation

The criteria for followed for link flow validation are set out below.

Table 4-2 Link flow Validation Criteria

Criteria		Acceptability Guideline
1	individual flows within 100 veh/h of counts for flows less than 700 veh/h	> 85% of cases
	Individual flows within 15% of counts for flows from 700 to 2,700 veh/h	> 85% of cases
	Individual flows within 400 veh/h of counts for flows more than 2,700 veh/h	> 85% of cases
2	GEH <5 for individual flows	> 85% of cases

4.2.3 Journey Time Validation

Journey time comparisons were undertaken as part of the GYTM validation process, to match the objectives set out as follows.

Table 4-3 Journey Time Validation Criteria

Criteria	Acceptability Guideline
Modelled times along routes should be within 15% of observed times (or 1 minute if higher than 15%)	> 85% of routes

In all cases, these criteria were applied to combined all-vehicle flows and journey times.

4.3 Model Convergence

TAG guidelines suggested the criteria listed in the following Table 4-4 to measure model convergence.

Table 4-4 TAG Convergence Criteria

Measure of Convergence	Base Model Acceptable Values
Delta and % Gap	less than 0.1% or at least stable with convergence fully documented and all other criteria met
percentage of links with flow change (P) < 1%	four consecutive iterations greater than 98%
percentage of links with cost change (P2) < 1%	four consecutive iterations greater than 98%
Percentage change in total user costs (V)	Four consecutive iterations > 0.1%

The measure of convergence has been adapted to the parameters that can be obtained after running the ICA assignment as shown in the Table 4-5 below.

Table 4-5 TAG Convergence Criteria for ICA assignment.

No.	Condition	Convergence Criteria
1	The final delays of the equilibrium assignment and those obtained from running ICA are close, i.e. ICA produces delays that are consistent with the assignment result	More than 90% of turns have a relative difference in delay less than 5%
2	The turn volumes from the last equilibrium assignment are close to the smoothed volumes; and	More than 98% of turns have a GEH less than 1
3	The turn volumes from the last equilibrium assignment are close to those from the previous assignment.	More than 98% of turns have a GEH less than 1
4	The difference between the costs along the chosen routes and those along the minimum cost routes, summed across the whole network, and expressed as the percentage of the minimum costs	Less than 0.1% or at least stable with convergence fully documented and all other criteria met

5 Traffic Data

5.1 Introduction

This section provides a summary of the observed data that has been used to develop the model and the analysis that has been undertaken.

5.2 Overview of Data

5.2.1 Mobile Phone OD Data

Mobile Phone OD (MPOD) data was requested for Lincolnshire in 2016 as part of a project to update the Greater Lincoln Model. The request covered urban areas in the county, including Stamford at LSOA level, rural areas at MSOA level and adjacent areas at district level.

The Supplier chosen to procure the MPOD was Citilogik who provided access to Vodafone network data.

The Vodafone sample was expanded to population targets to provide a full representation of person travel movements by time period. Within the area. Vodafone was able to allocate trip purposes for commute, other and non-home based movements.

The dataset contained three types of zoning, each with different spatial details:

- Study Area (LSOA or MSOA);
- Geofence (districts or aggregations thereof); and
- External

Note: no trips are allocated to ‘external’ zones. Instead for an external-external trip: the origin of the trip is allocated to the geofence zone it encounters along the route, and equivalently the destination of the trip is allocated to the last geofence zone it travelled through.

The MPOD data were available for whole time periods (07:00 – 10:00 for AM, 10:00 – 16:00 for Inter-Peak, 16:00 – 19:00 for PM, and the rest for Off-Peak).

Disaggregation of this data was required to convert it into a useable format for the traffic model.

5.2.2 Trafficmaster OD Data

Trafficmaster Origin Destination data provides a sample of trip movements for cars, LGVs and HGVs across Great Britain, with a particularly strong sample for LGVs.

Data were provided from September 2014 to October 2015. Trips are in vehicle format (unlike MPOD which represents person trips), are available at hourly levels, and are at a LSOA level (Lower Super Output Area).

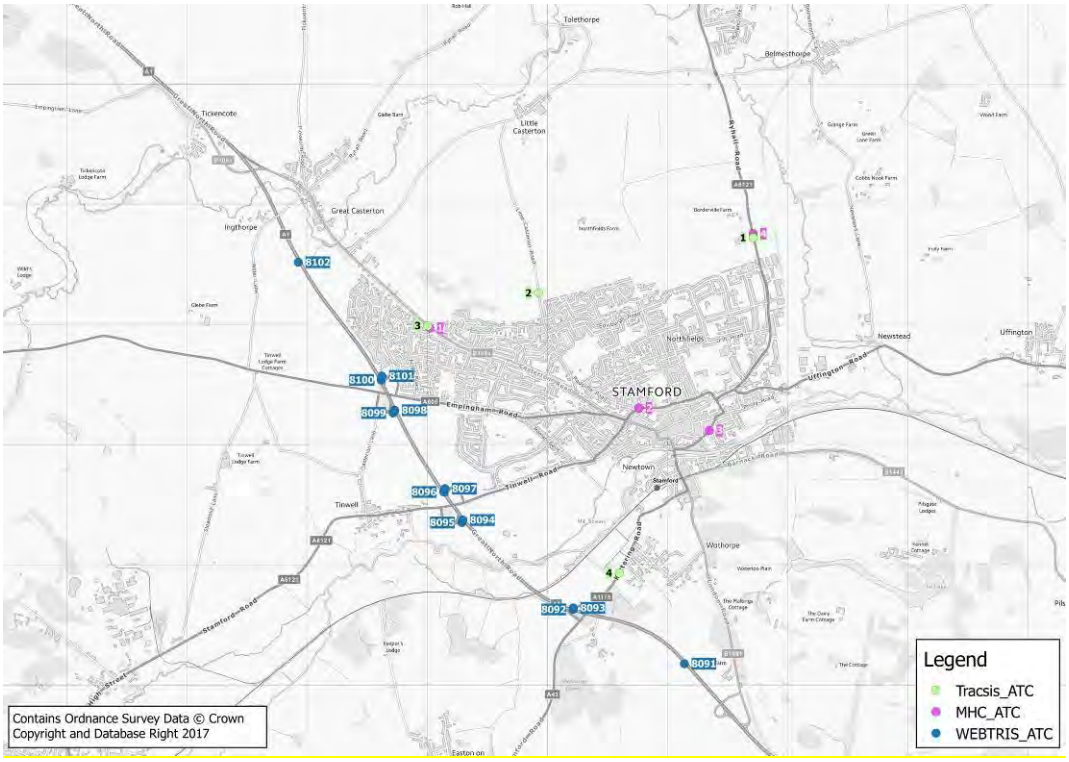
5.2.3 *Census Journey to Work Data*

Census Journey to Work data from 2011 are used to provide information relating to trips around Stamford, in performing checks on the original data and in disaggregating MPOD data. This is explained in more detail in section 6 (Matrix Development).

5.2.4 *Automatic Traffic Count Surveys*

Automatic Traffic Count (ATC) surveys were undertaken by MHC and Tracsis in six locations in the Stamford area. Each survey collected 24 hour data in both directions. MHC surveys were undertaken for two separate weeks in October 2016 (11/10/16 – 17/10/16 and 25/10/16 – 31/10/16). Tracsis surveys were undertaken for 14 days between 27/06/16 and 10/07/16. The locations of the ATC surveys in the immediate vicinity of Stamford are shown in Figure 5-1. Existing WEBTRIS (Highways England count database) count data along the A1 were also utilised, taking weekday data from September and October 2016.

Figure 5-1: Automatic Traffic Count Surveys

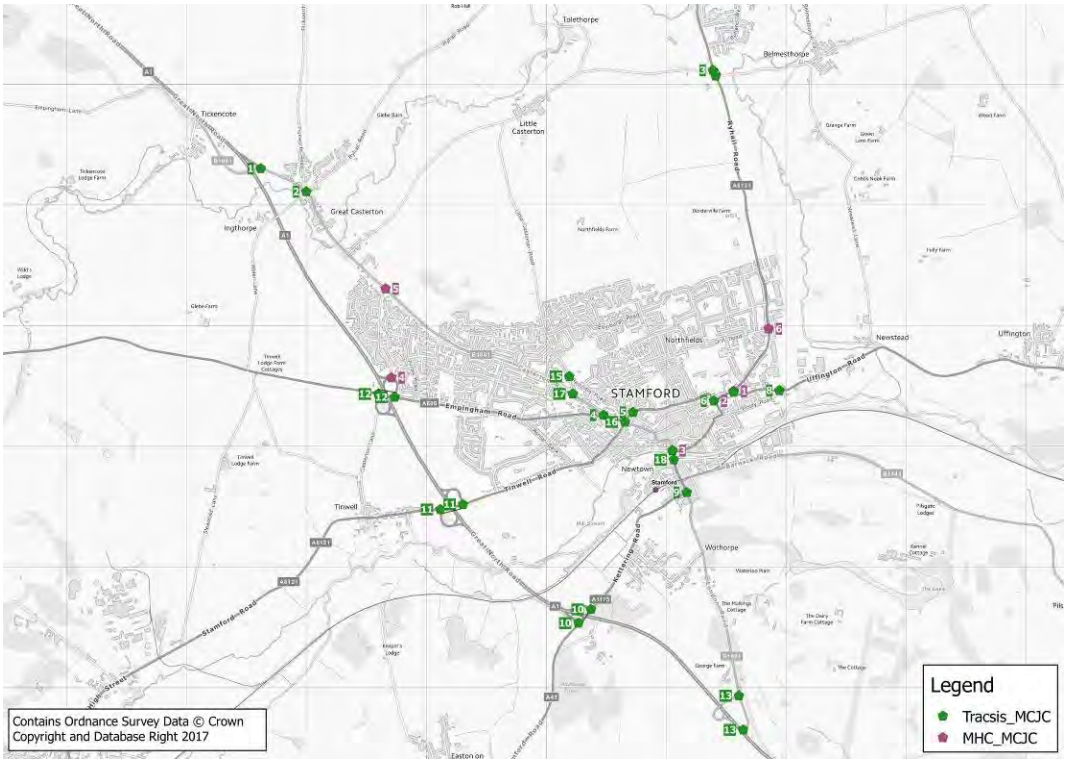


5.2.5 *Manual Classified Junction Count Surveys*

Manual Classified Junction Count (MCJC) surveys were undertaken by MHC and Tracsis at 20 junctions within Stamford. MHC surveys were undertaken on

26/10/2016 between 07:00-19:00 (although one site was resurveyed on 08/11/2016). Tracsis surveys were undertaken on 30/06/2016. Vehicles were classified into two categories in Tracsis counts and 8 in MHC counts. The locations of those surveys are shown in Figure 5-2.

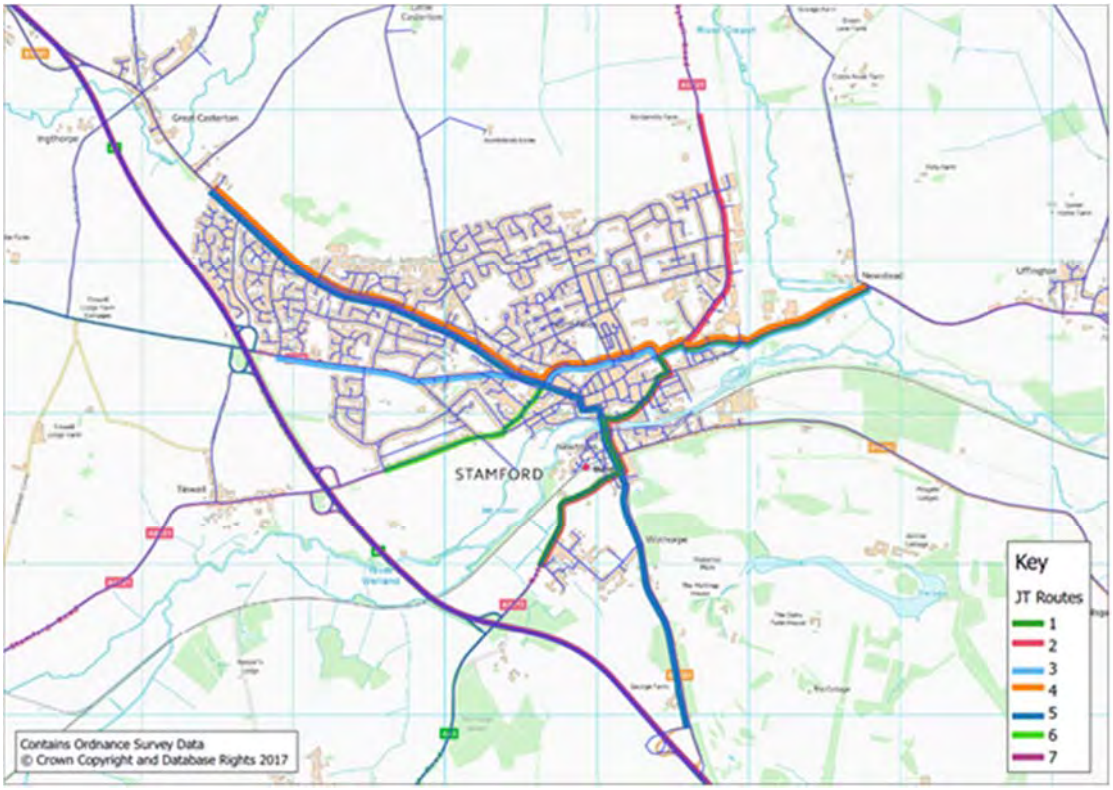
Figure 5-2: Manual Classified Junction Count Surveys



5.2.6 *Journey Time Surveys*

TrafficMaster journey time data for the year 2015 to 2016 was obtained and analysed to extract average journey times in both directions for certain routes within the Study Area. The defined routes are presented below. Routes 1 to 6 are the same routes used for the JT validation of the 2009 model. Route 7 has been defined to assist in establishing the accuracy in the modelling of the A1 trips.

Figure 5-3: Journey Time Routes



5.3 Overview of Data Analysis

This subsection provides an overview of the processing and analysis of the observed traffic data.

The processing and analysis carried out is summarised as follows:

- All traffic count data has been standardised into three classifications; Cars, LGVs, and HGVs, and each link and turning count has then been allocated to an Anode, Bnode and (where appropriate) Cnode to enable comparison with the model.
- All traffic count data has also been normalised, using a set of Day, Month and Year factors derived from WebTRIS data, to an “average weekday” in an “average month” in 2016.
- The accuracy of ATC data has been analysed and broadly found to have an acceptable level of accuracy. A handful of counts along the A1 and one in Stamford itself (along Casterton Road) were excluded due to discrepancies with counts upstream or downstream.
- ATC average weekday profiles have also been created, which confirm that the AM and PM peak hours are 8:00-9:00 and 17:00-18:00 respectively.

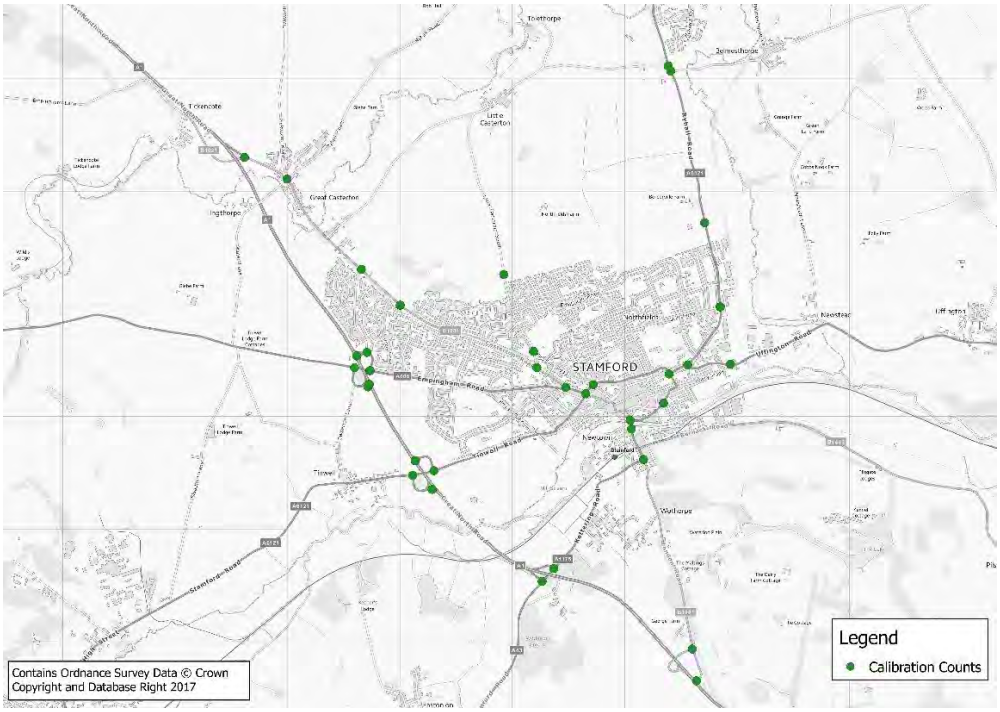
- Analysis has also been undertaken to produce plots that illustrate traffic flows across screenlines and at junctions.
- The validity of Journey Time data has been checked and average travel times for each route in each direction have been calculated.

5.4 Calibration and Validation Counts

In total 152 individual counts were used in model calibration. A number of counts along the A1 produced inconsistent data with the adjacent counts and were reserved from direct application, along with one in Stamford. Limited availability of buffer-buffer trips and lack of spatial granularity of model zones led to further count exclusions on the periphery of the study area, as it was not felt that full representation of these trips was necessary for the assessment of the proposed development. The locations of calibration counts are shown in Figure 5-4.

The designation of counts as validation was considered to be a compromise to the model's representation of flows within the Study Area.

Figure 5-4: Locations of calibration counts



6 Matrix Development

6.1 Introduction

This section describes the methodology involved in updating the original model matrices and incorporating additional data sources. The methodology undertaken is outlined in section 5.2. Checks on the original matrices are described in 5.3. Further details on the processing steps undertaken in the matrix development are described in section 5.4.

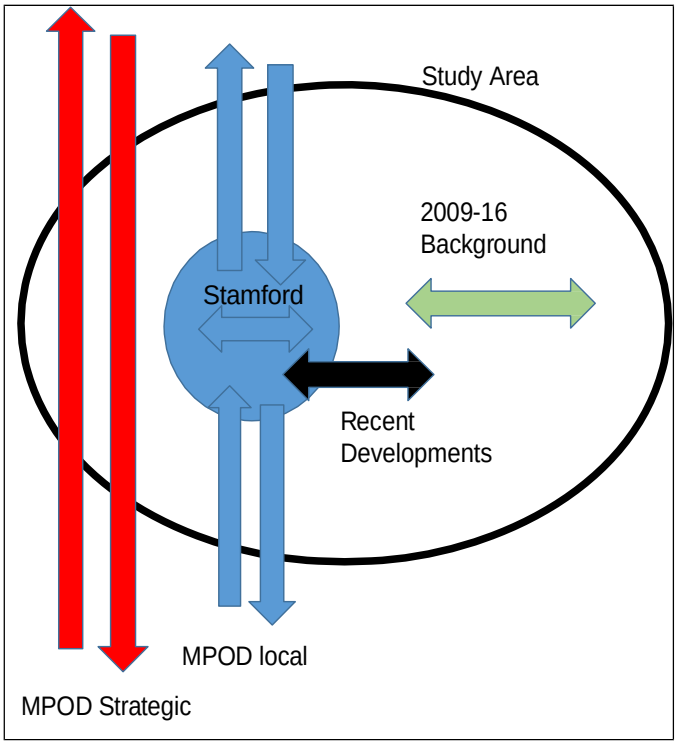
6.2 Data Preparation and Methodology

Exploring the possibility of applying existing travel data and zoning systems has been considered important from a cost perspective to Lincolnshire County Council (LCC) and to assist in meeting tight programme targets. Furthermore, the synthetic prior matrix build from 2009 data used established procedures and datasets and is beneficial in providing a comprehensive coverage across a wide area.

An important element of reusing this data was the refinement of localised Stamford zoning to suit the latest development growth and perspectives on preparing a traffic model. For the original synthetic 2009 matrices the defined internal area covered the town built up area and included 98 zones. Within the Internal area a detailed land use inventory was prepared. This area represented localities where productions and attractions were highly linked through daily trip making patterns and included ODs that may be significantly affected by the proposed developments. This data was updated by factoring from 2009 to 2016, with respect to differential land use growth.

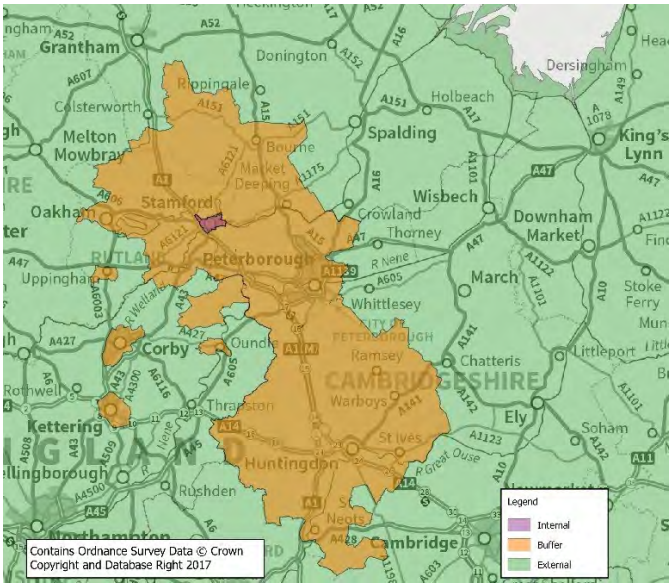
Within the Internal area the detailed town zones also have MPOD data available for use, covering movements to, from and within Stamford. The following diagram (Figure 6-1) indicates the provenance of data sources for the demand matrix. Each is covered in turn.

Figure 6-1: Matrix Update Process



Recent developments and TEMPRO growth were considered in deriving a process to update the original matrices from 2009 to 2016.The Internal area was surrounded by a number of Buffer zones that had finite boundaries and contained travel demand that is expected to be influenced by traffic conditions in Stamford. MPOD trips between Stamford and the buffer area (denoted in the diagram above as MPOD local) are processed in order to verify and control the traffic distribution. The internal, buffer and external area boundary definition is illustrated in Figure 6-2.

Figure 6-2: Geographical boundaries for Internal, buffer and external Model Zones



Around the Buffer network are a number of external zones that represent the rest of the UK. These zones only connect to the strategic highway network and have no network of their own. They represent assumed strategic highway movement catchments, for example the A1 South to North. MPOD trips between these external zones were processed to derive the external-external demand that is assumed to travel along the A1 and which would therefore have an impact on traffic conditions around Stamford.

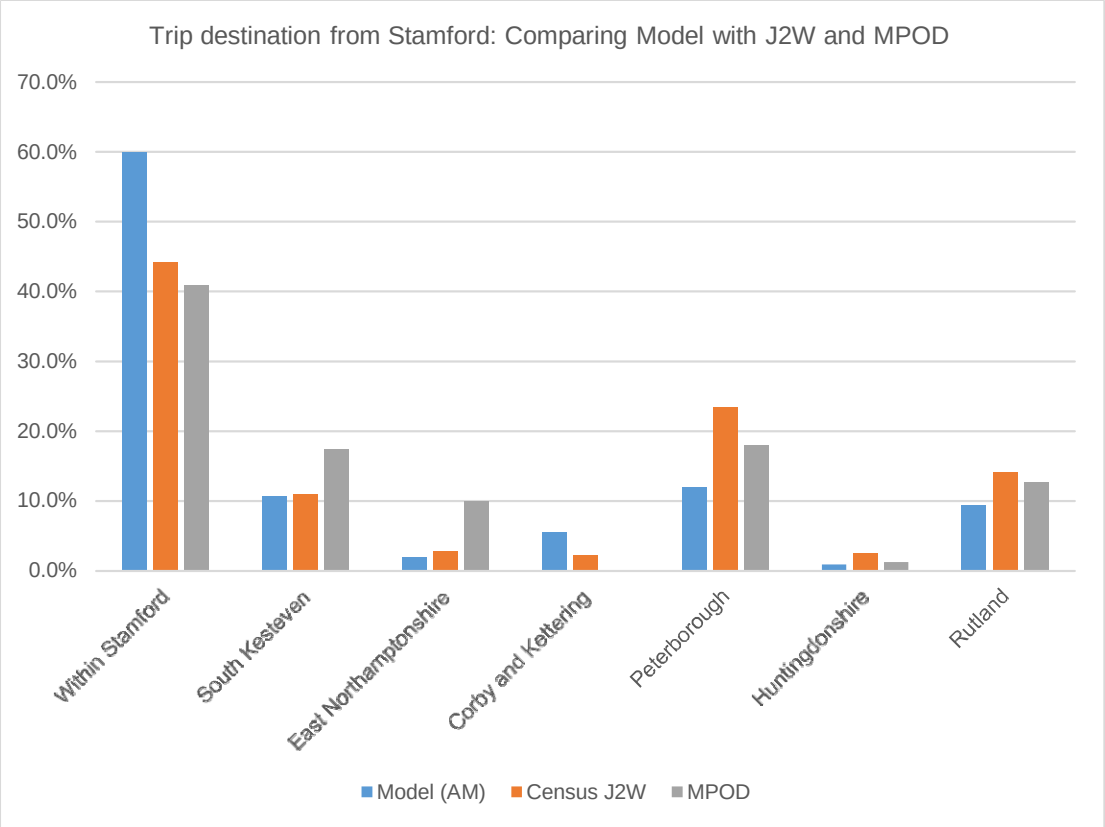
All traffic counts were normalised to a neutral 2016 average weekday which corresponds to the MPOD data availability. The counts were checked for outliers, standardisation of multiple observations and verified for consistency with adjacent counts.

6.3 Verification Checks of Original Matrices

As indicated above the original matrices were compared with more recently derived datasets in order to check that the general pattern of trip movements around Stamford had not significantly changed. Both MPOD and Census Journey to Work data were used in the checks.

Firstly the destinations of trips from Stamford were compared with Mobile Phone Origin Destination data and Census Journey to Work data. This was done for the AM period since Census Journey to Work data is not broken down by time period (trips in Census Journey to Work data are from home to work are therefore considered more likely to represent AM trip making patterns than those of the PM period). The nearest destinations from Stamford in each direction were considered, where consistency of spatial granularity could be achieved between the datasets, covering local movements to nearby towns and districts.

Figure 6-3: Trip destination comparison: Model vs J2W vs MPOD



Broadly similar patterns occur between the datasets. Trips are most likely to end in Stamford, with Peterborough receiving the second highest number of trips, followed by the rest of South Kesteven and Rutland.

Additionally correlations in total trips between the original matrices and MPOD were compared at Local Authority District level, for the areas surrounding Stamford (South Kesteven, East Northamptonshire, Peterborough, Huntingdonshire and Rutland). Strong R squared values (over 0.95) were achieved for both AM and PM periods, for trips departing and arriving at each selected District.

6.4 Processing Steps

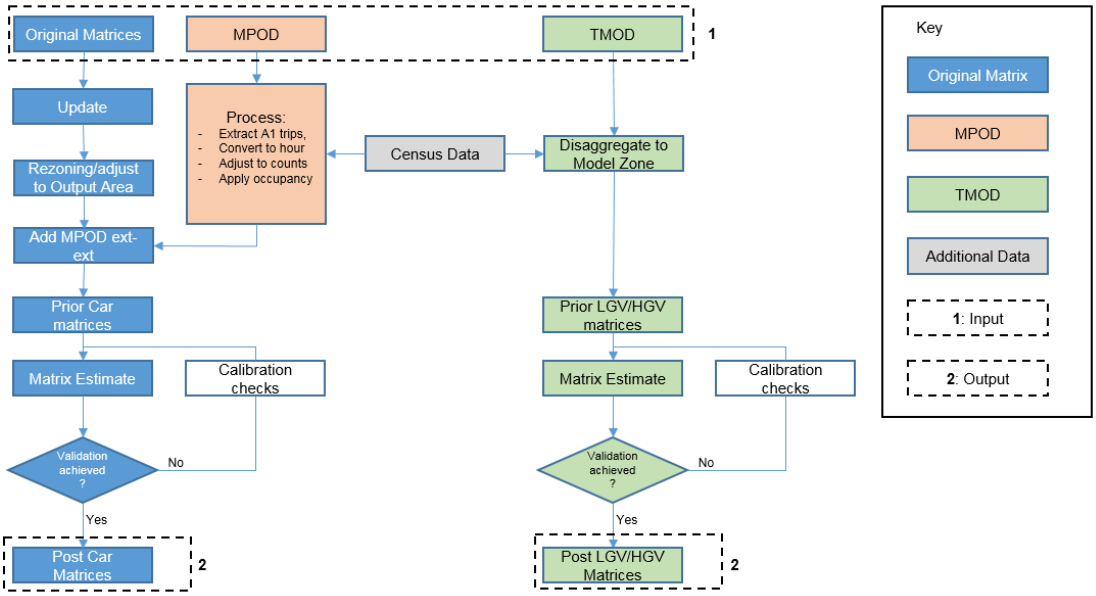
Verification checks provided confidence in the general patterns of trips to and from Stamford in the original matrices. However lack of information about external-external trips meant additional data were sought to derive these trips. Additional data were also sought to construct Goods Vehicle (GV) matrices. MPOD and Trafficmaster Origin Destination Data(TMOD) data were used respectively for the car external-external and the GV matrices.

The following processing steps were undertaken, with details given below the flowchart.

- Updating Original Matrices to Base Year

- Rezoning Original Matrices
- Processing of MPOD data to derive External-External car trips
- Combining Rezoned Original Car Matrices with MPOD car trips
- Processing of TMOD trips to provide GV matrices
- Matrix Estimation (note this is explained in more detail in section 6 (Model Calibration))

Figure 6-4: Matrix development: processing steps of original matrices, MPOD and TMOD.



6.4.1 Updating Original Matrices to Base Year

No traffic significant developments were identified in Stamford between 2009 and 2016, hence a global set of growth factors by geographical sector were considered appropriate in deriving an update to the base year of 2016.

TEMPRO 7.2 was used to derive growth factors from 2011 to the base year 2016. Since data were not available in TEMPRO 7.2 pre-2011, the growth factors were extrapolated to represent growth from 2009 to 2016.

Growth factors were derived for MSOAs within South Kesteven, Peterborough, East Northamptonshire, Corby, and Rutland, for Local Authority Districts or Council within the East and East Midlands Government Regions, and at Government Region level outside of this. Separate factors were derived by time period.

6.4.2 Rezoning Original Matrices

Whilst no major changes were made to model zoning, three zones were considered too small to have any material impact on the model and were subsumed into neighbouring zones.

2011 Census Area Statistics were used in order to provide additional confidence in the data for the remaining 134 zones. Model zone trips were aggregated to Census Output Area level and disaggregated back to model zone using splitting factors based on population and employment data.

6.4.3 Processing of MPOD data to derive External-External car trips

Limited information was available regarding the external to external trips in the original matrix, reducing the scope available to review the original trips. MPOD data were used to derive an alternative estimate of trips along the A1, passing alongside Stamford.

A journey planner was used to assist in ascertaining likely origins and destinations for trips passing Stamford on the A1. Due to the lack of spatial granularity of zones distant from Stamford, caution was adopted in choosing zones as likely origin and destinations. This meant the total magnitude of trips travelling along the A1 was likely to be a slight under-estimation; trip totals were scaled up to match overall volumes of traffic from count data along the A1.

Count data (ATC and MCC data commissioned for this study) were used to derive a disaggregation from time period to peak hour for AM and PM. Inter-Peak was divided by six to obtain an average hour.

For trip ends south of Stamford, as this was outside the Study Area for the MPOD dataset, data are available at district level. Census Journey to Work data (available at MSOA level) were therefore used to disaggregate the district trips.

MPOD data contained person trips. WebTAG occupancy factors, by period and trip purpose, were applied to the MPOD data to yield vehicle trips.

6.4.4 Combining Rezoned Original Car Matrices with MPOD car trips

The matrices in the original VISUM model were for cars and Light Goods Vehicles and all trip purposes. Analysis of TMOD GV trips, along with evidence of changes in trip making patterns since 2009, suggests a negligible amount of the original matrix was LGV. Therefore the original matrix is assumed to comprise car trips only. This enables the direct replacement of external-external trips from the original matrix with those from the analysis of the MPOD car trips.

6.4.5 Processing of TMOD trips to provide GV matrices

When used in the Greater Lincoln Model, the data were expanded to represent the population by comparing the sample with count data. During this time the trips were converted to the zoning system for the MPOD data used in the Greater Lincoln model. Neutral months from 2015 were selected for the TMOD data (March, April, May and June).

The TMOD data were used in this study to provide GV matrices for trips to, from and within Stamford, and additionally external-external trips along the A1.

TMOD trips needed to be disaggregated from MPOD zone to Model Zone. This was done using Census Journey to Work data (where model zones were at MSOA level) or through Census population statistics (where model zones were smaller than MSOAs).

6.4.6 Matrix Estimation

Trips are adjusted in the VISUM model using the TFLOWFUZZY procedure which utilises counts that have been designated as calibration counts. The detail of this process is explained later in section 8.4 (Matrix Estimation).

The 'prior' matrices refer to the matrices developed before the matrix estimation is run, and the 'post' matrices refer to the matrices generated from the matrix estimation process.

6.5 Matrix Reporting

A summary of the prior matrices is presented in this section. Following matrix estimation a set of 'post' matrices were created - the results of these are described in section 8.4 (Matrix Estimation).

6.5.1 Prior Matrix Sector Totals

Matrix totals are presented for three sectors – internal (1), buffer (2) and external (3) – for cars, LGVs and HGVs.

TEMPRO growth factors derived from 2011 to 2016 indicate a small reduction in traffic across the region. Matrix totals are therefore slightly reduced in comparison with the original model.

Trips to and from external areas have been replaced by MPOD trips that are considered likely to take the A1. Compared to the original matrices, the prior matrices in this study contain fewer external-external trips but more external-buffer trips. However there was limited information available about the scope of the external matrices originally provided.

Table 6-1: Prior Matrix Sector Totals - Car

Sector	AM			PM		
	Sector 1	Sector 2	Sector 3	Sector 1	Sector 2	Sector 3
Sector 1 – Local zones	2469	1783	367	2734	1945	434
Sector 2 – Buffer zones	2149	390	869	1778	235	2895
Sector 3 – External zones	459	1798	123	502	1245	139

Table 6-2: Prior Matrix Sector Totals - LGV

Sector	AM			PM		
	Sector 1	Sector 2	Sector 3	Sector 1	Sector 2	Sector 3
Sector 1 – Local zones	125	189	0	87	174	0
Sector 2 – Buffer zones	207	0	213	131	0	220
Sector 3 – External zones	*0*	267	216	0	142	202

Table 6-3: Prior Matrix Sector Totals - HGV

Sector	AM			PM		
	Sector 1	Sector 2	Sector 3	Sector 1	Sector 2	Sector 3
Sector 1 – Local zones	0	3	4	1	6	4
Sector 2 – Buffer zones	6	0	121	5	0	81
Sector 3 – External zones	4	77	107	4	55	44

6.5.2 Prior Matrix Trip Length

Average trip length of the prior matrices was calculated by vehicle type and time period separately. Trip length is highest for HGVs, followed by LGVs and cars, with similar average trip lengths for AM and PM.

Table 6-4: Prior Matrix Average Trip Length by Vehicle Type

Vehicle Type	Average TL (km)	
	AM	PM
CAR	33.92	40.32
LGV	54.64	56.83
HGV	87.71	81.92

The long-distance external-external trips along the A1 are included in the demand, but not the shorter external-external trips between towns and villages in the buffer area. The lack of trips within the buffer area significantly lengthens the average trip length. Indeed the trip length distribution indicates that there are effectively two ‘peaks’ in

abundance of trips for cars, one for movements around Stamford, and one for the external trips. The 'trough' in the middle at around 40km (which occurs for all vehicle types) is due to the lack of external-external trips within the buffer area (however this is not expected to have any material impact on traffic flows or junction performance in Stamford). The trip length distribution is presented for Cars, LGVs and HGVs for the AM period and PM period.

Figure 6-5: Trip Length Distribution of Prior Car Matrices, for AM and PM.

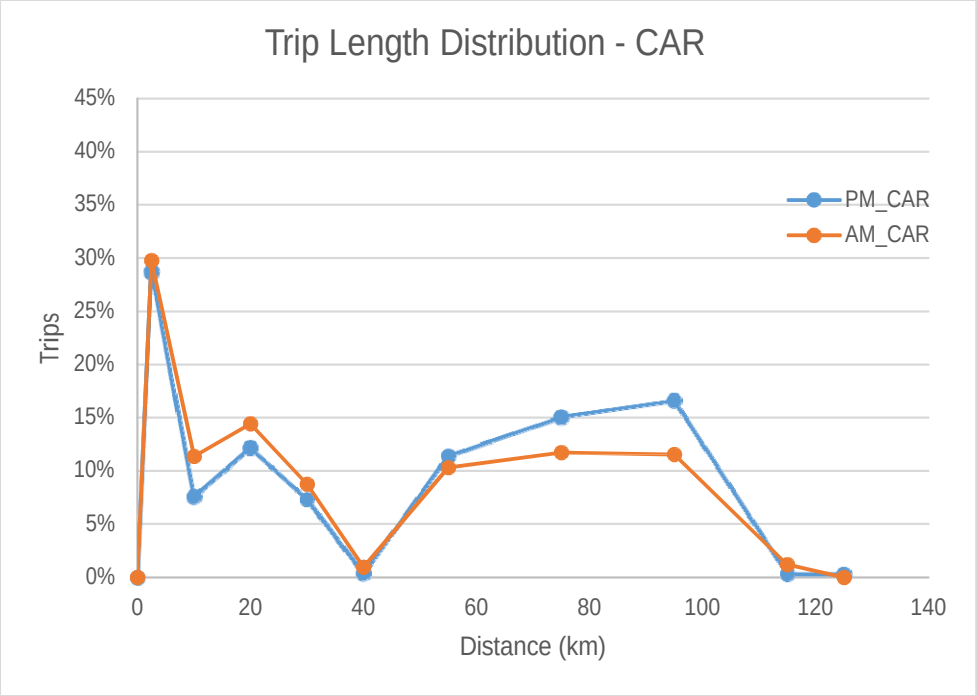


Figure 6-6: Trip Length Distribution of Prior LGV Matrices, for AM and PM.

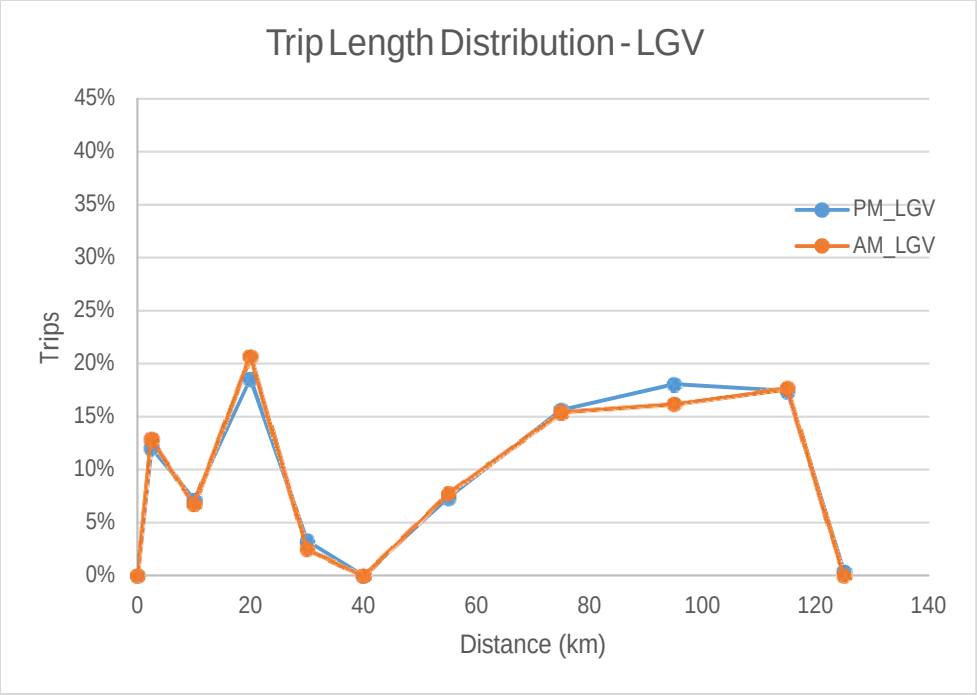
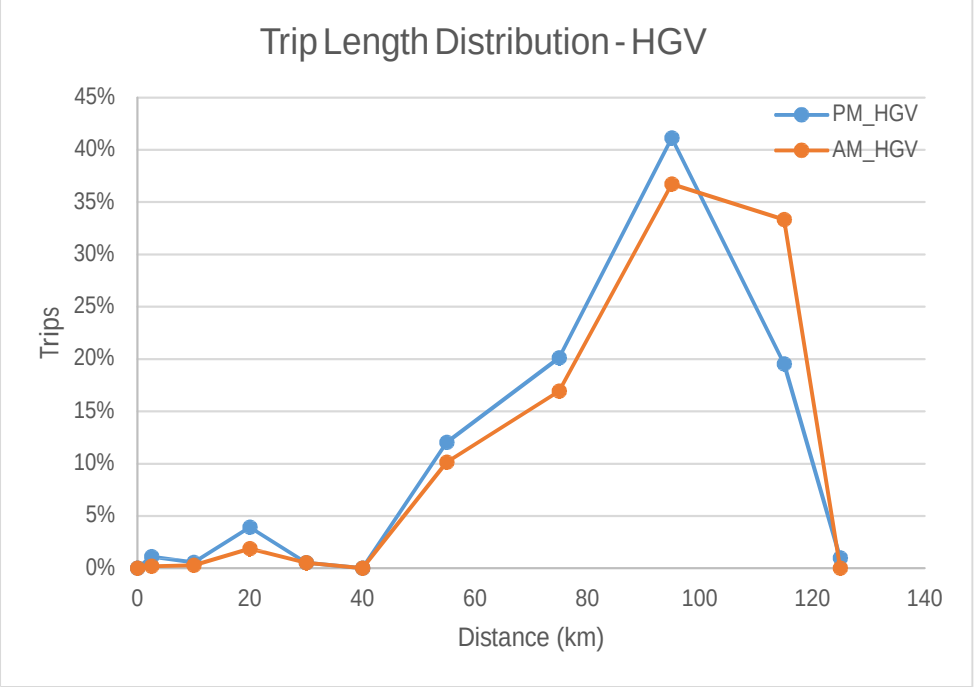


Figure 6-7: Trip Length Distribution of Prior HGV Matrices, for AM and PM.



7 Network Model Update

7.1 Introduction

The process of model calibration is effectively continuous throughout the model building process but the step from network building to network calibration occurs with the loading of trip matrices to the network.

7.2 Modelled Date and Time Periods

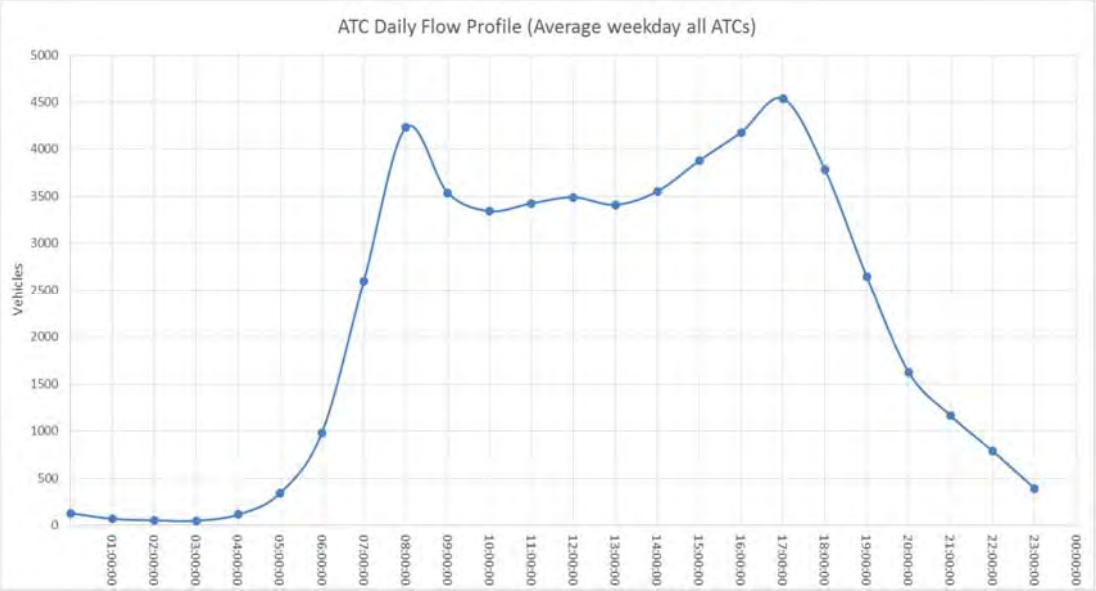
Based on the traffic count survey data, two peaks have been modelled in order to represent the different travel patterns that exist during a typical weekday, based on the analysis of traffic flow data:

- AM Peak hour (08:00 - 09:00);
- PM Peak hour (17:00 - 18:00)

The above peak hours were determined from the traffic count data which showed that the AM and PM peaks last until 09:00 and 18:00 respectively after which, off-peak levels of traffic are seen.

