Solent Transport Model

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ROAD TRAFFIC MODEL

MODEL DEVELOPMENT AND VALIDATION REPORT

Solent Transport

SYSTRA

SOLENT TRANSPORT MODEL

ROAD TRAFFIC MODEL

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1	Main Authors	Stefanos Taskaris, Ian Wilkinson	20/06/2017	
	Checked by	Ian Burden	20/06/2017	
	Approved by	Chris Whitehead	20/06/2017	

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1. INTRODUCTION

1.1.1 SYSTRA was commissioned, as part of a wider team, to support Solent Transport with the development and application of a Sub-Regional Transport Model Suite (SRTM) for this nationally important area. The model was originally developed with a 2010 base year and has now been updated to a 2015 base year.

1.1.2 This Working Paper describes the development, calibration and validation of the Road Traffic Model (RTM) within the SRTM

1.2 Report Structure

1.2.1 In addition to confirmation of methodologies, the purpose of this Working Paper is to demonstrate the quality of the base year (2015) assignment model in terms of how closely it reproduces a set of observations.

1.2.2 The Working Paper can be regarded as having two parts, the first being Chapters 1-7 which deal with the context and methodologies and the second being Chapters 8-10 which focus on base year model outcomes. Chapters 8-10 include actions undertaken and results of model calibration and validation. The chapters are as follows:

- Chapter 2: Proposed Uses of the Model and Key Model Design Considerations;
- Chapter 3: Model Standards;
- Chapter 4: Key Features of the Model;
- Chapter 5: Calibration and Validation Data;
- Chapter 6: Network Development
- Chapter 7: Trip Matrix Development;
- Chapter 8: Network Calibration and Validation;
- Chapter 9: Assignment Calibration and Validation;
- Chapter 10: Summary of Model Development and Fitness for Purpose;
- Appendices

2. PROPOSED USES OF THE MODEL

2.1 Proposed Uses of the Model: Scenarios to be Forecast and Interventions to be Tested

2.1.1 The SRTM will be used to support a wide-ranging set of interventions across the Solent sub-region, and is specifically required to be capable of:

- forecasting changes in travel demand, road traffic, public transport patronage and active mode use over time as a result changing economic conditions, land-use policies and development, and transport improvement and interventions;
- testing the impacts of land-use and transport policies and strategies within a relatively short model run time; and
- testing the impacts of individual transport interventions in the increased detail necessary for preparing submissions for inclusion in funding programmes within practical (but probably longer) run times.