The traffic count data from all the available traffic counts were totalled by hourly intervals, as shown in the graph below.

Figure 7-1 ATCs Daily Flow Profile



7.3 Vehicle Classes

Three user classes have been modelled;

- Cars. At this stage of the process, the employer business, commuter and other car users were put together since there was not enough traffic data available to calibrate them separately.
- Light Goods Vehicles (LGVs).
- Heavy Goods Vehicles (HGVs).

7.4 Passenger Car Unit

The highway assignment models operate in passenger car units (PCU) as opposed to vehicle units. It was therefore required that traffic counts and demand matrices be converted to the PCU unit prior to the assignment.

The following PCUs per vehicle apply to each user class in the Stamford model:

- Car - 1.00
- LGV - 1.00
- HGV - 2.50

7.5 Assignment Methodology

The Stamford model uses VISUM 15.00-16. The Intersection Capacity Analysis (ICA) assignment has been used as the assignment procedure using the Equilibrium assignment as a subordinate method.

Volume-Delay functions are usually used to model volume-dependent travel times on links. They can also be used to model volume-dependent wait times for turns or complete nodes. On the other hand, the Highway Capacity Manual (HCM) published by the US Transportation Research Board contains internationally recognized guidelines on calculating the level of service (LOS) and other performance indicators for intersections, based on the detailed junction geometry and various control strategies. VISUM computes performance indicators such as capacity, delays or LOS according to either HCM version 2000 or 2010 guidelines.

The ICA assignment is a multiple user class assignment method, allowing different user classes to be assigned simultaneously to the same network but using different generalised cost functions.

The components of the generalised cost function used in the traffic model were based on TAG unit M3.1 and data contained in the latest DfT approved WebTAG databook (July 2017). WebTAG calculates the costs of travel based on the assumptions of the value of money which a traveller is willing to pay to compensate for the time spent driving on the road (pence per minute) and the out of pocket costs which are based on travel time and travel distance (pence per kilometre).

7.6 Generalised Costs

The generalised cost of trips is expressed in monetary units (pence), which can be related to the value of time and travelled distance. A multiple user class assignment method was used that allows Cars, LGV's and HGV's to be assigned simultaneously to the same network but using different generalised cost functions.

The components of the generalised cost function used in the traffic model were based on TAG A1.3 (July 2017). It calculates the costs of travel based on the assumptions of the value of money which a traveller is willing to pay to compensate for the time and out of pocket expenses spent driving on the road.

For modelling purposes, generalised costs were calculated based on the assumptions of average travel speed on the road, vehicle fuel consumption, values of time, and average vehicle occupancies of each trip purpose. Non-fuel vehicle operating costs, such as maintenance or insurance etc., were not taken into account as drivers generally only perceive the fuel and time elements of their journey in making route choices.

Based on the above and the TAG guidance, values of pence per kilometre (PPK) and pence per minute (PPM) for three vehicle classes (Car, LGV, HGV) by purpose type. The purpose Work, Commute and Other for the Car user; Personal and Freight for the LGVs and OGV1 and OGV2 for HGVs. The PPM and PPK values were calculated for all the modelled peaks and for input to VISUM. Monetary time (PPM) and distance (PPK) costs have also been converted into generalised costs and are shown in Table 7-1.

TAG Unit M3-1 indicates that the VoT given for HGV's accounts for the driver only. However, there are additional costs to the business owners due to the travel time. To take these into account, TAG recommends using a VoT around twice the driver value (see paragraph 2.8.8 of TAG Unit M3-1). Accordingly, this approach has been adopted in calculating the HGV VoTs shown in Table 7-1 below.

Table 7-1 WebTAG Generalised Cost Parameters

User Class	Time Period	Monetary Values	
		Time (pence per minute)	Distance (pence per kilometre)
Car Work	AM Peak	30.10	12.30
	PM Peak	30.53	12.30
Car Commute	AM Peak	20.18	5.80
	PM Peak	20.25	5.80
Car Other	AM Peak	13.92	5.80
	PM Peak	14.58	5.80
LGV Personal	AM Peak	15.98	7.27
	PM Peak	15.98	7.27

LGV Freight	AM Peak	21.99	14.15
	PM Peak	21.99s	14.15
HGV OG1	AM Peak	49.67	30.76
	PM Peak	49.67	30.76
HGV OG2	AM Peak	49.67	56.02
	PM Peak	49.67	56.02

The trips of the model are not split by purpose so a simple average value of the PPM and PPK was calculated and adjusted into seconds and metres since these are the impedance units used by VISUM. Table 7-2 below shows the values used for input in the VISUM model.

Table 7-2 Stamford Model Generalised Cost Parameters

User Class	Time Period	Monetary Values	
		Time (pence per second)	Distance (pence per metre)
Car	AM Peak	0.3224	0.0069
	PM Peak	0.3134	0.0066
LGV	AM Peak	0.3545	0.0133
	PM Peak	0.3545	0.0133
HGV	AM Peak	0.8278	0.0378
	PM Peak	0.8278	0.0378

7.7 Network Review

Once the zone plan and the connectors were defined it was possible to start checking the network, setting out the required procedures to undertake the matrix estimation as well as the calibration of the model.

The checking list can be summarised in the following points:

- **Signalised Junctions.** Both the timings and stages were amended in accordance with the specifications provided by LCC. In addition, a procedure to optimise the cycle and green time lengths of the main signalised junctions was established.

- **The viability to run the model using the ICA assignment.** The ICA assignment significantly improves the convergence behaviour since the lane geometry and interdependencies between the individual turns are modelled in detail. Therefore, the network elements such as nodes and turns were reviewed and modified when necessary to fulfil the network specifications required to run the ICA assignment.

- **Vehicle restrictions.** There were observed HGV restrictions within the town centre of Stamford so the model was modified to replicate these restrictions

and so the real behaviour of drivers. The previous model included several restrictions within Stamford and those located on main roads have signs that confirm their existence (i.e. Town Bridge and St. Paul's Street). However, there were other restrictions that could not be checked against traffic signs and thus, the restrictions were maintained in the model when the roads were narrow enough to not to allow the entrance of the heavy vehicles.

- **Increasing the capacity of the merging/diverge roads of the A1 interchange with the A606, A612 and A43.** In the previous model these were coded with two lanes merge and diverge sections on the A1. A test, running the assignment with the prior matrices showed important delays turning out on the ramp towards the A1. The current geometry of the interchange was checked and the model updated, increasing the number of lanes from two to three. Ultimately, the capacity of the mentioned sections was changed from 3300 PCUs/h to 4300 PCUs/h.

- **Re-coding the Town Bridge junction.** The junction was coded as a main node without taking into account the capacity to stack vehicles along the bridge or the likely off-set between the traffic lights located on Wharf Road and those located on Station Road. The previous model geometry generates excessive delays (compared to observed) in both directions. In an attempt to reduce the delays the main node was removed and replaced by two groups of signalised nodes. However, the capacity still remained constrained by the tight geometry of the junction, particularly on the north approach during the PM peak. In order to validate the journey time data and calibrate the flows going through the junction, the ICA pre-set saturation flow was changed on the northbound arm of the Wharf Road crossing. Thus, instead of allowing the calculation of the saturation flow and then the capacity of turns through the ICA, the final capacity of the turns was calculated using the defined saturation flow.

- **Preparation of the network for the matrix estimation and calibration**. In order to carry out this task, the required User-Defined Attributes (UDAs) and procedures were created. The aim of the UDAs is to include information such as traffic count locations and values, define the location of the counts used by the TFlowFuzzy (matrix estimation) as well as collecting some information such as GEH values and save previous assignment traffic data.

- Some delays were observed in the PM peak at Scotgate/West Street and St Paul St/Brazenose Ln signalised junctions. A dedicated right turn of 30 metres was modelled on the north approach to the first junction, giving extra stack capacity to the approach. On the other hand, it was observed a large left turn movement on the north approach to the second junction. In order to reduce the delays, the ICA Sneakers were amended from 2 to 3.

8 Matrix Calibration

8.1 Introduction

This section of the report explains the process involved in validating the trip matrix including matrix estimation. Before running matrix estimation, checks were undertaken on the prior matrix at the cordon links and journey time level, matrix estimation followed these checks.

8.2 Prior Matrix Analysis

An analysis of the robustness of the prior matrices was conducted by checking the results of the assignment in terms of flow on links and journey time. The journey time paths used for validation purposes can be seen in while the cordon is shown in Figure 8-1 below:

Figure 8-1 Model Cordon Count Location

Some screen lines show relatively low traffic flows (<1000 vehicles) and the percentage difference may not be a good indicator. Previous WebTAG guideline set out a target of GEH lower than 4.0 for the validation of screen lines. Therefore, the previous acceptability guidelines will be taken into account for the screen line analysis.

Table 8-1 to

Table 8-6 show the quality of the prior matrices after being assigned to the network.

Table 8-1 Journey Time Validation for the AM Prior Matrices. Journey time in seconds.

Route Name	NO	Observed JT	Modelled JT	Diff	%Diff	JT validation
01_NB	1	432	696	264	61%	Fail
01_SB	2	418	368	50	12%	Pass
02_NB	3	532	767	235	44%	Fail
02_SB	4	485	486	1	0%	Pass
03_EB	5	477	638	161	34%	Fail
03_WB	6	470	423	47	10%	Pass
04_EB	7	503	675	172	34%	Fail
04_WB	8	515	478	37	7%	Pass
05_NB	9	525	850	325	62%	Fail
05_SB	10	517	567	50	10%	Pass
06_EB	11	108	98	10	9%	Pass
06_WB	12	124	97	27	22%	Pass
07_NB	13	258	261	3	1%	Pass
07_SB	14	297	303	6	2%	Pass

Table 8-2 Inner Screen Line Validation for the AM Prior Matrices.

Screen line Traffic Counts	Direction	Model	Obs	Diff	%Diff	GEH	Flow Criterion
WEST	**Inner**	**1068**	**1085**	**17**	**1.6%**	**0.5**	**Pass**
A6121 Tinwell Road	EB	444	400	-44	-10.9%	2.1	-
A43 Kettering Road	NB	270	383	113	29.4%	6.2	-
A606 Empingham Road	EB	354	302	-52	-17.2%	2.9	-
NORTH	**Inner**	**995**	**1155**	**160**	**13.9%**	**4.9**	**No Pass**
Little Casterton Road	SB	13	67	54	80.4%	8.5	-
A6121 Ryhall Road	SB	503	569	66	11.6%	2.9	-
B1081 Old Great North Road	EB	479	519	40	7.8%	1.8	-
EAST	**Inner**	**1144**	**1127**	**-17**	**-1.5%**	**0.5**	**Pass**
A16 Uffington Road	WB	716	668	-48	-7.1%	1.8	-
B1443 Barnack Road	WB	155	162	7	4.4%	0.6	-
B1081 London Road	NB	274	297	23	7.8%	1.4	-

Table 8-3 Outer Screen Line Validation for the AM Prior Matrices.

Screen line Traffic Counts	Direction	Model	Obs	Diff	%Diff	GEH	Flow Criterion
WEST	**Outer**	**1111**	**1156**	**45**	**3.9%**	**1.3**	**Pass**
A6121 Tinwell Road	WB	400	348	-52	-14.9%	2.7	-
A43 Kettering Road	SB	254	350	96	27.5%	5.5	-
A606 Empingham Road	WB	458	458	0	0.1%	0.0	-
NORTH	**Outer**	**647**	**741**	**94**	**12.7%**	**3.6**	**No Pass**
Little Casterton Road	NB	55	49	-6	-11.9%	0.8	-
A6121 Ryhall Road	NB	254	275	21	7.7%	1.3	-
B1081 Old Great North Road	WB	338	417	79	19.0%	4.1	-
EAST	**Outer**	**705**	**991**	**286**	**28.9%**	**9.8**	**No Pass**

A16 Uffington Road	EB	401	534	133	24.9%	6.2	-
B1443 Barnack Road	EB	184	169	-15	-9.1%	1.2	-
B1081 London Road	SB	119	288	169	58.5%	11.8	-

Table 8-4 Journey Time Validation for the PM Prior Matrices. Journey time in seconds.

Route Name	NO	Observed JT	Modelled JT	Diff	%Diff	JT validation
01_NB	1	468	477	9	2%	Pass
01_SB	2	410	477	67	16%	Fail
02_NB	3	549	494	55	10%	Pass
02_SB	4	467	507	40	9%	Pass
03_EB	5	428	537	109	25%	Fail
03_WB	6	458	647	189	41%	Fail
04_EB	7	474	551	77	16%	Fail
04_WB	8	509	695	186	37%	Fail
05_NB	9	581	543	38	7%	Pass
05_SB	10	492	497	5	1%	Pass
06_EB	11	104	97	7	7%	Pass
06_WB	12	132	96	36	27%	Pass
07_NB	13	271	322	51	19%	Pass
07_SB	14	241	264	23	10%	Pass

Table 8-5 Inner Screen Line Validation for the PM Prior Matrices.

Screen line Traffic Counts	Direction	Model	Obs	Diff	%Diff	GEH	Flow Criterion
WEST	**Inner**	**958**	**1292**	**334**	**25.9%**	**10.0**	**No Pass**
A6121 Tinwell Road	EB	415	476	61	12.9%	2.9	-
A43 Kettering Road	NB	116	355	239	67.5%	15.6	-
A606 Empingham Road	EB	428	461	33	7.3%	1.6	-
NORTH	**Inner**	**674**	**863**	**189**	**21.9%**	**6.8**	**No Pass**
Little Casterton Road	SB	32	58	26	45.3%	3.9	-
A6121 Ryhall Road	SB	289	337	48	14.1%	2.7	-
B1081 Old Great North Road	EB	353	468	115	24.6%	5.7	-
EAST	**Inner**	**1087**	**1153**	**66**	**5.7%**	**2.0**	**No Pass**
A16 Uffington Road	WB	499	590	91	15.5%	3.9	-
B1443 Barnack Road	WB	463	182	-281	-154.2%	15.6	-
B1081 London Road	NB	126	381	255	66.9%	16.0	-

Table 8-6 Outer Screen Line Validation for the PM Prior Matrices.

Screen line Traffic Counts	Direction	Model	Obs	Diff	%Diff	GEH	Flow Criterion
WEST	**Outer**	**1197**	**1039**	**-158**	**-15.2%**	**4.7**	**No Pass**
A6121 Tinwell Road	WB	280	364	84	23.0%	4.7	-
A43 Kettering Road	SB	534	377	-157	-41.8%	7.4	-
A606 Empingham Road	WB	382	298	-84	-28.2%	4.6	-
NORTH	**Outer**	**834**	**950**	**116**	**12.2%**	**3.9**	**No Pass**

Little Casterton Road	NB	14	59	45	76.2%	7.4	-
A6121 Ryhall Road	NB	567	599	32	5.4%	1.3	-
B1081 Old Great North Road	WB	253	292	39	13.3%	2.4	-
EAST	**Outer**	**947**	**1092**	**145**	**13.3%**	**4.5**	**No Pass**
A16 Uffington Road	EB	495	631	136	21.6%	5.7	-
B1443 Barnack Road	EB	238	111	-127	-114.5%	9.6	-
B1081 London Road	SB	214	350	136	38.8%	8.1	-

The screen line shows several locations where the GEH exceeds values up to 4.0 in both peaks. In addition, the journey time validation was achieved only on the 64% of the routes. Therefore, the prior matrices results do not fulfil the WebTAG standards nevertheless, the results provide a solid basis for the matrix estimation.

Additionally, the quality of the assignment has been tested by comparing the modelled flows of the prior matrices to the traffic counts used for calibration.

Table 8-7 AM Prior Matrices calibration.

Criteria	Number of Counts	Number of Counts meet the criteria	Percentage Pass
Total Vehicles			
Flow <=700	139	89	65%
Flow >700 and <=2700	13	5	39%
Flow >2700	0	0	0%
GEH			
GEH<5	152	80	53%
GEH<10	152	130	86%

Table 8-8 PM Prior Matrices calibration

Criteria	Number of Counts	Number of Counts meet the criteria	Percentage Pass
Total Vehicles			
Flow <=700	135	95	71%
Flow >700 and <=2700	16	10	63%
Flow >2700	1	0	0%
GEH			
GEH<5	152	85	56%
GEH<10	152	130	86%

Further information regarding the validation/calibration results of the prior matrices can be found in Appendix A.

The tables show a good performance of the prior matrices in terms of GEH and journey time validation. After running the assignment an analysis of the GEH values within the town centre of Stamford was conducted. The results show values bigger than 5.0 of the GEH on the A1 and some roads of Stamford, particularly roads that may be affected by the future development.

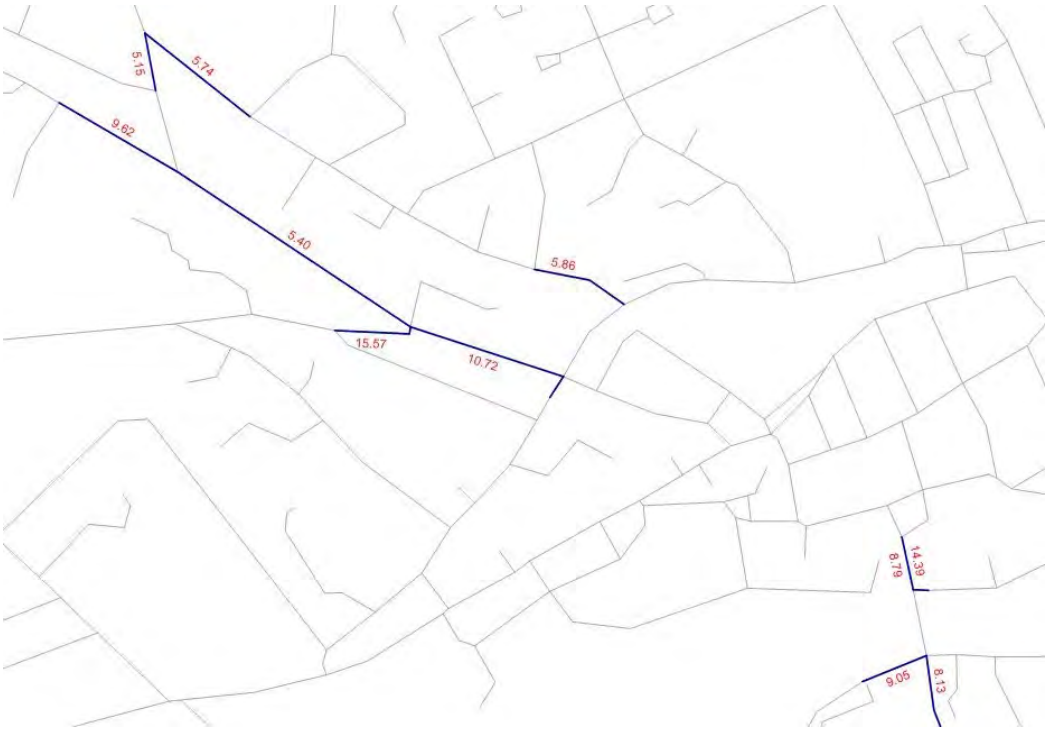
The following Figures show locations within Stamford town centre where the GEH values were bigger than 5.0.

Figure 8-2 AM prior matrices assignment. St Paul Street and Morrison Roundabout

Figure 8-3 PM prior matrices assignment. St Paul Street and Morrison Roundabout

Figure 8-4 AM prior matrices assignment. West Street / North Street Junction

Figure 8-5 PM prior matrices assignment. West Street / North Street Junction



The assignment of the prior matrices shows congestion in the town centre which caused drivers to start using less desirable secondary routes or take long detours instead of the obvious routes along the main roads.

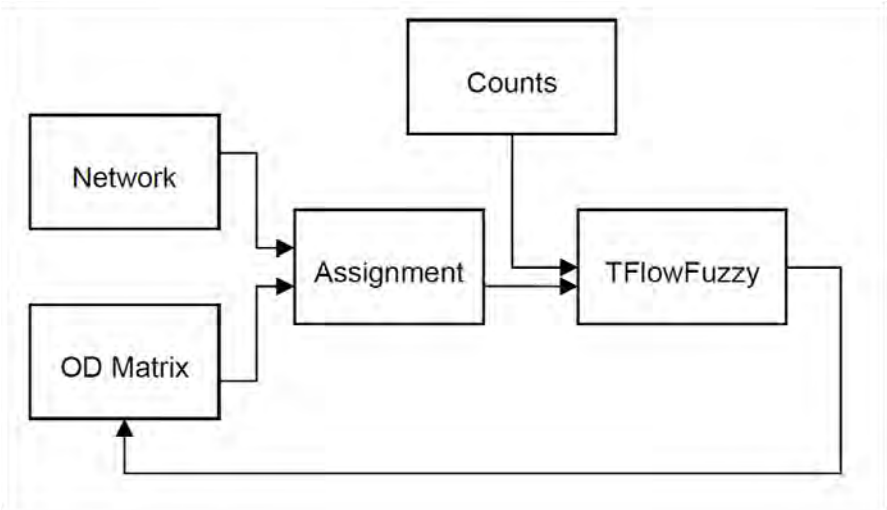
From this there was an established need to obtain a better assignment performance as well as improving the behaviour of the drivers within Stamford and especially, at the junctions where the future development may impact. A matrix estimation routine was developed to improve the model.

8.3 Matrix Estimation Methodology

The matrix estimation process employed as part of the calibration process is designed to refine the travel patterns using observed traffic count data. Trips are adjusted in the matrix to produce the estimated matrix, which is most likely to be consistent with the traffic counts. The matrix of trips input to matrix estimation is known as the prior matrix, while the output matrix from matrix estimation is known as the post matrix. The calibration process has used matrix estimation procedures as contained in the TFlowFuzzy program in the VISUM software.

The TFlowFuzzy modifies the OD matrix based on a comparison of counted volumes and assignment volumes. The process of the Matrix Estimation employed within VISUM is illustrated in Figure 8-6 below.

Figure 8-6 Matrix Estimation Process in VISUM



The procedure can be useful in several situations:

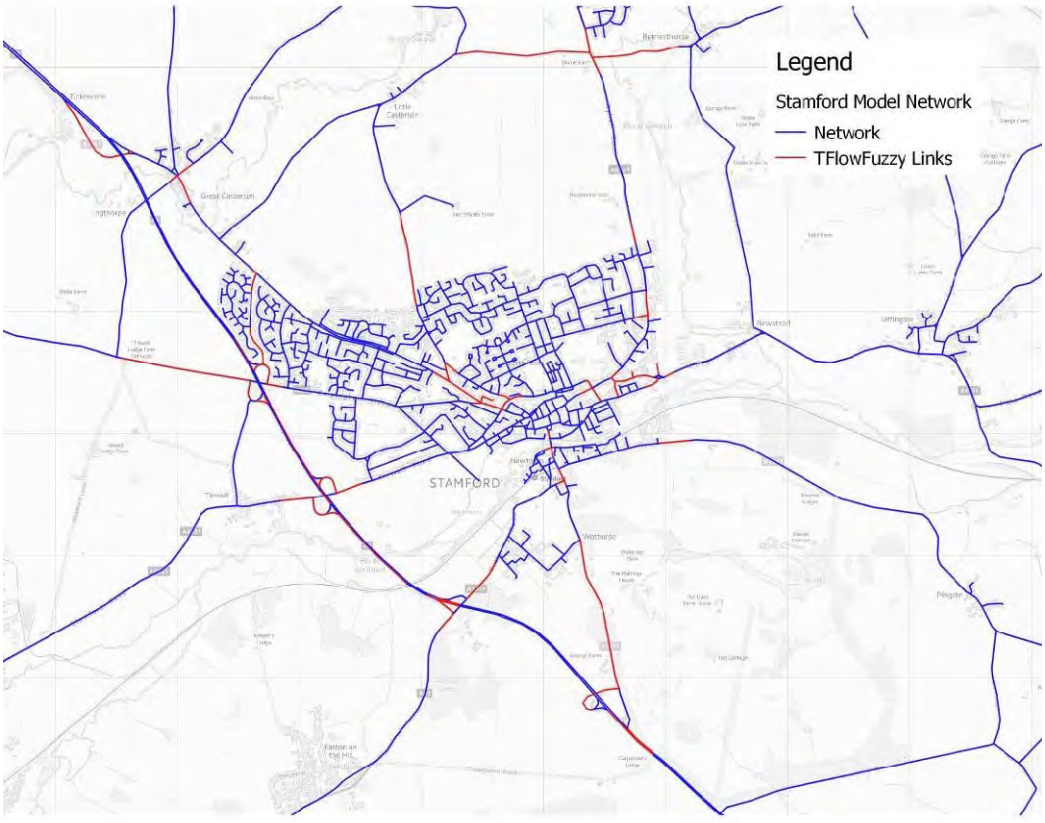
- A demand matrix based on empirical survey data is outdated and you want to update it without having to conduct a new origin-destination survey. In this case, the update shall be based on census data only.
- A matrix generated from the transport network model is to be calibrated, therefore counted volume data shall be used.

- A matrix generated from incomplete data is to be improved by more comprehensive volume data from traffic surveys.

- A survey contains the journey distance distribution, but the model does not reflect the data with the level of accuracy required.

In addition, the TFlowFuzzy requires traffic data such as link volumes, origin/destination travel demand per zone, volumes of turns at nodes or main nodes, volumes via screen lines and volumes on lanes for the private transport matrix correction. The matrix estimation was carried out using the traffic data on links shows in Figure 8-7 below:

Figure 8-7 Counts on links used for TFlowFuzzy



8.3.1 Matrix Estimation Parameters

VISUM runs the matrix estimation via the TFlowFuzzy procedure, allowing the use of different constraints to avoid excessive or undesirable changes on the prior matrices. In order to carry out the matrix estimation constraints were set up on link flows, zones and the trip-length distribution.

The constraints can also set a “tolerance” level for counts. Therefore, the matrix estimation obtains the “most likely” demand matrix, which represents the count values within the tolerance.

Table below shows the TFlowFuzzy parameters by vehicle type and modelled peak.

Table 8-9 TFlowFuzzy Parameters

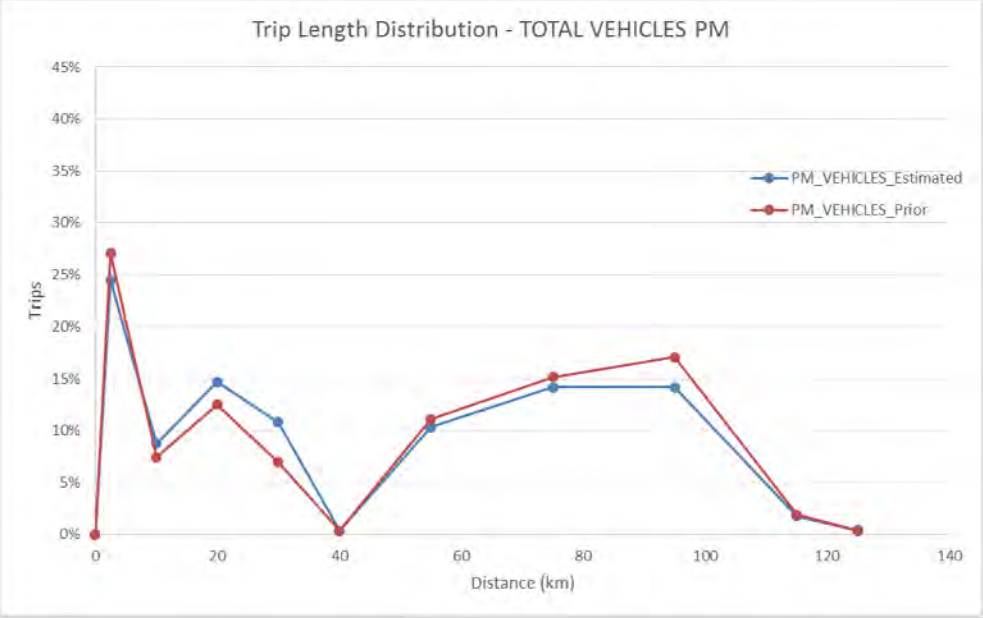
User	AM	PM
CAR		
Max. Correction Factor	5	5
Trip Length Distribution Tolerance	10%	10%
Zone Tolerance	100%	100%
Link Tolerance	30%	22%
HGV		
Trip Length Distribution Tolerance	25%	25%
Zone Tolerance	N/A	N/A
Link Tolerance	90%	90%
LGV		
Trip Length Distribution Tolerance	10%	15%
Zone Tolerance	100%	100%
Link Tolerance	75%	75%

8.3.2 Impacts of Matrix Estimation

After carrying out the matrix estimation, an analysis of the matrices was conducted by comparing the traffic flows within the network and checking inconsistencies in trip length distributions. Figure 8-8 and Figure 8-9 show the difference between the trip length distributions.

Figure 8-8 AM Total Vehicles Trip-Length Distribution

Figure 8-9 PM Total Vehicles Trip-Length Distribution



The graphs show a good fit of trip lengths between the prior matrix and the final matrix. However, both graphs show a slight increase in the number of trips approximately 20 Km in length and a reduction in the longer distance trips between 80 and 100 Km.

Table 8-10 states the guidance for measuring the effects of matrix estimation on trip lengths as defined in WebTAG.

Table 8-10: Matrix Estimation Effects, TAG Criteria - Trip Length Distribution

Measure	Significance Criteria
Trip Length Distribution	Means within 5%

Table 8-11 shows mean trip length in the prior and post matrix estimation assignments for all vehicle types. The difference between the prior and post ME assignments are close to the required 5% in both peaks.

Table 8-11: Mean Trip Length

Measure	AM	PM
Mean Trip Length Prior (km)	37.48	41.29
Mean Trip Length Post (km)	35.49	38.95
% Difference between means	5.33%	5.67%

The net changes made to the matrices by ME are summarised in Table 8-12 below:

Table 8-12 ME Changes Summary Table

Matrix	Vehicle type	Prior Matrix Total	Estimated Matrix Total	Difference	% Difference
AM	CAR	10,407	10,329	-78	-0.7%
	LGV	1,217	1,290	74	6.1%
	HGV	321	311	-10	-3.2%
	VEHICLES	11,945	11,931	-15	-0.1%
PM	CAR	11,907	11,887	-20	-0.2%
	LGV	956	1,034	78	8.2%
	HGV	199	147	-52	-26.0%
	VEHICLES	13,062	13,069	7	0.1%

The AM and PM estimated car matrices show a close match to the prior matrix.

Table 9-1 states the guidance for significance criteria regarding matrix zonal cell value changes during the matrix estimation process, as defined in Table 5 of TAG Unit M3.1.

Table 8-13: Matrix Estimation Effects, TAG Criteria - Matrix Zonal Cell Values.

Measure	Significance Criteria
Matrix zonal cell values	Slope within 0.98 and 1.02, intercept near zero and R^2 in excess of 0.95

Figure 8-10 and Figure 8-11 shows the outcome of regression analysis of the post matrix estimation and prior matrices, at the zonal cell level for the AM and PM models.

Figure 8-10 AM Total Vehicles. Matrix Cell Values

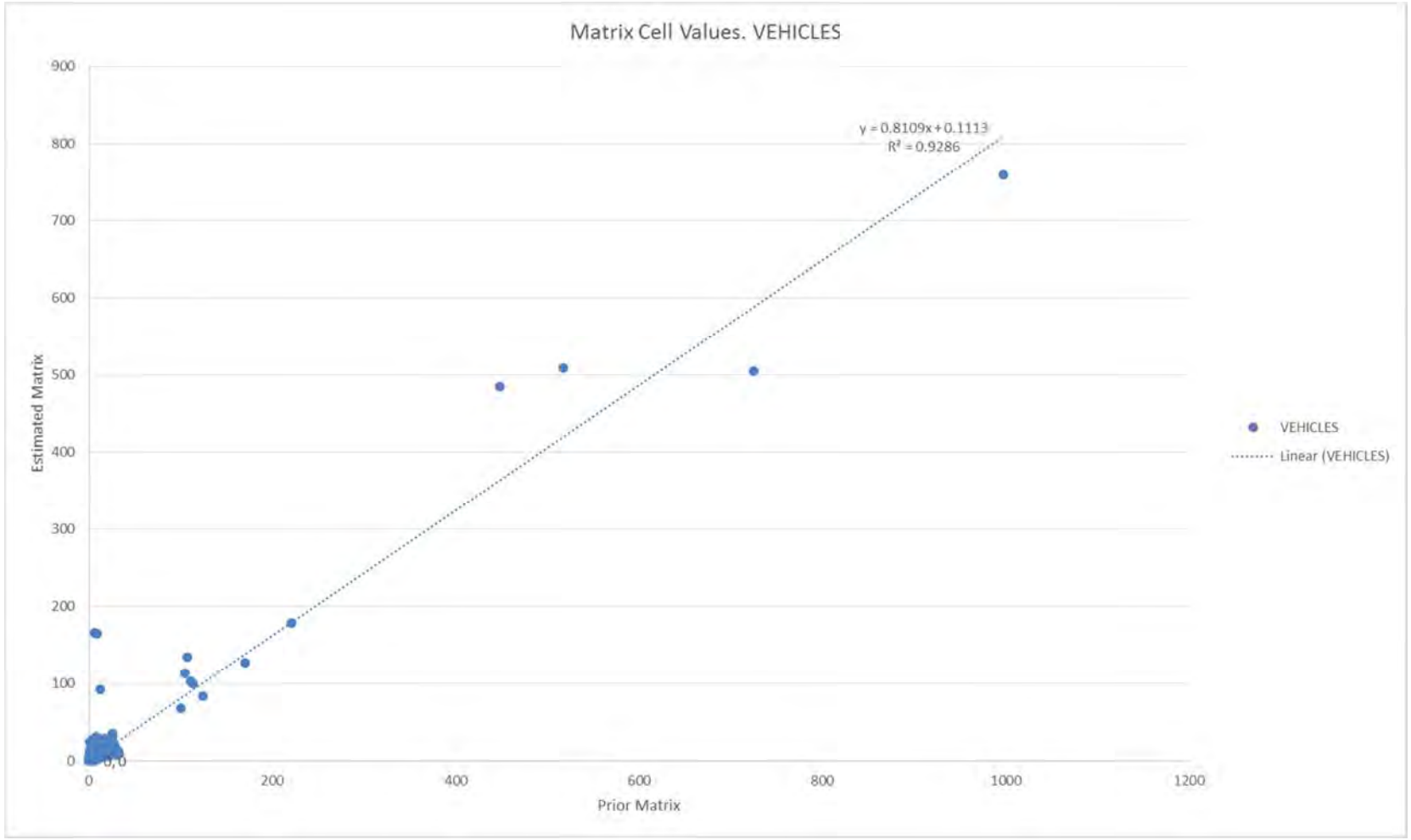
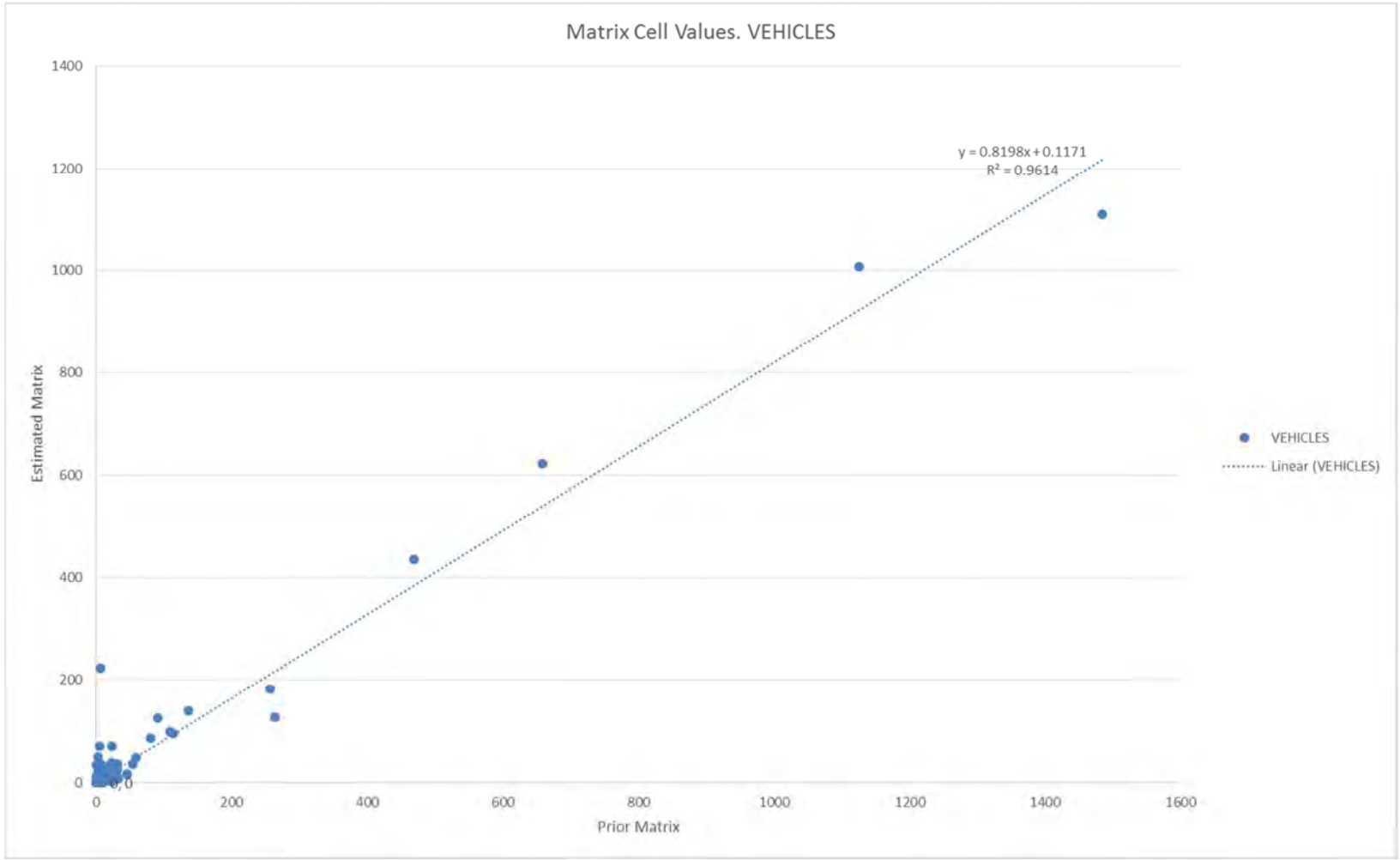


Figure 8-11 PM Total Vehicles. Matrix Cell Values



Although changes made by the TFlowFuzzy are slightly higher than the acceptability criteria set out in WebTAG, in both peaks the results show a near match between the results and the guidelines.

Table 8-14 states the guidance for significance criteria regarding matrix zonal trip end changes during the matrix estimation process, as defined in DfT TAG.

Table 8-14: Matrix Estimation Effects, TAG Criteria - Matrix Zonal Trip Ends.

Measure	Significance Criteria
matrix zonal trip ends	Slope within 0.99 and 1.01, intercept near zero and R^2 in excess of 0.98

Figure 8-12 and Figure 8-13 show the outcome of regression analysis of the post matrix estimation and prior matrices, at the zonal trip end level for the AM Peak, Inter-Peak and PM Peak models.

Figure 8-12 AM Total Vehicles. Matrix Zonal Trip Ends

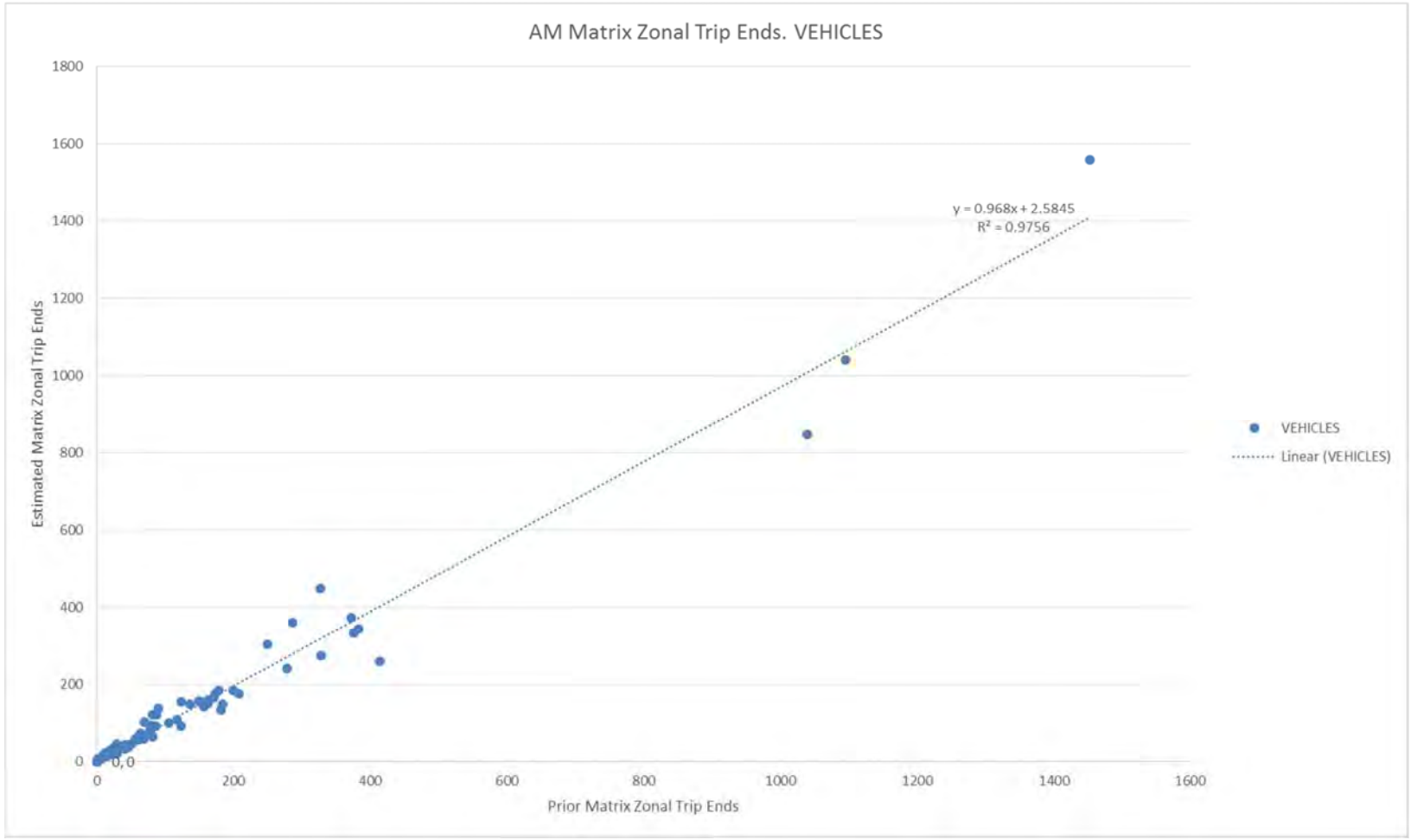
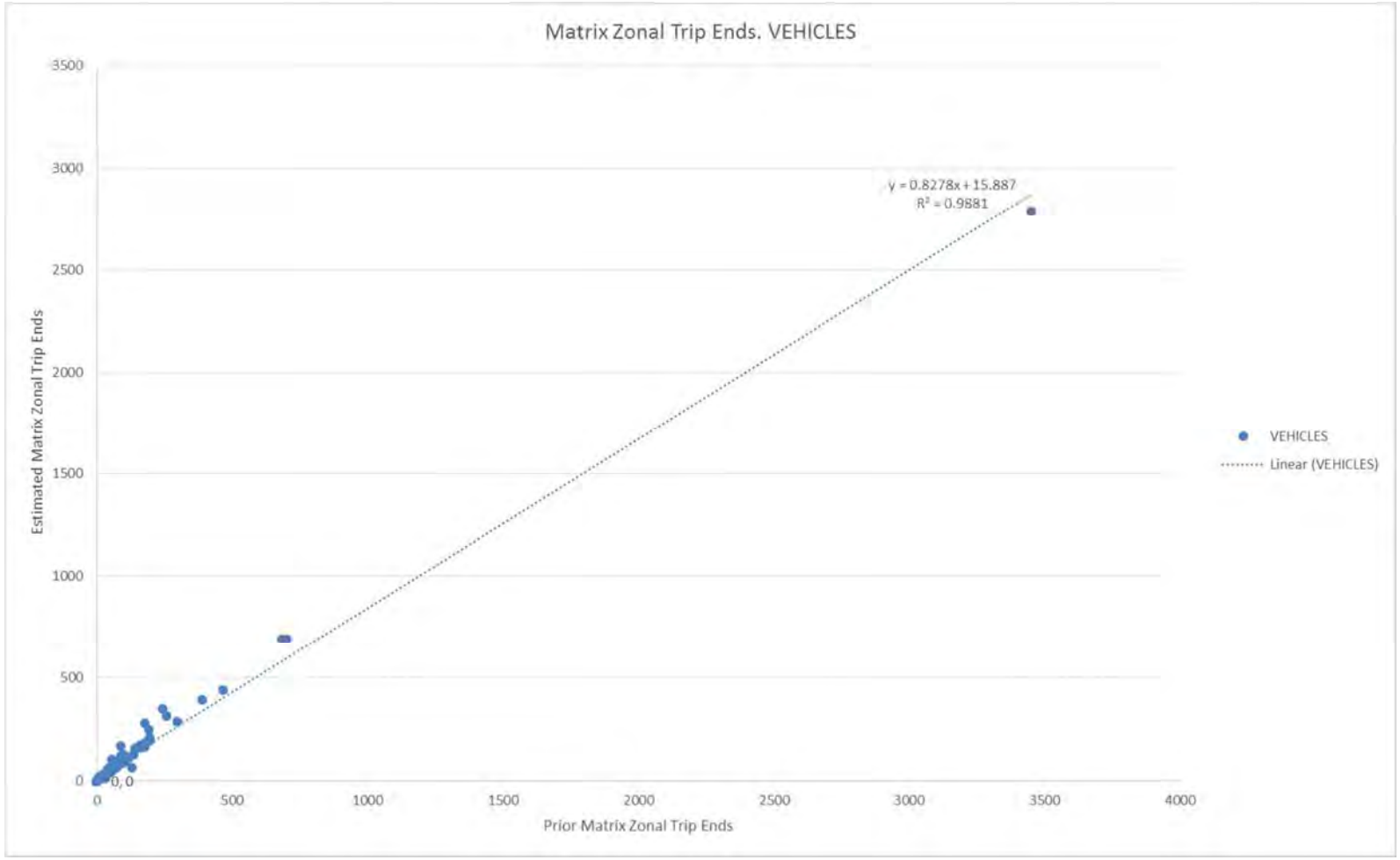


Figure 8-13 PM Total Vehicles. Matrix Zonal Trip Ends



In terms of zonal trips ends, the estimated matrices show good results for the slope and R^2 criteria. The intercept in both modelled peaks is larger than zero. The reason for this is that TFlowFuzzy was not able to find a solution for the traffic counts in locations remote from the town centre and close to the buffer areas. This has led to some distortion of the matrix in these areas following matrix estimation, but is not considered a major issue.