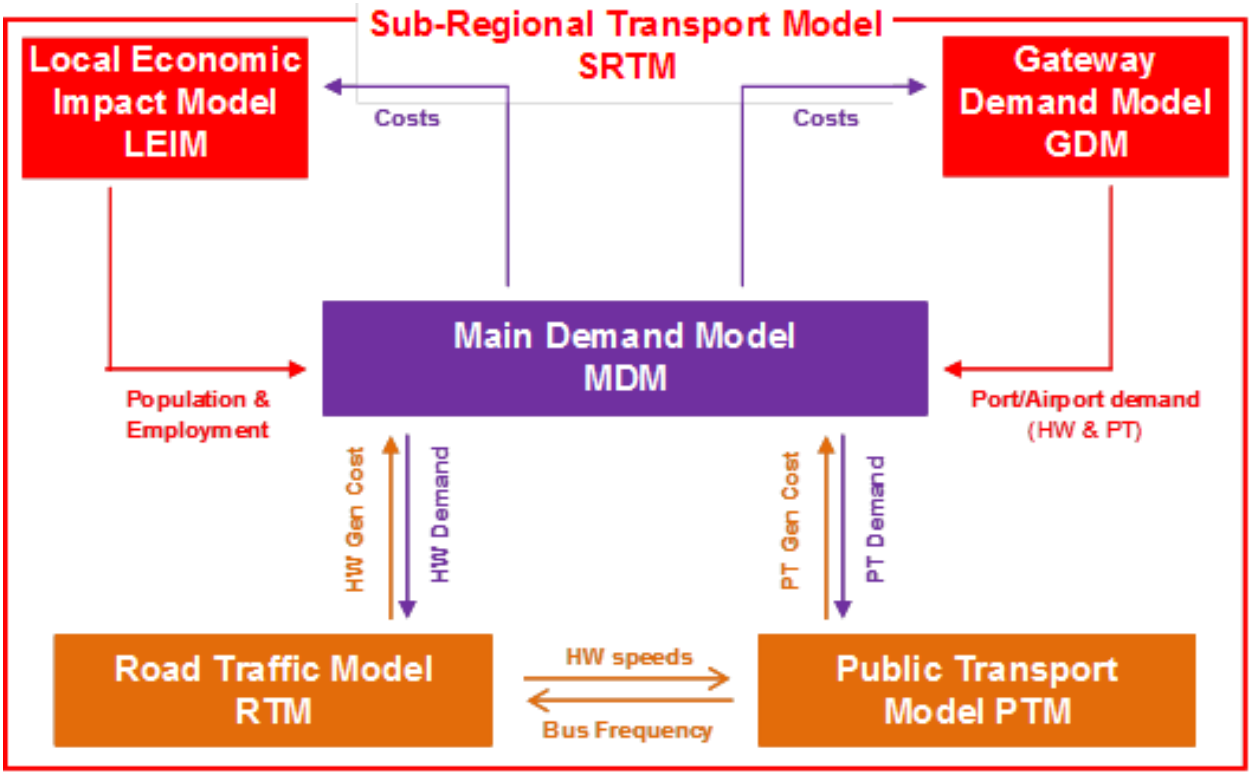
2.1.2 As the lead contractor SYSTRA takes overall responsibility for the RTM documented in this Working Paper, the models listed in the Foreword, and the associated project deliverables.

2.2 Context and Scope

2.2.1 SRTM is a suite of linked models comprising the following components as shown in Figure 1:

- the Main Demand Model (MDM) which predicts when (time of day), where (destination choice) and how (choice of mode) journeys are made;
- the Gateway Demand Model (GDM) which predicts demand for travel from ports and airports;
- the Road Traffic Model (RTM) which determines the routes taken by vehicles through the road network and journey times, accounting for congestion;
- the Public Transport Model (PTM) which determines routes and services chosen by public transport passengers; and
- an associated Local Economic Impact Model (LEIM) which uses inputs including transport costs to forecast the quantum and location of households, populations and jobs.

Figure 1. Solent Sub-Regional Transport Model



2.2.2 The RTM has been developed to represent the base year demand, route choices and costs on the highway network. In terms of future scenarios, it will represent the network impacts of different policy and infrastructure interventions.

2.2.3 It is important that the RTM includes the ability to model traffic behaviour at junctions, including flow metering downstream from bottlenecks as well as blocking-back through upstream junctions. As such SATURN was selected as the most appropriate software package to use. SATURN is perhaps the most commonly used highway modelling software in the UK, benefiting from a large user base, customer support and regular maintenance, and has been used successfully for many applications since its first release in 1981.

3. MODEL STANDARDS

3.1 Introduction

3.1.1 This chapter describes the criteria and acceptability guidelines against which the base year model will be assessed in Chapter 8 (Trip Matrix Calibration and Validation) and Chapter 9 (Assignment Calibration and Validation). The aim for the RTM is to achieve the validation criteria and acceptability guidelines set out in WebTAG Unit M3-1 https://www.gov.uk/government/publications/webtag-tag-unit-m3-1-highway-assignment-modelling

3.1.2 Whilst the Department for Transport requires that road traffic assignment models be validated against these standards, it does recognise that some relaxation of these acceptability guidelines may be appropriate for large scale models.

3.2 Validation Criteria and Acceptability Guidelines

3.2.1 Validation simply involves comparing modelled and observed data. Any adjustments to the model intended to reduce the differences between the modelled and observed data are regarded as calibration.

3.2.2 The differences between modelled and observed data are quantified (using some measures) and then assessed using some criteria. The acceptability of the proportion of instances where the criteria are met is then assessed.