Table 10-7 shows the TAG significance criteria for the comparison of prior and post matrix estimation sector-to-sector matrices.

Table 8-15: Matrix Estimation Effects, TAG Criteria - Sector-to-Sector Matrices.

Measure	Significance Criteria
sector to sector level matrices	difference within 5%

The sector system contained in Table 8-16 and based on district boundaries has been used in this analysis.

Table 8-16 Sector System

ID	Area Covered
Internal	Stamford
North	Buffer North and External North
South	Buffer South and External South

The following tables show the percentage change in sector to sector movements for the two modelled peaks.

Table 8-17 AM Total Vehicles. Sector to Sector % of Difference

Sectors	Internal	North	South	Grand Total
Internal	-15%	0%	29%	0%
North	-8%	192%	-21%	-7%
South	19%	1%	0%	9%
Grand Total	-5%	14%	-3%	0%

Table 8-18 PM Total Vehicles. Sector to Sector % of Difference

Sectors	Internal	North	South	Grand Total
Internal	-9%	-6%	21%	-1%
North	5%	187%	-1%	12%
South	24%	-17%	0%	-5%
Grand Total	3%	-8%	9%	0%

In green are marked the sectors that have the greatest impact on the traffic in Stamford and near area. The assignment of the prior matrices shows that in both time periods, flows are lower than observed on the A1 slip roads. Matrix estimation has factored trips on these links, increasing the Internal to South and South to Internal demand. In addition, both peaks show larger flows than the observed in the city centre East-West

and West-East main road, therefore the TFlowFuzzy reduces the internal traffic as much as the constraints allow the changes.

8.4 Count Flows

The following section presents details of link flow calibration for the estimated matrices assignments for total vehicles.

Table 8-19 to Table 8-22 show the percentage of counts meeting link flow acceptability criteria as set out in TAG Unit M3-1.

Table 8-19 AM Estimated Matrices. Vehicle Flow on links Calibration

Criteria	Number of Counts	Number of Counts meet the criteria	Percentage
Total Vehicles			
Flow <=700	139	121	88%
Flow >700 and <=2700	13	13	100%
Flow >2700	0	0	None
GEH<5	152	125	83%
GEH<10	152	151	100%

Table 8-20 AM Estimated Matrices. User Class Flow on links Calibration

Criteria	Number of Counts	Number of Counts meet the criteria	Percentage
CAR			
Flow <=700	139	128	93%
Flow >700 and <=2700	13	13	100%
Flow >2700	0	0	None
GEH<5	152	133	88%
LGV			
Flow <=700	152	152	100%
Flow >700 and <=2700	0	0	None
Flow >2700	0	0	None
GEH<5	152	132	87%
HGV			
Flow <=700	152	152	100%
Flow >700 and <=2700	0	0	None
Flow >2700	0	0	None
GEH<5	152	148	98%

Table 8-21 PM Estimated Matrices. Vehicle Flow on links Calibration

Criteria	Number of Counts	Number of Counts meet the criteria	Percentage
Total Vehicles			
Flow <=700	135	122	91%
Flow >700 and <=2700	16	15	94%
Flow >2700	1	1	100%
GEH<5	152	130	86%
GEH<10	152	149	99%

Table 8-22 PM Estimated Matrices. User Class Flow on links Calibration

Criteria	Number of Counts	Number of Counts meet the criteria	Percentage
CAR			
Flow <=700	138	128	93%
Flow >700 and <=2700	14	13	93%
Flow >2700	0	0	None
GEH<5	152	131	87%
LGV			
Flow <=700	152	152	100%
Flow >700 and <=2700	0	0	None
Flow >2700	0	0	None
GEH<5	152	144	95%
HGV			
Flow <=700	152	152	100%
Flow >700 and <=2700	0	0	None
Flow >2700	0	0	None
GEH<5	152	148	98%

The assignment of the AM and PM matrices produces good results in terms of link flow and GEH values for calibration. The WebTAG guidance is fulfilled for all the user classes and peaks, reproducing accurately the traffics flows within Stamford centre and its main access routes.

Appendix B provides a more detailed set of statistics for individual links and by vehicle class.

8.5 Screen Line Flows

The following table presents a summary of post-matrix estimation model validation at a screen line level for AM peak and PM peak periods.

Table 8-23 Inner Screen Line Validation for the AM Estimated Matrices.

Screen line Traffic Counts	Direction	Model	Obs	Diff	%Diff	GEH	Flow Criterion
WEST	**Inner**	**1185**	**1085**	**-100**	**-9.3%**	**3.0**	**No Pass**
A6121 Tinwell Road	EB	522	400	-122	-30.6%	5.7	-
A43 Kettering Road	NB	370	383	13	3.3%	0.7	-
A606 Empingham Road	EB	293	302	9	3.0%	0.5	-
NORTH	**Inner**	**953**	**1155**	**202**	**17.5%**	**6.2**	**No Pass**
Little Casterton Road	SB	56	67	11	17.1%	1.5	-
A6121 Ryhall Road	SB	444	569	125	21.9%	5.5	-
B1081 Old Great North Road	EB	453	519	66	12.6%	3.0	-
EAST	**Inner**	**1070**	**1127**	**57**	**5.1%**	**1.7**	**No Pass**
A16 Uffington Road	WB	622	668	46	6.8%	1.8	-
B1443 Barnack Road	WB	160	162	2	1.0%	0.1	-
B1081 London Road	NB	287	297	10	3.3%	0.6	-

Table 8-24 Outer Screen Line Validation for the AM Estimated Matrices.

Screen line Traffic Counts	Direction	Model	Obs	Diff	%Diff	GEH	Flow Criterion
WEST	**Outer**	**1384**	**1156**	**-228**	**-19.7%**	**6.4**	**No Pass**
A6121 Tinwell Road	WB	453	348	-105	-30.1%	5.2	-
A43 Kettering Road	SB	354	350	-4	-1.1%	0.2	-
A606 Empingham Road	WB	577	458	-119	-26.0%	5.2	-
NORTH	**Outer**	**615**	**741**	**126**	**17.0%**	**4.8**	**No Pass**
Little Casterton Road	NB	26	49	23	47.6%	3.8	-
A6121 Ryhall Road	NB	232	275	43	15.8%	2.7	-
B1081 Old Great North Road	WB	358	417	59	14.2%	3.0	-
EAST	**Outer**	**828**	**991**	**163**	**16.4%**	**5.4**	**No Pass**
A16 Uffington Road	EB	443	534	91	17.1%	4.1	-
B1443 Barnack Road	EB	154	169	15	9.1%	1.2	-
B1081 London Road	SB	231	288	57	19.6%	3.5	-

Table 8-25 Inner Screen Line Validation for the PM Estimated Matrices.

Screen line Traffic Counts	Direction	Model	Obs	Diff	%Diff	GEH	Flow Criterion
WEST	**Inner**	**1248**	**1292**	**44**	**3.4%**	**1.2**	**Pass**
A6121 Tinwell Road	EB	485	476	-9	-1.8%	0.4	-
A43 Kettering Road	NB	319	355	36	10.2%	2.0	-
A606 Empingham Road	EB	444	461	17	3.6%	0.8	-
NORTH	**Inner**	**757**	**863**	**106**	**12.2%**	**3.7**	**No Pass**
Little Casterton Road	SB	61	58	-3	-5.3%	0.4	-
A6121 Ryhall Road	SB	304	337	33	9.9%	1.9	-

B1081 Old Great North Road	EB	393	468	75	16.1%	3.6	-
EAST	**Inner**	**1066**	**1153**	**87**	**7.6%**	**2.6**	**No Pass**
A16 Uffington Road	WB	495	590	95	16.0%	4.1	-
B1443 Barnack Road	WB	275	182	-93	-51.0%	6.1	-
B1081 London Road	NB	295	381	86	22.5%	4.7	-

Table 8-26 Outer Screen Line Validation for the PM Estimated Matrices.

Screen line Traffic Counts	Direction	Model	Obs	Diff	%Diff	GEH	Flow Criterion
WEST	**Outer**	**1384**	**1156**	**-228**	**-19.7%**	**6.4**	**No Pass**
A6121 Tinwell Road	WB	453	348	-105	-30.1%	5.2	-
A43 Kettering Road	SB	354	350	-4	-1.1%	0.2	-
A606 Empingham Road	WB	577	458	-119	-26.0%	5.2	-
NORTH	**Outer**	**615**	**741**	**126**	**17.0%**	**4.8**	**No Pass**
Little Casterton Road	NB	26	49	23	47.6%	3.8	-
A6121 Ryhall Road	NB	232	275	43	15.8%	2.7	-
B1081 Old Great North Road	WB	358	417	59	14.2%	3.0	-
EAST	**Outer**	**828**	**991**	**163**	**16.4%**	**5.4**	**No Pass**
A16 Uffington Road	EB	443	534	91	17.1%	4.1	-
B1443 Barnack Road	EB	154	169	15	9.1%	1.2	-
B1081 London Road	SB	231	288	57	19.6%	3.5	-

The validation of the screen lines is not strictly satisfied in most of the locations, however, the GEH is near to 4.0 in most of them. As flow volumes are generally low this indicates that the correct order of magnitude of traffic is present on the network.

9 Assignment Validation

9.1 Journey Time Validation

Table 9.1 and Table 9.2 present results for the journey time validation for the routes set out earlier in this document.

Table 9-1 Journey Time Validation for the AM Estimated Matrices. Journey time in seconds.

Route Name	NO	Observed JT	Modelled JT	Diff	%Diff	JT validation
01_NB	1	432	377	55	13%	Pass
01_SB	2	418	359	59	14%	Pass
02_NB	3	532	453	79	15%	Pass
02_SB	4	485	456	29	6%	Pass
03_EB	5	477	451	26	5%	Pass
03_WB	6	470	416	54	11%	Pass
04_EB	7	503	487	16	3%	Pass
04_WB	8	515	471	44	9%	Pass
05_NB	9	525	535	10	2%	Pass
05_SB	10	517	538	21	4%	Pass
06_EB	11	108	99	9	8%	Pass
06_WB	12	124	98	26	21%	Pass
07_NB	13	258	261	3	1%	Pass
07_SB	14	297	277	20	7%	Pass

Table 9-2 Journey Time Validation for the PM Estimated Matrices. Journey time in seconds.

Route Name	NO	Observed JT	Modelled JT	Diff	%Diff	JT validation
01_NB	1	468	493	25	5%	Pass
01_SB	2	410	465	55	13%	Pass
02_NB	3	549	501	48	9%	Pass
02_SB	4	467	505	38	8%	Pass
03_EB	5	428	523	95	22%	Fail
03_WB	6	458	613	155	34%	Fail
04_EB	7	474	533	59	12%	Pass
04_WB	8	509	661	152	30%	Fail
05_NB	9	581	548	33	6%	Pass
05_SB	10	492	487	5	1%	Pass
06_EB	11	104	98	6	6%	Pass
06_WB	12	132	96	36	27%	Pass
07_NB	13	271	291	20	7%	Pass
07_SB	14	241	263	22	9%	Pass

It can be seen that for the AM Peak the 100% of all journey time routes pass the TAG recommended level of journey time validation, while the 79% of routes achieve this criteria in the PM Peak. After running the assignment some notable delays were detected. The delays were caused by the Eastbound and Westbound movements crossing both Scotgate and St Paul signalised junctions. Flows were modelled

correctly but estimation was unable to reduce delays at these locations because of the impact this has on wider re-routeing and validation. .

9.2 Model Convergence

Table 9.3 presents convergence statistics from the three base year time periods including the iteration loop at which the target criteria (Table 4.5) were all met over four consecutive iterations.

Table 9-3 Base Model Assignment Convergence Criteria 1 to 3

Criteria	Target	AM		PM	
		No. of Iterations	Achieved	Number of Iterations	Achieved
1	90%	1	93.2%	6	99.2%
		2	98.4%	7	99.3%
		3	98.6%	8	99.2%
		4	98.5%	9	99.2%
2	98%	1	100.0%	6	100.0%
		2	99.7%	7	100.0%
		3	100.0%	8	100.0%
		4	100.0%	9	100.0%
3	98%	1	99.0%	6	99.7%
		2	98.8%	7	100.0%
		3	99.3%	8	99.7%
		4	100.0%	9	99.5%

Table 9-4 Base Model Assignment Converge Criterion 4

Time Period	Iteration No.	Target	Target Achieved			
			Car	HGV	LGV	Overall
AM	1	<0.1% or at least stable	0.255%	0.000%	0.176%	0.208%
AM	2		0.151%	0.001%	0.089%	0.122%
AM	3		0.108%	0.000%	0.065%	0.088%
AM	4		0.080%	0.000%	0.029%	0.063%
PM	6		0.656%	0.000%	0.261%	0.584%
PM	7		0.546%	0.005%	0.221%	0.487%
PM	8		0.489%	0.014%	0.197%	0.437%
PM	9		0.426%	0.003%	0.177%	0.381%

All the modelled peaks converge to a high level within a relatively small number of iterations. This indicates model stability resultant from clear route choice alternatives and will prove beneficial in travel demand forecasting.

10 Conclusion

10.1 Summary of Development

A VISUM model has been updated to address the traffic forecasting requirements of the future developments and northern bypass in Stamford. The network has been enhanced from an original 2009 Stamford Model and has been fully updated to reflect the latest traffic conditions.

The prior matrices have been derived from the previous model matrices, which were updated using the latest available MPOD traffic data as well as census data of Stamford and nearby zones. The combination of both data sets created the 2016 base year "prior" matrices that were used to feed the matrix estimation procedure of VISUM and thus obtain the matrices to run the final assignment.

10.2 Summary of Standards

The base year model validation has been developed closely following TAG M3.1 'Highway Assignment Modelling' guidance (January 2014). The model is shown to satisfactorily converge across all the modelled peaks. A limited number of matrix changes exceed those commonly anticipated due to the construction method employed for background trip purposes. This has been necessary to achieve good adherence to flow calibration. Therefore, the estimated matrices are fit for the purpose of reproducing the local movements within Stamford and the nearby area.

Screen line validation is considered acceptable based on low flow volumes and GEH with an average 4 in most cases. Link calibration is shown to be consistently high for both flow and GEH criteria across both peaks. The AM calibration of links showed values of the 88% of counts for Car, 87% for LGVs and 98% for HGVs. The PM gave values of 87%, 95% and 98% for Car, LGVs and HGVs respectively.

Journey time performance exceeds the required standard of 85% for the AM peak, with 100% of the routes passing the WebTAG guidance in the AM Peak. The PM peak does not achieve the WebTAG guidance, showing a performance of the 79% (11 of the 14 routes).

10.3 Summary of Intended Application

The latest Stamford Model is deemed appropriate for use in terms of its ability to replicate existing traffic movements within the town centre and areas adjacent to the future development. The base year model forms a suitable platform from which forecast year models can be developed, creating reference case, do minimum and do something scheme testing.

The model provides the required level of rigour and assurance, including model validation, to underpin robust investment decisions.

Appendix A

Prior Matrices Calibration Results

AM Vehicles Screen Lines

Screenline Traffic Counts	Direction	Model	Obs	Diff	%Diff	GEH	Flow Criterion
WEST	**Inner**	**1068**	**1085**	**17**	**1.6%**	**0.5**	**Pass**
A6121 Tinwell Road	EB	444	400	-44	-10.9%	2.1	-
A43 Kettering Road	NB	270	383	113	29.4%	6.2	-
A606 Empingham Road	EB	354	302	-52	-17.2%	2.9	-
NORTH	**Inner**	**995**	**1155**	**160**	**13.9%**	**4.9**	**No Pass**
Little Casterton Road	SB	13	67	54	80.4%	8.5	-
A6121 Ryhall Road	SB	503	569	66	11.6%	2.9	-
B1081 Old Great North Road	EB	479	519	40	7.8%	1.8	-
EAST	**Inner**	**1144**	**1127**	**-17**	**-1.5%**	**0.5**	**Pass**
A16 Uffington Road	WB	716	668	-48	-7.1%	1.8	-
B1443 Barnack Road	WB	155	162	7	4.4%	0.6	-
B1081 London Road	NB	274	297	23	7.8%	1.4	-

Screenline Traffic Counts	Direction	Model	Obs	Diff	%Diff	GEH	Flow Criterion
WEST	**Outer**	**1111**	**1156**	**45**	**3.9%**	**1.3**	**Pass**
A6121 Tinwell Road	WB	400	348	-52	-14.9%	2.7	-
A43 Kettering Road	SB	254	350	96	27.5%	5.5	-
A606 Empingham Road	WB	458	458	0	0.1%	0.0	-
NORTH	**Outer**	**647**	**741**	**94**	**12.7%**	**3.6**	**No Pass**
Little Casterton Road	NB	55	49	-6	-11.9%	0.8	-
A6121 Ryhall Road	NB	254	275	21	7.7%	1.3	-
B1081 Old Great North Road	WB	338	417	79	19.0%	4.1	-
EAST	**Outer**	**705**	**991**	**286**	**28.9%**	**9.8**	**No Pass**
A16 Uffington Road	EB	401	534	133	24.9%	6.2	-
B1443 Barnack Road	EB	184	169	-15	-9.1%	1.2	-
B1081 London Road	SB	119	288	169	58.5%	11.8	-

AM CAR Screen Lines

Screenline Traffic Counts	Direction	Model	Obs	Diff	%Diff	GEH	Flow Criterion (ScreenLines)
WEST	**Inner**	**925**	**961**	**36**	**3.8%**	**1.2**	**Pass**
A6121 Tinwell Road	EB	377	349	-28	-8.1%	1.5	-
A43 Kettering Road	NB	258	343	85	24.6%	4.9	-
A606 Empingham Road	EB	289	269	-20	-7.3%	1.2	-
NORTH	**Inner**	**957**	**962**	**5**	**0.5%**	**0.2**	**Pass**
Little Casterton Road	SB	9	56	47	84.1%	8.3	-
A6121 Ryhall Road	SB	483	465	-18	-3.9%	0.8	-
B1081 Old Great North Road	EB	465	441	-24	-5.4%	1.1	-
EAST	**Inner**	**1102**	**917**	**-185**	**-20.1%**	**5.8**	**No Pass**
A16 Uffington Road	WB	701	525	-176	-33.5%	7.1	-
B1443 Barnack Road	WB	139	126	-13	-10.2%	1.1	-
B1081 London Road	NB	262	266	4	1.6%	0.3	-

Screenline Traffic Counts	Direction	Model	Obs	Diff	%Diff	GEH	Flow Criterion (ScreenLines)
WEST	**Outer**	**984**	**1029**	**45**	**4.3%**	**1.4**	**Pass**
A6121 Tinwell Road	WB	361	308	-53	-17.3%	2.9	-
A43 Kettering Road	SB	232	308	76	24.5%	4.6	-
A606 Empingham Road	WB	390	413	23	5.5%	1.1	-
NORTH	**Outer**	**754**	**705**	**-49**	**-6.9%**	**1.8**	**No Pass**
Little Casterton Road	NB	51	41	-10	-24.3%	1.5	-
A6121 Ryhall Road	NB	238	223	-15	-6.7%	1.0	-
B1081 Old Great North Road	WB	465	441	-24	-5.4%	1.1	-
EAST	**Outer**	**663**	**805**	**142**	**17.6%**	**5.2**	**No Pass**
A16 Uffington Road	EB	386	416	30	7.2%	1.5	-
B1443 Barnack Road	EB	174	131	-43	-32.7%	3.5	-
B1081 London Road	SB	103	258	155	60.0%	11.5	-

AM LGV Screen Lines

Screenline Traffic Counts	Direction	Model	Obs	Diff	%Diff	GEH	Flow Criterion (ScreenLines)
WEST	**Inner**	**138**	**90**	**-48**	**-52.8%**	**4.5**	**No Pass**
A6121 Tinwell Road	EB	63	33	-30	-91.1%	4.3	-
A43 Kettering Road	NB	11	32	21	64.5%	4.4	-
A606 Empingham Road	EB	63	25	-38	-152.4%	5.7	-
NORTH	**Inner**	**36**	**167**	**131**	**78.4%**	**13.0**	**No Pass**
Little Casterton Road	SB	4	11	7	61.9%	2.5	-
A6121 Ryhall Road	SB	19	88	69	78.2%	9.4	-
B1081 Old Great North Road	EB	13	68	55	81.4%	8.7	-
EAST	**Inner**	**33**	**187**	**154**	**82.6%**	**14.7**	**No Pass**
A16 Uffington Road	WB	12	130	118	90.4%	13.9	-
B1443 Barnack Road	WB	8	32	24	75.3%	5.4	-
B1081 London Road	NB	12	25	13	51.1%	3.0	-

Screenline Traffic Counts	Direction	Model	Obs	Diff	%Diff	GEH	Flow Criterion (ScreenLines)
WEST	**Outer**	**78**	**68**	**-10**	**-14.5%**	**1.2**	**No Pass**
A6121 Tinwell Road	WB	0	0	0	0.0%	0.0	-
A43 Kettering Road	SB	12	29	17	58.4%	3.7	-
A606 Empingham Road	WB	66	39	-27	-68.8%	3.7	-
NORTH	**Outer**	**28**	**110**	**82**	**74.1%**	**9.8**	**No Pass**
Little Casterton Road	NB	0	0	0	0.0%	0.0	-
A6121 Ryhall Road	NB	16	42	26	62.3%	4.9	-
B1081 Old Great North Road	WB	13	68	55	81.4%	8.7	-
EAST	**Outer**	**10**	**33**	**23**	**69.6%**	**5.0**	**No Pass**
A16 Uffington Road	EB	0	0	0	0.0%	0.0	-
B1443 Barnack Road	EB	10	33	23	69.6%	5.0	-
B1081 London Road	SB	0	0	0	0.0%	0.0	-

AM HGV Screen Lines

Screenline Traffic Counts	Direction	Model	Obs	Diff	%Diff	GEH	Flow Criterion (ScreenLines)
WEST	**Inner**	**6**	**34**	**28**	**83.0%**	**6.3**	**No Pass**
A6121 Tinwell Road	EB	3	18	15	83.2%	4.6	-
A43 Kettering Road	NB	1	8	8	93.8%	3.6	-
A606 Empingham Road	EB	2	8	6	71.6%	2.5	-
NORTH	**Inner**	**2**	**26**	**25**	**94.2%**	**6.6**	**No Pass**
Little Casterton Road	SB	0	0	0	0.0%	0.2	-
A6121 Ryhall Road	SB	1	16	15	96.7%	5.4	-
B1081 Old Great North Road	EB	1	10	9	90.6%	3.9	-
EAST	**Inner**	**10**	**23**	**13**	**55.9%**	**3.2**	**No Pass**
A16 Uffington Road	WB	2	13	11	84.6%	4.0	-
B1443 Barnack Road	WB	8	4	-4	-103.5%	1.7	-
B1081 London Road	NB	0	6	6	100.0%	3.5	-

Screenline Traffic Counts	Direction	Model	Obs	Diff	%Diff	GEH	Flow Criterion (ScreenLines)
WEST	**Outer**	**11**	**19**	**8**	**43.8%**	**2.2**	**No Pass**
A6121 Tinwell Road	WB	0	0	0	0.0%	0.0	-
A43 Kettering Road	SB	9	13	4	29.1%	1.1	-
A606 Empingham Road	WB	1	6	5	75.7%	2.4	-
NORTH	**Outer**	**1**	**20**	**19**	**94.3%**	**5.8**	**No Pass**
Little Casterton Road	NB	0	0	0	0.0%	0.0	-
A6121 Ryhall Road	NB	0	10	10	97.9%	4.3	-
B1081 Old Great North Road	WB	1	10	9	90.6%	3.9	-
EAST	**Outer**	**1**	**4**	**4**	**87.5%**	**2.3**	**No Pass**
A16 Uffington Road	EB	0	0	0	0.0%	0.0	-
B1443 Barnack Road	EB	1	4	4	87.5%	2.3	-
B1081 London Road	SB	0	0	0	0.0%	0.0	-

PM Vehicles Screen Lines

Screenline Traffic Counts	Direction	Model	Obs	Diff	%Diff	GEH	Flow Criterion
WEST	**Inner**	**958**	**1292**	**334**	**25.9%**	**10.0**	**No Pass**
A6121 Tinwell Road	EB	415	476	61	12.9%	2.9	-
A43 Kettering Road	NB	116	355	239	67.5%	15.6	-
A606 Empingham Road	EB	428	461	33	7.3%	1.6	-
NORTH	**Inner**	**674**	**863**	**189**	**21.9%**	**6.8**	**No Pass**
Little Casterton Road	SB	32	58	26	45.3%	3.9	-
A6121 Ryhall Road	SB	289	337	48	14.1%	2.7	-
B1081 Old Great North Road	EB	353	468	115	24.6%	5.7	-
EAST	**Inner**	**1087**	**1153**	**66**	**5.7%**	**2.0**	**No Pass**
A16 Uffington Road	WB	499	590	91	15.5%	3.9	-
B1443 Barnack Road	WB	463	182	-281	-154.2%	15.6	-
B1081 London Road	NB	126	381	255	66.9%	16.0	-

Screenline Traffic Counts	Direction	Model	Obs	Diff	%Diff	GEH	Flow Criterion
WEST	**Outer**	**1197**	**1039**	**-158**	**-15.2%**	**4.7**	**No Pass**
A6121 Tinwell Road	WB	280	364	84	23.0%	4.7	-
A43 Kettering Road	SB	534	377	-157	-41.8%	7.4	-
A606 Empingham Road	WB	382	298	-84	-28.2%	4.6	-
NORTH	**Outer**	**834**	**950**	**116**	**12.2%**	**3.9**	**No Pass**
Little Casterton Road	NB	14	59	45	76.2%	7.4	-
A6121 Ryhall Road	NB	567	599	32	5.4%	1.3	-
B1081 Old Great North Road	WB	253	292	39	13.3%	2.4	-
EAST	**Outer**	**947**	**1092**	**145**	**13.3%**	**4.5**	**No Pass**
A16 Uffington Road	EB	495	631	136	21.6%	5.7	-
B1443 Barnack Road	EB	238	111	-127	-114.5%	9.6	-
B1081 London Road	SB	214	350	136	38.8%	8.1	-

PM CAR Screen Lines

Screenline Traffic Counts	Direction	Model	Obs	Diff	%Diff	GEH	Flow Criterion (ScreenLines)
WEST	**Inner**	**884**	**1185**	**301**	**25.4%**	**9.4**	**No Pass**
A6121 Tinwell Road	EB	390	436	46	10.5%	2.2	-
A43 Kettering Road	NB	110	326	216	66.2%	14.6	-
A606 Empingham Road	EB	383	423	40	9.4%	2.0	-
NORTH	**Inner**	**646**	**774**	**128**	**16.5%**	**4.8**	**No Pass**
Little Casterton Road	SB	28	53	25	46.5%	3.9	-
A6121 Ryhall Road	SB	279	306	27	8.7%	1.6	-
B1081 Old Great North Road	EB	339	415	76	18.4%	3.9	-
EAST	**Inner**	**1044**	**1057**	**13**	**1.3%**	**0.4**	**Pass**
A16 Uffington Road	WB	477	544	67	12.2%	2.9	-
B1443 Barnack Road	WB	441	165	-276	-167.3%	15.9	-
B1081 London Road	NB	125	348	223	64.1%	14.5	-

Screenline Traffic Counts	Direction	Model	Obs	Diff	%Diff	GEH	Flow Criterion (ScreenLines)
WEST	**Outer**	**1072**	**948**	**-124**	**-13.1%**	**3.9**	**No Pass**
A6121 Tinwell Road	WB	247	327	80	24.5%	4.7	-
A43 Kettering Road	SB	521	347	-174	-50.3%	8.4	-
A606 Empingham Road	WB	304	274	-30	-10.8%	1.7	-
NORTH	**Outer**	**900**	**1018**	**119**	**11.6%**	**3.8**	**No Pass**
Little Casterton Road	NB	9	54	45	82.8%	7.9	-
A6121 Ryhall Road	NB	551	549	-2	-0.4%	0.1	-
B1081 Old Great North Road	WB	339	415	76	18.4%	3.9	-
EAST	**Outer**	**914**	**1001**	**87**	**8.6%**	**2.8**	**No Pass**
A16 Uffington Road	EB	485	583	98	16.8%	4.2	-
B1443 Barnack Road	EB	232	100	-132	-131.6%	10.2	-
B1081 London Road	SB	198	318	120	37.8%	7.5	-

PM LGV Screen Lines

Screenline Traffic Counts	Direction	Model	Obs	Diff	%Diff	GEH	Flow Criterion (ScreenLines)
WEST	**Inner**	**67**	**104**	**37**	**35.9%**	**4.0**	**No Pass**
A6121 Tinwell Road	EB	22	38	16	43.1%	3.0	-
A43 Kettering Road	NB	4	29	25	87.6%	6.3	-
A606 Empingham Road	EB	41	37	-4	-12.0%	0.7	-
NORTH	**Inner**	**26**	**77**	**51**	**66.5%**	**7.1**	**No Pass**
Little Casterton Road	SB	3	5	2	31.8%	0.8	-
A6121 Ryhall Road	SB	10	27	17	64.4%	4.1	-
B1081 Old Great North Road	EB	13	45	32	71.6%	6.0	-
EAST	**Inner**	**35**	**92**	**57**	**61.9%**	**7.2**	**No Pass**
A16 Uffington Road	WB	18	44	26	58.4%	4.6	-
B1443 Barnack Road	WB	16	17	1	7.5%	0.3	-
B1081 London Road	NB	1	31	30	96.8%	7.5	-

Screenline Traffic Counts	Direction	Model	Obs	Diff	%Diff	GEH	Flow Criterion (ScreenLines)
WEST	**Outer**	**81**	**54**	**-27**	**-49.4%**	**3.3**	**No Pass**
A6121 Tinwell Road	WB	0	0	0	0.0%	0.0	-
A43 Kettering Road	SB	6	30	24	80.9%	5.7	-
A606 Empingham Road	WB	75	24	-51	-212.3%	7.2	-
NORTH	**Outer**	**27**	**93**	**66**	**71.3%**	**8.6**	**No Pass**
Little Casterton Road	NB	0	0	0	0.0%	0.0	-
A6121 Ryhall Road	NB	14	48	34	71.1%	6.1	-
B1081 Old Great North Road	WB	13	45	32	71.6%	6.0	-
EAST	**Outer**	**6**	**11**	**5**	**45.9%**	**1.7**	**No Pass**
A16 Uffington Road	EB	0	0	0	0.0%	0.0	-
B1443 Barnack Road	EB	6	11	5	45.9%	1.7	-
B1081 London Road	SB	0	0	0	0.0%	0.0	-

PM HGV Screen Lines

Screenline Traffic Counts	Direction	Model	Obs	Diff	%Diff	GEH	Flow Criterion (ScreenLines)
WEST	**Inner**	**7**	**3**	**-4**	**-136.7%**	**1.8**	**No Pass**
A6121 Tinwell Road	EB	3	2	-1	-30.5%	0.4	-
A43 Kettering Road	NB	2	0	-2	0.0%	1.8	-
A606 Empingham Road	EB	3	1	-2	-185.0%	1.3	-
NORTH	**Inner**	**2**	**12**	**10**	**86.5%**	**4.0**	**No Pass**
Little Casterton Road	SB	0	0	0	0.0%	0.0	-
A6121 Ryhall Road	SB	0	4	4	88.0%	2.4	-
B1081 Old Great North Road	EB	1	8	7	85.8%	3.2	-
EAST	**Inner**	**9**	**4**	**-5**	**-122.8%**	**1.9**	**No Pass**
A16 Uffington Road	WB	3	2	-1	-50.0%	0.6	-
B1443 Barnack Road	WB	6	0	-6	0.0%	3.4	-
B1081 London Road	NB	0	2	2	100.0%	2.0	-

Screenline Traffic Counts	Direction	Model	Obs	Diff	%Diff	GEH	Flow Criterion (ScreenLines)
WEST	**Outer**	**11**	**0**	**-11**	**0.0%**	**4.6**	**Pass**
A6121 Tinwell Road	WB	0	0	0	0.0%	0.0	-
A43 Kettering Road	SB	7	0	-7	0.0%	3.8	-
A606 Empingham Road	WB	3	0	-3	0.0%	2.6	-
NORTH	**Outer**	**3**	**10**	**7**	**74.9%**	**3.0**	**No Pass**
Little Casterton Road	NB	0	0	0	0.0%	0.0	-
A6121 Ryhall Road	NB	1	2	1	31.5%	0.5	-
B1081 Old Great North Road	WB	1	8	7	85.8%	3.2	-
EAST	**Outer**	**1**	**0**	**-1**	**0.0%**	**1.0**	**Pass**
A16 Uffington Road	EB	0	0	0	0.0%	0.0	-
B1443 Barnack Road	EB	1	0	-1	0.0%	1.0	-
B1081 London Road	SB	0	0	0	0.0%	0.0	-

AM Vehicles Link Calibration

$LINK:NO	FROMNODENO	TONODENO	OBSERVED VEHICLE	MODELLED VEHICLE	Diff	%Diff	GEH	FLOW CRITERIA	GEH CRITERIA
26087801	119524757	119537246	669	543	-126	-23%	5.1	No Pass	No Pass
26087801	119537246	119524757	294	431	137	32%	7.2	No Pass	No Pass
26087815	119534731	119537246	186	166	-20	-12%	1.5	Pass	Pass
26087815	119537246	119534731	281	51	-230	-455%	17.9	No Pass	No Pass
26087841	119537246	119548834	591	519	-72	-14%	3.0	Pass	Pass
26087841	119548834	119537246	309	291	-18	-6%	1.0	Pass	Pass
26088142	119520198	119520197	165	128	-37	-29%	3.0	Pass	Pass
26088612	119521378	119521899	359	369	10	3%	0.5	Pass	Pass
26088612	119521899	119521378	416	289	-127	-44%	6.8	No Pass	No Pass
26088806	119520091	119548620	49	55	6	11%	0.8	Pass	Pass
26088806	119548620	119520091	67	13	-54	-410%	8.5	Pass	No Pass
26088857	119535239	119538408	473	631	158	25%	6.7	No Pass	No Pass
26088857	119538408	119535239	331	468	137	29%	6.8	No Pass	No Pass
26088871	119525005	119538408	197	148	-49	-33%	3.7	Pass	Pass
26088871	119538408	119525005	204	140	-64	-46%	4.9	Pass	Pass
26088905	119540023	119540735	368	223	-145	-65%	8.5	No Pass	No Pass
26088905	119540735	119540023	337	347	10	3%	0.6	Pass	Pass
26089145	119521092	119524495	1545	2325	780	34%	17.7	No Pass	No Pass
26089162	119519133	119520112	395	364	-31	-9%	1.6	Pass	Pass
26089162	119520112	119519133	105	65	-40	-62%	4.3	Pass	Pass
26089163	119520111	119520112	43	23	-20	-85%	3.4	Pass	Pass
26089163	119520112	119520111	698	524	-174	-33%	7.0	No Pass	No Pass
26089183	119514722	119517085	142	180	38	21%	3.0	Pass	Pass
26089183	119517085	119514722	255	172	-83	-48%	5.7	Pass	No Pass
26089216	119517085	119536830	98	147	49	34%	4.5	Pass	Pass
26089216	119536830	119517085	119	57	-62	-109%	6.6	Pass	No Pass
26089219	119524495	119537907	1502	2302	800	35%	18.3	No Pass	No Pass

26089223	119529706	119543071	284	408	124	30%	6.6	No Pass	No Pass
26089223	119543071	119529706	248	167	-81	-48%	5.6	Pass	No Pass
26089233	119520120	119539281	534	401	-133	-33%	6.2	No Pass	No Pass
26089233	119539281	119520120	668	716	48	7%	1.8	Pass	Pass
26089260	119514722	119539615	251	172	-79	-46%	5.4	Pass	No Pass
26089260	119539615	119514722	139	178	39	22%	3.1	Pass	Pass
26089261	119539615	119543601	210	219	9	4%	0.6	Pass	Pass
26089261	119543601	119539615	350	494	144	29%	7.0	No Pass	No Pass
26089262	119512935	119519322	489	641	152	24%	6.4	No Pass	No Pass
26089262	119519322	119512935	385	596	211	35%	9.5	No Pass	No Pass
26089275	119520112	119530423	147	73	-74	-101%	7.0	Pass	No Pass
26089275	119530423	119520112	512	275	-237	-86%	11.9	No Pass	No Pass
26089332	119513290	119519322	92	199	107	54%	8.8	No Pass	No Pass
26089332	119519322	119513290	137	189	52	27%	4.0	Pass	Pass
26089339	119536410	119541234	93	64	-29	-46%	3.3	Pass	Pass
26089339	119541234	119536410	290	159	-131	-82%	8.7	No Pass	No Pass
26089340	119529414	119541355	372	548	176	32%	8.2	No Pass	No Pass
26089340	119541355	119529414	513	694	181	26%	7.4	No Pass	No Pass
26089341	119518437	119541355	109	44	-65	-150%	7.5	Pass	No Pass
26089341	119541355	119518437	41	10	-31	-306%	6.1	Pass	No Pass
26089350	119512934	119527430	142	386	244	63%	15.0	No Pass	No Pass
26089350	119527430	119512934	102	61	-41	-67%	4.5	Pass	Pass
26089356	119522495	119533136	153	235	82	35%	5.9	Pass	No Pass
26089356	119533136	119522495	193	208	15	7%	1.1	Pass	Pass
26089359	119518331	119537405	1259	1264	5	0%	0.1	Pass	Pass
26089360	119518331	119518332	290	115	-175	-152%	12.3	No Pass	No Pass
26089384	119533135	119533136	295	344	49	14%	2.8	Pass	Pass
26089384	119533136	119533135	491	638	147	23%	6.2	No Pass	No Pass
26089395	119516271	119533135	163	186	23	13%	1.8	Pass	Pass
26089395	119533135	119516271	308	380	72	19%	3.9	Pass	Pass

26089503	119530538	119537062	184	414	230	56%	13.3	No Pass	No Pass
26089503	119537062	119530538	150	331	181	55%	11.7	No Pass	No Pass
26089523	119515396	119519026	168	184	16	9%	1.2	Pass	Pass
26089523	119519026	119515396	162	155	-7	-5%	0.6	Pass	Pass
26089539	119527423	119532994	91	85	-6	-7%	0.6	Pass	Pass
26089539	119532994	119527423	89	96	7	7%	0.7	Pass	Pass
26089555	119532994	119534356	103	149	46	31%	4.1	Pass	Pass
26089555	119534356	119532994	177	91	-86	-94%	7.4	Pass	No Pass
26089624	119527876	119527875	78	181	103	57%	9.1	No Pass	No Pass
26089632	119531901	119535613	375	367	-9	-2%	0.4	Pass	Pass
26089632	119535613	119531901	538	286	-252	-88%	12.4	No Pass	No Pass
26089641	119531901	119541185	350	243	-107	-44%	6.2	No Pass	No Pass
26089641	119541185	119531901	225	169	-56	-33%	4.0	Pass	Pass
26089647	119528818	119531901	283	287	4	1%	0.2	Pass	Pass
26089647	119531901	119528818	321	132	-189	-143%	12.5	No Pass	No Pass
26089652	119527875	119528834	295	311	16	5%	0.9	Pass	Pass
26089653	119527876	119528834	2122	2644	522	20%	10.7	No Pass	No Pass
26089660	119526557	119548606	348	400	52	13%	2.7	Pass	Pass
26089660	119548606	119526557	400	444	44	10%	2.1	Pass	Pass
26089700	119548602	119522170	53	50	-3	-5%	0.3	Pass	Pass
26089702	119538337	119522170	1496	1329	-167	-13%	4.5	Pass	Pass
26089703	119538337	119548602	214	111	-103	-92%	8.0	No Pass	No Pass
26089883	119545101	119519528	2417	2955	538	18%	10.4	No Pass	No Pass
26089885	119519528	119519527	403	405	2	0%	0.1	Pass	Pass
26089887	119533821	119540857	1710	1440	-270	-19%	6.8	No Pass	No Pass
26089919	119522275	119533821	321	186	-135	-73%	8.5	No Pass	No Pass
26089963	119522275	119522831	523	302	-221	-73%	10.9	No Pass	No Pass
26089963	119522831	119522275	474	100	-374	-376%	22.1	No Pass	No Pass
26090277	119513860	119535709	317	119	-198	-165%	13.4	No Pass	No Pass
26090277	119535709	119513860	15	0	-15	0%	5.5	Pass	No Pass

26090379	119535709	119537843	2316	2670	354	13%	7.1	No Pass	No Pass
26116003	119536410	119536411	409	256	-153	-60%	8.4	No Pass	No Pass
26116003	119536411	119536410	411	259	-152	-59%	8.3	No Pass	No Pass
26116020	119520211	119520212	225	51	-174	-341%	14.8	No Pass	No Pass
26116935	119535710	119535709	2014	2550	536	21%	11.2	No Pass	No Pass
26116936	119534298	119533820	1389	1254	-135	-11%	3.7	Pass	Pass
26116955	119530809	119532994	373	502	129	26%	6.2	No Pass	No Pass
26116955	119532994	119530809	477	545	68	12%	3.0	Pass	Pass
26116960	119533136	119543657	16	5	-11	-221%	3.4	Pass	Pass
26116960	119543657	119533136	4	3	-1	-32%	0.5	Pass	Pass
26116961	119533136	119539615	160	159	-1	0%	0.1	Pass	Pass
26116961	119539615	119533136	412	429	17	4%	0.8	Pass	Pass
26832618	119519527	119542149	383	270	-113	-42%	6.2	No Pass	No Pass
26832618	119542149	119519527	350	254	-96	-38%	5.5	Pass	No Pass
26856716	119520462	119527876	2200	2825	625	22%	12.5	No Pass	No Pass
26856719	119522170	119522171	1549	1379	-170	-12%	4.4	Pass	Pass
78783673	119519134	119521378	184	136	-48	-35%	3.8	Pass	Pass
78783673	119521378	119519134	343	197	-146	-74%	8.9	No Pass	No Pass
565643016	119537061	119537062	357	403	46	12%	2.4	Pass	Pass
565643016	119537062	119537061	316	375	59	16%	3.2	Pass	Pass
565653829	119524407	119531945	334	400	66	16%	3.4	Pass	Pass
565653829	119531945	119524407	233	294	61	21%	3.7	Pass	Pass
565653876	119536339	119548834	275	254	-21	-8%	1.3	Pass	Pass
565653876	119548834	119536339	569	503	-66	-13%	2.9	Pass	Pass
565658021	119540917	119541452	303	188	-115	-61%	7.3	No Pass	No Pass
565658021	119541452	119540917	194	76	-118	-156%	10.2	No Pass	No Pass
577364891	119538408	119548814	565	669	104	16%	4.2	No Pass	Pass
577364891	119548814	119538408	430	497	67	13%	3.1	Pass	Pass
577364906	119539456	119548824	1700	1528	-172	-11%	4.3	Pass	Pass
577364908	119514024	119548825	288	119	-169	-141%	11.8	No Pass	No Pass

577364908	119548825	119514024	297	274	-23	-8%	1.4	Pass	Pass
577364911	119548824	119548826	323	274	-49	-18%	2.8	Pass	Pass
577364912	119548826	119534298	12	0	-12	0%	4.9	Pass	Pass
577364915	119531945	119548547	402	417	15	4%	0.8	Pass	Pass
577364915	119548547	119531945	390	290	-100	-34%	5.4	Pass	No Pass
577364929	119524087	119548827	516	422	-94	-22%	4.4	Pass	Pass
577364929	119548827	119524087	502	444	-58	-13%	2.7	Pass	Pass
577364930	119519322	119548827	358	473	115	24%	5.7	No Pass	No Pass
577364930	119548827	119519322	299	418	119	28%	6.3	No Pass	No Pass
577364942	119538318	119548834	73	37	-36	-96%	4.8	Pass	Pass
577364942	119548834	119538318	62	16	-46	-276%	7.3	Pass	No Pass
577365285	119523821	119548992	360	290	-70	-24%	3.9	Pass	Pass
577365285	119548992	119523821	515	409	-106	-26%	4.9	No Pass	Pass
577365291	119512934	119548995	378	389	11	3%	0.5	Pass	Pass
577365291	119548995	119512934	362	304	-58	-19%	3.2	Pass	Pass
577365292	119512935	119548995	361	306	-55	-18%	3.0	Pass	Pass
577365292	119548995	119512935	373	388	15	4%	0.8	Pass	Pass
577365294	119512934	119548996	98	50	-48	-97%	5.6	Pass	No Pass
577365294	119548996	119512934	58	15	-43	-279%	7.0	Pass	No Pass
577365348	119521378	119549012	417	338	-79	-23%	4.1	Pass	Pass
577365348	119549012	119521378	519	479	-40	-8%	1.8	Pass	Pass
577365350	119530423	119549013	302	354	52	15%	2.9	Pass	Pass
577365350	119549013	119530423	458	458	0	0%	0.0	Pass	Pass
577365359	119537437	119549017	275	254	-21	-8%	1.3	Pass	Pass
577365359	119549017	119537437	569	503	-66	-13%	2.9	Pass	Pass
577365361	119512935	119549018	388	683	295	43%	12.8	No Pass	No Pass
577365361	119549018	119512935	480	646	166	26%	7.0	No Pass	No Pass
577365363	119512934	119549019	272	305	33	11%	2.0	Pass	Pass
577365363	119549019	119512934	368	749	381	51%	16.1	No Pass	No Pass
577365366	119533135	119549021	319	347	28	8%	1.5	Pass	Pass

577365366	119549021	119533135	326	359	33	9%	1.8	Pass	Pass
577365369	119533135	119549022	466	680	214	32%	9.0	No Pass	No Pass
577365369	119549022	119533135	402	568	166	29%	7.5	No Pass	No Pass
577365389	119527621	119549032	304	368	64	17%	3.5	Pass	Pass
577365389	119549032	119527621	220	272	52	19%	3.3	Pass	Pass

AM Car Link Calibration

$LINK:NO	FROMNODENO	TONODENO	OBSERVED CAR	MODELLED CAR	Diff	%Diff	GEH	FLOW CRITERIA	GEH CRITERIA
26087801	119524757	119537246	551	520	-31	-6%	1.3	Pass	Pass
26087801	119537246	119524757	239	410	171	42%	9.5	No Pass	No Pass
26087815	119534731	119537246	156	161	5	3%	0.4	Pass	Pass
26087815	119537246	119534731	234	47	-187	-402%	15.8	No Pass	No Pass
26087841	119537246	119548834	484	500	16	3%	0.7	Pass	Pass
26087841	119548834	119537246	250	275	25	9%	1.5	Pass	Pass
26088142	119520198	119520197	137	120	-17	-14%	1.5	Pass	Pass
26088612	119521378	119521899	295	355	60	17%	3.3	Pass	Pass
26088612	119521899	119521378	369	278	-91	-33%	5.1	Pass	No Pass
26088806	119520091	119548620	41	51	10	20%	1.5	Pass	Pass
26088806	119548620	119520091	56	9	-47	-528%	8.3	Pass	No Pass
26088857	119535239	119538408	404	603	199	33%	8.9	No Pass	No Pass
26088857	119538408	119535239	255	444	189	43%	10.1	No Pass	No Pass
26088871	119525005	119538408	167	144	-23	-16%	1.8	Pass	Pass
26088871	119538408	119525005	180	134	-46	-34%	3.7	Pass	Pass
26088905	119540023	119540735	317	212	-106	-50%	6.5	No Pass	No Pass
26088905	119540735	119540023	291	332	41	12%	2.3	Pass	Pass
26089145	119521092	119524495	1346	2004	658	33%	16.1	No Pass	No Pass
26089162	119519133	119520112	354	357	3	1%	0.2	Pass	Pass
26089162	119520112	119519133	87	62	-25	-41%	2.9	Pass	Pass
26089163	119520111	119520112	29	21	-8	-40%	1.7	Pass	Pass
26089163	119520112	119520111	626	511	-115	-22%	4.8	No Pass	Pass

26089183	119514722	119517085	114	168	54	32%	4.6	Pass	Pass
26089183	119517085	119514722	210	163	-47	-29%	3.5	Pass	Pass
26089216	119517085	119536830	78	137	59	43%	5.7	Pass	No Pass
26089216	119536830	119517085	99	50	-49	-100%	5.7	Pass	No Pass
26089219	119524495	119537907	1317	1983	666	34%	16.4	No Pass	No Pass
26089223	119529706	119543071	227	407	180	44%	10.1	No Pass	No Pass
26089223	119543071	119529706	198	166	-32	-19%	2.4	Pass	Pass
26089233	119520120	119539281	416	386	-30	-8%	1.5	Pass	Pass
26089233	119539281	119520120	525	701	176	25%	7.1	No Pass	No Pass
26089260	119514722	119539615	207	163	-44	-27%	3.2	Pass	Pass
26089260	119539615	119514722	112	167	55	33%	4.6	Pass	Pass
26089261	119539615	119543601	165	207	42	20%	3.1	Pass	Pass
26089261	119543601	119539615	287	476	189	40%	9.7	No Pass	No Pass
26089262	119512935	119519322	389	625	236	38%	10.5	No Pass	No Pass
26089262	119519322	119512935	299	586	287	49%	13.6	No Pass	No Pass
26089275	119520112	119530423	120	66	-54	-81%	5.6	Pass	No Pass
26089275	119530423	119520112	450	262	-188	-72%	10.0	No Pass	No Pass
26089332	119513290	119519322	72	196	124	63%	10.7	No Pass	No Pass
26089332	119519322	119513290	111	179	68	38%	5.6	Pass	No Pass
26089339	119536410	119541234	79	47	-32	-67%	4.0	Pass	Pass
26089339	119541234	119536410	249	139	-110	-79%	7.9	No Pass	No Pass
26089340	119529414	119541355	290	492	202	41%	10.2	No Pass	No Pass
26089340	119541355	119529414	413	637	224	35%	9.8	No Pass	No Pass
26089341	119518437	119541355	87	39	-48	-124%	6.1	Pass	No Pass
26089341	119541355	119518437	33	4	-29	-682%	6.7	Pass	No Pass
26089350	119512934	119527430	119	367	248	68%	15.9	No Pass	No Pass
26089350	119527430	119512934	66	35	-31	-90%	4.4	Pass	Pass
26089356	119522495	119533136	124	207	83	40%	6.4	Pass	No Pass
26089356	119533136	119522495	155	172	17	10%	1.3	Pass	Pass
26089359	119518331	119537405	1081	971	-110	-11%	3.4	Pass	Pass

26089360	119518331	119518332	249	106	-143	-135%	10.8	No Pass	No Pass
26089384	119533135	119533136	230	300	70	23%	4.3	Pass	Pass
26089384	119533136	119533135	401	599	198	33%	8.9	No Pass	No Pass
26089395	119516271	119533135	133	174	41	23%	3.3	Pass	Pass
26089395	119533135	119516271	251	361	110	30%	6.3	No Pass	No Pass
26089503	119530538	119537062	151	396	245	62%	14.8	No Pass	No Pass
26089503	119537062	119530538	114	314	200	64%	13.7	No Pass	No Pass
26089523	119515396	119519026	131	174	43	25%	3.5	Pass	Pass
26089523	119519026	119515396	126	139	13	9%	1.1	Pass	Pass
26089539	119527423	119532994	69	76	7	9%	0.8	Pass	Pass
26089539	119532994	119527423	69	88	19	22%	2.1	Pass	Pass
26089555	119532994	119534356	82	133	51	38%	4.9	Pass	Pass
26089555	119534356	119532994	142	73	-69	-95%	6.7	Pass	No Pass
26089624	119527876	119527875	61	172	111	65%	10.3	No Pass	No Pass
26089632	119531901	119535613	329	351	22	6%	1.2	Pass	Pass
26089632	119535613	119531901	475	258	-217	-84%	11.3	No Pass	No Pass
26089641	119531901	119541185	310	225	-85	-38%	5.2	Pass	No Pass
26089641	119541185	119531901	198	158	-40	-25%	3.0	Pass	Pass
26089647	119528818	119531901	251	275	24	9%	1.5	Pass	Pass
26089647	119531901	119528818	286	116	-170	-147%	12.0	No Pass	No Pass
26089652	119527875	119528834	250	297	47	16%	2.9	Pass	Pass
26089653	119527876	119528834	1882	2323	441	19%	9.6	No Pass	No Pass
26089660	119526557	119548606	308	361	53	15%	2.9	Pass	Pass
26089660	119548606	119526557	349	377	28	8%	1.5	Pass	Pass
26089700	119548602	119522170	40	49	9	18%	1.3	Pass	Pass
26089702	119538337	119522170	1290	1028	-262	-25%	7.7	No Pass	No Pass
26089703	119538337	119548602	180	99	-81	-82%	6.8	Pass	No Pass
26089883	119545101	119519528	2132	2620	488	19%	10.0	No Pass	No Pass
26089885	119519528	119519527	329	394	65	16%	3.4	Pass	Pass
26089887	119533821	119540857	1470	1127	-343	-30%	9.5	No Pass	No Pass

26089919	119522275	119533821	251	165	-86	-52%	5.9	Pass	No Pass
26089963	119522275	119522831	437	298	-139	-47%	7.3	No Pass	No Pass
26089963	119522831	119522275	395	95	-300	-315%	19.1	No Pass	No Pass
26090277	119513860	119535709	277	103	-174	-168%	12.6	No Pass	No Pass
26090277	119535709	119513860	14	0	-14	0%	5.3	Pass	No Pass
26090379	119535709	119537843	2066	2330	264	11%	5.6	Pass	No Pass
26116003	119536410	119536411	353	202	-151	-74%	9.0	No Pass	No Pass
26116003	119536411	119536410	357	204	-153	-75%	9.1	No Pass	No Pass
26116020	119520211	119520212	187	45	-142	-314%	13.2	No Pass	No Pass
26116935	119535710	119535709	1803	2227	424	19%	9.4	No Pass	No Pass
26116936	119534298	119533820	1219	962	-257	-27%	7.8	No Pass	No Pass
26116955	119530809	119532994	287	477	190	40%	9.7	No Pass	No Pass
26116955	119532994	119530809	376	516	140	27%	6.6	No Pass	No Pass
26116960	119533136	119543657	13	2	-11	-428%	3.8	Pass	Pass
26116960	119543657	119533136	3	2	-1	-36%	0.5	Pass	Pass
26116961	119533136	119539615	123	150	27	18%	2.3	Pass	Pass
26116961	119539615	119533136	340	415	75	18%	3.9	Pass	Pass
26832618	119519527	119542149	343	258	-85	-33%	4.9	Pass	Pass
26832618	119542149	119519527	308	232	-76	-33%	4.6	Pass	Pass
26856716	119520462	119527876	1943	2495	552	22%	11.7	No Pass	No Pass
26856719	119522170	119522171	1330	1077	-253	-24%	7.3	No Pass	No Pass
78783673	119519134	119521378	155	134	-21	-16%	1.8	Pass	Pass
78783673	119521378	119519134	304	195	-109	-56%	6.9	No Pass	No Pass
565643016	119537061	119537062	283	379	96	25%	5.3	Pass	No Pass
565643016	119537062	119537061	243	351	108	31%	6.2	No Pass	No Pass
565653829	119524407	119531945	280	387	107	28%	5.9	No Pass	No Pass
565653829	119531945	119524407	194	284	90	32%	5.8	Pass	No Pass
565653876	119536339	119548834	223	238	15	6%	1.0	Pass	Pass
565653876	119548834	119536339	465	483	18	4%	0.8	Pass	Pass
565658021	119540917	119541452	253	139	-114	-82%	8.1	No Pass	No Pass

565658021	119541452	119540917	161	48	-113	-233%	11.0	No Pass	No Pass
577364891	119538408	119548814	480	642	162	25%	6.8	No Pass	No Pass
577364891	119548814	119538408	344	472	128	27%	6.3	No Pass	No Pass
577364906	119539456	119548824	1490	1224	-266	-22%	7.2	No Pass	No Pass
577364908	119514024	119548825	258	103	-155	-150%	11.5	No Pass	No Pass
577364908	119548825	119514024	266	262	-4	-2%	0.3	Pass	Pass
577364911	119548824	119548826	282	262	-20	-8%	1.2	Pass	Pass
577364912	119548826	119534298	11	0	-11	0%	4.7	Pass	Pass
577364915	119531945	119548547	344	404	60	15%	3.1	Pass	Pass
577364915	119548547	119531945	332	280	-52	-18%	3.0	Pass	Pass
577364929	119524087	119548827	404	415	11	3%	0.5	Pass	Pass
577364929	119548827	119524087	391	437	46	10%	2.3	Pass	Pass
577364930	119519322	119548827	284	466	182	39%	9.4	No Pass	No Pass
577364930	119548827	119519322	233	411	178	43%	9.9	No Pass	No Pass
577364942	119538318	119548834	59	37	-22	-58%	3.1	Pass	Pass
577364942	119548834	119538318	51	16	-35	-209%	5.9	Pass	No Pass
577365285	119523821	119548992	281	266	-15	-5%	0.9	Pass	Pass
577365285	119548992	119523821	401	387	-14	-4%	0.7	Pass	Pass
577365291	119512934	119548995	281	361	80	22%	4.5	Pass	Pass
577365291	119548995	119512934	272	285	13	5%	0.8	Pass	Pass
577365292	119512935	119548995	273	287	14	5%	0.8	Pass	Pass
577365292	119548995	119512935	281	361	80	22%	4.5	Pass	Pass
577365294	119512934	119548996	69	47	-22	-47%	2.9	Pass	Pass
577365294	119548996	119512934	42	14	-28	-191%	5.2	Pass	No Pass
577365348	119521378	119549012	366	326	-40	-12%	2.1	Pass	Pass
577365348	119549012	119521378	441	465	24	5%	1.1	Pass	Pass
577365350	119530423	119549013	269	289	20	7%	1.2	Pass	Pass
577365350	119549013	119530423	413	390	-23	-6%	1.1	Pass	Pass
577365359	119537437	119549017	223	238	15	6%	1.0	Pass	Pass
577365359	119549017	119537437	465	483	18	4%	0.8	Pass	Pass

577365361	119512935	119549018	293	651	358	55%	16.5	No Pass	No Pass
577365361	119549018	119512935	375	616	241	39%	10.8	No Pass	No Pass
577365363	119512934	119549019	199	273	74	27%	4.8	Pass	Pass
577365363	119549019	119512934	288	714	426	60%	19.0	No Pass	No Pass
577365366	119533135	119549021	257	320	63	20%	3.7	Pass	Pass
577365366	119549021	119533135	259	318	59	19%	3.5	Pass	Pass
577365369	119533135	119549022	373	621	248	40%	11.1	No Pass	No Pass
577365369	119549022	119533135	314	511	197	39%	9.7	No Pass	No Pass
577365389	119527621	119549032	242	361	119	33%	6.8	No Pass	No Pass
577365389	119549032	119527621	176	264	88	33%	5.9	Pass	No Pass

AM LGV Link Calibration

$LINK:NO	FROMNODENO	TONODENO	OBSERVED_LGV	MODELLED_LGV	Diff	%Diff	GEH	FLOW CRITERIA	GEH CRITERIA
26087801	119524757	119537246	103	22	-81	-361%	10.2	Pass	No Pass
26087801	119537246	119524757	45	20	-25	-126%	4.4	Pass	Pass
26087815	119534731	119537246	29	5	-24	-494%	5.9	Pass	No Pass
26087815	119537246	119534731	44	4	-40	-997%	8.2	Pass	No Pass
26087841	119537246	119548834	91	19	-72	-374%	9.7	Pass	No Pass
26087841	119548834	119537246	47	16	-31	-197%	5.6	Pass	No Pass
26088142	119520198	119520197	19	7	-12	-166%	3.3	Pass	Pass
26088612	119521378	119521899	54	13	-41	-328%	7.2	Pass	No Pass
26088612	119521899	119521378	37	11	-26	-239%	5.3	Pass	No Pass
26088806	119520091	119548620	8	4	-4	-108%	1.7	Pass	Pass
26088806	119548620	119520091	11	4	-7	-163%	2.5	Pass	Pass
26088857	119535239	119538408	66	27	-39	-145%	5.7	Pass	No Pass
26088857	119538408	119535239	70	22	-48	-224%	7.2	Pass	No Pass
26088871	119525005	119538408	27	4	-23	-584%	5.9	Pass	No Pass
26088871	119538408	119525005	23	6	-17	-283%	4.5	Pass	Pass
26088905	119540023	119540735	43	11	-32	-285%	6.1	Pass	No Pass
26088905	119540735	119540023	39	14	-25	-173%	4.8	Pass	Pass

26089145	119521092	119524495	134	205	71	35%	5.5	Pass	No Pass
26089162	119519133	119520112	35	7	-28	-415%	6.2	Pass	No Pass
26089162	119520112	119519133	12	3	-9	-281%	3.2	Pass	Pass
26089163	119520111	119520112	9	2	-7	-261%	2.7	Pass	Pass
26089163	119520112	119520111	46	13	-33	-267%	6.2	Pass	No Pass
26089183	119514722	119517085	23	11	-12	-102%	2.8	Pass	Pass
26089183	119517085	119514722	43	9	-34	-368%	6.6	Pass	No Pass
26089216	119517085	119536830	16	10	-6	-62%	1.7	Pass	Pass
26089216	119536830	119517085	20	7	-13	-176%	3.5	Pass	Pass
26089219	119524495	119537907	125	202	77	38%	6.1	Pass	No Pass
26089223	119529706	119543071	56	0	-56	0%	10.6	Pass	No Pass
26089223	119543071	119529706	49	0	-49	0%	9.9	Pass	No Pass
26089233	119520120	119539281	104	13	-91	-703%	11.9	Pass	No Pass
26089233	119539281	119520120	130	12	-118	-942%	13.9	No Pass	No Pass
26089260	119514722	119539615	43	9	-34	-368%	6.6	Pass	No Pass
26089260	119539615	119514722	23	11	-12	-106%	2.9	Pass	Pass
26089261	119539615	119543601	34	12	-22	-184%	4.6	Pass	Pass
26089261	119543601	119539615	59	18	-41	-230%	6.6	Pass	No Pass
26089262	119512935	119519322	83	15	-68	-464%	9.8	Pass	No Pass
26089262	119519322	119512935	77	8	-69	-876%	10.6	Pass	No Pass
26089275	119520112	119530423	21	7	-14	-207%	3.8	Pass	Pass
26089275	119530423	119520112	35	13	-22	-165%	4.4	Pass	Pass
26089332	119513290	119519322	20	3	-17	-556%	5.0	Pass	Pass
26089332	119519322	119513290	26	10	-16	-165%	3.8	Pass	Pass
26089339	119536410	119541234	7	16	9	55%	2.6	Pass	Pass
26089339	119541234	119536410	24	19	-5	-26%	1.1	Pass	Pass
26089340	119529414	119541355	60	53	-7	-14%	1.0	Pass	Pass
26089340	119541355	119529414	85	53	-32	-59%	3.8	Pass	Pass
26089341	119518437	119541355	18	5	-13	-285%	4.0	Pass	Pass
26089341	119541355	119518437	7	6	-1	-26%	0.6	Pass	Pass

26089350	119512934	119527430	20	19	-1	-7%	0.3	Pass	Pass
26089350	119527430	119512934	31	26	-5	-21%	1.0	Pass	Pass
26089356	119522495	119533136	26	27	1	3%	0.1	Pass	Pass
26089356	119533136	119522495	32	35	3	9%	0.5	Pass	Pass
26089359	119518331	119537405	102	169	67	40%	5.8	Pass	No Pass
26089360	119518331	119518332	24	8	-16	-185%	3.9	Pass	Pass
26089384	119533135	119533136	48	43	-5	-11%	0.7	Pass	Pass
26089384	119533136	119533135	83	37	-46	-124%	5.9	Pass	No Pass
26089395	119516271	119533135	27	13	-14	-113%	3.2	Pass	Pass
26089395	119533135	119516271	52	19	-33	-177%	5.6	Pass	No Pass
26089503	119530538	119537062	33	18	-15	-80%	2.9	Pass	Pass
26089503	119537062	119530538	36	17	-19	-111%	3.7	Pass	Pass
26089523	119515396	119519026	33	10	-23	-229%	5.0	Pass	Pass
26089523	119519026	119515396	32	8	-24	-305%	5.4	Pass	No Pass
26089539	119527423	119532994	22	9	-13	-142%	3.3	Pass	Pass
26089539	119532994	119527423	20	8	-12	-162%	3.3	Pass	Pass
26089555	119532994	119534356	21	16	-5	-29%	1.1	Pass	Pass
26089555	119534356	119532994	35	18	-17	-94%	3.3	Pass	Pass
26089624	119527876	119527875	6	9	3	34%	1.1	Pass	Pass
26089632	119531901	119535613	31	15	-16	-106%	3.3	Pass	Pass
26089632	119535613	119531901	45	19	-26	-141%	4.7	Pass	Pass
26089641	119531901	119541185	29	10	-19	-194%	4.3	Pass	Pass
26089641	119541185	119531901	19	10	-9	-84%	2.3	Pass	Pass
26089647	119528818	119531901	24	12	-12	-95%	2.7	Pass	Pass
26089647	119531901	119528818	27	16	-11	-65%	2.3	Pass	Pass
26089652	119527875	119528834	24	12	-12	-105%	2.9	Pass	Pass
26089653	119527876	119528834	165	206	41	20%	3.0	Pass	Pass
26089660	119526557	119548606	29	37	8	21%	1.3	Pass	Pass
26089660	119548606	119526557	33	63	30	48%	4.3	Pass	Pass
26089700	119548602	119522170	4	2	-2	-109%	1.2	Pass	Pass

26089702	119538337	119522170	122	176	54	31%	4.4	Pass	Pass
26089703	119538337	119548602	17	11	-6	-62%	1.7	Pass	Pass
26089883	119545101	119519528	189	218	29	13%	2.0	Pass	Pass
26089885	119519528	119519527	31	9	-22	-230%	4.8	Pass	Pass
26089887	119533821	119540857	139	186	47	25%	3.7	Pass	Pass
26089919	119522275	119533821	24	10	-14	-138%	3.4	Pass	Pass
26089963	119522275	119522831	41	3	-38	-1177%	8.0	Pass	No Pass
26089963	119522831	119522275	37	3	-34	-1053%	7.5	Pass	No Pass
26090277	119513860	119535709	26	16	-10	-61%	2.1	Pass	Pass
26090277	119535709	119513860	1	0	-1	0%	1.4	Pass	Pass
26090379	119535709	119537843	183	224	41	18%	2.9	Pass	Pass
26116003	119536410	119536411	33	53	20	37%	3.0	Pass	Pass
26116003	119536411	119536410	34	53	19	35%	2.8	Pass	Pass
26116020	119520211	119520212	25	6	-19	-327%	4.9	Pass	Pass
26116935	119535710	119535709	158	208	50	24%	3.7	Pass	Pass
26116936	119534298	119533820	115	176	61	35%	5.1	Pass	No Pass
26116955	119530809	119532994	86	24	-62	-254%	8.3	Pass	No Pass
26116955	119532994	119530809	101	29	-72	-253%	9.0	Pass	No Pass
26116960	119533136	119543657	3	2	-1	-30%	0.4	Pass	Pass
26116960	119543657	119533136	1	1	0	-23%	0.2	Pass	Pass
26116961	119533136	119539615	25	9	-16	-183%	3.9	Pass	Pass
26116961	119539615	119533136	70	13	-57	-449%	8.9	Pass	No Pass
26832618	119519527	119542149	32	11	-21	-182%	4.4	Pass	Pass
26832618	119542149	119519527	29	12	-17	-140%	3.7	Pass	Pass
26856716	119520462	119527876	171	215	44	20%	3.2	Pass	Pass
26856719	119522170	119522171	126	178	52	29%	4.2	Pass	Pass
78783673	119519134	119521378	26	2	-24	-1035%	6.3	Pass	No Pass
78783673	119521378	119519134	37	2	-35	-1868%	8.0	Pass	No Pass
565643016	119537061	119537062	74	24	-50	-204%	7.1	Pass	No Pass
565643016	119537062	119537061	73	25	-49	-198%	6.9	Pass	No Pass

565653829	119524407	119531945	38	12	-26	-227%	5.3	Pass	No Pass
565653829	119531945	119524407	26	10	-16	-171%	3.9	Pass	Pass
565653876	119536339	119548834	42	16	-26	-165%	4.9	Pass	Pass
565653876	119548834	119536339	88	19	-69	-359%	9.4	Pass	No Pass
565658021	119540917	119541452	24	47	23	49%	3.9	Pass	Pass
565658021	119541452	119540917	15	27	12	44%	2.6	Pass	Pass
577364891	119538408	119548814	79	26	-53	-208%	7.4	Pass	No Pass
577364891	119548814	119538408	79	22	-57	-253%	8.0	Pass	No Pass
577364906	119539456	119548824	141	188	47	25%	3.7	Pass	Pass
577364908	119514024	119548825	24	16	-8	-49%	1.7	Pass	Pass
577364908	119548825	119514024	25	12	-13	-104%	3.0	Pass	Pass
577364911	119548824	119548826	27	12	-15	-121%	3.3	Pass	Pass
577364912	119548826	119534298	1	0	-1	0%	1.4	Pass	Pass
577364915	119531945	119548547	47	12	-35	-288%	6.4	Pass	No Pass
577364915	119548547	119531945	45	10	-35	-349%	6.7	Pass	No Pass
577364929	119524087	119548827	101	5	-96	-1987%	13.2	Pass	No Pass
577364929	119548827	119524087	97	5	-92	-1876%	12.9	Pass	No Pass
577364930	119519322	119548827	57	5	-52	-1061%	9.4	Pass	No Pass
577364930	119548827	119519322	57	5	-52	-1078%	9.4	Pass	No Pass
577364942	119538318	119548834	11	0	-11	0%	4.7	Pass	Pass
577364942	119548834	119538318	10	0	-10	0%	4.5	Pass	Pass
577365285	119523821	119548992	70	23	-47	-200%	6.8	Pass	No Pass
577365285	119548992	119523821	101	22	-79	-356%	10.1	Pass	No Pass
577365291	119512934	119548995	75	24	-51	-208%	7.2	Pass	No Pass
577365291	119548995	119512934	73	17	-56	-333%	8.4	Pass	No Pass
577365292	119512935	119548995	70	17	-53	-315%	8.1	Pass	No Pass
577365292	119548995	119512935	70	24	-46	-188%	6.7	Pass	No Pass
577365294	119512934	119548996	29	3	-26	-982%	6.6	Pass	No Pass
577365294	119548996	119512934	16	1	-15	-1678%	5.2	Pass	No Pass
577365348	119521378	119549012	40	11	-29	-251%	5.6	Pass	No Pass

577365348	119549012	119521378	68	13	-55	-438%	8.7	Pass	No Pass
577365350	119530423	119549013	25	63	38	60%	5.7	Pass	No Pass
577365350	119549013	119530423	39	66	27	41%	3.7	Pass	Pass
577365359	119537437	119549017	42	16	-26	-165%	4.9	Pass	Pass
577365359	119549017	119537437	88	19	-69	-359%	9.4	Pass	No Pass
577365361	119512935	119549018	86	29	-57	-197%	7.5	Pass	No Pass
577365361	119549018	119512935	92	28	-64	-225%	8.2	Pass	No Pass
577365363	119512934	119549019	57	30	-27	-93%	4.2	Pass	Pass
577365363	119549019	119512934	59	32	-27	-85%	4.0	Pass	Pass
577365366	119533135	119549021	53	25	-28	-114%	4.5	Pass	Pass
577365366	119549021	119533135	54	38	-16	-41%	2.3	Pass	Pass
577365369	119533135	119549022	77	55	-22	-39%	2.7	Pass	Pass
577365369	119549022	119533135	65	54	-11	-21%	1.5	Pass	Pass
577365389	119527621	119549032	60	8	-52	-685%	9.0	Pass	No Pass
577365389	119549032	119527621	44	8	-36	-447%	7.0	Pass	No Pass

AM HGV Link Calibration

$LINK:NO	FROMNODENO	TONODENO	OBSERVED HGV	MODELLED HGV	Diff	%Diff	GEH	FLOW CRITERIA	GEH CRITERIA
26087801	119524757	119537246	15	0	-15	-3309%	5.2	Pass	No Pass
26087801	119537246	119524757	10	0	-10	-4662%	4.3	Pass	Pass
26087815	119534731	119537246	1	0	-1	-733%	1.2	Pass	Pass
26087815	119537246	119534731	3	0	-3	-9900%	2.4	Pass	Pass
26087841	119537246	119548834	16	1	-15	-2919%	5.4	Pass	No Pass
26087841	119548834	119537246	12	0	-12	-5614%	4.8	Pass	Pass
26088142	119520198	119520197	9	1	-8	-900%	3.6	Pass	Pass
26088612	119521378	119521899	10	1	-9	-964%	3.9	Pass	Pass
26088612	119521899	119521378	10	0	-10	-49900%	4.5	Pass	Pass
26088806	119520091	119548620	0	0	0	0%	0.0	Pass	Pass
26088806	119548620	119520091	0	0	0	100%	0.2	Pass	Pass
26088857	119535239	119538408	3	1	-2	-121%	1.1	Pass	Pass

26088857	119538408	119535239	6	2	-4	-170%	1.9	Pass	Pass
26088871	119525005	119538408	3	0	-3	0%	2.4	Pass	Pass
26088871	119538408	119525005	1	0	-1	0%	1.4	Pass	Pass
26088905	119540023	119540735	8	0	-8	-39900%	4.0	Pass	Pass
26088905	119540735	119540023	7	1	-6	-645%	3.0	Pass	Pass
26089145	119521092	119524495	65	116	51	44%	5.3	Pass	No Pass
26089162	119519133	119520112	6	0	-6	0%	3.5	Pass	Pass
26089162	119520112	119519133	6	0	-6	-3900%	3.3	Pass	Pass
26089163	119520111	119520112	5	0	-5	-7043%	3.1	Pass	Pass
26089163	119520112	119520111	26	0	-26	-51900%	7.2	Pass	No Pass
26089183	119514722	119517085	5	0	-5	-1624%	2.9	Pass	Pass
26089183	119517085	119514722	2	0	-2	0%	2.0	Pass	Pass
26089216	119517085	119536830	4	0	-4	-1150%	2.5	Pass	Pass
26089216	119536830	119517085	0	0	0	0%	0.0	Pass	Pass
26089219	119524495	119537907	60	116	56	48%	5.9	Pass	No Pass
26089223	119529706	119543071	1	1	0	0%	0.0	Pass	Pass
26089223	119543071	119529706	1	1	0	0%	0.0	Pass	Pass
26089233	119520120	119539281	14	2	-12	-600%	4.2	Pass	Pass
26089233	119539281	119520120	13	2	-11	-550%	4.0	Pass	Pass
26089260	119514722	119539615	1	0	-1	0%	1.4	Pass	Pass
26089260	119539615	119514722	4	0	-4	-1279%	2.5	Pass	Pass
26089261	119539615	119543601	11	0	-11	-54900%	4.7	Pass	Pass
26089261	119543601	119539615	4	1	-3	-355%	2.0	Pass	Pass
26089262	119512935	119519322	17	2	-15	-750%	4.9	Pass	Pass
26089262	119519322	119512935	9	2	-7	-339%	3.0	Pass	Pass
26089275	119520112	119530423	6	0	-6	-8471%	3.4	Pass	Pass
26089275	119530423	119520112	27	0	-27	-13400%	7.3	Pass	No Pass
26089332	119513290	119519322	0	0	0	100%	0.3	Pass	Pass
26089332	119519322	119513290	0	0	0	0%	0.0	Pass	Pass
26089339	119536410	119541234	7	1	-6	-1086%	3.3	Pass	Pass

26089339	119541234	119536410	17	1	-16	-1832%	5.4	Pass	No Pass
26089340	119529414	119541355	22	3	-19	-617%	5.3	Pass	No Pass
26089340	119541355	119529414	15	4	-11	-300%	3.7	Pass	Pass
26089341	119518437	119541355	4	0	-4	0%	2.8	Pass	Pass
26089341	119541355	119518437	1	0	-1	-213%	0.8	Pass	Pass
26089350	119512934	119527430	3	0	-3	0%	2.4	Pass	Pass
26089350	119527430	119512934	5	1	-4	-541%	2.5	Pass	Pass
26089356	119522495	119533136	3	1	-2	-170%	1.3	Pass	Pass
26089356	119533136	119522495	6	1	-5	-314%	2.4	Pass	Pass
26089359	119518331	119537405	76	124	48	39%	4.8	Pass	Pass
26089360	119518331	119518332	17	1	-16	-1832%	5.4	Pass	No Pass
26089384	119533135	119533136	17	2	-15	-983%	5.1	Pass	No Pass
26089384	119533136	119533135	7	2	-5	-340%	2.6	Pass	Pass
26089395	119516271	119533135	3	0	-3	0%	2.4	Pass	Pass
26089395	119533135	119516271	5	0	-5	0%	3.2	Pass	Pass
26089503	119530538	119537062	0	0	0	0%	0.0	Pass	Pass
26089503	119537062	119530538	0	0	0	0%	0.0	Pass	Pass
26089523	119515396	119519026	4	1	-4	-700%	2.3	Pass	Pass
26089523	119519026	119515396	4	8	4	51%	1.7	Pass	Pass
26089539	119527423	119532994	0	0	0	0%	0.0	Pass	Pass
26089539	119532994	119527423	0	0	0	0%	0.0	Pass	Pass
26089555	119532994	119534356	0	0	0	0%	0.0	Pass	Pass
26089555	119534356	119532994	0	0	0	100%	0.8	Pass	Pass
26089624	119527876	119527875	11	0	-11	0%	4.7	Pass	Pass
26089632	119531901	119535613	15	1	-15	-2900%	5.2	Pass	No Pass
26089632	119535613	119531901	18	9	-9	-102%	2.5	Pass	Pass
26089641	119531901	119541185	11	9	-2	-24%	0.7	Pass	Pass
26089641	119541185	119531901	8	1	-8	-1500%	3.6	Pass	Pass
26089647	119528818	119531901	8	0	-8	-79900%	4.0	Pass	Pass
26089647	119531901	119528818	8	0	-8	0%	4.0	Pass	Pass

26089652	119527875	119528834	21	2	-19	-1213%	5.8	Pass	No Pass
26089653	119527876	119528834	75	116	41	35%	4.2	Pass	Pass
26089660	119526557	119548606	11	2	-9	-501%	3.6	Pass	Pass
26089660	119548606	119526557	18	3	-15	-496%	4.6	Pass	Pass
26089700	119548602	119522170	9	0	-9	0%	4.2	Pass	Pass
26089702	119538337	119522170	84	125	41	33%	4.0	Pass	Pass
26089703	119538337	119548602	17	2	-15	-866%	5.0	Pass	Pass
26089883	119545101	119519528	96	117	21	18%	2.1	Pass	Pass
26089885	119519528	119519527	43	2	-41	-2506%	8.8	Pass	No Pass
26089887	119533821	119540857	101	126	25	20%	2.4	Pass	Pass
26089919	119522275	119533821	46	10	-36	-346%	6.7	Pass	No Pass
26089963	119522275	119522831	45	1	-44	-3813%	9.1	Pass	No Pass
26089963	119522831	119522275	42	1	-41	-3718%	8.8	Pass	No Pass
26090277	119513860	119535709	14	0	-14	0%	5.3	Pass	No Pass
26090277	119535709	119513860	0	0	0	0%	0.0	Pass	Pass
26090379	119535709	119537843	67	116	49	42%	5.1	Pass	No Pass
26116003	119536410	119536411	23	1	-22	-1669%	6.2	Pass	No Pass
26116003	119536411	119536410	20	2	-18	-926%	5.4	Pass	No Pass
26116020	119520211	119520212	13	0	-13	0%	5.1	Pass	No Pass
26116935	119535710	119535709	53	116	63	54%	6.8	Pass	No Pass
26116936	119534298	119533820	55	116	61	53%	6.6	Pass	No Pass
26116955	119530809	119532994	0	0	0	0%	0.0	Pass	Pass
26116955	119532994	119530809	0	0	0	100%	0.8	Pass	Pass
26116960	119533136	119543657	0	0	0	100%	0.6	Pass	Pass
26116960	119543657	119533136	0	0	0	0%	0.0	Pass	Pass
26116961	119533136	119539615	12	0	-12	-59900%	4.9	Pass	Pass
26116961	119539615	119533136	2	1	-1	-239%	1.2	Pass	Pass
26832618	119519527	119542149	8	1	-8	-1500%	3.6	Pass	Pass
26832618	119542149	119519527	13	9	-4	-41%	1.1	Pass	Pass
26856716	119520462	119527876	86	116	30	26%	3.0	Pass	Pass

26856719	119522170	119522171	93	125	32	25%	3.0	Pass	Pass
78783673	119519134	119521378	3	0	-3	-7400%	2.4	Pass	Pass
78783673	119521378	119519134	2	0	-2	0%	2.0	Pass	Pass
565643016	119537061	119537062	0	0	0	0%	0.0	Pass	Pass
565643016	119537062	119537061	0	0	0	0%	0.0	Pass	Pass
565653829	119524407	119531945	16	1	-15	-1469%	5.1	Pass	No Pass
565653829	119531945	119524407	13	0	-13	-21567%	5.1	Pass	No Pass
565653876	119536339	119548834	10	0	-10	-4662%	4.3	Pass	Pass
565653876	119548834	119536339	16	1	-15	-2919%	5.4	Pass	No Pass
565658021	119540917	119541452	26	2	-24	-1556%	6.6	Pass	No Pass
565658021	119541452	119540917	18	1	-17	-3233%	5.7	Pass	No Pass
577364891	119538408	119548814	6	1	-5	-341%	2.4	Pass	Pass
577364891	119548814	119538408	7	2	-5	-215%	2.2	Pass	Pass
577364906	119539456	119548824	69	116	47	41%	4.9	Pass	Pass
577364908	119514024	119548825	6	0	-6	0%	3.5	Pass	Pass
577364908	119548825	119514024	6	0	-6	0%	3.5	Pass	Pass
577364911	119548824	119548826	14	0	-14	0%	5.3	Pass	No Pass
577364912	119548826	119534298	0	0	0	0%	0.0	Pass	Pass
577364915	119531945	119548547	11	1	-10	-978%	4.1	Pass	Pass
577364915	119548547	119531945	13	0	-13	-21567%	5.1	Pass	No Pass
577364929	119524087	119548827	11	2	-9	-450%	3.5	Pass	Pass
577364929	119548827	119524087	14	2	-12	-600%	4.2	Pass	Pass
577364930	119519322	119548827	17	2	-15	-750%	4.9	Pass	Pass
577364930	119548827	119519322	9	2	-7	-350%	3.0	Pass	Pass
577364942	119538318	119548834	3	0	-3	0%	2.4	Pass	Pass
577364942	119548834	119538318	1	0	-1	0%	1.4	Pass	Pass
577365285	119523821	119548992	9	0	-9	-3233%	4.1	Pass	Pass
577365285	119548992	119523821	13	0	-13	0%	5.1	Pass	No Pass
577365291	119512934	119548995	22	3	-19	-594%	5.3	Pass	No Pass
577365291	119548995	119512934	17	2	-15	-620%	4.7	Pass	Pass

577365292	119512935	119548995	18	2	-16	-663%	4.9	Pass	Pass
577365292	119548995	119512935	22	3	-19	-594%	5.3	Pass	No Pass
577365294	119512934	119548996	0	0	0	0%	0.0	Pass	Pass
577365294	119548996	119512934	0	0	0	0%	0.0	Pass	Pass
577365348	119521378	119549012	11	0	-11	-18233%	4.7	Pass	Pass
577365348	119549012	119521378	10	1	-9	-964%	3.9	Pass	Pass
577365350	119530423	119549013	8	2	-6	-252%	2.5	Pass	Pass
577365350	119549013	119530423	6	1	-5	-311%	2.4	Pass	Pass
577365359	119537437	119549017	10	0	-10	-4662%	4.3	Pass	Pass
577365359	119549017	119537437	16	1	-15	-2919%	5.4	Pass	No Pass
577365361	119512935	119549018	9	3	-6	-180%	2.3	Pass	Pass
577365361	119549018	119512935	13	2	-11	-451%	3.8	Pass	Pass
577365363	119512934	119549019	16	3	-13	-414%	4.2	Pass	Pass
577365363	119549019	119512934	21	3	-18	-569%	5.1	Pass	No Pass
577365366	119533135	119549021	9	2	-7	-481%	3.2	Pass	Pass
577365366	119549021	119533135	13	3	-10	-414%	3.8	Pass	Pass
577365369	119533135	119549022	16	4	-12	-298%	3.8	Pass	Pass
577365369	119549022	119533135	23	3	-20	-662%	5.5	Pass	No Pass
577365389	119527621	119549032	2	0	-2	0%	2.0	Pass	Pass
577365389	119549032	119527621	0	0	0	0%	0.0	Pass	Pass