3.2.3 The validation of a highway assignment model includes comparisons of the following:

- assigned flows and counts totalled for each screenline or cordon, as a check on the quality of the trip matrices;
- assigned flows and counts on individual links as a check on the quality of the assignment; and
- modelled and observed journey times along routes, as a check on the quality of the network and the assignment.

3.2.4 For trip matrix validation, the measure used is: the absolute differences between modelled flows and counts.

3.2.5 For link flow validation, the measures used are:

- the absolute differences between modelled flows and counts; and
- the GEH statistic which is a form of the Chi-squared statistic that incorporates both relative and absolute errors, and is defined as follows:

$$GEH = \sqrt{\frac{(M-C)^2}{(0.5\times(M+C))}}$$

where:
M is the modelled flow; and
C is the observed flow.

3.2.6 For journey time validation, the measure used is: the percentage difference between modelled and observed journey times, subject to an absolute maximum difference.

3.2.7 The validation criteria and acceptability guidelines for each of these measures are as follows.

Trip Matrix Validation

3.2.8 Comparisons at screenline level provide information on the quality of the trip matrices. The validation criterion and acceptability guideline for screenline flows are defined in Table 1 (from TAG Unit 3-1). Screenline Flow Validation Criterion and Acceptability Guideline.

Table 1. Screenline Flow Validation Criterion and Acceptability Guideline

CRITERIA	DMRB ACCEPTABILITY GUIDELINE
Differences between modelled flows and counts should be less than 5% of the counts	All or nearly all screenlines

3.2.9 With regard to screenline validation, the following should be noted:

- screenlines should normally be made up of more than 5 links; for screenlines of fewer links, the acceptability guideline may be relaxed pro rata between 5% for 5 links and 15% for 1 link;
- the comparisons for screenlines containing high flow routes such as motorways should be presented both including and excluding such routes;
- the comparisons should be presented separately for (a) roadside interview screenlines; (b) the other screenlines used as constraints in matrix estimation (excluding the roadside interview screenlines even though they have been used as constraints in matrix estimation); and (c) screenlines used for independent validation;
- the comparisons should be presented by vehicle type (preferably cars, light goods vehicles and other goods vehicles); and
- the comparisons should be presented separately for each modelled period or hour.

Link Flow Validation

3.2.10 The validation criteria and acceptability guidelines for link flows are defined in Table 2.

Table 2. Link Flow Validation Criteria and Acceptability Guidelines

CRITERIA	DMRB ACCEPTABILITY GUIDELINE
Individual flows within 15% of counts for flows from 700-2700 veh/h	> 85% of cases
Individual flows within 100 veh/h of counts for flows less than 700veh/h	> 85% of cases
Individual flows within 400 veh/h of counts for flows more than 2700 veh/h	> 85% of cases
GEH < 5 for individual flows	> 85% of cases

3.2.11 With regard to flow validation, the following should be noted:

- the comparisons should be presented for cars and all vehicles but not for light and other goods vehicles unless sufficiently accurate link counts have been obtained; and
- the comparisons should be presented separately for each modelled period or hour.

Journey Time Validation

3.2.12 The validation criterion and acceptability guideline for journey times are defined in Table 3.

Table 3. Journey Time Validation Criteria and Acceptability Guideline

CRITERIA	DMRB ACCEPTABILITY GUIDELINE
Modelled times along routes should be within 15% of surveyed times (or 1 minute, if higher)	> 85% of routes

3.2.13 With regard to the journey time validation, the comparisons should be presented separately for each modelled period or hour.

3.3 Convergence Criteria and Standards

3.3.1 WebTAG Unit M3-1 states that before the results of any traffic assignment are used to influence decisions, the stability (or degree of convergence) of the assignment must be confirmed at the appropriate level. The importance of achieving convergence is related to the need to provide stable, consistent and robust model results. When the model outputs are being used to compare development or infrastructure options, it is important to be able to distinguish differences due to the scheme from those associated with different degrees of convergence, i.e. model 'noise'.