AM Summary

CRITERIA	Number of Counts	Number of Counts meet the criteria	Percentage	Acceptability Guideline
CAR				
FLOW <=700	139	90	65%	Not Pass
FLOW >700 AND <=2700	13	2	16%	Not Pass
FLOW >2700	0	0	None	Not Required
GEH<5	152	73	49%	Not Pass
LGV				
FLOW <=700	152	151	100%	Pass
FLOW >700 AND <=2700	0	0	None	Not Required
FLOW >2700	0	0	None	Not Required
GEH<5	152	88	58%	Not Pass
HGV				
FLOW <=700	152	152	100%	Pass
FLOW >700 AND <=2700	0	0	None	Not Required
FLOW >2700	0	0	None	Not Required
GEH<5	152	116	77%	Not Pass
VEHICLES				
FLOW <=700	139	89	65%	Not Pass
FLOW >700 AND <=2700	13	5	39%	Not Pass
FLOW >2700	0	0	None	Not Required
GEH<5	152	80	53%	Not Pass
GEH<10	152	130	86%	Not Required

PM Vehicles Link Calibration

$LINK:NO	FROMNODENO	TONODENO	OBSERVED VEHICLE	MODELLED VEHICLE	Diff	%Diff	GEH	FLOW CRITERIA	GEH CRITERIA
26087801	119524757	119537246	368	392	24	6%	1.2	Pass	Pass
26087801	119537246	119524757	578	581	3	0%	0.1	Pass	Pass
26087815	119534731	119537246	186	54	-133	-248%	12.1	No Pass	No Pass
26087815	119537246	119534731	271	138	-133	-96%	9.3	No Pass	No Pass
26087841	119537246	119548834	356	319	-37	-11%	2.0	Pass	Pass
26087841	119548834	119537246	648	593	-55	-9%	2.2	Pass	Pass
26088142	119520198	119520197	171	74	-97	-132%	8.8	Pass	No Pass
26088612	119521378	119521899	366	326	-41	-12%	2.2	Pass	Pass
26088612	119521899	119521378	282	220	-62	-28%	3.9	Pass	Pass
26088806	119520091	119548620	59	14	-45	-321%	7.4	Pass	No Pass
26088806	119548620	119520091	58	32	-26	-83%	3.9	Pass	Pass
26088857	119535239	119538408	394	363	-31	-9%	1.6	Pass	Pass
26088857	119538408	119535239	659	701	42	6%	1.6	Pass	Pass
26088871	119525005	119538408	213	135	-78	-58%	5.9	Pass	No Pass
26088871	119538408	119525005	181	112	-69	-62%	5.7	Pass	No Pass
26088905	119540023	119540735	334	214	-120	-56%	7.2	No Pass	No Pass
26088905	119540735	119540023	356	332	-24	-7%	1.3	Pass	Pass
26089145	119521092	119524495	1333	1447	114	8%	3.1	Pass	Pass
26089162	119519133	119520112	181	81	-100	-124%	8.7	No Pass	No Pass
26089162	119520112	119519133	214	169	-45	-27%	3.3	Pass	Pass
26089163	119520111	119520112	39	25	-14	-53%	2.4	Pass	Pass
26089163	119520112	119520111	305	99	-206	-209%	14.5	No Pass	No Pass
26089183	119514722	119517085	189	261	72	28%	4.8	Pass	Pass
26089183	119517085	119514722	210	129	-81	-63%	6.2	Pass	No Pass
26089216	119517085	119536830	181	103	-78	-76%	6.6	Pass	No Pass
26089216	119536830	119517085	173	111	-62	-56%	5.2	Pass	No Pass
26089219	119524495	119537907	1294	1422	128	9%	3.5	Pass	Pass

26089223	119529706	119543071	426	439	13	3%	0.6	Pass	Pass
26089223	119543071	119529706	448	497	49	10%	2.3	Pass	Pass
26089233	119520120	119539281	631	495	-136	-27%	5.7	No Pass	No Pass
26089233	119539281	119520120	590	499	-91	-18%	3.9	Pass	Pass
26089260	119514722	119539615	203	127	-76	-59%	5.9	Pass	No Pass
26089260	119539615	119514722	192	260	68	26%	4.5	Pass	Pass
26089261	119539615	119543601	382	340	-42	-12%	2.2	Pass	Pass
26089261	119543601	119539615	240	440	200	45%	10.8	No Pass	No Pass
26089262	119512935	119519322	546	684	138	20%	5.6	No Pass	No Pass
26089262	119519322	119512935	749	805	56	7%	2.0	Pass	Pass
26089275	119520112	119530423	88	38	-50	-131%	6.3	Pass	No Pass
26089275	119530423	119520112	387	199	-188	-94%	11.0	No Pass	No Pass
26089332	119513290	119519322	241	207	-34	-17%	2.3	Pass	Pass
26089332	119519322	119513290	110	175	65	37%	5.5	Pass	No Pass
26089339	119536410	119541234	52	99	47	48%	5.4	Pass	No Pass
26089339	119541234	119536410	377	370	-7	-2%	0.4	Pass	Pass
26089340	119529414	119541355	460	540	80	15%	3.6	Pass	Pass
26089340	119541355	119529414	502	525	23	4%	1.0	Pass	Pass
26089341	119518437	119541355	65	40	-25	-63%	3.5	Pass	Pass
26089341	119541355	119518437	86	43	-43	-100%	5.4	Pass	No Pass
26089350	119512934	119527430	113	156	43	27%	3.7	Pass	Pass
26089350	119527430	119512934	118	58	-60	-103%	6.4	Pass	No Pass
26089356	119522495	119533136	148	142	-6	-4%	0.5	Pass	Pass
26089356	119533136	119522495	187	375	188	50%	11.2	No Pass	No Pass
26089359	119518331	119537405	2194	2773	579	21%	11.6	No Pass	No Pass
26089360	119518331	119518332	377	320	-57	-18%	3.0	Pass	Pass
26089384	119533135	119533136	533	728	195	27%	7.8	No Pass	No Pass
26089384	119533136	119533135	381	469	88	19%	4.3	Pass	Pass
26089395	119516271	119533135	376	442	66	15%	3.3	Pass	Pass
26089395	119533135	119516271	258	261	3	1%	0.2	Pass	Pass

26089503	119530538	119537062	206	385	179	46%	10.4	No Pass	No Pass
26089503	119537062	119530538	268	459	191	42%	10.0	No Pass	No Pass
26089523	119515396	119519026	111	238	127	53%	9.6	No Pass	No Pass
26089523	119519026	119515396	182	463	281	61%	15.6	No Pass	No Pass
26089539	119527423	119532994	110	136	26	19%	2.3	Pass	Pass
26089539	119532994	119527423	67	50	-17	-35%	2.3	Pass	Pass
26089555	119532994	119534356	60	153	93	61%	9.0	Pass	No Pass
26089555	119534356	119532994	271	197	-74	-38%	4.8	Pass	Pass
26089624	119527876	119527875	49	60	11	19%	1.5	Pass	Pass
26089632	119531901	119535613	317	179	-138	-77%	8.8	No Pass	No Pass
26089632	119535613	119531901	526	676	150	22%	6.1	No Pass	No Pass
26089641	119531901	119541185	323	476	153	32%	7.6	No Pass	No Pass
26089641	119541185	119531901	149	66	-83	-125%	8.0	Pass	No Pass
26089647	119528818	119531901	239	140	-99	-71%	7.2	Pass	No Pass
26089647	119531901	119528818	274	227	-47	-21%	3.0	Pass	Pass
26089652	119527875	119528834	178	69	-109	-157%	9.8	No Pass	No Pass
26089653	119527876	119528834	1550	1460	-90	-6%	2.3	Pass	Pass
26089660	119526557	119548606	364	280	-84	-30%	4.7	Pass	Pass
26089660	119548606	119526557	476	415	-61	-15%	2.9	Pass	Pass
26089700	119548602	119522170	41	69	28	40%	3.8	Pass	Pass
26089702	119538337	119522170	2530	3024	494	16%	9.4	No Pass	No Pass
26089703	119538337	119548602	279	285	6	2%	0.4	Pass	Pass
26089883	119545101	119519528	1728	1530	-198	-13%	4.9	Pass	Pass
26089885	119519528	119519527	288	75	-213	-285%	15.8	No Pass	No Pass
26089887	119533821	119540857	2809	3309	500	15%	9.0	No Pass	No Pass
26089919	119522275	119533821	709	606	-103	-17%	4.0	Pass	Pass
26089963	119522275	119522831	439	154	-285	-186%	16.6	No Pass	No Pass
26089963	119522831	119522275	832	266	-566	-212%	24.1	No Pass	No Pass
26090277	119513860	119535709	334	214	-120	-56%	7.2	No Pass	No Pass
26090277	119535709	119513860	7	0	-7	0%	3.7	Pass	Pass

26090379	119535709	119537843	1767	1669	-98	-6%	2.4	Pass	Pass
26116003	119536410	119536411	329	285	-44	-15%	2.5	Pass	Pass
26116003	119536411	119536410	456	222	-234	-106%	12.7	No Pass	No Pass
26116020	119520211	119520212	225	85	-140	-164%	11.2	No Pass	No Pass
26116935	119535710	119535709	1440	1455	15	1%	0.4	Pass	Pass
26116936	119534298	119533820	2100	2703	603	22%	12.3	No Pass	No Pass
26116955	119530809	119532994	397	420	23	5%	1.1	Pass	Pass
26116955	119532994	119530809	444	635	191	30%	8.2	No Pass	No Pass
26116960	119533136	119543657	4	2	-2	-83%	1.0	Pass	Pass
26116960	119543657	119533136	13	9	-4	-46%	1.2	Pass	Pass
26116961	119533136	119539615	383	373	-10	-3%	0.5	Pass	Pass
26116961	119539615	119533136	252	340	88	26%	5.1	Pass	No Pass
26832618	119519527	119542149	355	116	-239	-207%	15.6	No Pass	No Pass
26832618	119542149	119519527	377	534	157	29%	7.4	No Pass	No Pass
26856716	119520462	119527876	1599	1521	-78	-5%	2.0	Pass	Pass
26856719	119522170	119522171	2571	3093	522	17%	9.8	No Pass	No Pass
78783673	119519134	119521378	161	91	-70	-77%	6.2	Pass	No Pass
78783673	119521378	119519134	253	85	-168	-196%	12.9	No Pass	No Pass
565643016	119537061	119537062	356	506	150	30%	7.2	No Pass	No Pass
565643016	119537062	119537061	417	345	-72	-21%	3.7	Pass	Pass
565653829	119524407	119531945	0	308	308	100%	24.8	No Pass	No Pass
565653829	119531945	119524407	0	249	249	100%	22.3	No Pass	No Pass
565653876	119536339	119548834	599	567	-32	-6%	1.3	Pass	Pass
565653876	119548834	119536339	337	289	-48	-16%	2.7	Pass	Pass
565658021	119540917	119541452	264	91	-173	-191%	13.0	No Pass	No Pass
565658021	119541452	119540917	261	163	-98	-60%	6.7	Pass	No Pass
577364891	119538408	119548814	493	415	-78	-19%	3.7	Pass	Pass
577364891	119548814	119538408	726	730	4	1%	0.2	Pass	Pass
577364906	119539456	119548824	2458	2829	371	13%	7.2	No Pass	No Pass
577364908	119514024	119548825	350	214	-136	-64%	8.1	No Pass	No Pass

577364908	119548825	119514024	381	126	-255	-202%	16.0	No Pass	No Pass
577364911	119548824	119548826	0	126	126	100%	15.9	No Pass	No Pass
577364912	119548826	119534298	0	0	0	0%	0.0	Pass	Pass
577364915	119531945	119548547	331	325	-6	-2%	0.3	Pass	Pass
577364915	119548547	119531945	343	244	-99	-40%	5.8	Pass	No Pass
577364929	119524087	119548827	599	641	42	7%	1.7	Pass	Pass
577364929	119548827	119524087	572	511	-61	-12%	2.6	Pass	Pass
577364930	119519322	119548827	442	535	93	17%	4.2	Pass	Pass
577364930	119548827	119519322	514	625	111	18%	4.6	No Pass	Pass
577364942	119538318	119548834	86	26	-60	-228%	8.0	Pass	No Pass
577364942	119548834	119538318	59	30	-29	-97%	4.3	Pass	Pass
577365285	119523821	119548992	500	331	-169	-51%	8.3	No Pass	No Pass
577365285	119548992	119523821	440	414	-26	-6%	1.2	Pass	Pass
577365291	119512934	119548995	482	485	3	1%	0.1	Pass	Pass
577365291	119548995	119512934	502	467	-35	-8%	1.6	Pass	Pass
577365292	119512935	119548995	519	465	-54	-12%	2.4	Pass	Pass
577365292	119548995	119512935	483	486	3	1%	0.1	Pass	Pass
577365294	119512934	119548996	143	122	-21	-18%	1.9	Pass	Pass
577365294	119548996	119512934	98	23	-75	-334%	9.7	Pass	No Pass
577365348	119521378	119549012	292	253	-39	-15%	2.4	Pass	Pass
577365348	119549012	119521378	468	353	-115	-33%	5.7	No Pass	No Pass
577365350	119530423	119549013	461	428	-33	-8%	1.6	Pass	Pass
577365350	119549013	119530423	298	382	84	22%	4.6	Pass	Pass
577365359	119537437	119549017	599	567	-32	-6%	1.3	Pass	Pass
577365359	119549017	119537437	337	289	-48	-16%	2.7	Pass	Pass
577365361	119512935	119549018	666	747	81	11%	3.0	Pass	Pass
577365361	119549018	119512935	499	605	106	18%	4.5	No Pass	Pass
577365363	119512934	119549019	417	463	46	10%	2.2	Pass	Pass
577365363	119549019	119512934	437	678	241	36%	10.2	No Pass	No Pass
577365366	119533135	119549021	289	277	-12	-4%	0.7	Pass	Pass

577365366	119549021	119533135	381	343	-38	-11%	2.0	Pass	Pass
577365369	119533135	119549022	499	515	16	3%	0.7	Pass	Pass
577365369	119549022	119533135	430	526	96	18%	4.4	Pass	Pass
577365388	119527621	119549032	263	192	-71	-37%	4.7	Pass	Pass
577365388	119549032	119527621	309	260	-49	-19%	2.9	Pass	Pass

PM Car Link Calibration

$LINK:NO	FROMNODENO	TONODENO	OBSERVED CAR	MODELLED CAR	Diff	%Diff	GEH	FLOW CRITERIA	GEH CRITERIA
26087801	119524757	119537246	334	376	42	11%	2.2	Pass	Pass
26087801	119537246	119524757	528	560	32	6%	1.4	Pass	Pass
26087815	119534731	119537246	170	47	-123	-260%	11.8	No Pass	No Pass
26087815	119537246	119534731	248	132	-116	-87%	8.4	No Pass	No Pass
26087841	119537246	119548834	323	309	-14	-4%	0.8	Pass	Pass
26087841	119548834	119537246	594	578	-16	-3%	0.7	Pass	Pass
26088142	119520198	119520197	152	66	-86	-129%	8.2	Pass	No Pass
26088612	119521378	119521899	328	311	-17	-5%	0.9	Pass	Pass
26088612	119521899	119521378	255	205	-50	-24%	3.3	Pass	Pass
26088806	119520091	119548620	54	9	-45	-481%	7.9	Pass	No Pass
26088806	119548620	119520091	53	28	-25	-87%	3.9	Pass	Pass
26088857	119535239	119538408	357	351	-6	-2%	0.3	Pass	Pass
26088857	119538408	119535239	610	681	71	10%	2.8	Pass	Pass
26088871	119525005	119538408	197	129	-68	-53%	5.3	Pass	No Pass
26088871	119538408	119525005	166	108	-58	-54%	5.0	Pass	Pass
26088905	119540023	119540735	299	197	-102	-52%	6.5	No Pass	No Pass
26088905	119540735	119540023	318	318	0	0%	0.0	Pass	Pass
26089145	119521092	119524495	1205	1276	71	6%	2.0	Pass	Pass
26089162	119519133	119520112	154	75	-79	-106%	7.4	Pass	No Pass
26089162	119520112	119519133	199	164	-35	-21%	2.6	Pass	Pass
26089163	119520111	119520112	39	23	-16	-71%	2.9	Pass	Pass
26089163	119520112	119520111	262	94	-168	-180%	12.6	No Pass	No Pass

26089183	119514722	119517085	173	244	71	29%	4.9	Pass	Pass
26089183	119517085	119514722	191	113	-78	-68%	6.3	Pass	No Pass
26089216	119517085	119536830	166	95	-71	-74%	6.2	Pass	No Pass
26089216	119536830	119517085	158	98	-60	-62%	5.3	Pass	No Pass
26089219	119524495	119537907	1166	1253	87	7%	2.5	Pass	Pass
26089223	119529706	119543071	394	438	44	10%	2.2	Pass	Pass
26089223	119543071	119529706	414	496	82	17%	3.9	Pass	Pass
26089233	119520120	119539281	583	485	-98	-20%	4.2	Pass	Pass
26089233	119539281	119520120	544	477	-67	-14%	2.9	Pass	Pass
26089260	119514722	119539615	185	112	-73	-65%	6.0	Pass	No Pass
26089260	119539615	119514722	176	244	68	28%	4.7	Pass	Pass
26089261	119539615	119543601	347	322	-25	-8%	1.4	Pass	Pass
26089261	119543601	119539615	218	421	203	48%	11.3	No Pass	No Pass
26089262	119512935	119519322	501	670	169	25%	7.0	No Pass	No Pass
26089262	119519322	119512935	691	784	93	12%	3.4	Pass	Pass
26089275	119520112	119530423	86	31	-55	-180%	7.2	Pass	No Pass
26089275	119530423	119520112	354	191	-163	-86%	9.9	No Pass	No Pass
26089332	119513290	119519322	218	202	-16	-8%	1.1	Pass	Pass
26089332	119519322	119513290	100	169	69	41%	5.9	Pass	No Pass
26089339	119536410	119541234	47	79	32	41%	4.1	Pass	Pass
26089339	119541234	119536410	342	352	10	3%	0.5	Pass	Pass
26089340	119529414	119541355	415	496	81	16%	3.8	Pass	Pass
26089340	119541355	119529414	449	498	49	10%	2.2	Pass	Pass
26089341	119518437	119541355	55	36	-19	-54%	2.9	Pass	Pass
26089341	119541355	119518437	79	38	-41	-106%	5.3	Pass	No Pass
26089350	119512934	119527430	105	148	43	29%	3.8	Pass	Pass
26089350	119527430	119512934	108	51	-57	-113%	6.4	Pass	No Pass
26089356	119522495	119533136	134	130	-4	-3%	0.4	Pass	Pass
26089356	119533136	119522495	171	343	172	50%	10.7	No Pass	No Pass
26089359	119518331	119537405	1955	2519	564	22%	11.9	No Pass	No Pass

26089360	119518331	119518332	342	313	-29	-9%	1.6	Pass	Pass
26089384	119533135	119533136	486	687	201	29%	8.3	No Pass	No Pass
26089384	119533136	119533135	345	445	100	22%	5.0	Pass	Pass
26089395	119516271	119533135	340	427	87	20%	4.4	Pass	Pass
26089395	119533135	119516271	233	250	17	7%	1.1	Pass	Pass
26089503	119530538	119537062	183	372	189	51%	11.4	No Pass	No Pass
26089503	119537062	119530538	240	443	203	46%	11.0	No Pass	No Pass
26089523	119515396	119519026	100	232	132	57%	10.2	No Pass	No Pass
26089523	119519026	119515396	165	441	276	63%	15.9	No Pass	No Pass
26089539	119527423	119532994	99	122	23	19%	2.2	Pass	Pass
26089539	119532994	119527423	60	47	-13	-28%	1.8	Pass	Pass
26089555	119532994	119534356	54	147	93	63%	9.3	Pass	No Pass
26089555	119534356	119532994	245	189	-56	-30%	3.8	Pass	Pass
26089624	119527876	119527875	43	59	16	27%	2.3	Pass	Pass
26089632	119531901	119535613	290	174	-116	-66%	7.6	No Pass	No Pass
26089632	119535613	119531901	481	649	168	26%	7.1	No Pass	No Pass
26089641	119531901	119541185	297	465	168	36%	8.6	No Pass	No Pass
26089641	119541185	119531901	137	63	-74	-119%	7.4	Pass	No Pass
26089647	119528818	119531901	218	139	-79	-57%	5.9	Pass	No Pass
26089647	119531901	119528818	249	211	-38	-18%	2.5	Pass	Pass
26089652	119527875	119528834	154	64	-90	-140%	8.6	Pass	No Pass
26089653	119527876	119528834	1385	1288	-97	-8%	2.7	Pass	Pass
26089660	119526557	119548606	327	247	-80	-33%	4.7	Pass	Pass
26089660	119548606	119526557	436	390	-46	-12%	2.2	Pass	Pass
26089700	119548602	119522170	36	67	31	46%	4.3	Pass	Pass
26089702	119538337	119522170	2261	2765	504	18%	10.1	No Pass	No Pass
26089703	119538337	119548602	250	276	26	9%	1.6	Pass	Pass
26089883	119545101	119519528	1539	1352	-187	-14%	4.9	Pass	Pass
26089885	119519528	119519527	232	70	-162	-232%	13.2	No Pass	No Pass
26089887	119533821	119540857	2511	3041	530	17%	10.1	No Pass	No Pass

26089919	119522275	119533821	619	593	-26	-4%	1.1	Pass	Pass
26089963	119522275	119522831	370	152	-218	-143%	13.5	No Pass	No Pass
26089963	119522831	119522275	732	264	-468	-177%	21.0	No Pass	No Pass
26090277	119513860	119535709	303	198	-105	-53%	6.6	No Pass	No Pass
26090277	119535709	119513860	6	0	-6	0%	3.5	Pass	Pass
26090379	119535709	119537843	1604	1480	-124	-8%	3.2	Pass	Pass
26116003	119536410	119536411	299	223	-76	-34%	4.7	Pass	Pass
26116003	119536411	119536410	410	190	-220	-116%	12.7	No Pass	No Pass
26116020	119520211	119520212	201	77	-124	-162%	10.5	No Pass	No Pass
26116935	119535710	119535709	1307	1282	-25	-2%	0.7	Pass	Pass
26116936	119534298	119533820	1892	2448	556	23%	11.9	No Pass	No Pass
26116955	119530809	119532994	357	413	56	13%	2.8	Pass	Pass
26116955	119532994	119530809	400	612	212	35%	9.4	No Pass	No Pass
26116960	119533136	119543657	4	2	-2	-152%	1.4	Pass	Pass
26116960	119543657	119533136	12	6	-6	-107%	2.1	Pass	Pass
26116961	119533136	119539615	349	361	12	3%	0.6	Pass	Pass
26116961	119539615	119533136	229	327	98	30%	5.9	Pass	No Pass
26832618	119519527	119542149	326	110	-216	-196%	14.6	No Pass	No Pass
26832618	119542149	119519527	347	521	174	33%	8.4	No Pass	No Pass
26856716	119520462	119527876	1428	1347	-81	-6%	2.2	Pass	Pass
26856719	119522170	119522171	2297	2832	535	19%	10.6	No Pass	No Pass
78783673	119519134	119521378	145	88	-57	-66%	5.3	Pass	No Pass
78783673	119521378	119519134	222	82	-140	-170%	11.3	No Pass	No Pass
565643016	119537061	119537062	329	487	158	32%	7.8	No Pass	No Pass
565643016	119537062	119537061	374	333	-41	-12%	2.2	Pass	Pass
565653829	119524407	119531945	0	298	298	100%	24.4	No Pass	No Pass
565653829	119531945	119524407	0	236	236	100%	21.7	No Pass	No Pass
565653876	119536339	119548834	549	551	2	0%	0.1	Pass	Pass
565653876	119548834	119536339	306	279	-27	-10%	1.6	Pass	Pass
565658021	119540917	119541452	235	74	-161	-216%	12.9	No Pass	No Pass

565658021	119541452	119540917	231	135	-96	-71%	7.1	Pass	No Pass
577364891	119538408	119548814	446	402	-44	-11%	2.1	Pass	Pass
577364891	119548814	119538408	668	711	43	6%	1.6	Pass	Pass
577364906	119539456	119548824	2219	2574	355	14%	7.2	No Pass	No Pass
577364908	119514024	119548825	318	198	-120	-61%	7.5	No Pass	No Pass
577364908	119548825	119514024	348	125	-223	-178%	14.5	No Pass	No Pass
577364911	119548824	119548826	0	125	125	100%	15.8	No Pass	No Pass
577364912	119548826	119534298	0	0	0	0%	0.0	Pass	Pass
577364915	119531945	119548547	296	314	18	6%	1.0	Pass	Pass
577364915	119548547	119531945	308	231	-77	-33%	4.7	Pass	Pass
577364929	119524087	119548827	552	625	73	12%	3.0	Pass	Pass
577364929	119548827	119524087	527	504	-23	-5%	1.0	Pass	Pass
577364930	119519322	119548827	407	528	121	23%	5.6	No Pass	No Pass
577364930	119548827	119519322	479	609	130	21%	5.6	No Pass	No Pass
577364942	119538318	119548834	79	26	-53	-201%	7.3	Pass	No Pass
577364942	119548834	119538318	54	30	-24	-80%	3.7	Pass	Pass
577365285	119523821	119548992	451	321	-130	-40%	6.6	No Pass	No Pass
577365285	119548992	119523821	397	398	1	0%	0.1	Pass	Pass
577365291	119512934	119548995	438	467	29	6%	1.4	Pass	Pass
577365291	119548995	119512934	472	448	-24	-5%	1.1	Pass	Pass
577365292	119512935	119548995	488	446	-42	-9%	1.9	Pass	Pass
577365292	119548995	119512935	436	468	32	7%	1.5	Pass	Pass
577365294	119512934	119548996	128	120	-8	-7%	0.7	Pass	Pass
577365294	119548996	119512934	92	22	-70	-327%	9.3	Pass	No Pass
577365348	119521378	119549012	265	238	-27	-11%	1.7	Pass	Pass
577365348	119549012	119521378	415	339	-76	-23%	3.9	Pass	Pass
577365350	119530423	119549013	423	383	-40	-10%	2.0	Pass	Pass
577365350	119549013	119530423	274	304	30	10%	1.7	Pass	Pass
577365359	119537437	119549017	549	551	2	0%	0.1	Pass	Pass
577365359	119549017	119537437	306	279	-27	-10%	1.6	Pass	Pass

577365361	119512935	119549018	601	724	123	17%	4.8	No Pass	Pass
577365361	119549018	119512935	463	588	125	21%	5.4	No Pass	No Pass
577365363	119512934	119549019	393	438	45	10%	2.2	Pass	Pass
577365363	119549019	119512934	392	653	261	40%	11.4	No Pass	No Pass
577365366	119533135	119549021	261	254	-7	-3%	0.4	Pass	Pass
577365366	119549021	119533135	348	325	-23	-7%	1.3	Pass	Pass
577365369	119533135	119549022	451	486	35	7%	1.6	Pass	Pass
577365369	119549022	119533135	388	482	94	20%	4.5	Pass	Pass
577365388	119527621	119549032	242	187	-55	-30%	3.8	Pass	Pass
577365388	119549032	119527621	286	257	-29	-11%	1.7	Pass	Pass

PM LGV Link Calibration

$LINK:NO	FROMNODENO	TONODENO	OBSERVED_LGV	MODELLED_LGV	Diff	%Diff	GEH	FLOW CRITERIA	GEH CRITERIA
26087801	119524757	119537246	30	15	-15	-99%	3.1	Pass	Pass
26087801	119537246	119524757	47	19	-28	-142%	4.8	Pass	Pass
26087815	119534731	119537246	15	6	-9	-144%	2.7	Pass	Pass
26087815	119537246	119534731	22	6	-16	-262%	4.2	Pass	Pass
26087841	119537246	119548834	29	10	-19	-202%	4.4	Pass	Pass
26087841	119548834	119537246	52	14	-38	-275%	6.6	Pass	No Pass
26088142	119520198	119520197	16	6	-10	-147%	2.8	Pass	Pass
26088612	119521378	119521899	32	13	-19	-138%	3.9	Pass	Pass
26088612	119521899	119521378	23	15	-8	-55%	1.9	Pass	Pass
26088806	119520091	119548620	5	5	0	-6%	0.1	Pass	Pass
26088806	119548620	119520091	5	3	-2	-47%	0.8	Pass	Pass
26088857	119535239	119538408	36	10	-26	-263%	5.4	Pass	No Pass
26088857	119538408	119535239	47	18	-29	-165%	5.1	Pass	No Pass
26088871	119525005	119538408	16	6	-10	-178%	3.1	Pass	Pass
26088871	119538408	119525005	15	4	-11	-303%	3.7	Pass	Pass
26088905	119540023	119540735	31	17	-14	-78%	2.8	Pass	Pass
26088905	119540735	119540023	33	13	-20	-156%	4.2	Pass	Pass

26089145	119521092	119524495	102	98	-4	-4%	0.4	Pass	Pass
26089162	119519133	119520112	23	6	-17	-272%	4.4	Pass	Pass
26089162	119520112	119519133	15	5	-10	-201%	3.2	Pass	Pass
26089163	119520111	119520112	0	3	3	100%	2.3	Pass	Pass
26089163	119520112	119520111	31	5	-26	-555%	6.2	Pass	No Pass
26089183	119514722	119517085	16	16	0	2%	0.1	Pass	Pass
26089183	119517085	119514722	18	15	-3	-18%	0.7	Pass	Pass
26089216	119517085	119536830	15	8	-7	-95%	2.2	Pass	Pass
26089216	119536830	119517085	15	13	-2	-16%	0.5	Pass	Pass
26089219	119524495	119537907	102	95	-7	-7%	0.7	Pass	Pass
26089223	119529706	119543071	32	0	-32	0%	8.0	Pass	No Pass
26089223	119543071	119529706	34	0	-34	0%	8.2	Pass	No Pass
26089233	119520120	119539281	47	7	-40	-589%	7.7	Pass	No Pass
26089233	119539281	119520120	44	18	-26	-140%	4.6	Pass	Pass
26089260	119514722	119539615	17	15	-2	-11%	0.4	Pass	Pass
26089260	119539615	119514722	16	16	0	0%	0.0	Pass	Pass
26089261	119539615	119543601	32	18	-14	-80%	2.8	Pass	Pass
26089261	119543601	119539615	20	18	-2	-9%	0.4	Pass	Pass
26089262	119512935	119519322	36	11	-25	-235%	5.2	Pass	No Pass
26089262	119519322	119512935	56	18	-38	-211%	6.2	Pass	No Pass
26089275	119520112	119530423	2	7	5	73%	2.5	Pass	Pass
26089275	119530423	119520112	25	8	-17	-205%	4.1	Pass	Pass
26089332	119513290	119519322	23	5	-18	-351%	4.8	Pass	Pass
26089332	119519322	119513290	10	7	-3	-50%	1.2	Pass	Pass
26089339	119536410	119541234	4	19	15	79%	4.5	Pass	Pass
26089339	119541234	119536410	30	17	-13	-72%	2.6	Pass	Pass
26089340	119529414	119541355	39	38	-1	-2%	0.1	Pass	Pass
26089340	119541355	119529414	42	22	-20	-91%	3.5	Pass	Pass
26089341	119518437	119541355	5	4	-1	-14%	0.3	Pass	Pass
26089341	119541355	119518437	7	5	-2	-47%	0.9	Pass	Pass

26089350	119512934	119527430	6	7	1	12%	0.3	Pass	Pass
26089350	119527430	119512934	10	6	-4	-55%	1.2	Pass	Pass
26089356	119522495	119533136	12	10	-2	-21%	0.6	Pass	Pass
26089356	119533136	119522495	16	29	13	44%	2.7	Pass	Pass
26089359	119518331	119537405	171	181	10	6%	0.8	Pass	Pass
26089360	119518331	119518332	30	7	-23	-348%	5.4	Pass	No Pass
26089384	119533135	119533136	45	37	-8	-20%	1.2	Pass	Pass
26089384	119533136	119533135	32	21	-11	-52%	2.1	Pass	Pass
26089395	119516271	119533135	32	15	-17	-109%	3.4	Pass	Pass
26089395	119533135	119516271	22	11	-11	-107%	2.8	Pass	Pass
26089503	119530538	119537062	23	12	-11	-87%	2.6	Pass	Pass
26089503	119537062	119530538	28	16	-12	-75%	2.6	Pass	Pass
26089523	119515396	119519026	11	6	-5	-85%	1.7	Pass	Pass
26089523	119519026	119515396	17	16	-1	-8%	0.3	Pass	Pass
26089539	119527423	119532994	11	14	3	19%	0.7	Pass	Pass
26089539	119532994	119527423	7	2	-5	-198%	2.2	Pass	Pass
26089555	119532994	119534356	6	6	0	5%	0.1	Pass	Pass
26089555	119534356	119532994	26	8	-18	-243%	4.5	Pass	Pass
26089624	119527876	119527875	4	1	-3	-270%	1.8	Pass	Pass
26089632	119531901	119535613	25	3	-22	-677%	5.8	Pass	No Pass
26089632	119535613	119531901	42	19	-23	-117%	4.1	Pass	Pass
26089641	119531901	119541185	26	3	-23	-651%	5.9	Pass	No Pass
26089641	119541185	119531901	12	2	-10	-429%	3.6	Pass	Pass
26089647	119528818	119531901	19	1	-18	-1513%	5.6	Pass	No Pass
26089647	119531901	119528818	22	16	-6	-36%	1.3	Pass	Pass
26089652	119527875	119528834	13	4	-9	-253%	3.2	Pass	Pass
26089653	119527876	119528834	129	99	-30	-30%	2.8	Pass	Pass
26089660	119526557	119548606	29	31	2	7%	0.4	Pass	Pass
26089660	119548606	119526557	38	22	-16	-76%	3.0	Pass	Pass
26089700	119548602	119522170	3	2	-1	-69%	0.8	Pass	Pass

26089702	119538337	119522170	198	186	-12	-6%	0.9	Pass	Pass
26089703	119538337	119548602	22	7	-15	-210%	3.9	Pass	Pass
26089883	119545101	119519528	142	103	-39	-38%	3.6	Pass	Pass
26089885	119519528	119519527	20	3	-17	-641%	5.1	Pass	No Pass
26089887	119533821	119540857	220	193	-27	-14%	1.9	Pass	Pass
26089919	119522275	119533821	54	6	-48	-846%	8.8	Pass	No Pass
26089963	119522275	119522831	33	1	-32	-2900%	7.7	Pass	No Pass
26089963	119522831	119522275	64	2	-62	-3132%	10.8	Pass	No Pass
26090277	119513860	119535709	27	16	-11	-66%	2.3	Pass	Pass
26090277	119535709	119513860	1	0	-1	0%	1.4	Pass	Pass
26090379	119535709	119537843	148	116	-32	-27%	2.8	Pass	Pass
26116003	119536410	119536411	26	60	34	56%	5.1	Pass	No Pass
26116003	119536411	119536410	36	29	-7	-25%	1.3	Pass	Pass
26116020	119520211	119520212	21	8	-13	-153%	3.3	Pass	Pass
26116935	119535710	119535709	122	100	-22	-22%	2.1	Pass	Pass
26116936	119534298	119533820	166	187	21	11%	1.6	Pass	Pass
26116955	119530809	119532994	40	7	-33	-471%	6.8	Pass	No Pass
26116955	119532994	119530809	44	23	-21	-90%	3.6	Pass	Pass
26116960	119533136	119543657	0	1	1	100%	1.1	Pass	Pass
26116960	119543657	119533136	1	3	2	68%	1.5	Pass	Pass
26116961	119533136	119539615	32	12	-20	-162%	4.2	Pass	Pass
26116961	119539615	119533136	21	12	-9	-74%	2.2	Pass	Pass
26832618	119519527	119542149	29	4	-25	-706%	6.3	Pass	No Pass
26832618	119542149	119519527	30	6	-24	-424%	5.7	Pass	No Pass
26856716	119520462	119527876	133	100	-33	-33%	3.0	Pass	Pass
26856719	119522170	119522171	201	188	-13	-7%	0.9	Pass	Pass
78783673	119519134	119521378	16	3	-13	-361%	4.0	Pass	Pass
78783673	119521378	119519134	27	3	-24	-831%	6.2	Pass	No Pass
565643016	119537061	119537062	27	20	-7	-37%	1.5	Pass	Pass
565643016	119537062	119537061	43	12	-31	-250%	5.8	Pass	No Pass

565653829	119524407	119531945	0	9	9	100%	4.2	Pass	Pass
565653829	119531945	119524407	0	12	12	100%	5.0	Pass	Pass
565653876	119536339	119548834	48	14	-34	-246%	6.1	Pass	No Pass
565653876	119548834	119536339	27	10	-17	-181%	4.1	Pass	Pass
565658021	119540917	119541452	21	15	-6	-40%	1.4	Pass	Pass
565658021	119541452	119540917	20	27	7	27%	1.5	Pass	Pass
577364891	119538408	119548814	46	11	-35	-308%	6.5	Pass	No Pass
577364891	119548814	119538408	56	17	-39	-228%	6.4	Pass	No Pass
577364906	119539456	119548824	195	188	-7	-3%	0.5	Pass	Pass
577364908	119514024	119548825	28	16	-12	-72%	2.5	Pass	Pass
577364908	119548825	119514024	31	1	-30	-3038%	7.5	Pass	No Pass
577364911	119548824	119548826	0	1	1	100%	1.4	Pass	Pass
577364912	119548826	119534298	0	0	0	0%	0.0	Pass	Pass
577364915	119531945	119548547	31	10	-21	-213%	4.7	Pass	Pass
577364915	119548547	119531945	32	13	-19	-155%	4.1	Pass	Pass
577364929	119524087	119548827	45	13	-32	-248%	6.0	Pass	No Pass
577364929	119548827	119524087	43	4	-39	-951%	8.0	Pass	No Pass
577364930	119519322	119548827	26	4	-22	-536%	5.6	Pass	No Pass
577364930	119548827	119519322	33	13	-20	-155%	4.2	Pass	Pass
577364942	119538318	119548834	7	0	-7	0%	3.7	Pass	Pass
577364942	119548834	119538318	5	0	-5	0%	3.2	Pass	Pass
577365285	119523821	119548992	48	9	-39	-413%	7.2	Pass	No Pass
577365285	119548992	119523821	42	16	-26	-168%	4.9	Pass	Pass
577365291	119512934	119548995	36	13	-23	-170%	4.6	Pass	Pass
577365291	119548995	119512934	27	16	-11	-73%	2.5	Pass	Pass
577365292	119512935	119548995	29	16	-13	-86%	2.8	Pass	Pass
577365292	119548995	119512935	38	13	-25	-185%	4.9	Pass	Pass
577365294	119512934	119548996	15	2	-13	-729%	4.5	Pass	Pass
577365294	119548996	119512934	6	1	-5	-488%	2.7	Pass	Pass
577365348	119521378	119549012	25	15	-10	-69%	2.3	Pass	Pass

577365348	119549012	119521378	45	13	-32	-252%	6.0	Pass	No Pass
577365350	119530423	119549013	37	41	4	11%	0.7	Pass	Pass
577365350	119549013	119530423	24	75	51	68%	7.2	Pass	No Pass
577365359	119537437	119549017	48	14	-34	-246%	6.1	Pass	No Pass
577365359	119549017	119537437	27	10	-17	-181%	4.1	Pass	Pass
577365361	119512935	119549018	64	20	-44	-226%	6.9	Pass	No Pass
577365361	119549018	119512935	35	15	-20	-138%	4.1	Pass	Pass
577365363	119512934	119549019	21	21	0	2%	0.1	Pass	Pass
577365363	119549019	119512934	34	20	-14	-69%	2.7	Pass	Pass
577365366	119533135	119549021	24	20	-4	-18%	0.8	Pass	Pass
577365366	119549021	119533135	32	16	-16	-100%	3.3	Pass	Pass
577365369	119533135	119549022	42	23	-19	-81%	3.3	Pass	Pass
577365369	119549022	119533135	36	39	3	8%	0.5	Pass	Pass
577365388	119527621	119549032	20	5	-15	-272%	4.1	Pass	Pass
577365388	119549032	119527621	23	3	-20	-742%	5.7	Pass	No Pass

PM HGV Link Calibration

$LINK:NO	FROMNODENO	TONODENO	OBSERVED HGV	MODELLED HGV	Diff	%Diff	GEH	FLOW CRITERIA	GEH CRITERIA
26087801	119524757	119537246	4	1	-4	-700%	2.3	Pass	Pass
26087801	119537246	119524757	3	1	-2	-119%	1.1	Pass	Pass
26087815	119534731	119537246	1	0	-1	-1150%	1.3	Pass	Pass
26087815	119537246	119534731	1	0	-1	-900%	1.2	Pass	Pass
26087841	119537246	119548834	4	0	-4	-733%	2.4	Pass	Pass
26087841	119548834	119537246	2	1	-1	-46%	0.5	Pass	Pass
26088142	119520198	119520197	3	1	-2	-216%	1.5	Pass	Pass
26088612	119521378	119521899	6	1	-5	-500%	2.7	Pass	Pass
26088612	119521899	119521378	4	0	-4	-2122%	2.6	Pass	Pass
26088806	119520091	119548620	0	0	0	100%	0.1	Pass	Pass
26088806	119548620	119520091	0	0	0	0%	0.0	Pass	Pass
26088857	119535239	119538408	1	1	0	12%	0.1	Pass	Pass

26088857	119538408	119535239	2	2	0	12%	0.2	Pass	Pass
26088871	119525005	119538408	0	0	0	0%	0.0	Pass	Pass
26088871	119538408	119525005	0	0	0	0%	0.0	Pass	Pass
26088905	119540023	119540735	4	0	-4	-2122%	2.6	Pass	Pass
26088905	119540735	119540023	5	1	-4	-400%	2.3	Pass	Pass
26089145	119521092	119524495	26	73	47	64%	6.7	Pass	No Pass
26089162	119519133	119520112	4	0	-4	-2757%	2.7	Pass	Pass
26089162	119520112	119519133	0	0	0	100%	0.3	Pass	Pass
26089163	119520111	119520112	0	0	0	0%	0.0	Pass	Pass
26089163	119520112	119520111	12	0	-12	-2453%	4.6	Pass	Pass
26089183	119514722	119517085	0	0	0	0%	0.0	Pass	Pass
26089183	119517085	119514722	1	0	-1	0%	1.4	Pass	Pass
26089216	119517085	119536830	0	0	0	0%	0.0	Pass	Pass
26089216	119536830	119517085	0	0	0	0%	0.0	Pass	Pass
26089219	119524495	119537907	26	73	47	64%	6.7	Pass	No Pass
26089223	119529706	119543071	0	1	1	100%	1.4	Pass	Pass
26089223	119543071	119529706	0	1	1	100%	1.4	Pass	Pass
26089233	119520120	119539281	1	3	2	67%	1.4	Pass	Pass
26089233	119539281	119520120	2	3	1	33%	0.6	Pass	Pass
26089260	119514722	119539615	1	0	-1	0%	1.4	Pass	Pass
26089260	119539615	119514722	0	0	0	0%	0.0	Pass	Pass
26089261	119539615	119543601	3	0	-3	-5900%	2.4	Pass	Pass
26089261	119543601	119539615	2	1	-1	-160%	1.0	Pass	Pass
26089262	119512935	119519322	9	3	-6	-194%	2.4	Pass	Pass
26089262	119519322	119512935	2	3	1	34%	0.7	Pass	Pass
26089275	119520112	119530423	0	0	0	0%	0.0	Pass	Pass
26089275	119530423	119520112	8	0	-8	-2062%	3.7	Pass	Pass
26089332	119513290	119519322	0	0	0	100%	0.3	Pass	Pass
26089332	119519322	119513290	0	0	0	100%	0.3	Pass	Pass
26089339	119536410	119541234	1	1	0	-45%	0.3	Pass	Pass

26089339	119541234	119536410	5	1	-4	-880%	2.7	Pass	Pass
26089340	119529414	119541355	6	5	-1	-19%	0.4	Pass	Pass
26089340	119541355	119529414	11	6	-5	-90%	1.8	Pass	Pass
26089341	119518437	119541355	5	0	-5	0%	3.2	Pass	Pass
26089341	119541355	119518437	0	0	0	0%	0.0	Pass	Pass
26089350	119512934	119527430	2	1	-1	-144%	1.0	Pass	Pass
26089350	119527430	119512934	0	1	1	100%	1.4	Pass	Pass
26089356	119522495	119533136	2	2	0	17%	0.3	Pass	Pass
26089356	119533136	119522495	0	3	3	100%	2.4	Pass	Pass
26089359	119518331	119537405	68	73	5	6%	0.5	Pass	Pass
26089360	119518331	119518332	5	1	-4	-880%	2.7	Pass	Pass
26089384	119533135	119533136	2	3	1	32%	0.6	Pass	Pass
26089384	119533136	119533135	4	3	-1	-26%	0.4	Pass	Pass
26089395	119516271	119533135	4	0	-4	0%	2.8	Pass	Pass
26089395	119533135	119516271	3	0	-3	0%	2.4	Pass	Pass
26089503	119530538	119537062	0	0	0	0%	0.0	Pass	Pass
26089503	119537062	119530538	0	0	0	0%	0.0	Pass	Pass
26089523	119515396	119519026	0	1	1	100%	1.0	Pass	Pass
26089523	119519026	119515396	0	6	6	100%	3.4	Pass	Pass
26089539	119527423	119532994	0	0	0	100%	0.9	Pass	Pass
26089539	119532994	119527423	0	1	1	100%	1.0	Pass	Pass
26089555	119532994	119534356	0	0	0	100%	0.9	Pass	Pass
26089555	119534356	119532994	0	1	1	100%	1.0	Pass	Pass
26089624	119527876	119527875	2	0	-2	0%	2.0	Pass	Pass
26089632	119531901	119535613	2	1	-1	-43%	0.5	Pass	Pass
26089632	119535613	119531901	3	7	4	57%	1.8	Pass	Pass
26089641	119531901	119541185	0	7	7	100%	3.7	Pass	Pass
26089641	119541185	119531901	0	1	1	100%	1.7	Pass	Pass
26089647	119528818	119531901	2	0	-2	-19900%	2.0	Pass	Pass
26089647	119531901	119528818	3	0	-3	-9900%	2.4	Pass	Pass

26089652	119527875	119528834	11	2	-9	-588%	3.7	Pass	Pass
26089653	119527876	119528834	36	73	37	51%	5.1	Pass	No Pass
26089660	119526557	119548606	8	2	-6	-279%	2.6	Pass	Pass
26089660	119548606	119526557	2	3	1	23%	0.4	Pass	Pass
26089700	119548602	119522170	2	0	-2	0%	2.0	Pass	Pass
26089702	119538337	119522170	71	73	2	3%	0.2	Pass	Pass
26089703	119538337	119548602	7	2	-5	-300%	2.5	Pass	Pass
26089883	119545101	119519528	47	75	28	37%	3.6	Pass	Pass
26089885	119519528	119519527	36	2	-34	-1582%	7.8	Pass	No Pass
26089887	119533821	119540857	78	75	-3	-4%	0.4	Pass	Pass
26089919	119522275	119533821	36	8	-28	-363%	6.0	Pass	No Pass
26089963	119522275	119522831	36	1	-36	-7100%	8.3	Pass	No Pass
26089963	119522831	119522275	36	1	-36	-7100%	8.3	Pass	No Pass
26090277	119513860	119535709	4	0	-4	-13233%	2.8	Pass	Pass
26090277	119535709	119513860	0	0	0	0%	0.0	Pass	Pass
26090379	119535709	119537843	15	73	58	79%	8.7	Pass	No Pass
26116003	119536410	119536411	4	3	-1	-30%	0.5	Pass	Pass
26116003	119536411	119536410	10	3	-7	-214%	2.7	Pass	Pass
26116020	119520211	119520212	3	0	-3	-2627%	2.3	Pass	Pass
26116935	119535710	119535709	11	73	62	85%	9.6	Pass	No Pass
26116936	119534298	119533820	42	67	25	37%	3.4	Pass	Pass
26116955	119530809	119532994	0	0	0	0%	0.0	Pass	Pass
26116955	119532994	119530809	0	0	0	0%	0.0	Pass	Pass
26116960	119533136	119543657	0	0	0	0%	0.0	Pass	Pass
26116960	119543657	119533136	0	0	0	0%	0.0	Pass	Pass
26116961	119533136	119539615	2	0	-2	-3900%	1.9	Pass	Pass
26116961	119539615	119533136	2	1	-1	-160%	1.0	Pass	Pass
26832618	119519527	119542149	0	2	2	100%	1.8	Pass	Pass
26832618	119542149	119519527	0	7	7	100%	3.8	Pass	Pass
26856716	119520462	119527876	38	73	35	48%	4.7	Pass	Pass

26856719	119522170	119522171	73	73	0	0%	0.0	Pass	Pass
78783673	119519134	119521378	0	0	0	100%	0.3	Pass	Pass
78783673	119521378	119519134	4	0	-4	-2757%	2.7	Pass	Pass
565643016	119537061	119537062	0	0	0	0%	0.0	Pass	Pass
565643016	119537062	119537061	0	0	0	0%	0.0	Pass	Pass
565653829	119524407	119531945	0	1	1	100%	1.5	Pass	Pass
565653829	119531945	119524407	0	0	0	100%	0.7	Pass	Pass
565653876	119536339	119548834	2	1	-1	-46%	0.5	Pass	Pass
565653876	119548834	119536339	4	0	-4	-733%	2.4	Pass	Pass
565658021	119540917	119541452	8	1	-7	-467%	3.0	Pass	Pass
565658021	119541452	119540917	10	1	-9	-843%	3.8	Pass	Pass
577364891	119538408	119548814	1	1	0	12%	0.1	Pass	Pass
577364891	119548814	119538408	2	2	0	12%	0.2	Pass	Pass
577364906	119539456	119548824	44	67	23	34%	3.1	Pass	Pass
577364908	119514024	119548825	4	0	-4	-13233%	2.8	Pass	Pass
577364908	119548825	119514024	2	0	-2	0%	2.0	Pass	Pass
577364911	119548824	119548826	0	0	0	0%	0.0	Pass	Pass
577364912	119548826	119534298	0	0	0	0%	0.0	Pass	Pass
577364915	119531945	119548547	4	1	-3	-264%	1.8	Pass	Pass
577364915	119548547	119531945	3	0	-3	-1264%	2.2	Pass	Pass
577364929	119524087	119548827	2	3	1	33%	0.6	Pass	Pass
577364929	119548827	119524087	2	3	1	33%	0.6	Pass	Pass
577364930	119519322	119548827	9	3	-6	-200%	2.4	Pass	Pass
577364930	119548827	119519322	2	3	1	33%	0.6	Pass	Pass
577364942	119538318	119548834	0	0	0	0%	0.0	Pass	Pass
577364942	119548834	119538318	0	0	0	0%	0.0	Pass	Pass
577365285	119523821	119548992	1	0	-1	-127%	0.7	Pass	Pass
577365285	119548992	119523821	1	0	-1	-178%	0.8	Pass	Pass
577365291	119512934	119548995	8	4	-4	-79%	1.4	Pass	Pass
577365291	119548995	119512934	3	3	0	13%	0.2	Pass	Pass

577365292	119512935	119548995	2	3	1	42%	0.9	Pass	Pass
577365292	119548995	119512935	9	4	-5	-102%	1.8	Pass	Pass
577365294	119512934	119548996	0	0	0	0%	0.0	Pass	Pass
577365294	119548996	119512934	0	0	0	0%	0.0	Pass	Pass
577365348	119521378	119549012	2	0	-2	-809%	1.7	Pass	Pass
577365348	119549012	119521378	8	1	-7	-602%	3.2	Pass	Pass
577365350	119530423	119549013	1	3	2	65%	1.3	Pass	Pass
577365350	119549013	119530423	0	3	3	100%	2.6	Pass	Pass
577365359	119537437	119549017	2	1	-1	-46%	0.5	Pass	Pass
577365359	119549017	119537437	4	0	-4	-733%	2.4	Pass	Pass
577365361	119512935	119549018	1	4	3	72%	1.7	Pass	Pass
577365361	119549018	119512935	1	2	1	60%	1.1	Pass	Pass
577365363	119512934	119549019	3	4	1	32%	0.7	Pass	Pass
577365363	119549019	119512934	11	5	-6	-110%	2.0	Pass	Pass
577365366	119533135	119549021	4	2	-2	-90%	1.1	Pass	Pass
577365366	119549021	119533135	1	3	2	62%	1.2	Pass	Pass
577365369	119533135	119549022	6	6	0	-4%	0.1	Pass	Pass
577365369	119549022	119533135	6	5	-1	-19%	0.4	Pass	Pass
577365388	119527621	119549032	1	0	-1	0%	1.4	Pass	Pass
577365388	119549032	119527621	0	0	0	0%	0.0	Pass	Pass

PM Summary

CRITERIA	Number of Counts	Number of Counts meet the criteria	Percentage	Acceptability Guideline
CAR				
FLOW <=700	138	100	73%	Not Pass
FLOW >700 AND <=2700	14	7	50%	Not Pass
FLOW >2700	0	0	None	Not Required
GEH<5	152	87	58%	Not Pass
LGV				
FLOW <=700	152	152	100%	Pass
FLOW >700 AND <=2700	0	0	None	Not Required
FLOW >2700	0	0	None	Not Required
GEH<5	152	116	77%	Not Pass
HGV				
FLOW <=700	152	152	100%	Pass
FLOW >700 AND <=2700	0	0	None	Not Required
FLOW >2700	0	0	None	Not Required
GEH<5	152	143	95%	Pass
VEHICLES				
FLOW <=700	135	95	71%	Not Pass
FLOW >700 AND <=2700	16	10	63%	Not Pass
FLOW >2700	1	0	0%	Not Pass
GEH<5	152	85	56%	Not Pass
GEH<10	152	130	86%	Not Required

Appendix B

Estimated Matrices Calibration Results

AM Vehicles Screen Lines

Screenline Traffic Counts	Direction	Model	Obs	Diff	%Diff	GEH	Flow Criterion (ScreenLines)
WEST	**Inner**	**1185**	**1085**	**-100**	**-9.3%**	**3.0**	**No Pass**
A6121 Tinwell Road	EB	522	400	-122	-30.6%	5.7	-
A43 Kettering Road	NB	370	383	13	3.3%	0.7	-
A606 Empingham Road	EB	293	302	9	3.0%	0.5	-
NORTH	**Inner**	**953**	**1155**	**202**	**17.5%**	**6.2**	**No Pass**
Little Casterton Road	SB	56	67	11	17.1%	1.5	-
A6121 Ryhall Road	SB	444	569	125	21.9%	5.5	-
B1081 Old Great North Road	EB	453	519	66	12.6%	3.0	-
EAST	**Inner**	**1070**	**1127**	**57**	**5.1%**	**1.7**	**No Pass**
A16 Uffington Road	WB	622	668	46	6.8%	1.8	-
B1443 Barnack Road	WB	160	162	2	1.0%	0.1	-
B1081 London Road	NB	287	297	10	3.3%	0.6	-

Screenline Traffic Counts	Direction	Model	Obs	Diff	%Diff	GEH	Flow Criterion (ScreenLines)
WEST	**Outer**	**1384**	**1156**	**-228**	**-19.7%**	**6.4**	**No Pass**
A6121 Tinwell Road	WB	453	348	-105	-30.1%	5.2	-
A43 Kettering Road	SB	354	350	-4	-1.1%	0.2	-
A606 Empingham Road	WB	577	458	-119	-26.0%	5.2	-
NORTH	**Outer**	**615**	**741**	**126**	**17.0%**	**4.8**	**No Pass**
Little Casterton Road	NB	26	49	23	47.6%	3.8	-
A6121 Ryhall Road	NB	232	275	43	15.8%	2.7	-
B1081 Old Great North Road	WB	358	417	59	14.2%	3.0	-
EAST	**Outer**	**828**	**991**	**163**	**16.4%**	**5.4**	**No Pass**
A16 Uffington Road	EB	443	534	91	17.1%	4.1	-
B1443 Barnack Road	EB	154	169	15	9.1%	1.2	-
B1081 London Road	SB	231	288	57	19.6%	3.5	-

AM CAR Screen Lines

Screenline Traffic Counts	Direction	Model	Obs	Diff	%Diff	GEH	Flow Criterion (ScreenLines)
WEST	**Inner**	**1043**	**961**	**-82**	**-8.5%**	**2.6**	**No Pass**
A6121 Tinwell Road	EB	459	349	-110	-31.7%	5.5	-
A43 Kettering Road	NB	339	343	4	1.2%	0.2	-
A606 Empingham Road	EB	244	269	25	9.1%	1.5	-
NORTH	**Inner**	**855**	**962**	**107**	**11.1%**	**3.6**	**No Pass**
Little Casterton Road	SB	49	56	7	12.2%	0.9	-
A6121 Ryhall Road	SB	390	465	75	16.1%	3.6	-
B1081 Old Great North Road	EB	415	441	26	5.8%	1.2	-
EAST	**Inner**	**949**	**917**	**-32**	**-3.4%**	**1.0**	**Pass**
A16 Uffington Road	WB	545	525	-20	-3.9%	0.9	-
B1443 Barnack Road	WB	134	126	-8	-6.2%	0.7	-
B1081 London Road	NB	269	266	-3	-1.3%	0.2	-

Screenline Traffic Counts	Direction	Model	Obs	Diff	%Diff	GEH	Flow Criterion (ScreenLines)
WEST	**Outer**	**1218**	**1029**	**-189**	**-18.3%**	**5.6**	**No Pass**
A6121 Tinwell Road	WB	395	308	-87	-28.4%	4.7	-
A43 Kettering Road	SB	311	308	-3	-0.8%	0.1	-
A606 Empingham Road	WB	512	413	-99	-23.9%	4.6	-
NORTH	**Outer**	**627**	**705**	**78**	**11.0%**	**3.0**	**No Pass**
Little Casterton Road	NB	23	41	18	44.7%	3.2	-
A6121 Ryhall Road	NB	189	223	34	15.1%	2.3	-
B1081 Old Great North Road	WB	415	441	26	5.8%	1.2	-
EAST	**Outer**	**716**	**805**	**89**	**11.1%**	**3.2**	**No Pass**
A16 Uffington Road	EB	378	416	38	9.1%	1.9	-
B1443 Barnack Road	EB	130	131	1	0.8%	0.1	-
B1081 London Road	SB	208	258	50	19.5%	3.3	-

AM LGV Screen Lines

Screenline Traffic Counts	Direction	Model	Obs	Diff	%Diff	GEH	Flow Criterion (ScreenLines)
WEST	**Inner**	**102**	**90**	**-12**	**-13.6%**	**1.2**	**No Pass**
A6121 Tinwell Road	EB	40	33	-7	-21.7%	1.2	-
A43 Kettering Road	NB	24	32	8	24.3%	1.5	-
A606 Empingham Road	EB	38	25	-13	-51.2%	2.3	-
NORTH	**Inner**	**83**	**167**	**84**	**50.1%**	**7.5**	**No Pass**
Little Casterton Road	SB	6	11	5	49.5%	1.9	-
A6121 Ryhall Road	SB	44	88	44	50.0%	5.4	-
B1081 Old Great North Road	EB	34	68	34	50.5%	4.8	-
EAST	**Inner**	**110**	**187**	**77**	**41.2%**	**6.3**	**No Pass**
A16 Uffington Road	WB	70	130	60	46.1%	6.0	-
B1443 Barnack Road	WB	22	32	10	31.1%	1.9	-
B1081 London Road	NB	18	25	7	28.7%	1.5	-

Screenline Traffic Counts	Direction	Model	Obs	Diff	%Diff	GEH	Flow Criterion (ScreenLines)
WEST	**Outer**	**80**	**68**	**-12**	**-17.4%**	**1.4**	**No Pass**
A6121 Tinwell Road	WB	0	0	0	0.0%	0.0	-
A43 Kettering Road	SB	26	29	3	10.8%	0.6	-
A606 Empingham Road	WB	54	39	-15	-38.3%	2.2	-
NORTH	**Outer**	**71**	**110**	**39**	**35.6%**	**4.1**	**No Pass**
Little Casterton Road	NB	0	0	0	0.0%	0.0	-
A6121 Ryhall Road	NB	37	42	5	11.6%	0.8	-
B1081 Old Great North Road	WB	34	68	34	50.5%	4.8	-
EAST	**Outer**	**22**	**33**	**11**	**34.0%**	**2.1**	**No Pass**
A16 Uffington Road	EB	0	0	0	0.0%	0.0	-
B1443 Barnack Road	EB	22	33	11	34.0%	2.1	-
B1081 London Road	SB	0	0	0	0.0%	0.0	-

AM HGV Screen Lines

Screenline Traffic Counts	Direction	Model	Obs	Diff	%Diff	GEH	Flow Criterion (ScreenLines)
WEST	**Inner**	**41**	**34**	**-7**	**-19.4%**	**1.1**	**No Pass**
A6121 Tinwell Road	EB	23	18	-5	-25.8%	1.0	-
A43 Kettering Road	NB	7	8	1	8.2%	0.2	-
A606 Empingham Road	EB	11	8	-3	-32.5%	0.9	-
NORTH	**Inner**	**15**	**26**	**11**	**42.3%**	**2.4**	**No Pass**
Little Casterton Road	SB	1	0	-1	0.0%	1.2	-
A6121 Ryhall Road	SB	10	16	6	38.6%	1.7	-
B1081 Old Great North Road	EB	4	10	6	56.0%	2.1	-
EAST	**Inner**	**11**	**23**	**12**	**50.3%**	**2.8**	**No Pass**
A16 Uffington Road	WB	7	13	6	46.6%	1.9	-
B1443 Barnack Road	WB	4	4	0	-12.1%	0.2	-
B1081 London Road	NB	0	6	6	100.0%	3.5	-

Screenline Traffic Counts	Direction	Model	Obs	Diff	%Diff	GEH	Flow Criterion (ScreenLines)
WEST	**Outer**	**29**	**19**	**-10**	**-51.8%**	**2.0**	**No Pass**
A6121 Tinwell Road	WB	0	0	0	0.0%	0.0	-
A43 Kettering Road	SB	18	13	-5	-35.4%	1.2	-
A606 Empingham Road	WB	11	6	-5	-87.4%	1.8	-
NORTH	**Outer**	**9**	**20**	**11**	**52.6%**	**2.7**	**No Pass**
Little Casterton Road	NB	0	0	0	0.0%	0.0	-
A6121 Ryhall Road	NB	5	10	5	49.1%	1.8	-
B1081 Old Great North Road	WB	4	10	6	56.0%	2.1	-
EAST	**Outer**	**2**	**4**	**2**	**53.0%**	**1.2**	**No Pass**
A16 Uffington Road	EB	0	0	0	0.0%	0.0	-
B1443 Barnack Road	EB	2	4	2	53.0%	1.2	-
B1081 London Road	SB	0	0	0	0.0%	0.0	-

PM Vehicles Screen Lines

Screenline Traffic Counts	Direction	Model	Obs	Diff	%Diff	GEH	Flow Criterion (ScreenLines)
WEST	**Inner**	**1248**	**1292**	**44**	**3.4%**	**1.2**	**Pass**
A6121 Tinwell Road	EB	485	476	-9	-1.8%	0.4	-
A43 Kettering Road	NB	319	355	36	10.2%	2.0	-
A606 Empingham Road	EB	444	461	17	3.6%	0.8	-
NORTH	**Inner**	**757**	**863**	**106**	**12.2%**	**3.7**	**No Pass**
Little Casterton Road	SB	61	58	-3	-5.3%	0.4	-
A6121 Ryhall Road	SB	304	337	33	9.9%	1.9	-
B1081 Old Great North Road	EB	393	468	75	16.1%	3.6	-
EAST	**Inner**	**1066**	**1153**	**87**	**7.6%**	**2.6**	**No Pass**
A16 Uffington Road	WB	495	590	95	16.0%	4.1	-
B1443 Barnack Road	WB	275	182	-93	-51.0%	6.1	-
B1081 London Road	NB	295	381	86	22.5%	4.7	-

Screenline Traffic Counts	Direction	Model	Obs	Diff	%Diff	GEH	Flow Criterion (ScreenLines)
WEST	**Outer**	**1384**	**1156**	**-228**	**-19.7%**	**6.4**	**No Pass**
A6121 Tinwell Road	WB	453	348	-105	-30.1%	5.2	-
A43 Kettering Road	SB	354	350	-4	-1.1%	0.2	-
A606 Empingham Road	WB	577	458	-119	-26.0%	5.2	-
NORTH	**Outer**	**615**	**741**	**126**	**17.0%**	**4.8**	**No Pass**
Little Casterton Road	NB	26	49	23	47.6%	3.8	-
A6121 Ryhall Road	NB	232	275	43	15.8%	2.7	-
B1081 Old Great North Road	WB	358	417	59	14.2%	3.0	-
EAST	**Outer**	**828**	**991**	**163**	**16.4%**	**5.4**	**No Pass**
A16 Uffington Road	EB	443	534	91	17.1%	4.1	-
B1443 Barnack Road	EB	154	169	15	9.1%	1.2	-
B1081 London Road	SB	231	288	57	19.6%	3.5	-

PM CAR Screen Lines

Screenline Traffic Counts	Direction	Model	Obs	Diff	%Diff	GEH	Flow Criterion (ScreenLines)
WEST	**Inner**	**1134**	**1185**	**51**	**4.3%**	**1.5**	**Pass**
A6121 Tinwell Road	EB	442	436	-6	-1.3%	0.3	-
A43 Kettering Road	NB	285	326	41	12.7%	2.4	-
A606 Empingham Road	EB	408	423	15	3.6%	0.7	-
NORTH	**Inner**	**697**	**774**	**77**	**10.0%**	**2.9**	**No Pass**
Little Casterton Road	SB	58	53	-5	-9.1%	0.6	-
A6121 Ryhall Road	SB	280	306	26	8.6%	1.5	-
B1081 Old Great North Road	EB	359	415	56	13.5%	2.8	-
EAST	**Inner**	**994**	**1057**	**63**	**6.0%**	**2.0**	**No Pass**
A16 Uffington Road	WB	464	544	80	14.6%	3.5	-
B1443 Barnack Road	WB	244	165	-79	-48.0%	5.5	-
B1081 London Road	NB	285	348	63	18.0%	3.5	-

Screenline Traffic Counts	Direction	Model	Obs	Diff	%Diff	GEH	Flow Criterion (ScreenLines)
WEST	**Outer**	**1091**	**948**	**-143**	**-15.1%**	**4.5**	**No Pass**
A6121 Tinwell Road	WB	290	327	37	11.4%	2.1	-
A43 Kettering Road	SB	406	347	-59	-16.9%	3.0	-
A606 Empingham Road	WB	396	274	-122	-44.4%	6.7	-
NORTH	**Outer**	**901**	**1018**	**117**	**11.5%**	**3.8**	**No Pass**
Little Casterton Road	NB	42	54	12	21.4%	1.7	-
A6121 Ryhall Road	NB	499	549	50	9.1%	2.2	-
B1081 Old Great North Road	WB	359	415	56	13.5%	2.8	-
EAST	**Outer**	**959**	**1001**	**42**	**4.2%**	**1.3**	**Pass**
A16 Uffington Road	EB	527	583	56	9.6%	2.4	-
B1443 Barnack Road	EB	168	100	-68	-67.7%	5.8	-
B1081 London Road	SB	265	318	53	16.7%	3.1	-

PM LGV Screen Lines

Screenline Traffic Counts	Direction	Model	Obs	Diff	%Diff	GEH	Flow Criterion (ScreenLines)
WEST	**Inner**	**92**	**104**	**12**	**11.6%**	**1.2**	**No Pass**
A6121 Tinwell Road	EB	41	38	-3	-8.7%	0.5	-
A43 Kettering Road	NB	16	29	13	44.7%	2.7	-
A606 Empingham Road	EB	35	37	2	6.4%	0.4	-
NORTH	**Inner**	**52**	**77**	**25**	**32.6%**	**3.1**	**No Pass**
Little Casterton Road	SB	3	5	2	34.6%	0.9	-
A6121 Ryhall Road	SB	21	27	6	21.4%	1.2	-
B1081 Old Great North Road	EB	27	45	18	39.1%	2.9	-
EAST	**Inner**	**66**	**92**	**26**	**28.7%**	**3.0**	**No Pass**
A16 Uffington Road	WB	30	44	14	32.7%	2.4	-
B1443 Barnack Road	WB	26	17	-9	-52.0%	1.9	-
B1081 London Road	NB	10	31	21	67.4%	4.6	-

Screenline Traffic Counts	Direction	Model	Obs	Diff	%Diff	GEH	Flow Criterion (ScreenLines)
WEST	**Outer**	**60**	**54**	**-6**	**-10.7%**	**0.8**	**No Pass**
A6121 Tinwell Road	WB	0	0	0	0.0%	0.0	-
A43 Kettering Road	SB	25	30	5	16.9%	1.0	-
A606 Empingham Road	WB	35	24	-11	-45.3%	2.0	-
NORTH	**Outer**	**65**	**93**	**28**	**30.1%**	**3.2**	**No Pass**
Little Casterton Road	NB	0	0	0	0.0%	0.0	-
A6121 Ryhall Road	NB	38	48	10	21.7%	1.6	-
B1081 Old Great North Road	WB	27	45	18	39.1%	2.9	-
EAST	**Outer**	**9**	**11**	**2**	**22.5%**	**0.8**	**No Pass**
A16 Uffington Road	EB	0	0	0	0.0%	0.0	-
B1443 Barnack Road	EB	9	11	2	22.5%	0.8	-
B1081 London Road	SB	0	0	0	0.0%	0.0	-

PM HGV Screen Lines

Screenline Traffic Counts	Direction	Model	Obs	Diff	%Diff	GEH	Flow Criterion (ScreenLines)
WEST	**Inner**	**22**	**3**	**-19**	**-631.1%**	**5.4**	**No Pass**
A6121 Tinwell Road	EB	2	2	0	4.8%	0.1	-
A43 Kettering Road	NB	18	0	-18	0.0%	6.0	-
A606 Empingham Road	EB	2	1	-1	-75.5%	0.6	-
NORTH	**Inner**	**9**	**12**	**3**	**25.7%**	**1.0**	**No Pass**
Little Casterton Road	SB	0	0	0	0.0%	0.0	-
A6121 Ryhall Road	SB	3	4	1	30.9%	0.7	-
B1081 Old Great North Road	EB	6	8	2	23.1%	0.7	-
EAST	**Inner**	**6**	**4**	**-2**	**-59.6%**	**1.0**	**No Pass**
A16 Uffington Road	WB	2	2	0	22.4%	0.3	-
B1443 Barnack Road	WB	5	0	-5	0.0%	3.1	-
B1081 London Road	NB	0	2	2	100.0%	2.0	-

Screenline Traffic Counts	Direction	Model	Obs	Diff	%Diff	GEH	Flow Criterion (ScreenLines)
WEST	**Outer**	**16**	**0**	**-16**	**0.0%**	**5.6**	**Pass**
A6121 Tinwell Road	WB	0	0	0	0.0%	0.0	-
A43 Kettering Road	SB	14	0	-14	0.0%	5.3	-
A606 Empingham Road	WB	2	0	-2	0.0%	1.8	-
NORTH	**Outer**	**8**	**10**	**2**	**18.5%**	**0.6**	**No Pass**
Little Casterton Road	NB	0	0	0	0.0%	0.0	-
A6121 Ryhall Road	NB	2	2	0	0.0%	0.0	-
B1081 Old Great North Road	WB	6	8	2	23.1%	0.7	-
EAST	**Outer**	**0**	**0**	**0**	**0.0%**	**0.9**	**Pass**
A16 Uffington Road	EB	0	0	0	0.0%	0.0	-
B1443 Barnack Road	EB	0	0	0	0.0%	0.9	-
B1081 London Road	SB	0	0	0	0.0%	0.0	-

AM Vehicles Link Calibration

$LINK:NO	FROMNODENO	TONODENO	OBSERVED VEHICLE	MODELLED VEHICLE	Diff	%Diff	GEH	FLOW CRITERIA	GEH CRITERIA
26087801	119524757	119537246	669	603	-66	-11%	2.6	Pass	Pass
26087801	119537246	119524757	294	332	38	11%	2.1	Pass	Pass
26087815	119534731	119537246	186	102	-84	-82%	7.0	Pass	No Pass
26087815	119537246	119534731	281	169	-112	-67%	7.5	No Pass	No Pass
26087841	119537246	119548834	591	486	-105	-21%	4.5	No Pass	Pass
26087841	119548834	119537246	309	281	-28	-10%	1.6	Pass	Pass
26088142	119520198	119520197	165	123	-42	-34%	3.5	Pass	Pass
26088612	119521378	119521899	359	354	-5	-2%	0.3	Pass	Pass
26088612	119521899	119521378	416	302	-114	-38%	6.0	No Pass	No Pass
26088806	119520091	119548620	49	26	-23	-91%	3.8	Pass	Pass
26088806	119548620	119520091	67	56	-11	-21%	1.5	Pass	Pass
26088857	119535239	119538408	473	519	46	9%	2.1	Pass	Pass
26088857	119538408	119535239	331	434	103	24%	5.3	No Pass	No Pass
26088871	119525005	119538408	197	153	-44	-29%	3.4	Pass	Pass
26088871	119538408	119525005	204	169	-35	-21%	2.6	Pass	Pass
26088905	119540023	119540735	368	250	-118	-47%	6.7	No Pass	No Pass
26088905	119540735	119540023	337	316	-21	-7%	1.2	Pass	Pass
26089145	119521092	119524495	1545	1681	136	8%	3.4	Pass	Pass
26089162	119519133	119520112	395	304	-91	-30%	4.9	Pass	Pass
26089162	119520112	119519133	105	90	-15	-16%	1.5	Pass	Pass
26089163	119520111	119520112	43	16	-27	-163%	4.9	Pass	Pass
26089163	119520112	119520111	698	672	-26	-4%	1.0	Pass	Pass
26089183	119514722	119517085	142	127	-15	-12%	1.3	Pass	Pass
26089183	119517085	119514722	255	202	-53	-26%	3.5	Pass	Pass
26089216	119517085	119536830	98	101	3	3%	0.3	Pass	Pass
26089216	119536830	119517085	119	62	-57	-93%	6.0	Pass	No Pass
26089219	119524495	119537907	1502	1665	163	10%	4.1	Pass	Pass

26089223	119529706	119543071	284	252	-32	-13%	2.0	Pass	Pass
26089223	119543071	119529706	248	184	-64	-34%	4.3	Pass	Pass
26089233	119520120	119539281	534	443	-91	-21%	4.1	Pass	Pass
26089233	119539281	119520120	668	622	-46	-7%	1.8	Pass	Pass
26089260	119514722	119539615	251	202	-49	-24%	3.2	Pass	Pass
26089260	119539615	119514722	139	124	-15	-12%	1.3	Pass	Pass
26089261	119539615	119543601	210	220	10	4%	0.7	Pass	Pass
26089261	119543601	119539615	350	401	51	13%	2.6	Pass	Pass
26089262	119512935	119519322	489	524	35	7%	1.5	Pass	Pass
26089262	119519322	119512935	385	402	17	4%	0.9	Pass	Pass
26089275	119520112	119530423	147	77	-70	-92%	6.6	Pass	No Pass
26089275	119530423	119520112	512	519	7	1%	0.3	Pass	Pass
26089332	119513290	119519322	92	104	12	12%	1.2	Pass	Pass
26089332	119519322	119513290	137	127	-10	-8%	0.9	Pass	Pass
26089339	119536410	119541234	93	73	-20	-28%	2.2	Pass	Pass
26089339	119541234	119536410	290	252	-38	-15%	2.3	Pass	Pass
26089340	119529414	119541355	372	483	111	23%	5.4	No Pass	No Pass
26089340	119541355	119529414	513	538	25	5%	1.1	Pass	Pass
26089341	119518437	119541355	109	67	-42	-64%	4.5	Pass	Pass
26089341	119541355	119518437	41	33	-8	-24%	1.3	Pass	Pass
26089350	119512934	119527430	142	100	-42	-42%	3.8	Pass	Pass
26089350	119527430	119512934	102	101	-1	-1%	0.1	Pass	Pass
26089356	119522495	119533136	153	189	36	19%	2.8	Pass	Pass
26089356	119533136	119522495	193	214	21	10%	1.5	Pass	Pass
26089359	119518331	119537405	1259	1271	12	1%	0.3	Pass	Pass
26089360	119518331	119518332	290	240	-50	-21%	3.0	Pass	Pass
26089384	119533135	119533136	295	342	47	14%	2.6	Pass	Pass
26089384	119533136	119533135	491	568	77	14%	3.3	Pass	Pass
26089395	119516271	119533135	163	174	11	6%	0.9	Pass	Pass
26089395	119533135	119516271	308	355	47	13%	2.6	Pass	Pass

26089503	119530538	119537062	184	226	42	19%	3.0	Pass	Pass
26089503	119537062	119530538	150	205	55	27%	4.1	Pass	Pass
26089523	119515396	119519026	168	154	-14	-9%	1.1	Pass	Pass
26089523	119519026	119515396	162	160	-2	-1%	0.1	Pass	Pass
26089539	119527423	119532994	91	93	2	2%	0.2	Pass	Pass
26089539	119532994	119527423	89	96	7	7%	0.7	Pass	Pass
26089555	119532994	119534356	103	111	8	7%	0.8	Pass	Pass
26089555	119534356	119532994	177	143	-34	-24%	2.7	Pass	Pass
26089624	119527876	119527875	78	177	99	56%	8.8	Pass	No Pass
26089632	119531901	119535613	375	365	-10	-3%	0.5	Pass	Pass
26089632	119535613	119531901	538	495	-43	-9%	1.9	Pass	Pass
26089641	119531901	119541185	350	334	-16	-5%	0.8	Pass	Pass
26089641	119541185	119531901	225	155	-70	-45%	5.1	Pass	No Pass
26089647	119528818	119531901	283	297	14	5%	0.8	Pass	Pass
26089647	119531901	119528818	321	248	-73	-29%	4.3	Pass	Pass
26089652	119527875	119528834	295	322	27	8%	1.5	Pass	Pass
26089653	119527876	119528834	2122	2160	38	2%	0.8	Pass	Pass
26089660	119526557	119548606	348	453	105	23%	5.2	No Pass	No Pass
26089660	119548606	119526557	400	522	122	23%	5.7	No Pass	No Pass
26089700	119548602	119522170	53	64	11	17%	1.4	Pass	Pass
26089702	119538337	119522170	1496	1448	-48	-3%	1.3	Pass	Pass
26089703	119538337	119548602	214	184	-30	-16%	2.1	Pass	Pass
26089883	119545101	119519528	2417	2481	64	3%	1.3	Pass	Pass
26089885	119519528	119519527	403	399	-4	-1%	0.2	Pass	Pass
26089887	119533821	119540857	1710	1632	-78	-5%	1.9	Pass	Pass
26089919	119522275	119533821	321	300	-21	-7%	1.2	Pass	Pass
26089963	119522275	119522831	523	385	-138	-36%	6.5	No Pass	No Pass
26089963	119522831	119522275	474	302	-172	-57%	8.7	No Pass	No Pass
26090277	119513860	119535709	317	231	-86	-37%	5.2	Pass	No Pass
26090277	119535709	119513860	15	0	-15	0%	5.5	Pass	No Pass

26090379	119535709	119537843	2316	2314	-2	0%	0.1	Pass	Pass
26116003	119536410	119536411	409	344	-65	-19%	3.3	Pass	Pass
26116003	119536411	119536410	411	323	-88	-27%	4.6	Pass	Pass
26116020	119520211	119520212	225	155	-70	-45%	5.1	Pass	No Pass
26116935	119535710	119535709	2014	2082	68	3%	1.5	Pass	Pass
26116936	119534298	119533820	1389	1333	-56	-4%	1.5	Pass	Pass
26116955	119530809	119532994	373	390	17	4%	0.8	Pass	Pass
26116955	119532994	119530809	477	456	-21	-5%	1.0	Pass	Pass
26116960	119533136	119543657	16	12	-4	-36%	1.1	Pass	Pass
26116960	119543657	119533136	4	3	-1	-16%	0.3	Pass	Pass
26116961	119533136	119539615	160	159	-1	0%	0.0	Pass	Pass
26116961	119539615	119533136	412	418	6	2%	0.3	Pass	Pass
26832618	119519527	119542149	383	370	-13	-3%	0.7	Pass	Pass
26832618	119542149	119519527	350	354	4	1%	0.2	Pass	Pass
26856716	119520462	119527876	2200	2337	137	6%	2.9	Pass	Pass
26856719	119522170	119522171	1549	1512	-37	-2%	1.0	Pass	Pass
78783673	119519134	119521378	184	160	-24	-15%	1.8	Pass	Pass
78783673	119521378	119519134	343	204	-139	-68%	8.4	No Pass	No Pass
565643016	119537061	119537062	357	373	16	4%	0.8	Pass	Pass
565643016	119537062	119537061	316	356	40	11%	2.2	Pass	Pass
565653829	119524407	119531945	334	420	86	20%	4.4	Pass	Pass
565653829	119531945	119524407	233	452	219	48%	11.8	No Pass	No Pass
565653876	119536339	119548834	275	232	-43	-19%	2.7	Pass	Pass
565653876	119548834	119536339	569	444	-125	-28%	5.5	No Pass	No Pass
565658021	119540917	119541452	303	238	-65	-27%	3.9	Pass	Pass
565658021	119541452	119540917	194	145	-49	-34%	3.8	Pass	Pass
577364891	119538408	119548814	565	547	-18	-3%	0.7	Pass	Pass
577364891	119548814	119538408	430	479	49	10%	2.3	Pass	Pass
577364906	119539456	119548824	1700	1620	-80	-5%	2.0	Pass	Pass
577364908	119514024	119548825	288	231	-57	-24%	3.5	Pass	Pass

577364908	119548825	119514024	297	287	-10	-3%	0.6	Pass	Pass
577364911	119548824	119548826	323	287	-36	-12%	2.0	Pass	Pass
577364912	119548826	119534298	12	0	-12	0%	4.9	Pass	Pass
577364915	119531945	119548547	402	332	-70	-21%	3.7	Pass	Pass
577364915	119548547	119531945	390	371	-19	-5%	1.0	Pass	Pass
577364929	119524087	119548827	516	399	-117	-29%	5.5	No Pass	No Pass
577364929	119548827	119524087	502	433	-69	-16%	3.2	Pass	Pass
577364930	119519322	119548827	358	418	60	14%	3.0	Pass	Pass
577364930	119548827	119519322	299	319	20	6%	1.1	Pass	Pass
577364942	119538318	119548834	73	50	-23	-47%	3.0	Pass	Pass
577364942	119548834	119538318	62	42	-20	-46%	2.7	Pass	Pass
577365285	119523821	119548992	360	320	-40	-13%	2.2	Pass	Pass
577365285	119548992	119523821	515	421	-94	-22%	4.3	Pass	Pass
577365291	119512934	119548995	378	434	56	13%	2.8	Pass	Pass
577365291	119548995	119512934	362	281	-81	-29%	4.5	Pass	Pass
577365292	119512935	119548995	361	282	-79	-28%	4.4	Pass	Pass
577365292	119548995	119512935	373	433	60	14%	3.0	Pass	Pass
577365294	119512934	119548996	98	72	-26	-35%	2.8	Pass	Pass
577365294	119548996	119512934	58	18	-40	-214%	6.4	Pass	No Pass
577365348	119521378	119549012	417	358	-59	-16%	3.0	Pass	Pass
577365348	119549012	119521378	519	453	-66	-14%	3.0	Pass	Pass
577365350	119530423	119549013	302	293	-9	-3%	0.5	Pass	Pass
577365350	119549013	119530423	458	577	119	21%	5.2	No Pass	No Pass
577365359	119537437	119549017	275	232	-43	-19%	2.7	Pass	Pass
577365359	119549017	119537437	569	444	-125	-28%	5.5	No Pass	No Pass
577365361	119512935	119549018	388	548	160	29%	7.4	No Pass	No Pass
577365361	119549018	119512935	480	519	39	7%	1.7	Pass	Pass
577365363	119512934	119549019	272	318	46	14%	2.7	Pass	Pass
577365363	119549019	119512934	368	523	155	30%	7.4	No Pass	No Pass
577365366	119533135	119549021	319	374	55	15%	2.9	Pass	Pass

577365366	119549021	119533135	326	350	24	7%	1.3	Pass	Pass
577365369	119533135	119549022	466	519	53	10%	2.4	Pass	Pass
577365369	119549022	119533135	402	497	95	19%	4.5	Pass	Pass
577365389	119527621	119549032	304	288	-16	-5%	0.9	Pass	Pass
577365389	119549032	119527621	220	143	-77	-54%	5.7	Pass	No Pass

AM Car Link Calibration

$LINK:NO	FROMNODENO	TONODENO	OBSERVED CAR	MODELLED CAR	Diff	%Diff	GEH	FLOW CRITERIA	GEH CRITERIA
26087801	119524757	119537246	551	548	-3	-1%	0.1	Pass	Pass
26087801	119537246	119524757	239	289	50	17%	3.1	Pass	Pass
26087815	119534731	119537246	156	90	-66	-73%	5.9	Pass	No Pass
26087815	119537246	119534731	234	156	-78	-50%	5.6	Pass	No Pass
26087841	119537246	119548834	484	433	-51	-12%	2.4	Pass	Pass
26087841	119548834	119537246	250	239	-11	-5%	0.7	Pass	Pass
26088142	119520198	119520197	137	94	-43	-46%	4.0	Pass	Pass
26088612	119521378	119521899	295	315	20	6%	1.1	Pass	Pass
26088612	119521899	119521378	369	277	-92	-33%	5.1	Pass	No Pass
26088806	119520091	119548620	41	23	-18	-81%	3.2	Pass	Pass
26088806	119548620	119520091	56	49	-7	-14%	0.9	Pass	Pass
26088857	119535239	119538408	404	450	46	10%	2.2	Pass	Pass
26088857	119538408	119535239	255	360	105	29%	6.0	No Pass	No Pass
26088871	119525005	119538408	167	143	-24	-17%	1.9	Pass	Pass
26088871	119538408	119525005	180	154	-26	-17%	2.0	Pass	Pass
26088905	119540023	119540735	317	227	-90	-40%	5.5	Pass	No Pass
26088905	119540735	119540023	291	279	-12	-4%	0.7	Pass	Pass
26089145	119521092	119524495	1346	1460	114	8%	3.0	Pass	Pass
26089162	119519133	119520112	354	295	-59	-20%	3.3	Pass	Pass
26089162	119520112	119519133	87	75	-12	-15%	1.3	Pass	Pass
26089163	119520111	119520112	29	12	-17	-146%	3.8	Pass	Pass
26089163	119520112	119520111	626	638	12	2%	0.5	Pass	Pass