3.3.2 As recommended in WebTAG Unit M3-1 SATURN provides the ability to monitor and control stopping criteria using the '%GAP' statistic which is controlled in SATURN by the parameter 'STPGAP'. This is the difference between the costs along the chosen routes and those along the minimum cost routes, summed across the whole network, and expressed as a percentage of the minimum costs. Section 9.4 provides more detail on the parameters used to control and monitor convergence.

3.3.3 Table 4 summarises the most appropriate convergence measures and the values generally considered acceptable for use in establishing a base model. Tighter levels of convergence may be required for option testing. To ensure that, during the development of the base year model, reasonable levels of assignment convergence are achieved, WebTAG Unit M3-1 states a target %GAP value of 0.1% is used – that is, sufficient iterations are carried out to achieve a %GAP of 0.1% or less on four consecutive assignment loops.

Table 4. Summary of Convergence Measures and Base Model Acceptable Values

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%

4. KEY FEATURES OF THE MODEL

4.1 Introduction

4.1.1 This chapter summarises the features of the RTM and includes the following sections:

- Geographic scope;
- Zoning system;
- Network structure;
- Centroid connectors;
- Time periods;
- Modelled years;
- User classes;
- Assignment methodology;
- Generalised cost formulations and parameter values; and
- Junction modelling and speed/flow relationships.

4.2 Geographic Scope

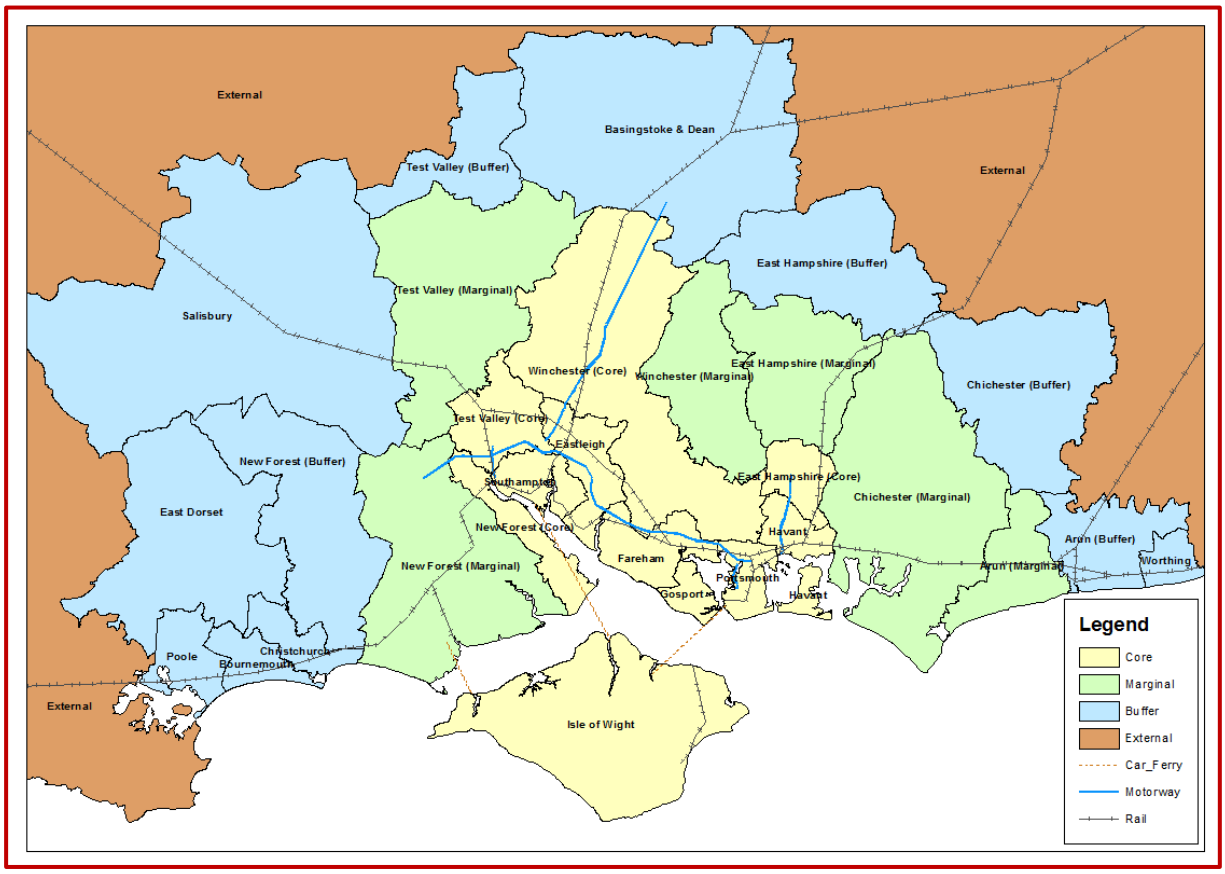
4.2.1 The modelled area of the RTM is sub-divided into four regions which differ by zone aggregation and modelling detail, as follows:

- Core Fully Modelled Area (detailed zoning);
- Marginal Fully Modelled Area (normally based on MSOAs);
- Buffer Area (zones based on Districts); and
- External (zones based on Districts and Counties).

4.2.2 Figure 2 shows the four regions of the study area. The core fully modelled area has the finest level of zone detail and a junction modelled (simulation) network representation in the RTM.

4.2.3 The core fully modelled area is defined by the Transport for South Hampshire boundary. This is the area which has the finest level of detail in the zoning and, for the RTM, a simulation network representation

Figure 2. Study Area of the RTM



4.3 Zoning System

4.3.1 The choice of zone system dictates the level of spatial resolution of the models and hence the ability of the models to realistically represent the transport situation. Current guidance states that in the 'internal' area zone boundaries should seek to take account of the following:

- natural barriers (rivers, railways, motorways or other major roads);
- areas of similar land use that have clearly identifiable and unambiguous points of access onto the road network included in the model;
- existing zone boundaries, where an existing model is being used as the basis for the new model;
- administrative and planning data boundaries (wards, parishes, Census Output Areas);
- the location of the main parking areas, where town centres are included in the model; and
- the need for internal screenlines for trip matrix validation.

4.3.2 Within this study the zoning must also satisfy the requirements of all of the models within the model suite.

4.3.3 Table 5 shows the various zone system requirements for each of the models.

Table 5. Model Suite Zone System Requirements

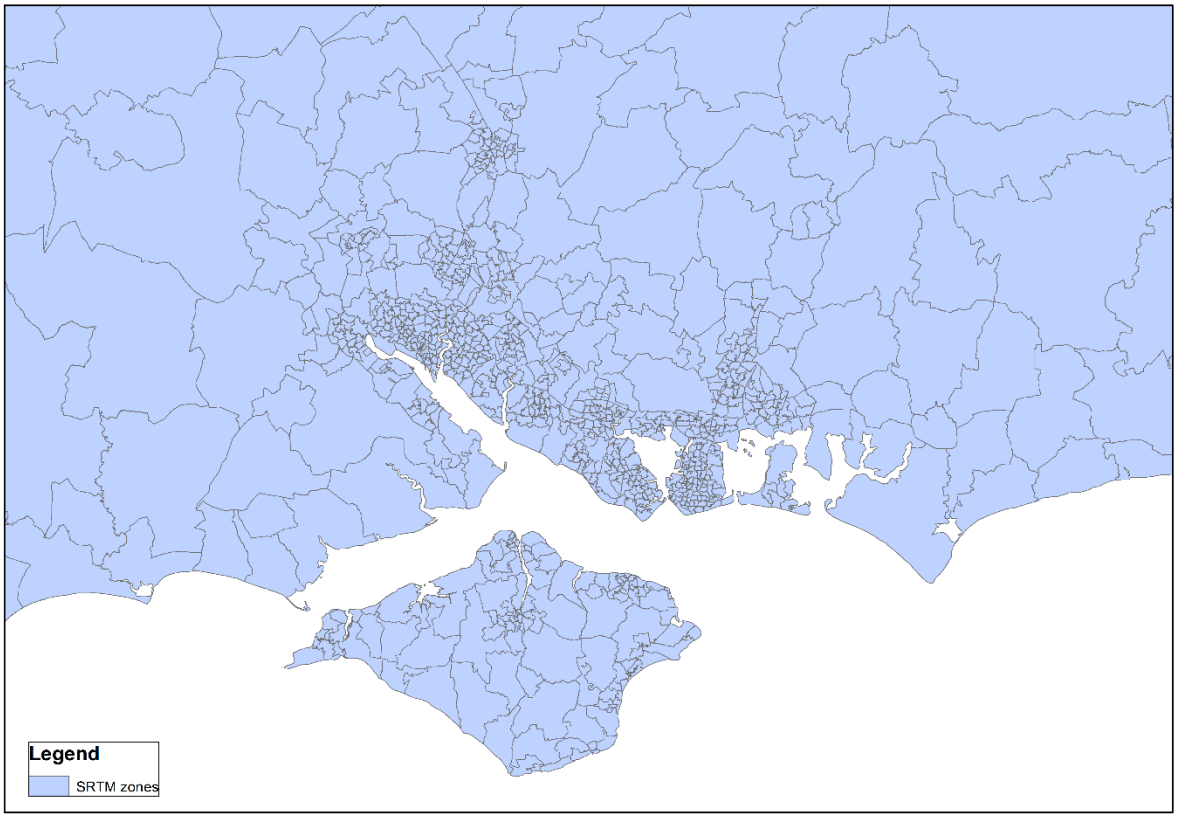
MODEL	REQUIREMENT
MDM & LEIM	Land use characteristics for ensuring zones contain similar land use
	Known future development sites are not given their own exclusive zones. Instead zone numbers have been reserved for that purpose in future year modelling
RTM	Highway access can be realistically modelled
	RSI enclosure boundaries (RTM) and highway screenlines must be respected
PTM	Walk access/egress must be modelled in enough detail to ensure true differential between public transport and highway