26089183	119514722	119517085	114	103	-11	-10%	1.0	Pass	Pass
26089183	119517085	119514722	210	173	-37	-21%	2.7	Pass	Pass
26089216	119517085	119536830	78	82	4	5%	0.5	Pass	Pass
26089216	119536830	119517085	99	49	-50	-103%	5.9	Pass	No Pass
26089219	119524495	119537907	1317	1448	131	9%	3.5	Pass	Pass
26089223	119529706	119543071	227	250	23	9%	1.5	Pass	Pass
26089223	119543071	119529706	198	183	-15	-8%	1.1	Pass	Pass
26089233	119520120	119539281	416	378	-38	-10%	1.9	Pass	Pass
26089233	119539281	119520120	525	545	20	4%	0.9	Pass	Pass
26089260	119514722	119539615	207	173	-34	-20%	2.5	Pass	Pass
26089260	119539615	119514722	112	101	-11	-11%	1.1	Pass	Pass
26089261	119539615	119543601	165	186	21	11%	1.6	Pass	Pass
26089261	119543601	119539615	287	346	59	17%	3.3	Pass	Pass
26089262	119512935	119519322	389	446	57	13%	2.8	Pass	Pass
26089262	119519322	119512935	299	320	21	6%	1.2	Pass	Pass
26089275	119520112	119530423	120	66	-54	-81%	5.6	Pass	No Pass
26089275	119530423	119520112	450	473	23	5%	1.1	Pass	Pass
26089332	119513290	119519322	72	75	3	4%	0.4	Pass	Pass
26089332	119519322	119513290	111	96	-15	-16%	1.5	Pass	Pass
26089339	119536410	119541234	79	59	-20	-35%	2.5	Pass	Pass
26089339	119541234	119536410	249	216	-33	-16%	2.2	Pass	Pass
26089340	119529414	119541355	290	397	107	27%	5.8	No Pass	No Pass
26089340	119541355	119529414	413	455	42	9%	2.0	Pass	Pass
26089341	119518437	119541355	87	57	-30	-52%	3.5	Pass	Pass
26089341	119541355	119518437	33	23	-10	-45%	1.9	Pass	Pass
26089350	119512934	119527430	119	85	-34	-41%	3.4	Pass	Pass
26089350	119527430	119512934	66	73	7	10%	0.9	Pass	Pass
26089356	119522495	119533136	124	151	27	18%	2.3	Pass	Pass
26089356	119533136	119522495	155	173	18	10%	1.4	Pass	Pass
26089359	119518331	119537405	1081	1092	11	1%	0.3	Pass	Pass

26089360	119518331	119518332	249	210	-39	-18%	2.5	Pass	Pass
26089384	119533135	119533136	230	279	49	18%	3.1	Pass	Pass
26089384	119533136	119533135	401	482	81	17%	3.9	Pass	Pass
26089395	119516271	119533135	133	149	16	11%	1.3	Pass	Pass
26089395	119533135	119516271	251	306	55	18%	3.3	Pass	Pass
26089503	119530538	119537062	151	184	33	18%	2.6	Pass	Pass
26089503	119537062	119530538	114	174	60	34%	5.0	Pass	Pass
26089523	119515396	119519026	131	130	-1	-1%	0.1	Pass	Pass
26089523	119519026	119515396	126	134	8	6%	0.7	Pass	Pass
26089539	119527423	119532994	69	76	7	9%	0.8	Pass	Pass
26089539	119532994	119527423	69	77	8	11%	1.0	Pass	Pass
26089555	119532994	119534356	82	90	8	9%	0.9	Pass	Pass
26089555	119534356	119532994	142	114	-28	-24%	2.5	Pass	Pass
26089624	119527876	119527875	61	167	106	63%	9.9	No Pass	No Pass
26089632	119531901	119535613	329	330	1	0%	0.1	Pass	Pass
26089632	119535613	119531901	475	440	-35	-8%	1.6	Pass	Pass
26089641	119531901	119541185	310	301	-9	-3%	0.5	Pass	Pass
26089641	119541185	119531901	198	138	-60	-43%	4.6	Pass	Pass
26089647	119528818	119531901	251	277	26	9%	1.6	Pass	Pass
26089647	119531901	119528818	286	224	-62	-28%	3.9	Pass	Pass
26089652	119527875	119528834	250	281	31	11%	1.9	Pass	Pass
26089653	119527876	119528834	1882	1919	37	2%	0.9	Pass	Pass
26089660	119526557	119548606	308	395	87	22%	4.7	Pass	Pass
26089660	119548606	119526557	349	459	110	24%	5.5	No Pass	No Pass
26089700	119548602	119522170	40	61	21	34%	2.9	Pass	Pass
26089702	119538337	119522170	1290	1241	-49	-4%	1.4	Pass	Pass
26089703	119538337	119548602	180	158	-22	-14%	1.7	Pass	Pass
26089883	119545101	119519528	2132	2201	69	3%	1.5	Pass	Pass
26089885	119519528	119519527	329	357	28	8%	1.5	Pass	Pass
26089887	119533821	119540857	1470	1400	-70	-5%	1.9	Pass	Pass

26089919	119522275	119533821	251	245	-6	-2%	0.4	Pass	Pass
26089963	119522275	119522831	437	358	-79	-22%	4.0	Pass	Pass
26089963	119522831	119522275	395	274	-121	-44%	6.6	No Pass	No Pass
26090277	119513860	119535709	277	208	-69	-33%	4.5	Pass	Pass
26090277	119535709	119513860	14	0	-14	0%	5.3	Pass	No Pass
26090379	119535709	119537843	2066	2051	-15	-1%	0.3	Pass	Pass
26116003	119536410	119536411	353	294	-59	-20%	3.3	Pass	Pass
26116003	119536411	119536410	357	276	-81	-29%	4.5	Pass	Pass
26116020	119520211	119520212	187	139	-48	-35%	3.8	Pass	Pass
26116935	119535710	119535709	1803	1843	40	2%	0.9	Pass	Pass
26116936	119534298	119533820	1219	1155	-64	-6%	1.9	Pass	Pass
26116955	119530809	119532994	287	332	45	14%	2.6	Pass	Pass
26116955	119532994	119530809	376	384	8	2%	0.4	Pass	Pass
26116960	119533136	119543657	13	9	-4	-41%	1.1	Pass	Pass
26116960	119543657	119533136	3	3	0	-6%	0.1	Pass	Pass
26116961	119533136	119539615	123	134	11	8%	1.0	Pass	Pass
26116961	119539615	119533136	340	366	26	7%	1.4	Pass	Pass
26832618	119519527	119542149	343	339	-4	-1%	0.2	Pass	Pass
26832618	119542149	119519527	308	311	3	1%	0.1	Pass	Pass
26856716	119520462	119527876	1943	2086	143	7%	3.2	Pass	Pass
26856719	119522170	119522171	1330	1302	-28	-2%	0.8	Pass	Pass
78783673	119519134	119521378	155	149	-6	-4%	0.5	Pass	Pass
78783673	119521378	119519134	304	200	-104	-52%	6.6	No Pass	No Pass
565643016	119537061	119537062	283	314	31	10%	1.8	Pass	Pass
565643016	119537062	119537061	243	296	53	18%	3.2	Pass	Pass
565653829	119524407	119531945	280	380	100	26%	5.5	Pass	No Pass
565653829	119531945	119524407	194	421	227	54%	12.9	No Pass	No Pass
565653876	119536339	119548834	223	189	-34	-18%	2.3	Pass	Pass
565653876	119548834	119536339	465	390	-75	-19%	3.6	Pass	Pass
565658021	119540917	119541452	253	201	-52	-26%	3.5	Pass	Pass

565658021	119541452	119540917	161	119	-42	-35%	3.5	Pass	Pass
577364891	119538408	119548814	480	472	-8	-2%	0.4	Pass	Pass
577364891	119548814	119538408	344	394	50	13%	2.6	Pass	Pass
577364906	119539456	119548824	1490	1424	-66	-5%	1.7	Pass	Pass
577364908	119514024	119548825	258	208	-50	-24%	3.3	Pass	Pass
577364908	119548825	119514024	266	269	3	1%	0.2	Pass	Pass
577364911	119548824	119548826	282	269	-13	-5%	0.8	Pass	Pass
577364912	119548826	119534298	11	0	-11	0%	4.7	Pass	Pass
577364915	119531945	119548547	344	292	-52	-18%	2.9	Pass	Pass
577364915	119548547	119531945	332	340	8	2%	0.4	Pass	Pass
577364929	119524087	119548827	404	346	-58	-17%	3.0	Pass	Pass
577364929	119548827	119524087	391	386	-5	-1%	0.3	Pass	Pass
577364930	119519322	119548827	284	370	86	23%	4.8	Pass	Pass
577364930	119548827	119519322	233	265	32	12%	2.0	Pass	Pass
577364942	119538318	119548834	59	50	-9	-19%	1.3	Pass	Pass
577364942	119548834	119538318	51	42	-9	-20%	1.3	Pass	Pass
577365285	119523821	119548992	281	263	-18	-7%	1.1	Pass	Pass
577365285	119548992	119523821	401	369	-32	-9%	1.7	Pass	Pass
577365291	119512934	119548995	281	384	103	27%	5.7	No Pass	No Pass
577365291	119548995	119512934	272	239	-33	-14%	2.1	Pass	Pass
577365292	119512935	119548995	273	240	-33	-14%	2.1	Pass	Pass
577365292	119548995	119512935	281	383	102	27%	5.6	No Pass	No Pass
577365294	119512934	119548996	69	64	-5	-7%	0.6	Pass	Pass
577365294	119548996	119512934	42	17	-25	-151%	4.7	Pass	Pass
577365348	119521378	119549012	366	327	-39	-12%	2.1	Pass	Pass
577365348	119549012	119521378	441	415	-26	-6%	1.2	Pass	Pass
577365350	119530423	119549013	269	244	-25	-10%	1.5	Pass	Pass
577365350	119549013	119530423	413	512	99	19%	4.6	Pass	Pass
577365359	119537437	119549017	223	189	-34	-18%	2.3	Pass	Pass
577365359	119549017	119537437	465	390	-75	-19%	3.6	Pass	Pass

577365361	119512935	119549018	293	447	154	34%	8.0	No Pass	No Pass
577365361	119549018	119512935	375	429	54	13%	2.7	Pass	Pass
577365363	119512934	119549019	199	253	54	21%	3.6	Pass	Pass
577365363	119549019	119512934	288	457	169	37%	8.8	No Pass	No Pass
577365366	119533135	119549021	257	318	61	19%	3.6	Pass	Pass
577365366	119549021	119533135	259	296	37	12%	2.2	Pass	Pass
577365369	119533135	119549022	373	431	58	13%	2.9	Pass	Pass
577365369	119549022	119533135	314	407	93	23%	4.9	Pass	Pass
577365389	119527621	119549032	242	264	22	8%	1.4	Pass	Pass
577365389	119549032	119527621	176	124	-52	-42%	4.3	Pass	Pass

AM LGV Link Calibration

$LINK:NO	FROMNODENO	TONODENO	OBSERVED_LGV	MODELLED_LGV	Diff	%Diff	GEH	FLOW CRITERIA	GEH CRITERIA
26087801	119524757	119537246	103	46	-57	-126%	6.7	Pass	No Pass
26087801	119537246	119524757	45	38	-7	-18%	1.1	Pass	Pass
26087815	119534731	119537246	29	11	-18	-168%	4.1	Pass	Pass
26087815	119537246	119534731	44	12	-32	-283%	6.2	Pass	No Pass
26087841	119537246	119548834	91	44	-47	-107%	5.7	Pass	No Pass
26087841	119548834	119537246	47	37	-10	-27%	1.5	Pass	Pass
26088142	119520198	119520197	19	25	6	24%	1.2	Pass	Pass
26088612	119521378	119521899	54	35	-19	-56%	2.9	Pass	Pass
26088612	119521899	119521378	37	19	-18	-95%	3.4	Pass	Pass
26088806	119520091	119548620	8	3	-5	-164%	2.1	Pass	Pass
26088806	119548620	119520091	11	6	-5	-98%	1.9	Pass	Pass
26088857	119535239	119538408	66	63	-3	-4%	0.3	Pass	Pass
26088857	119538408	119535239	70	62	-8	-12%	0.9	Pass	Pass
26088871	119525005	119538408	27	10	-17	-178%	4.0	Pass	Pass
26088871	119538408	119525005	23	14	-9	-59%	2.0	Pass	Pass
26088905	119540023	119540735	43	18	-25	-142%	4.6	Pass	Pass
26088905	119540735	119540023	39	33	-6	-20%	1.1	Pass	Pass

26089145	119521092	119524495	134	146	12	8%	1.1	Pass	Pass
26089162	119519133	119520112	35	9	-26	-282%	5.5	Pass	No Pass
26089162	119520112	119519133	12	7	-5	-64%	1.5	Pass	Pass
26089163	119520111	119520112	9	3	-6	-173%	2.3	Pass	Pass
26089163	119520112	119520111	46	28	-18	-64%	3.0	Pass	Pass
26089183	119514722	119517085	23	20	-3	-12%	0.5	Pass	Pass
26089183	119517085	119514722	43	29	-14	-48%	2.3	Pass	Pass
26089216	119517085	119536830	16	15	-1	-5%	0.2	Pass	Pass
26089216	119536830	119517085	20	13	-7	-55%	1.7	Pass	Pass
26089219	119524495	119537907	125	143	18	13%	1.6	Pass	Pass
26089223	119529706	119543071	56	0	-56	0%	10.6	Pass	No Pass
26089223	119543071	119529706	49	0	-49	0%	9.9	Pass	No Pass
26089233	119520120	119539281	104	54	-50	-94%	5.7	Pass	No Pass
26089233	119539281	119520120	130	70	-60	-86%	6.0	Pass	No Pass
26089260	119514722	119539615	43	29	-14	-48%	2.3	Pass	Pass
26089260	119539615	119514722	23	20	-3	-13%	0.6	Pass	Pass
26089261	119539615	119543601	34	28	-6	-19%	1.0	Pass	Pass
26089261	119543601	119539615	59	52	-7	-13%	0.9	Pass	Pass
26089262	119512935	119519322	83	65	-18	-27%	2.0	Pass	Pass
26089262	119519322	119512935	77	73	-4	-6%	0.5	Pass	Pass
26089275	119520112	119530423	21	9	-12	-128%	3.0	Pass	Pass
26089275	119530423	119520112	35	32	-3	-9%	0.5	Pass	Pass
26089332	119513290	119519322	20	28	8	28%	1.6	Pass	Pass
26089332	119519322	119513290	26	31	5	16%	0.9	Pass	Pass
26089339	119536410	119541234	7	13	6	47%	1.9	Pass	Pass
26089339	119541234	119536410	24	22	-2	-8%	0.4	Pass	Pass
26089340	119529414	119541355	60	68	8	11%	0.9	Pass	Pass
26089340	119541355	119529414	85	65	-20	-30%	2.3	Pass	Pass
26089341	119518437	119541355	18	10	-8	-88%	2.3	Pass	Pass
26089341	119541355	119518437	7	7	0	2%	0.1	Pass	Pass

26089350	119512934	119527430	20	15	-5	-29%	1.1	Pass	Pass
26089350	119527430	119512934	31	20	-11	-58%	2.3	Pass	Pass
26089356	119522495	119533136	26	34	8	24%	1.5	Pass	Pass
26089356	119533136	119522495	32	36	4	11%	0.7	Pass	Pass
26089359	119518331	119537405	102	117	15	13%	1.4	Pass	Pass
26089360	119518331	119518332	24	15	-9	-56%	1.9	Pass	Pass
26089384	119533135	119533136	48	52	4	8%	0.6	Pass	Pass
26089384	119533136	119533135	83	81	-2	-3%	0.2	Pass	Pass
26089395	119516271	119533135	27	25	-2	-6%	0.3	Pass	Pass
26089395	119533135	119516271	52	49	-3	-5%	0.4	Pass	Pass
26089503	119530538	119537062	33	42	9	21%	1.5	Pass	Pass
26089503	119537062	119530538	36	31	-5	-16%	0.9	Pass	Pass
26089523	119515396	119519026	33	22	-11	-52%	2.1	Pass	Pass
26089523	119519026	119515396	32	22	-10	-45%	1.9	Pass	Pass
26089539	119527423	119532994	22	15	-7	-47%	1.6	Pass	Pass
26089539	119532994	119527423	20	18	-2	-9%	0.4	Pass	Pass
26089555	119532994	119534356	21	21	0	0%	0.0	Pass	Pass
26089555	119534356	119532994	35	25	-10	-40%	1.8	Pass	Pass
26089624	119527876	119527875	6	7	1	8%	0.2	Pass	Pass
26089632	119531901	119535613	31	27	-4	-13%	0.7	Pass	Pass
26089632	119535613	119531901	45	42	-3	-8%	0.5	Pass	Pass
26089641	119531901	119541185	29	19	-10	-55%	2.1	Pass	Pass
26089641	119541185	119531901	19	10	-9	-98%	2.5	Pass	Pass
26089647	119528818	119531901	24	18	-6	-30%	1.2	Pass	Pass
26089647	119531901	119528818	27	24	-3	-14%	0.6	Pass	Pass
26089652	119527875	119528834	24	26	2	9%	0.5	Pass	Pass
26089653	119527876	119528834	165	165	0	0%	0.0	Pass	Pass
26089660	119526557	119548606	29	42	13	31%	2.2	Pass	Pass
26089660	119548606	119526557	33	40	7	18%	1.2	Pass	Pass
26089700	119548602	119522170	4	3	-1	-23%	0.4	Pass	Pass

26089702	119538337	119522170	122	129	7	5%	0.6	Pass	Pass
26089703	119538337	119548602	17	12	-5	-45%	1.4	Pass	Pass
26089883	119545101	119519528	189	191	2	1%	0.1	Pass	Pass
26089885	119519528	119519527	31	14	-17	-114%	3.5	Pass	Pass
26089887	119533821	119540857	139	141	2	1%	0.1	Pass	Pass
26089919	119522275	119533821	24	21	-3	-14%	0.6	Pass	Pass
26089963	119522275	119522831	41	7	-34	-454%	6.8	Pass	No Pass
26089963	119522831	119522275	37	12	-25	-198%	4.9	Pass	Pass
26090277	119513860	119535709	26	24	-2	-9%	0.4	Pass	Pass
26090277	119535709	119513860	1	0	-1	0%	1.4	Pass	Pass
26090379	119535709	119537843	183	200	17	9%	1.2	Pass	Pass
26116003	119536410	119536411	33	42	9	22%	1.5	Pass	Pass
26116003	119536411	119536410	34	40	6	14%	0.9	Pass	Pass
26116020	119520211	119520212	25	17	-8	-50%	1.8	Pass	Pass
26116935	119535710	119535709	158	176	18	10%	1.4	Pass	Pass
26116936	119534298	119533820	115	120	5	4%	0.4	Pass	Pass
26116955	119530809	119532994	86	57	-29	-50%	3.4	Pass	Pass
26116955	119532994	119530809	101	67	-34	-51%	3.7	Pass	Pass
26116960	119533136	119543657	3	2	-1	-28%	0.4	Pass	Pass
26116960	119543657	119533136	1	1	0	-58%	0.4	Pass	Pass
26116961	119533136	119539615	25	20	-5	-26%	1.1	Pass	Pass
26116961	119539615	119533136	70	52	-18	-34%	2.3	Pass	Pass
26832618	119519527	119542149	32	24	-8	-32%	1.5	Pass	Pass
26832618	119542149	119519527	29	26	-3	-12%	0.6	Pass	Pass
26856716	119520462	119527876	171	171	0	0%	0.0	Pass	Pass
26856719	119522170	119522171	126	132	6	5%	0.5	Pass	Pass
78783673	119519134	119521378	26	10	-16	-162%	3.8	Pass	Pass
78783673	119521378	119519134	37	4	-33	-826%	7.3	Pass	No Pass
565643016	119537061	119537062	74	58	-16	-27%	1.9	Pass	Pass
565643016	119537062	119537061	73	60	-13	-21%	1.6	Pass	Pass

565653829	119524407	119531945	38	34	-4	-10%	0.6	Pass	Pass
565653829	119531945	119524407	26	24	-2	-10%	0.5	Pass	Pass
565653876	119536339	119548834	42	37	-5	-13%	0.8	Pass	Pass
565653876	119548834	119536339	88	44	-44	-100%	5.4	Pass	No Pass
565658021	119540917	119541452	24	30	6	21%	1.2	Pass	Pass
565658021	119541452	119540917	15	21	6	29%	1.5	Pass	Pass
577364891	119538408	119548814	79	70	-9	-13%	1.1	Pass	Pass
577364891	119548814	119538408	79	74	-5	-7%	0.6	Pass	Pass
577364906	119539456	119548824	141	137	-4	-3%	0.3	Pass	Pass
577364908	119514024	119548825	24	24	0	-1%	0.0	Pass	Pass
577364908	119548825	119514024	25	18	-7	-40%	1.5	Pass	Pass
577364911	119548824	119548826	27	18	-9	-51%	1.9	Pass	Pass
577364912	119548826	119534298	1	0	-1	0%	1.4	Pass	Pass
577364915	119531945	119548547	47	35	-12	-36%	2.0	Pass	Pass
577364915	119548547	119531945	45	24	-21	-90%	3.6	Pass	Pass
577364929	119524087	119548827	101	45	-56	-123%	6.5	Pass	No Pass
577364929	119548827	119524087	97	34	-63	-181%	7.7	Pass	No Pass
577364930	119519322	119548827	57	34	-23	-65%	3.3	Pass	Pass
577364930	119548827	119519322	57	45	-12	-26%	1.6	Pass	Pass
577364942	119538318	119548834	11	0	-11	0%	4.7	Pass	Pass
577364942	119548834	119538318	10	0	-10	0%	4.5	Pass	Pass
577365285	119523821	119548992	70	52	-18	-36%	2.4	Pass	Pass
577365285	119548992	119523821	101	53	-48	-91%	5.5	Pass	No Pass
577365291	119512934	119548995	75	34	-41	-124%	5.6	Pass	No Pass
577365291	119548995	119512934	73	32	-41	-127%	5.6	Pass	No Pass
577365292	119512935	119548995	70	32	-38	-117%	5.3	Pass	No Pass
577365292	119548995	119512935	70	33	-37	-109%	5.1	Pass	No Pass
577365294	119512934	119548996	29	8	-21	-263%	4.9	Pass	Pass
577365294	119548996	119512934	16	2	-14	-826%	4.8	Pass	Pass
577365348	119521378	119549012	40	24	-16	-67%	2.8	Pass	Pass

577365348	119549012	119521378	68	34	-34	-102%	4.8	Pass	Pass
577365350	119530423	119549013	25	38	13	34%	2.3	Pass	Pass
577365350	119549013	119530423	39	54	15	28%	2.2	Pass	Pass
577365359	119537437	119549017	42	37	-5	-13%	0.8	Pass	Pass
577365359	119549017	119537437	88	44	-44	-100%	5.4	Pass	No Pass
577365361	119512935	119549018	86	86	0	0%	0.0	Pass	Pass
577365361	119549018	119512935	92	77	-15	-19%	1.6	Pass	Pass
577365363	119512934	119549019	57	47	-10	-22%	1.4	Pass	Pass
577365363	119549019	119512934	59	50	-9	-18%	1.2	Pass	Pass
577365366	119533135	119549021	53	48	-5	-10%	0.7	Pass	Pass
577365366	119549021	119533135	54	39	-15	-40%	2.3	Pass	Pass
577365369	119533135	119549022	77	67	-10	-15%	1.2	Pass	Pass
577365369	119549022	119533135	65	72	7	10%	0.8	Pass	Pass
577365389	119527621	119549032	60	25	-35	-142%	5.4	Pass	No Pass
577365389	119549032	119527621	44	19	-25	-130%	4.4	Pass	Pass

AM HGV Link Calibration

$LINK:NO	FROMNODENO	TONODENO	OBSERVED HGV	MODELLED HGV	Diff	%Diff	GEH	FLOW CRITERIA	GEH CRITERIA
26087801	119524757	119537246	15	9	-6	-58%	1.6	Pass	Pass
26087801	119537246	119524757	10	5	-5	-97%	1.8	Pass	Pass
26087815	119534731	119537246	1	1	0	9%	0.1	Pass	Pass
26087815	119537246	119534731	3	1	-2	-285%	1.6	Pass	Pass
26087841	119537246	119548834	16	10	-6	-63%	1.7	Pass	Pass
26087841	119548834	119537246	12	5	-7	-136%	2.4	Pass	Pass
26088142	119520198	119520197	9	4	-5	-100%	1.7	Pass	Pass
26088612	119521378	119521899	10	4	-6	-127%	2.1	Pass	Pass
26088612	119521899	119521378	10	6	-4	-75%	1.5	Pass	Pass
26088806	119520091	119548620	0	0	0	0%	0.0	Pass	Pass
26088806	119548620	119520091	0	1	1	100%	1.2	Pass	Pass
26088857	119535239	119538408	3	6	3	46%	1.2	Pass	Pass

26088857	119538408	119535239	6	12	6	48%	1.9	Pass	Pass
26088871	119525005	119538408	3	0	-3	0%	2.4	Pass	Pass
26088871	119538408	119525005	1	0	-1	0%	1.4	Pass	Pass
26088905	119540023	119540735	8	6	-2	-40%	0.9	Pass	Pass
26088905	119540735	119540023	7	4	-3	-59%	1.1	Pass	Pass
26089145	119521092	119524495	65	75	10	13%	1.2	Pass	Pass
26089162	119519133	119520112	6	0	-6	0%	3.5	Pass	Pass
26089162	119520112	119519133	6	8	2	21%	0.6	Pass	Pass
26089163	119520111	119520112	5	1	-4	-302%	2.1	Pass	Pass
26089163	119520112	119520111	26	7	-19	-296%	4.8	Pass	Pass
26089183	119514722	119517085	5	3	-2	-61%	0.9	Pass	Pass
26089183	119517085	119514722	2	0	-2	0%	2.0	Pass	Pass
26089216	119517085	119536830	4	4	0	-3%	0.1	Pass	Pass
26089216	119536830	119517085	0	0	0	0%	0.0	Pass	Pass
26089219	119524495	119537907	60	73	13	18%	1.6	Pass	Pass
26089223	119529706	119543071	1	2	1	44%	0.7	Pass	Pass
26089223	119543071	119529706	1	1	0	31%	0.4	Pass	Pass
26089233	119520120	119539281	14	11	-3	-24%	0.8	Pass	Pass
26089233	119539281	119520120	13	7	-6	-87%	1.9	Pass	Pass
26089260	119514722	119539615	1	0	-1	0%	1.4	Pass	Pass
26089260	119539615	119514722	4	3	-1	-29%	0.5	Pass	Pass
26089261	119539615	119543601	11	6	-5	-93%	1.8	Pass	Pass
26089261	119543601	119539615	4	3	-1	-19%	0.3	Pass	Pass
26089262	119512935	119519322	17	13	-4	-33%	1.1	Pass	Pass
26089262	119519322	119512935	9	9	0	4%	0.1	Pass	Pass
26089275	119520112	119530423	6	1	-5	-382%	2.5	Pass	Pass
26089275	119530423	119520112	27	14	-13	-90%	2.8	Pass	Pass
26089332	119513290	119519322	0	1	1	100%	1.6	Pass	Pass
26089332	119519322	119513290	0	0	0	0%	0.0	Pass	Pass
26089339	119536410	119541234	7	1	-6	-454%	2.8	Pass	Pass

26089339	119541234	119536410	17	15	-2	-16%	0.6	Pass	Pass
26089340	119529414	119541355	22	18	-4	-20%	0.8	Pass	Pass
26089340	119541355	119529414	15	18	3	15%	0.6	Pass	Pass
26089341	119518437	119541355	4	0	-4	0%	2.8	Pass	Pass
26089341	119541355	119518437	1	3	2	69%	1.5	Pass	Pass
26089350	119512934	119527430	3	0	-3	0%	2.4	Pass	Pass
26089350	119527430	119512934	5	8	3	39%	1.3	Pass	Pass
26089356	119522495	119533136	3	5	2	38%	0.9	Pass	Pass
26089356	119533136	119522495	6	5	-1	-16%	0.4	Pass	Pass
26089359	119518331	119537405	76	63	-13	-21%	1.6	Pass	Pass
26089360	119518331	119518332	17	15	-2	-16%	0.6	Pass	Pass
26089384	119533135	119533136	17	11	-6	-56%	1.6	Pass	Pass
26089384	119533136	119533135	7	5	-2	-44%	0.9	Pass	Pass
26089395	119516271	119533135	3	0	-3	0%	2.4	Pass	Pass
26089395	119533135	119516271	5	0	-5	0%	3.2	Pass	Pass
26089503	119530538	119537062	0	0	0	0%	0.0	Pass	Pass
26089503	119537062	119530538	0	0	0	0%	0.0	Pass	Pass
26089523	119515396	119519026	4	2	-2	-113%	1.2	Pass	Pass
26089523	119519026	119515396	4	4	0	11%	0.2	Pass	Pass
26089539	119527423	119532994	0	2	2	100%	2.0	Pass	Pass
26089539	119532994	119527423	0	0	0	0%	0.0	Pass	Pass
26089555	119532994	119534356	0	0	0	0%	0.0	Pass	Pass
26089555	119534356	119532994	0	3	3	100%	2.6	Pass	Pass
26089624	119527876	119527875	11	4	-7	-172%	2.5	Pass	Pass
26089632	119531901	119535613	15	7	-8	-104%	2.3	Pass	Pass
26089632	119535613	119531901	18	13	-5	-39%	1.3	Pass	Pass
26089641	119531901	119541185	11	14	3	22%	0.9	Pass	Pass
26089641	119541185	119531901	8	7	-1	-9%	0.2	Pass	Pass
26089647	119528818	119531901	8	1	-7	-553%	3.2	Pass	Pass
26089647	119531901	119528818	8	0	-8	0%	4.0	Pass	Pass

26089652	119527875	119528834	21	14	-7	-50%	1.7	Pass	Pass
26089653	119527876	119528834	75	76	1	1%	0.1	Pass	Pass
26089660	119526557	119548606	11	15	4	27%	1.1	Pass	Pass
26089660	119548606	119526557	18	23	5	21%	1.0	Pass	Pass
26089700	119548602	119522170	9	0	-9	0%	4.2	Pass	Pass
26089702	119538337	119522170	84	78	-6	-8%	0.7	Pass	Pass
26089703	119538337	119548602	17	14	-3	-18%	0.7	Pass	Pass
26089883	119545101	119519528	96	90	-6	-7%	0.6	Pass	Pass
26089885	119519528	119519527	43	28	-15	-55%	2.6	Pass	Pass
26089887	119533821	119540857	101	92	-9	-10%	0.9	Pass	Pass
26089919	119522275	119533821	46	33	-13	-37%	2.0	Pass	Pass
26089963	119522275	119522831	45	20	-25	-121%	4.3	Pass	Pass
26089963	119522831	119522275	42	16	-26	-165%	4.9	Pass	Pass
26090277	119513860	119535709	14	0	-14	0%	5.3	Pass	No Pass
26090277	119535709	119513860	0	0	0	0%	0.0	Pass	Pass
26090379	119535709	119537843	67	62	-5	-8%	0.6	Pass	Pass
26116003	119536410	119536411	23	8	-15	-189%	3.8	Pass	Pass
26116003	119536411	119536410	20	7	-13	-191%	3.6	Pass	Pass
26116020	119520211	119520212	13	0	-13	0%	5.1	Pass	No Pass
26116935	119535710	119535709	53	62	9	15%	1.2	Pass	Pass
26116936	119534298	119533820	55	59	4	6%	0.5	Pass	Pass
26116955	119530809	119532994	0	0	0	0%	0.0	Pass	Pass
26116955	119532994	119530809	0	6	6	100%	3.3	Pass	Pass
26116960	119533136	119543657	0	0	0	100%	0.6	Pass	Pass
26116960	119543657	119533136	0	0	0	0%	0.0	Pass	Pass
26116961	119533136	119539615	12	6	-6	-110%	2.1	Pass	Pass
26116961	119539615	119533136	2	0	-2	-666%	1.6	Pass	Pass
26832618	119519527	119542149	8	7	-1	-9%	0.2	Pass	Pass
26832618	119542149	119519527	13	18	5	26%	1.2	Pass	Pass
26856716	119520462	119527876	86	80	-6	-7%	0.7	Pass	Pass

26856719	119522170	119522171	93	78	-15	-20%	1.7	Pass	Pass
78783673	119519134	119521378	3	2	-1	-87%	0.9	Pass	Pass
78783673	119521378	119519134	2	0	-2	0%	2.0	Pass	Pass
565643016	119537061	119537062	0	0	0	0%	0.0	Pass	Pass
565643016	119537062	119537061	0	0	0	0%	0.0	Pass	Pass
565653829	119524407	119531945	16	5	-11	-201%	3.3	Pass	Pass
565653829	119531945	119524407	13	7	-6	-78%	1.8	Pass	Pass
565653876	119536339	119548834	10	5	-5	-97%	1.8	Pass	Pass
565653876	119548834	119536339	16	10	-6	-63%	1.7	Pass	Pass
565658021	119540917	119541452	26	7	-19	-255%	4.6	Pass	Pass
565658021	119541452	119540917	18	4	-14	-326%	4.1	Pass	Pass
577364891	119538408	119548814	6	6	0	-9%	0.2	Pass	Pass
577364891	119548814	119538408	7	12	5	40%	1.5	Pass	Pass
577364906	119539456	119548824	69	59	-10	-18%	1.3	Pass	Pass
577364908	119514024	119548825	6	0	-6	0%	3.5	Pass	Pass
577364908	119548825	119514024	6	0	-6	0%	3.5	Pass	Pass
577364911	119548824	119548826	14	0	-14	0%	5.3	Pass	No Pass
577364912	119548826	119534298	0	0	0	0%	0.0	Pass	Pass
577364915	119531945	119548547	11	5	-6	-107%	2.0	Pass	Pass
577364915	119548547	119531945	13	7	-6	-78%	1.8	Pass	Pass
577364929	119524087	119548827	11	8	-3	-37%	1.0	Pass	Pass
577364929	119548827	119524087	14	13	-1	-10%	0.3	Pass	Pass
577364930	119519322	119548827	17	13	-4	-33%	1.1	Pass	Pass
577364930	119548827	119519322	9	8	-1	-12%	0.3	Pass	Pass
577364942	119538318	119548834	3	0	-3	0%	2.4	Pass	Pass
577364942	119548834	119538318	1	0	-1	0%	1.4	Pass	Pass
577365285	119523821	119548992	9	5	-4	-74%	1.4	Pass	Pass
577365285	119548992	119523821	13	0	-13	0%	5.1	Pass	No Pass
577365291	119512934	119548995	22	16	-6	-35%	1.3	Pass	Pass
577365291	119548995	119512934	17	10	-7	-69%	1.9	Pass	Pass

577365292	119512935	119548995	18	10	-8	-79%	2.1	Pass	Pass
577365292	119548995	119512935	22	16	-6	-35%	1.3	Pass	Pass
577365294	119512934	119548996	0	0	0	0%	0.0	Pass	Pass
577365294	119548996	119512934	0	0	0	0%	0.0	Pass	Pass
577365348	119521378	119549012	11	7	-4	-50%	1.2	Pass	Pass
577365348	119549012	119521378	10	4	-6	-127%	2.1	Pass	Pass
577365350	119530423	119549013	8	11	3	24%	0.9	Pass	Pass
577365350	119549013	119530423	6	11	5	47%	1.8	Pass	Pass
577365359	119537437	119549017	10	5	-5	-97%	1.8	Pass	Pass
577365359	119549017	119537437	16	10	-6	-63%	1.7	Pass	Pass
577365361	119512935	119549018	9	15	6	40%	1.8	Pass	Pass
577365361	119549018	119512935	13	12	-1	-6%	0.2	Pass	Pass
577365363	119512934	119549019	16	18	2	13%	0.6	Pass	Pass
577365363	119549019	119512934	21	16	-5	-29%	1.1	Pass	Pass
577365366	119533135	119549021	9	7	-2	-23%	0.6	Pass	Pass
577365366	119549021	119533135	13	16	3	18%	0.8	Pass	Pass
577365369	119533135	119549022	16	21	5	23%	1.1	Pass	Pass
577365369	119549022	119533135	23	18	-5	-26%	1.1	Pass	Pass
577365389	119527621	119549032	2	0	-2	0%	2.0	Pass	Pass
577365389	119549032	119527621	0	0	0	0%	0.0	Pass	Pass

AM Summary

CRITERIA	Number of Counts	Number of Counts meet the criteria	Percentage	Acceptability Guideline
CAR				
FLOW <=700	139	128	93%	Pass
FLOW >700 AND <=2700	13	13	100%	Pass
FLOW >2700	0	0	None	Not Required
GEH<5	152	133	88%	Pass
LGV				
FLOW <=700	152	152	100%	Pass
FLOW >700 AND <=2700	0	0	None	Not Required
FLOW >2700	0	0	None	Not Required
GEH<5	152	132	87%	Pass
HGV				
FLOW <=700	152	152	100%	Pass
FLOW >700 AND <=2700	0	0	None	Not Required
FLOW >2700	0	0	None	Not Required
GEH<5	152	148	98%	Pass
VEHICLES				
FLOW <=700	139	121	88%	Pass
FLOW >700 AND <=2700	13	13	100%	Pass
FLOW >2700	0	0	None	Not Required
GEH<5	152	125	83%	Not Pass
GEH<10	152	151	100%	Not Required

PM Vehicles Link Calibration

$LINK:NO	FROMNODENO	TONODENO	OBSERVED VEHICLE	MODELLED VEHICLE	Diff	%Diff	GEH	FLOW CRITERIA	GEH CRITERIA
26087801	119524757	119537246	368	413	45	11%	2.3	Pass	Pass
26087801	119537246	119524757	578	582	4	1%	0.2	Pass	Pass
26087815	119534731	119537246	186	148	-38	-25%	2.9	Pass	Pass
26087815	119537246	119534731	271	234	-37	-16%	2.3	Pass	Pass
26087841	119537246	119548834	356	348	-8	-2%	0.4	Pass	Pass
26087841	119548834	119537246	648	602	-46	-8%	1.8	Pass	Pass
26088142	119520198	119520197	171	173	2	1%	0.1	Pass	Pass
26088612	119521378	119521899	366	327	-39	-12%	2.1	Pass	Pass
26088612	119521899	119521378	282	228	-54	-24%	3.4	Pass	Pass
26088806	119520091	119548620	59	46	-13	-27%	1.7	Pass	Pass
26088806	119548620	119520091	58	61	3	5%	0.4	Pass	Pass
26088857	119535239	119538408	394	398	4	1%	0.2	Pass	Pass
26088857	119538408	119535239	659	726	67	9%	2.5	Pass	Pass
26088871	119525005	119538408	213	185	-28	-15%	2.0	Pass	Pass
26088871	119538408	119525005	181	141	-40	-28%	3.1	Pass	Pass
26088905	119540023	119540735	334	227	-107	-47%	6.4	No Pass	No Pass
26088905	119540735	119540023	356	294	-62	-21%	3.4	Pass	Pass
26089145	119521092	119524495	1333	1372	39	3%	1.1	Pass	Pass
26089162	119519133	119520112	181	155	-26	-17%	2.0	Pass	Pass
26089162	119520112	119519133	214	202	-12	-6%	0.9	Pass	Pass
26089163	119520111	119520112	39	38	-1	-3%	0.2	Pass	Pass
26089163	119520112	119520111	305	270	-35	-13%	2.1	Pass	Pass
26089183	119514722	119517085	189	178	-11	-6%	0.8	Pass	Pass
26089183	119517085	119514722	210	133	-77	-57%	5.8	Pass	No Pass
26089216	119517085	119536830	181	107	-74	-69%	6.1	Pass	No Pass
26089216	119536830	119517085	173	118	-55	-47%	4.6	Pass	Pass
26089219	119524495	119537907	1294	1334	40	3%	1.1	Pass	Pass

26089223	119529706	119543071	426	405	-21	-5%	1.0	Pass	Pass
26089223	119543071	119529706	448	419	-29	-7%	1.4	Pass	Pass
26089233	119520120	119539281	631	546	-85	-16%	3.5	Pass	Pass
26089233	119539281	119520120	590	495	-95	-19%	4.1	Pass	Pass
26089260	119514722	119539615	203	133	-70	-52%	5.4	Pass	No Pass
26089260	119539615	119514722	192	178	-14	-8%	1.0	Pass	Pass
26089261	119539615	119543601	382	330	-52	-16%	2.8	Pass	Pass
26089261	119543601	119539615	240	294	54	18%	3.3	Pass	Pass
26089262	119512935	119519322	546	578	32	5%	1.3	Pass	Pass
26089262	119519322	119512935	749	763	14	2%	0.5	Pass	Pass
26089275	119520112	119530423	88	65	-23	-35%	2.6	Pass	Pass
26089275	119530423	119520112	387	344	-43	-12%	2.2	Pass	Pass
26089332	119513290	119519322	241	245	4	2%	0.2	Pass	Pass
26089332	119519322	119513290	110	188	78	42%	6.4	Pass	No Pass
26089339	119536410	119541234	52	148	96	65%	9.6	Pass	No Pass
26089339	119541234	119536410	377	358	-19	-5%	1.0	Pass	Pass
26089340	119529414	119541355	460	563	103	18%	4.6	No Pass	Pass
26089340	119541355	119529414	502	556	54	10%	2.4	Pass	Pass
26089341	119518437	119541355	65	60	-5	-8%	0.6	Pass	Pass
26089341	119541355	119518437	86	81	-5	-6%	0.6	Pass	Pass
26089350	119512934	119527430	113	122	9	7%	0.8	Pass	Pass
26089350	119527430	119512934	118	69	-49	-71%	5.1	Pass	No Pass
26089356	119522495	119533136	148	172	24	14%	1.9	Pass	Pass
26089356	119533136	119522495	187	319	132	41%	8.3	No Pass	No Pass
26089359	119518331	119537405	2194	2190	-4	0%	0.1	Pass	Pass
26089360	119518331	119518332	377	352	-25	-7%	1.3	Pass	Pass
26089384	119533135	119533136	533	672	139	21%	5.7	No Pass	No Pass
26089384	119533136	119533135	381	450	69	15%	3.4	Pass	Pass
26089395	119516271	119533135	376	406	30	7%	1.5	Pass	Pass
26089395	119533135	119516271	258	236	-22	-9%	1.4	Pass	Pass

26089503	119530538	119537062	206	280	74	26%	4.7	Pass	Pass
26089503	119537062	119530538	268	349	81	23%	4.6	Pass	Pass
26089523	119515396	119519026	111	177	66	37%	5.5	Pass	No Pass
26089523	119519026	119515396	182	275	93	34%	6.1	Pass	No Pass
26089539	119527423	119532994	110	117	7	6%	0.6	Pass	Pass
26089539	119532994	119527423	67	67	0	0%	0.0	Pass	Pass
26089555	119532994	119534356	60	72	12	17%	1.5	Pass	Pass
26089555	119534356	119532994	271	230	-41	-18%	2.6	Pass	Pass
26089624	119527876	119527875	49	39	-10	-25%	1.5	Pass	Pass
26089632	119531901	119535613	317	339	22	7%	1.2	Pass	Pass
26089632	119535613	119531901	526	592	66	11%	2.8	Pass	Pass
26089641	119531901	119541185	323	378	55	15%	2.9	Pass	Pass
26089641	119541185	119531901	149	131	-18	-14%	1.6	Pass	Pass
26089647	119528818	119531901	239	283	44	15%	2.7	Pass	Pass
26089647	119531901	119528818	274	288	14	5%	0.8	Pass	Pass
26089652	119527875	119528834	178	120	-58	-48%	4.7	Pass	Pass
26089653	119527876	119528834	1550	1564	14	1%	0.4	Pass	Pass
26089660	119526557	119548606	364	325	-39	-12%	2.1	Pass	Pass
26089660	119548606	119526557	476	485	9	2%	0.4	Pass	Pass
26089700	119548602	119522170	41	35	-6	-16%	0.9	Pass	Pass
26089702	119538337	119522170	2530	2506	-24	-1%	0.5	Pass	Pass
26089703	119538337	119548602	279	284	5	2%	0.3	Pass	Pass
26089883	119545101	119519528	1728	1684	-44	-3%	1.1	Pass	Pass
26089885	119519528	119519527	288	217	-71	-33%	4.5	Pass	Pass
26089887	119533821	119540857	2809	2790	-19	-1%	0.3	Pass	Pass
26089919	119522275	119533821	709	632	-77	-12%	3.0	Pass	Pass
26089963	119522275	119522831	439	294	-145	-49%	7.6	No Pass	No Pass
26089963	119522831	119522275	832	583	-249	-43%	9.4	No Pass	No Pass
26090277	119513860	119535709	334	291	-43	-15%	2.4	Pass	Pass
26090277	119535709	119513860	7	0	-7	0%	3.7	Pass	Pass