MODEL	REQUIREMENT
	Bus stop catchments, bus stop 'clusters', bus corridors and fare zones must be taken into account
	Public transport screenlines must be respected
GDM	The GDM will work at the (air/sea) port level at one end of port-terminating trips but the different network access points for "gateway traffic" will be defined as zones

4.3.4 The SRTM zone system uses 2011 Census Output Areas (COAs) as building blocks in the fully modelled area. Elsewhere, the zone system uses aggregations of Census Wards. Consistency with other existing models such as the Solent Strategic Transport Model (SSTM) and the Portsmouth Western Corridor Study (PWCS) model has also been incorporated as required. In the fully modelled area, disaggregation was used to ensure that no zones have more than 400 highway trip origins or destinations per hour in the base year

4.3.5 Figure 3 shows the SRTM zone system around the study area.

Figure 3. SRTM Zone system around the Study Area



4.4 Network Structure

4.4.1 As discussed above, the study area of the RTM is broken down into the Core and Marginal Fully Modelled Areas, the Buffer Area and the External Area. These areas are represented by three levels of network detail, as shown in Table 6.

Table 6. RTM Network detail

NETWORK TYPE	MODEL AREA	MODELLING DESCRIPTION
Simulation network	Cored Fully Modelled Area	Junction capacity restraints are explicitly modelled for priority junctions, roundabouts, and signalised junctions considering the interaction of different movements
Speed/flow network	Marginal Fully Modelled Area	Capacity restraint is based on flow delay curves, where increased flows on a particular link result in increased travel times along that link
Fixed speed	Buffer Area External Area	Fixed speeds are modelled along each link

4.4.2 The core fully modelled area of the traffic model includes all Motorways, A roads, B roads and minor roads and other roads considered to carry high volumes of traffic. The 2004 base year SATURN Solent Strategic Transport Model (SSTM) and the Portsmouth Western Corridor Strategy Model (PWCM) were used to assess which minor roads have sufficiently high volumes of traffic to warrant inclusion using the professional judgment of the project team. In addition, all bus routes were added to the RTM to facilitate interface with the PTM and Demand Model. Furthermore, the network and zone connectors were modified, as appropriate, following a Client Steering Group review.