26090379	119535709	119537843	1767	1759	-8	0%	0.2	Pass	Pass
26116003	119536410	119536411	329	293	-36	-12%	2.1	Pass	Pass
26116003	119536411	119536410	456	374	-82	-22%	4.0	Pass	Pass
26116020	119520211	119520212	225	121	-104	-86%	7.9	No Pass	No Pass
26116935	119535710	119535709	1440	1467	27	2%	0.7	Pass	Pass
26116936	119534298	119533820	2100	2158	58	3%	1.3	Pass	Pass
26116955	119530809	119532994	397	461	64	14%	3.1	Pass	Pass
26116955	119532994	119530809	444	565	121	21%	5.4	No Pass	No Pass
26116960	119533136	119543657	4	7	3	39%	1.1	Pass	Pass
26116960	119543657	119533136	13	12	-1	-6%	0.2	Pass	Pass
26116961	119533136	119539615	383	363	-20	-5%	1.0	Pass	Pass
26116961	119539615	119533136	252	282	30	11%	1.8	Pass	Pass
26832618	119519527	119542149	355	319	-36	-11%	2.0	Pass	Pass
26832618	119542149	119519527	377	445	68	15%	3.3	Pass	Pass
26856716	119520462	119527876	1599	1603	4	0%	0.1	Pass	Pass
26856719	119522170	119522171	2571	2542	-29	-1%	0.6	Pass	Pass
78783673	119519134	119521378	161	147	-14	-9%	1.1	Pass	Pass
78783673	119521378	119519134	253	196	-57	-29%	3.8	Pass	Pass
565643016	119537061	119537062	356	450	94	21%	4.7	Pass	Pass
565643016	119537062	119537061	417	484	67	14%	3.2	Pass	Pass
565653829	119524407	119531945	0	514	514	100%	32.1	No Pass	No Pass
565653829	119531945	119524407	0	351	351	100%	26.5	No Pass	No Pass
565653876	119536339	119548834	599	539	-60	-11%	2.5	Pass	Pass
565653876	119548834	119536339	337	304	-33	-11%	1.9	Pass	Pass
565658021	119540917	119541452	264	213	-51	-24%	3.3	Pass	Pass
565658021	119541452	119540917	261	222	-39	-18%	2.5	Pass	Pass
577364891	119538408	119548814	493	485	-8	-2%	0.4	Pass	Pass
577364891	119548814	119538408	726	769	43	6%	1.6	Pass	Pass
577364906	119539456	119548824	2458	2454	-4	0%	0.1	Pass	Pass
577364908	119514024	119548825	350	291	-59	-20%	3.3	Pass	Pass

577364908	119548825	119514024	381	295	-86	-29%	4.7	Pass	Pass
577364911	119548824	119548826	0	295	295	100%	24.3	No Pass	No Pass
577364912	119548826	119534298	0	0	0	0%	0.0	Pass	Pass
577364915	119531945	119548547	331	381	50	13%	2.6	Pass	Pass
577364915	119548547	119531945	343	238	-105	-44%	6.1	No Pass	No Pass
577364929	119524087	119548827	599	558	-41	-7%	1.7	Pass	Pass
577364929	119548827	119524087	572	474	-98	-21%	4.3	Pass	Pass
577364930	119519322	119548827	442	430	-12	-3%	0.6	Pass	Pass
577364930	119548827	119519322	514	559	45	8%	1.9	Pass	Pass
577364942	119538318	119548834	86	63	-23	-36%	2.6	Pass	Pass
577364942	119548834	119538318	59	44	-15	-34%	2.1	Pass	Pass
577365285	119523821	119548992	500	507	7	1%	0.3	Pass	Pass
577365285	119548992	119523821	440	416	-24	-6%	1.1	Pass	Pass
577365291	119512934	119548995	482	442	-40	-9%	1.9	Pass	Pass
577365291	119548995	119512934	502	428	-74	-17%	3.4	Pass	Pass
577365292	119512935	119548995	519	427	-92	-22%	4.2	Pass	Pass
577365292	119548995	119512935	483	443	-40	-9%	1.9	Pass	Pass
577365294	119512934	119548996	143	122	-21	-18%	1.9	Pass	Pass
577365294	119548996	119512934	98	81	-17	-21%	1.8	Pass	Pass
577365348	119521378	119549012	292	244	-48	-20%	2.9	Pass	Pass
577365348	119549012	119521378	468	393	-75	-19%	3.6	Pass	Pass
577365350	119530423	119549013	461	444	-17	-4%	0.8	Pass	Pass
577365350	119549013	119530423	298	432	134	31%	7.0	No Pass	No Pass
577365359	119537437	119549017	599	539	-60	-11%	2.5	Pass	Pass
577365359	119549017	119537437	337	304	-33	-11%	1.9	Pass	Pass
577365361	119512935	119549018	666	758	92	12%	3.4	Pass	Pass
577365361	119549018	119512935	499	557	58	10%	2.5	Pass	Pass
577365363	119512934	119549019	417	442	25	6%	1.2	Pass	Pass
577365363	119549019	119512934	437	550	113	20%	5.1	No Pass	No Pass
577365366	119533135	119549021	289	290	1	0%	0.1	Pass	Pass

577365366	119549021	119533135	381	356	-25	-7%	1.3	Pass	Pass
577365369	119533135	119549022	499	541	42	8%	1.8	Pass	Pass
577365369	119549022	119533135	430	526	96	18%	4.4	Pass	Pass
577365388	119527621	119549032	263	176	-87	-50%	5.9	Pass	No Pass
577365388	119549032	119527621	309	296	-13	-5%	0.8	Pass	Pass

PM Car Link Calibration

$LINK:NO	FROMNODENO	TONODENO	OBSERVED CAR	MODELLED CAR	Diff	%Diff	GEH	FLOW CRITERIA	GEH CRITERIA
26087801	119524757	119537246	334	382	48	13%	2.5	Pass	Pass
26087801	119537246	119524757	528	542	14	3%	0.6	Pass	Pass
26087815	119534731	119537246	170	141	-29	-21%	2.3	Pass	Pass
26087815	119537246	119534731	248	220	-28	-13%	1.9	Pass	Pass
26087841	119537246	119548834	323	324	1	0%	0.0	Pass	Pass
26087841	119548834	119537246	594	562	-32	-6%	1.3	Pass	Pass
26088142	119520198	119520197	152	154	2	1%	0.1	Pass	Pass
26088612	119521378	119521899	328	296	-32	-11%	1.8	Pass	Pass
26088612	119521899	119521378	255	200	-55	-28%	3.7	Pass	Pass
26088806	119520091	119548620	54	42	-12	-27%	1.7	Pass	Pass
26088806	119548620	119520091	53	58	5	8%	0.6	Pass	Pass
26088857	119535239	119538408	357	372	15	4%	0.8	Pass	Pass
26088857	119538408	119535239	610	677	67	10%	2.6	Pass	Pass
26088871	119525005	119538408	197	177	-20	-11%	1.5	Pass	Pass
26088871	119538408	119525005	166	131	-35	-27%	2.9	Pass	Pass
26088905	119540023	119540735	299	198	-101	-51%	6.4	No Pass	No Pass
26088905	119540735	119540023	318	267	-51	-19%	3.0	Pass	Pass
26089145	119521092	119524495	1205	1248	43	3%	1.2	Pass	Pass
26089162	119519133	119520112	154	140	-14	-10%	1.1	Pass	Pass
26089162	119520112	119519133	199	193	-6	-3%	0.4	Pass	Pass
26089163	119520111	119520112	39	37	-2	-4%	0.2	Pass	Pass
26089163	119520112	119520111	262	238	-24	-10%	1.5	Pass	Pass

26089183	119514722	119517085	173	163	-10	-6%	0.8	Pass	Pass
26089183	119517085	119514722	191	116	-75	-64%	6.0	Pass	No Pass
26089216	119517085	119536830	166	98	-68	-70%	5.9	Pass	No Pass
26089216	119536830	119517085	158	103	-55	-53%	4.8	Pass	Pass
26089219	119524495	119537907	1166	1210	44	4%	1.3	Pass	Pass
26089223	119529706	119543071	394	403	9	2%	0.4	Pass	Pass
26089223	119543071	119529706	414	419	5	1%	0.2	Pass	Pass
26089233	119520120	119539281	583	527	-56	-11%	2.4	Pass	Pass
26089233	119539281	119520120	544	464	-80	-17%	3.5	Pass	Pass
26089260	119514722	119539615	185	116	-69	-59%	5.6	Pass	No Pass
26089260	119539615	119514722	176	163	-13	-8%	1.0	Pass	Pass
26089261	119539615	119543601	347	300	-47	-15%	2.6	Pass	Pass
26089261	119543601	119539615	218	268	50	19%	3.2	Pass	Pass
26089262	119512935	119519322	501	543	42	8%	1.9	Pass	Pass
26089262	119519322	119512935	691	721	30	4%	1.1	Pass	Pass
26089275	119520112	119530423	86	63	-23	-37%	2.7	Pass	Pass
26089275	119530423	119520112	354	317	-37	-12%	2.0	Pass	Pass
26089332	119513290	119519322	218	225	7	3%	0.5	Pass	Pass
26089332	119519322	119513290	100	169	69	41%	6.0	Pass	No Pass
26089339	119536410	119541234	47	142	95	67%	9.8	Pass	No Pass
26089339	119541234	119536410	342	331	-11	-3%	0.6	Pass	Pass
26089340	119529414	119541355	415	523	108	21%	5.0	No Pass	Pass
26089340	119541355	119529414	449	506	57	11%	2.6	Pass	Pass
26089341	119518437	119541355	55	55	0	0%	0.0	Pass	Pass
26089341	119541355	119518437	79	74	-5	-7%	0.6	Pass	Pass
26089350	119512934	119527430	105	114	9	8%	0.8	Pass	Pass
26089350	119527430	119512934	108	60	-48	-81%	5.3	Pass	No Pass
26089356	119522495	119533136	134	155	21	13%	1.7	Pass	Pass
26089356	119533136	119522495	171	298	127	43%	8.3	No Pass	No Pass
26089359	119518331	119537405	1955	1961	6	0%	0.1	Pass	Pass

26089360	119518331	119518332	342	330	-12	-4%	0.7	Pass	Pass
26089384	119533135	119533136	486	626	140	22%	5.9	No Pass	No Pass
26089384	119533136	119533135	345	408	63	16%	3.3	Pass	Pass
26089395	119516271	119533135	340	378	38	10%	2.0	Pass	Pass
26089395	119533135	119516271	233	214	-19	-9%	1.3	Pass	Pass
26089503	119530538	119537062	183	251	68	27%	4.6	Pass	Pass
26089503	119537062	119530538	240	323	83	26%	4.9	Pass	Pass
26089523	119515396	119519026	100	168	68	40%	5.8	Pass	No Pass
26089523	119519026	119515396	165	244	79	32%	5.5	Pass	No Pass
26089539	119527423	119532994	99	96	-3	-3%	0.3	Pass	Pass
26089539	119532994	119527423	60	58	-2	-3%	0.2	Pass	Pass
26089555	119532994	119534356	54	64	10	16%	1.3	Pass	Pass
26089555	119534356	119532994	245	216	-29	-13%	1.9	Pass	Pass
26089624	119527876	119527875	43	36	-7	-19%	1.1	Pass	Pass
26089632	119531901	119535613	290	319	29	9%	1.6	Pass	Pass
26089632	119535613	119531901	481	544	63	12%	2.8	Pass	Pass
26089641	119531901	119541185	297	353	56	16%	3.1	Pass	Pass
26089641	119541185	119531901	137	119	-18	-15%	1.6	Pass	Pass
26089647	119528818	119531901	218	271	53	19%	3.4	Pass	Pass
26089647	119531901	119528818	249	261	12	5%	0.8	Pass	Pass
26089652	119527875	119528834	154	102	-52	-50%	4.6	Pass	Pass
26089653	119527876	119528834	1385	1413	28	2%	0.7	Pass	Pass
26089660	119526557	119548606	327	290	-37	-13%	2.1	Pass	Pass
26089660	119548606	119526557	436	442	6	1%	0.3	Pass	Pass
26089700	119548602	119522170	36	33	-3	-9%	0.5	Pass	Pass
26089702	119538337	119522170	2261	2258	-3	0%	0.1	Pass	Pass
26089703	119538337	119548602	250	256	6	2%	0.3	Pass	Pass
26089883	119545101	119519528	1539	1515	-24	-2%	0.6	Pass	Pass
26089885	119519528	119519527	232	189	-43	-23%	3.0	Pass	Pass
26089887	119533821	119540857	2511	2513	2	0%	0.0	Pass	Pass

26089919	119522275	119533821	619	589	-30	-5%	1.2	Pass	Pass
26089963	119522275	119522831	370	289	-81	-28%	4.4	Pass	Pass
26089963	119522831	119522275	732	569	-163	-29%	6.4	No Pass	No Pass
26090277	119513860	119535709	303	265	-38	-14%	2.3	Pass	Pass
26090277	119535709	119513860	6	0	-6	0%	3.5	Pass	Pass
26090379	119535709	119537843	1604	1592	-12	-1%	0.3	Pass	Pass
26116003	119536410	119536411	299	253	-46	-18%	2.8	Pass	Pass
26116003	119536411	119536410	410	330	-80	-24%	4.1	Pass	Pass
26116020	119520211	119520212	201	101	-100	-99%	8.1	Pass	No Pass
26116935	119535710	119535709	1307	1327	20	1%	0.5	Pass	Pass
26116936	119534298	119533820	1892	1924	32	2%	0.7	Pass	Pass
26116955	119530809	119532994	357	439	82	19%	4.1	Pass	Pass
26116955	119532994	119530809	400	527	127	24%	5.9	No Pass	No Pass
26116960	119533136	119543657	4	6	2	34%	0.9	Pass	Pass
26116960	119543657	119533136	12	11	-1	-12%	0.4	Pass	Pass
26116961	119533136	119539615	349	335	-14	-4%	0.7	Pass	Pass
26116961	119539615	119533136	229	257	28	11%	1.8	Pass	Pass
26832618	119519527	119542149	326	285	-41	-15%	2.4	Pass	Pass
26832618	119542149	119519527	347	406	59	14%	3.0	Pass	Pass
26856716	119520462	119527876	1428	1449	21	1%	0.6	Pass	Pass
26856719	119522170	119522171	2297	2291	-6	0%	0.1	Pass	Pass
78783673	119519134	119521378	145	138	-7	-5%	0.6	Pass	Pass
78783673	119521378	119519134	222	182	-40	-22%	2.8	Pass	Pass
565643016	119537061	119537062	329	418	89	21%	4.6	Pass	Pass
565643016	119537062	119537061	374	449	75	17%	3.7	Pass	Pass
565653829	119524407	119531945	0	489	489	100%	31.3	No Pass	No Pass
565653829	119531945	119524407	0	324	324	100%	25.5	No Pass	No Pass
565653876	119536339	119548834	549	499	-50	-10%	2.2	Pass	Pass
565653876	119548834	119536339	306	280	-26	-9%	1.5	Pass	Pass
565658021	119540917	119541452	235	187	-48	-25%	3.3	Pass	Pass

565658021	119541452	119540917	231	192	-39	-21%	2.7	Pass	Pass
577364891	119538408	119548814	446	456	10	2%	0.5	Pass	Pass
577364891	119548814	119538408	668	715	47	7%	1.8	Pass	Pass
577364906	119539456	119548824	2219	2209	-10	0%	0.2	Pass	Pass
577364908	119514024	119548825	318	265	-53	-20%	3.1	Pass	Pass
577364908	119548825	119514024	348	285	-63	-22%	3.5	Pass	Pass
577364911	119548824	119548826	0	285	285	100%	23.9	No Pass	No Pass
577364912	119548826	119534298	0	0	0	0%	0.0	Pass	Pass
577364915	119531945	119548547	296	354	58	16%	3.2	Pass	Pass
577364915	119548547	119531945	308	212	-96	-45%	6.0	Pass	No Pass
577364929	119524087	119548827	552	535	-17	-3%	0.7	Pass	Pass
577364929	119548827	119524087	527	459	-68	-15%	3.1	Pass	Pass
577364930	119519322	119548827	407	415	8	2%	0.4	Pass	Pass
577364930	119548827	119519322	479	536	57	11%	2.5	Pass	Pass
577364942	119538318	119548834	79	63	-16	-25%	1.9	Pass	Pass
577364942	119548834	119538318	54	44	-10	-23%	1.4	Pass	Pass
577365285	119523821	119548992	451	472	21	4%	1.0	Pass	Pass
577365285	119548992	119523821	397	382	-15	-4%	0.8	Pass	Pass
577365291	119512934	119548995	438	408	-30	-7%	1.5	Pass	Pass
577365291	119548995	119512934	472	413	-59	-14%	2.8	Pass	Pass
577365292	119512935	119548995	488	413	-75	-18%	3.6	Pass	Pass
577365292	119548995	119512935	436	408	-28	-7%	1.3	Pass	Pass
577365294	119512934	119548996	128	117	-11	-9%	1.0	Pass	Pass
577365294	119548996	119512934	92	77	-15	-19%	1.6	Pass	Pass
577365348	119521378	119549012	265	219	-46	-21%	3.0	Pass	Pass
577365348	119549012	119521378	415	359	-56	-16%	2.8	Pass	Pass
577365350	119530423	119549013	423	408	-15	-4%	0.7	Pass	Pass
577365350	119549013	119530423	274	396	122	31%	6.7	No Pass	No Pass
577365359	119537437	119549017	549	499	-50	-10%	2.2	Pass	Pass
577365359	119549017	119537437	306	280	-26	-9%	1.5	Pass	Pass

577365361	119512935	119549018	601	700	99	14%	3.9	Pass	Pass
577365361	119549018	119512935	463	527	64	12%	2.9	Pass	Pass
577365363	119512934	119549019	393	419	26	6%	1.3	Pass	Pass
577365363	119549019	119512934	392	507	115	23%	5.4	No Pass	No Pass
577365366	119533135	119549021	261	266	5	2%	0.3	Pass	Pass
577365366	119549021	119533135	348	321	-27	-8%	1.5	Pass	Pass
577365369	119533135	119549022	451	490	39	8%	1.8	Pass	Pass
577365369	119549022	119533135	388	487	99	20%	4.7	Pass	Pass
577365388	119527621	119549032	242	167	-75	-45%	5.2	Pass	No Pass
577365388	119549032	119527621	286	290	4	1%	0.2	Pass	Pass

PM LGV Link Calibration

$LINK:NO	FROMNODENO	TONODENO	OBSERVED_LGV	MODELLED_LGV	Diff	%Diff	GEH	FLOW CRITERIA	GEH CRITERIA
26087801	119524757	119537246	30	28	-2	-8%	0.4	Pass	Pass
26087801	119537246	119524757	47	38	-9	-24%	1.4	Pass	Pass
26087815	119534731	119537246	15	6	-9	-131%	2.6	Pass	Pass
26087815	119537246	119534731	22	13	-9	-76%	2.3	Pass	Pass
26087841	119537246	119548834	29	21	-8	-37%	1.6	Pass	Pass
26087841	119548834	119537246	52	38	-14	-38%	2.2	Pass	Pass
26088142	119520198	119520197	16	16	0	1%	0.0	Pass	Pass
26088612	119521378	119521899	32	28	-4	-15%	0.7	Pass	Pass
26088612	119521899	119521378	23	26	3	12%	0.6	Pass	Pass
26088806	119520091	119548620	5	4	-1	-24%	0.5	Pass	Pass
26088806	119548620	119520091	5	3	-2	-53%	0.9	Pass	Pass
26088857	119535239	119538408	36	24	-12	-50%	2.2	Pass	Pass
26088857	119538408	119535239	47	47	0	0%	0.0	Pass	Pass
26088871	119525005	119538408	16	9	-7	-86%	2.1	Pass	Pass
26088871	119538408	119525005	15	11	-4	-43%	1.3	Pass	Pass
26088905	119540023	119540735	31	27	-4	-16%	0.8	Pass	Pass
26088905	119540735	119540023	33	24	-9	-37%	1.7	Pass	Pass

26089145	119521092	119524495	102	104	2	2%	0.2	Pass	Pass
26089162	119519133	119520112	23	11	-12	-100%	2.8	Pass	Pass
26089162	119520112	119519133	15	8	-7	-87%	2.1	Pass	Pass
26089163	119520111	119520112	0	0	0	100%	0.7	Pass	Pass
26089163	119520112	119520111	31	21	-10	-45%	1.9	Pass	Pass
26089183	119514722	119517085	16	15	-1	-5%	0.2	Pass	Pass
26089183	119517085	119514722	18	17	-1	-4%	0.2	Pass	Pass
26089216	119517085	119536830	15	9	-6	-61%	1.6	Pass	Pass
26089216	119536830	119517085	15	14	-1	-6%	0.2	Pass	Pass
26089219	119524495	119537907	102	103	1	1%	0.1	Pass	Pass
26089223	119529706	119543071	32	0	-32	0%	8.0	Pass	No Pass
26089223	119543071	119529706	34	0	-34	0%	8.2	Pass	No Pass
26089233	119520120	119539281	47	18	-29	-163%	5.1	Pass	No Pass
26089233	119539281	119520120	44	30	-14	-49%	2.4	Pass	Pass
26089260	119514722	119539615	17	17	0	2%	0.1	Pass	Pass
26089260	119539615	119514722	16	15	-1	-6%	0.2	Pass	Pass
26089261	119539615	119543601	32	29	-3	-12%	0.6	Pass	Pass
26089261	119543601	119539615	20	22	2	11%	0.5	Pass	Pass
26089262	119512935	119519322	36	31	-5	-17%	0.9	Pass	Pass
26089262	119519322	119512935	56	41	-15	-38%	2.2	Pass	Pass
26089275	119520112	119530423	2	3	1	22%	0.4	Pass	Pass
26089275	119530423	119520112	25	20	-5	-24%	1.0	Pass	Pass
26089332	119513290	119519322	23	20	-3	-18%	0.7	Pass	Pass
26089332	119519322	119513290	10	19	9	46%	2.3	Pass	Pass
26089339	119536410	119541234	4	6	2	32%	0.9	Pass	Pass
26089339	119541234	119536410	30	23	-7	-30%	1.4	Pass	Pass
26089340	119529414	119541355	39	34	-5	-15%	0.9	Pass	Pass
26089340	119541355	119529414	42	44	2	4%	0.3	Pass	Pass
26089341	119518437	119541355	5	5	0	1%	0.0	Pass	Pass
26089341	119541355	119518437	7	7	0	-3%	0.1	Pass	Pass

26089350	119512934	119527430	6	7	1	13%	0.4	Pass	Pass
26089350	119527430	119512934	10	8	-2	-32%	0.8	Pass	Pass
26089356	119522495	119533136	12	15	3	21%	0.9	Pass	Pass
26089356	119533136	119522495	16	19	3	17%	0.8	Pass	Pass
26089359	119518331	119537405	171	172	1	0%	0.1	Pass	Pass
26089360	119518331	119518332	30	18	-12	-71%	2.5	Pass	Pass
26089384	119533135	119533136	45	44	-1	-2%	0.1	Pass	Pass
26089384	119533136	119533135	32	37	5	14%	0.9	Pass	Pass
26089395	119516271	119533135	32	28	-4	-14%	0.7	Pass	Pass
26089395	119533135	119516271	22	22	0	0%	0.0	Pass	Pass
26089503	119530538	119537062	23	29	6	19%	1.1	Pass	Pass
26089503	119537062	119530538	28	27	-1	-5%	0.2	Pass	Pass
26089523	119515396	119519026	11	9	-2	-29%	0.8	Pass	Pass
26089523	119519026	119515396	17	26	9	34%	1.9	Pass	Pass
26089539	119527423	119532994	11	20	9	44%	2.2	Pass	Pass
26089539	119532994	119527423	7	9	2	19%	0.6	Pass	Pass
26089555	119532994	119534356	6	7	1	15%	0.4	Pass	Pass
26089555	119534356	119532994	26	14	-12	-90%	2.8	Pass	Pass
26089624	119527876	119527875	4	3	-1	-22%	0.4	Pass	Pass
26089632	119531901	119535613	25	17	-8	-49%	1.8	Pass	Pass
26089632	119535613	119531901	42	42	0	0%	0.0	Pass	Pass
26089641	119531901	119541185	26	18	-8	-42%	1.6	Pass	Pass
26089641	119541185	119531901	12	7	-5	-75%	1.7	Pass	Pass
26089647	119528818	119531901	19	11	-8	-68%	2.0	Pass	Pass
26089647	119531901	119528818	22	25	3	12%	0.6	Pass	Pass
26089652	119527875	119528834	13	10	-3	-29%	0.9	Pass	Pass
26089653	119527876	119528834	129	121	-8	-6%	0.7	Pass	Pass
26089660	119526557	119548606	29	31	2	7%	0.4	Pass	Pass
26089660	119548606	119526557	38	41	3	8%	0.5	Pass	Pass
26089700	119548602	119522170	3	2	-1	-23%	0.3	Pass	Pass

26089702	119538337	119522170	198	187	-11	-6%	0.8	Pass	Pass
26089703	119538337	119548602	22	23	1	4%	0.2	Pass	Pass
26089883	119545101	119519528	142	132	-10	-8%	0.9	Pass	Pass
26089885	119519528	119519527	20	8	-12	-140%	3.1	Pass	Pass
26089887	119533821	119540857	220	210	-10	-5%	0.7	Pass	Pass
26089919	119522275	119533821	54	27	-27	-99%	4.2	Pass	Pass
26089963	119522275	119522831	33	3	-30	-949%	7.0	Pass	No Pass
26089963	119522831	119522275	64	13	-51	-392%	8.2	Pass	No Pass
26090277	119513860	119535709	27	25	-2	-8%	0.4	Pass	Pass
26090277	119535709	119513860	1	0	-1	0%	1.4	Pass	Pass
26090379	119535709	119537843	148	148	0	0%	0.0	Pass	Pass
26116003	119536410	119536411	26	35	9	25%	1.6	Pass	Pass
26116003	119536411	119536410	36	35	-1	-3%	0.2	Pass	Pass
26116020	119520211	119520212	21	18	-3	-15%	0.6	Pass	Pass
26116935	119535710	119535709	122	123	1	1%	0.1	Pass	Pass
26116936	119534298	119533820	166	183	17	9%	1.3	Pass	Pass
26116955	119530809	119532994	40	23	-17	-78%	3.1	Pass	Pass
26116955	119532994	119530809	44	39	-5	-14%	0.8	Pass	Pass
26116960	119533136	119543657	0	0	0	100%	1.0	Pass	Pass
26116960	119543657	119533136	1	2	1	36%	0.5	Pass	Pass
26116961	119533136	119539615	32	27	-5	-19%	0.9	Pass	Pass
26116961	119539615	119533136	21	23	2	8%	0.4	Pass	Pass
26832618	119519527	119542149	29	16	-13	-81%	2.7	Pass	Pass
26832618	119542149	119519527	30	25	-5	-20%	1.0	Pass	Pass
26856716	119520462	119527876	133	125	-8	-7%	0.7	Pass	Pass
26856719	119522170	119522171	201	189	-12	-6%	0.8	Pass	Pass
78783673	119519134	119521378	16	9	-7	-72%	1.9	Pass	Pass
78783673	119521378	119519134	27	12	-15	-130%	3.5	Pass	Pass
565643016	119537061	119537062	27	32	5	16%	0.9	Pass	Pass
565643016	119537062	119537061	43	35	-8	-21%	1.2	Pass	Pass

565653829	119524407	119531945	0	20	20	100%	6.4	Pass	No Pass
565653829	119531945	119524407	0	24	24	100%	6.9	Pass	No Pass
565653876	119536339	119548834	48	38	-10	-28%	1.6	Pass	Pass
565653876	119548834	119536339	27	21	-6	-27%	1.2	Pass	Pass
565658021	119540917	119541452	21	21	0	0%	0.0	Pass	Pass
565658021	119541452	119540917	20	24	4	18%	0.9	Pass	Pass
577364891	119538408	119548814	46	27	-19	-71%	3.2	Pass	Pass
577364891	119548814	119538408	56	52	-4	-8%	0.6	Pass	Pass
577364906	119539456	119548824	195	193	-2	-1%	0.2	Pass	Pass
577364908	119514024	119548825	28	25	-3	-12%	0.6	Pass	Pass
577364908	119548825	119514024	31	10	-21	-207%	4.6	Pass	Pass
577364911	119548824	119548826	0	10	10	100%	4.5	Pass	Pass
577364912	119548826	119534298	0	0	0	0%	0.0	Pass	Pass
577364915	119531945	119548547	31	22	-9	-41%	1.8	Pass	Pass
577364915	119548547	119531945	32	24	-8	-34%	1.6	Pass	Pass
577364929	119524087	119548827	45	21	-24	-114%	4.2	Pass	Pass
577364929	119548827	119524087	43	12	-31	-255%	5.9	Pass	No Pass
577364930	119519322	119548827	26	12	-14	-115%	3.2	Pass	Pass
577364930	119548827	119519322	33	21	-12	-57%	2.3	Pass	Pass
577364942	119538318	119548834	7	0	-7	0%	3.7	Pass	Pass
577364942	119548834	119538318	5	0	-5	0%	3.2	Pass	Pass
577365285	119523821	119548992	48	34	-14	-43%	2.3	Pass	Pass
577365285	119548992	119523821	42	34	-8	-25%	1.4	Pass	Pass
577365291	119512934	119548995	36	29	-7	-24%	1.2	Pass	Pass
577365291	119548995	119512934	27	11	-16	-137%	3.6	Pass	Pass
577365292	119512935	119548995	29	12	-17	-152%	3.9	Pass	Pass
577365292	119548995	119512935	38	29	-9	-31%	1.5	Pass	Pass
577365294	119512934	119548996	15	4	-11	-242%	3.4	Pass	Pass
577365294	119548996	119512934	6	3	-3	-75%	1.2	Pass	Pass
577365348	119521378	119549012	25	23	-2	-8%	0.4	Pass	Pass

577365348	119549012	119521378	45	27	-18	-64%	2.9	Pass	Pass
577365350	119530423	119549013	37	35	-2	-7%	0.4	Pass	Pass
577365350	119549013	119530423	24	35	11	31%	2.0	Pass	Pass
577365359	119537437	119549017	48	38	-10	-28%	1.6	Pass	Pass
577365359	119549017	119537437	27	21	-6	-27%	1.2	Pass	Pass
577365361	119512935	119549018	64	56	-8	-14%	1.0	Pass	Pass
577365361	119549018	119512935	35	29	-6	-21%	1.1	Pass	Pass
577365363	119512934	119549019	21	18	-3	-18%	0.7	Pass	Pass
577365363	119549019	119512934	34	36	2	5%	0.3	Pass	Pass
577365366	119533135	119549021	24	20	-4	-20%	0.9	Pass	Pass
577365366	119549021	119533135	32	33	1	2%	0.1	Pass	Pass
577365369	119533135	119549022	42	45	3	6%	0.4	Pass	Pass
577365369	119549022	119533135	36	33	-3	-10%	0.5	Pass	Pass
577365388	119527621	119549032	20	9	-11	-133%	3.0	Pass	Pass
577365388	119549032	119527621	23	6	-17	-298%	4.5	Pass	Pass

PM HGV Link Calibration

$LINK:NO	FROMNODENO	TONODENO	OBSERVED HGV	MODELLED HGV	Diff	%Diff	GEH	FLOW CRITERIA	GEH CRITERIA
26087801	119524757	119537246	4	4	0	-8%	0.2	Pass	Pass
26087801	119537246	119524757	3	2	-1	-50%	0.6	Pass	Pass
26087815	119534731	119537246	1	1	0	-47%	0.4	Pass	Pass
26087815	119537246	119534731	1	2	1	38%	0.5	Pass	Pass
26087841	119537246	119548834	4	3	-1	-45%	0.7	Pass	Pass
26087841	119548834	119537246	2	2	0	0%	0.0	Pass	Pass
26088142	119520198	119520197	3	3	0	7%	0.1	Pass	Pass
26088612	119521378	119521899	6	3	-3	-88%	1.3	Pass	Pass
26088612	119521899	119521378	4	2	-2	-69%	0.9	Pass	Pass
26088806	119520091	119548620	0	0	0	100%	0.1	Pass	Pass
26088806	119548620	119520091	0	0	0	0%	0.0	Pass	Pass
26088857	119535239	119538408	1	2	1	39%	0.6	Pass	Pass

26088857	119538408	119535239	2	2	0	-11%	0.1	Pass	Pass
26088871	119525005	119538408	0	0	0	0%	0.0	Pass	Pass
26088871	119538408	119525005	0	0	0	0%	0.0	Pass	Pass
26088905	119540023	119540735	4	2	-2	-69%	0.9	Pass	Pass
26088905	119540735	119540023	5	3	-2	-56%	0.9	Pass	Pass
26089145	119521092	119524495	26	20	-6	-29%	1.2	Pass	Pass
26089162	119519133	119520112	4	3	-1	-35%	0.6	Pass	Pass
26089162	119520112	119519133	0	0	0	100%	0.8	Pass	Pass
26089163	119520111	119520112	0	0	0	0%	0.0	Pass	Pass
26089163	119520112	119520111	12	10	-2	-23%	0.7	Pass	Pass
26089183	119514722	119517085	0	0	0	0%	0.0	Pass	Pass
26089183	119517085	119514722	1	0	-1	0%	1.4	Pass	Pass
26089216	119517085	119536830	0	0	0	0%	0.0	Pass	Pass
26089216	119536830	119517085	0	0	0	0%	0.0	Pass	Pass
26089219	119524495	119537907	26	20	-6	-29%	1.2	Pass	Pass
26089223	119529706	119543071	0	3	3	100%	2.4	Pass	Pass
26089223	119543071	119529706	0	1	1	100%	1.2	Pass	Pass
26089233	119520120	119539281	1	1	0	29%	0.4	Pass	Pass
26089233	119539281	119520120	2	2	0	-29%	0.3	Pass	Pass
26089260	119514722	119539615	1	0	-1	0%	1.4	Pass	Pass
26089260	119539615	119514722	0	0	0	0%	0.0	Pass	Pass
26089261	119539615	119543601	3	1	-2	-281%	1.6	Pass	Pass
26089261	119543601	119539615	2	3	1	28%	0.5	Pass	Pass
26089262	119512935	119519322	9	4	-5	-157%	2.2	Pass	Pass
26089262	119519322	119512935	2	2	0	-31%	0.4	Pass	Pass
26089275	119520112	119530423	0	0	0	0%	0.0	Pass	Pass
26089275	119530423	119520112	8	7	-1	-13%	0.3	Pass	Pass
26089332	119513290	119519322	0	0	0	100%	0.1	Pass	Pass
26089332	119519322	119513290	0	0	0	100%	0.1	Pass	Pass
26089339	119536410	119541234	1	1	0	-57%	0.4	Pass	Pass

26089339	119541234	119536410	5	4	-1	-17%	0.3	Pass	Pass
26089340	119529414	119541355	6	7	1	9%	0.2	Pass	Pass
26089340	119541355	119529414	11	6	-5	-72%	1.6	Pass	Pass
26089341	119518437	119541355	5	0	-5	0%	3.2	Pass	Pass
26089341	119541355	119518437	0	0	0	0%	0.0	Pass	Pass
26089350	119512934	119527430	2	1	-1	-61%	0.6	Pass	Pass
26089350	119527430	119512934	0	2	2	100%	1.8	Pass	Pass
26089356	119522495	119533136	2	2	0	-16%	0.2	Pass	Pass
26089356	119533136	119522495	0	1	1	100%	1.7	Pass	Pass
26089359	119518331	119537405	68	57	-11	-19%	1.3	Pass	Pass
26089360	119518331	119518332	5	4	-1	-17%	0.3	Pass	Pass
26089384	119533135	119533136	2	2	0	10%	0.2	Pass	Pass
26089384	119533136	119533135	4	4	0	11%	0.2	Pass	Pass
26089395	119516271	119533135	4	0	-4	0%	2.8	Pass	Pass
26089395	119533135	119516271	3	0	-3	0%	2.4	Pass	Pass
26089503	119530538	119537062	0	0	0	0%	0.0	Pass	Pass
26089503	119537062	119530538	0	0	0	0%	0.0	Pass	Pass
26089523	119515396	119519026	0	0	0	100%	0.9	Pass	Pass
26089523	119519026	119515396	0	5	5	100%	3.1	Pass	Pass
26089539	119527423	119532994	0	1	1	100%	1.4	Pass	Pass
26089539	119532994	119527423	0	0	0	100%	0.8	Pass	Pass
26089555	119532994	119534356	0	1	1	100%	1.4	Pass	Pass
26089555	119534356	119532994	0	0	0	100%	0.8	Pass	Pass
26089624	119527876	119527875	2	0	-2	0%	2.0	Pass	Pass
26089632	119531901	119535613	2	4	2	45%	1.0	Pass	Pass
26089632	119535613	119531901	3	6	3	46%	1.2	Pass	Pass
26089641	119531901	119541185	0	6	6	100%	3.6	Pass	Pass
26089641	119541185	119531901	0	5	5	100%	3.1	Pass	Pass
26089647	119528818	119531901	2	1	-1	-126%	0.9	Pass	Pass
26089647	119531901	119528818	3	1	-2	-141%	1.2	Pass	Pass

26089652	119527875	119528834	11	8	-3	-43%	1.1	Pass	Pass
26089653	119527876	119528834	36	30	-6	-21%	1.1	Pass	Pass
26089660	119526557	119548606	8	4	-4	-83%	1.5	Pass	Pass
26089660	119548606	119526557	2	2	0	-5%	0.1	Pass	Pass
26089700	119548602	119522170	2	0	-2	0%	2.0	Pass	Pass
26089702	119538337	119522170	71	62	-9	-15%	1.2	Pass	Pass
26089703	119538337	119548602	7	6	-1	-20%	0.5	Pass	Pass
26089883	119545101	119519528	47	38	-9	-25%	1.5	Pass	Pass
26089885	119519528	119519527	36	20	-16	-81%	3.0	Pass	Pass
26089887	119533821	119540857	78	67	-11	-16%	1.2	Pass	Pass
26089919	119522275	119533821	36	16	-20	-129%	4.0	Pass	Pass
26089963	119522275	119522831	36	2	-34	-2117%	7.9	Pass	No Pass
26089963	119522831	119522275	36	2	-34	-2119%	7.9	Pass	No Pass
26090277	119513860	119535709	4	1	-3	-222%	1.7	Pass	Pass
26090277	119535709	119513860	0	0	0	0%	0.0	Pass	Pass
26090379	119535709	119537843	15	19	4	20%	0.9	Pass	Pass
26116003	119536410	119536411	4	5	1	19%	0.4	Pass	Pass
26116003	119536411	119536410	10	9	-1	-17%	0.5	Pass	Pass
26116020	119520211	119520212	3	2	-1	-94%	1.0	Pass	Pass
26116935	119535710	119535709	11	18	7	38%	1.7	Pass	Pass
26116936	119534298	119533820	42	52	10	19%	1.4	Pass	Pass
26116955	119530809	119532994	0	0	0	0%	0.0	Pass	Pass
26116955	119532994	119530809	0	0	0	0%	0.0	Pass	Pass
26116960	119533136	119543657	0	0	0	0%	0.0	Pass	Pass
26116960	119543657	119533136	0	0	0	0%	0.0	Pass	Pass
26116961	119533136	119539615	2	1	-1	-154%	1.0	Pass	Pass
26116961	119539615	119533136	2	3	1	28%	0.5	Pass	Pass
26832618	119519527	119542149	0	18	18	100%	6.0	Pass	No Pass
26832618	119542149	119519527	0	14	14	100%	5.3	Pass	No Pass
26856716	119520462	119527876	38	30	-8	-27%	1.4	Pass	Pass

26856719	119522170	119522171	73	62	-11	-18%	1.4	Pass	Pass
78783673	119519134	119521378	0	0	0	100%	0.8	Pass	Pass
78783673	119521378	119519134	4	3	-1	-35%	0.6	Pass	Pass
565643016	119537061	119537062	0	0	0	0%	0.0	Pass	Pass
565643016	119537062	119537061	0	0	0	0%	0.0	Pass	Pass
565653829	119524407	119531945	0	5	5	100%	3.1	Pass	Pass
565653829	119531945	119524407	0	3	3	100%	2.3	Pass	Pass
565653876	119536339	119548834	2	2	0	0%	0.0	Pass	Pass
565653876	119548834	119536339	4	3	-1	-45%	0.7	Pass	Pass
565658021	119540917	119541452	8	5	-3	-63%	1.2	Pass	Pass
565658021	119541452	119540917	10	6	-4	-82%	1.6	Pass	Pass
577364891	119538408	119548814	1	2	1	39%	0.6	Pass	Pass
577364891	119548814	119538408	2	2	0	-11%	0.1	Pass	Pass
577364906	119539456	119548824	44	52	8	15%	1.1	Pass	Pass
577364908	119514024	119548825	4	1	-3	-222%	1.7	Pass	Pass
577364908	119548825	119514024	2	0	-2	0%	2.0	Pass	Pass
577364911	119548824	119548826	0	0	0	0%	0.0	Pass	Pass
577364912	119548826	119534298	0	0	0	0%	0.0	Pass	Pass
577364915	119531945	119548547	4	5	1	19%	0.4	Pass	Pass
577364915	119548547	119531945	3	3	0	-13%	0.2	Pass	Pass
577364929	119524087	119548827	2	2	0	-32%	0.4	Pass	Pass
577364929	119548827	119524087	2	3	1	43%	0.9	Pass	Pass
577364930	119519322	119548827	9	3	-6	-158%	2.2	Pass	Pass
577364930	119548827	119519322	2	2	0	-32%	0.4	Pass	Pass
577364942	119538318	119548834	0	0	0	0%	0.0	Pass	Pass
577364942	119548834	119538318	0	0	0	0%	0.0	Pass	Pass
577365285	119523821	119548992	1	1	0	-18%	0.2	Pass	Pass
577365285	119548992	119523821	1	1	0	-38%	0.3	Pass	Pass
577365291	119512934	119548995	8	5	-3	-57%	1.1	Pass	Pass
577365291	119548995	119512934	3	3	0	-1%	0.0	Pass	Pass

577365292	119512935	119548995	2	3	1	32%	0.6	Pass	Pass
577365292	119548995	119512935	9	5	-4	-77%	1.5	Pass	Pass
577365294	119512934	119548996	0	0	0	0%	0.0	Pass	Pass
577365294	119548996	119512934	0	0	0	0%	0.0	Pass	Pass
577365348	119521378	119549012	2	3	1	25%	0.4	Pass	Pass
577365348	119549012	119521378	8	6	-2	-30%	0.7	Pass	Pass
577365350	119530423	119549013	1	2	1	43%	0.6	Pass	Pass
577365350	119549013	119530423	0	2	2	100%	1.8	Pass	Pass
577365359	119537437	119549017	2	2	0	0%	0.0	Pass	Pass
577365359	119549017	119537437	4	3	-1	-45%	0.7	Pass	Pass
577365361	119512935	119549018	1	2	1	47%	0.7	Pass	Pass
577365361	119549018	119512935	1	2	1	43%	0.6	Pass	Pass
577365363	119512934	119549019	3	5	2	35%	0.8	Pass	Pass
577365363	119549019	119512934	11	6	-5	-74%	1.6	Pass	Pass
577365366	119533135	119549021	4	4	0	8%	0.2	Pass	Pass
577365366	119549021	119533135	1	2	1	47%	0.8	Pass	Pass
577365369	119533135	119549022	6	6	0	6%	0.2	Pass	Pass
577365369	119549022	119533135	6	7	1	9%	0.2	Pass	Pass
577365388	119527621	119549032	1	0	-1	0%	1.4	Pass	Pass
577365388	119549032	119527621	0	0	0	0%	0.0	Pass	Pass

PM Summary

CRITERIA	Number of Counts	Number of Counts meet the criteria	Percentage	Acceptability Guideline
CAR				
FLOW <=700	138	128	93%	Pass
FLOW >700 AND <=2700	14	13	93%	Pass
FLOW >2700	0	0	None	Not Required
GEH<5	152	131	87%	Pass
LGV				
FLOW <=700	152	152	100%	Pass
FLOW >700 AND <=2700	0	0	None	Not Required
FLOW >2700	0	0	None	Not Required
GEH<5	152	144	95%	Pass
HGV				
FLOW <=700	152	152	100%	Pass
FLOW >700 AND <=2700	0	0	None	Not Required
FLOW >2700	0	0	None	Not Required
GEH<5	152	148	98%	Pass
VEHICLES				
FLOW <=700	135	122	91%	Pass
FLOW >700 AND <=2700	16	15	94%	Pass
FLOW >2700	1	1	100%	Pass
GEH<5	152	130	86%	Pass
GEH<10	152	149	99%	Not Required