4.4.3 The marginal fully modelled area includes all motorways, A roads and B roads along strategic routes.

4.4.4 The buffer area includes all motorways and A roads along strategic routes.

4.4.5 The external area is a skeletal network, covering main routes into the sub-region. It includes only Motorways and major A roads.

4.4.6 The network representation of the RTM has been defined in such a way to ensure smooth transition of network representation from simulation to speed/flow relationships, and speed/flow relationships to fixed speed

4.5 Time Periods and Years

4.5.1 Three weekday periods are modelled in the RTM:

- AM peak;
- Inter peak; and
- PM peak.

4.5.2 These three periods cover a 12 hour period and allow the relative differentials in travel cost to be represented. The periods are defined in Table 7.

Table 7. Time Period Definitions

PERIOD	FULL PERIOD FOR DEMAND MODEL	RTM ASSIGNMENT PERIOD
AM peak	7:00-10:00	peak hour (factored from period)
Inter peak	10:00-16:00	average hour from full period
PM peak	16:00-19:00	peak hour (factored from period)

4.5.3 The RTM is based on demand levels for one-hour periods, based on the distributions of the broader period. For the inter peak this is an average hour whilst the AM and PM peak periods are represented by the peak hours. AM and PM peak matrices have been obtained from the period matrices, by applying peak hour factors which have been calculated from an analysis of count data. The peak hour factors are shown in Table 8 below.

Table 8. Peak Hour Factors

	AM PEAK	INTER PEAK	PM PEAK
Period to 1 Hr Factor	0.405	0.167	0.368

4.5.4 In line with the Main Demand Model the RTM has a base year of 2015, and forecast years of 2019, 2026 and 2036. In addition LEIM provides forecasts through to 2041.

4.6 User Classes

4.6.1 The user classes for the RTM are based on the MDM trip purpose segments. The trip purpose segments are aggregated based on differentials in users' value of time (VoT) and differentials in vehicle operating cost (VoC). The RTM has the following assignment user classes:

- Car - Employer's Business;
- Car - Other;
- LGVs; and
- OGVs.

4.6.2 Travellers in the employer's business class have a higher value of time than in the other classes, which needs to be retained in the assignment model.

4.6.3 The 'Other' user class includes all car trips with purposes of commuting, shopping, education, leisure, personal business. These have been combined because the VoT:VoC relationship is considered to be sufficiently similar to not warrant the additional run times introduced by separate assignment segments.

4.6.4 Separate demand segments have been defined to represent LGV and OGV trips due to the assumed insensitivity of these types of trips to changes in travel cost, and also due to the differential in both their vehicle operation costs and users' value of time.

4.7 Assignment Methodology

4.7.1 The deterministic user equilibrium method implemented in the SATURN software is used. This assumes that users have perfect knowledge of the time taken to pass through the network from their origin to destination.

4.8 Junction Modelling and Speed/Flow Relationships

4.8.1 In models of congested areas, capacity restraint should be applied by the use of either:

- link-based speed/flow or flow/delay relationships; or
- flow/delay modelling of junctions.

4.8.2 The Core Fully Modelled Area contains the highest level of detail within the model and, hence, this is the area within which all significant junctions are modelled in detail (simulated).

4.8.3 Within the Marginal Fully Modelled Area capacity restraint is based on flow delay curves, where increased flows on a particular link result in increased travel times along that link.

4.8.4 Junction modelling is required where junction capacities have a significant impact on drivers' route choice, and where delays are not adequately represented by speed/flow relationships applied to network links. Care has been taken to specify realistic capacities throughout the Fully Modelled Area and in the choice of turning movements for which it is necessary to specify individual turn capacities. In selecting the Fully Modelled Area, the need for continuity and consistency of procedures such as flow metering and blocking back are important which is catered for in SATURN.

5. CALIBRATION AND VALIDATION DATA

5.1 Introduction

5.1.1 This chapter describes the data used to build, calibrate and validate the RTM. Data collected for the purpose of building, calibrating and validation the RTM includes:

- Roadside Interview Surveys (RSI);
- Screenline, manual classified and automatic traffic counts;
- Automatic number plate recognition (ANPR) surveys; and
- TrafficMaster™ data for journey times.

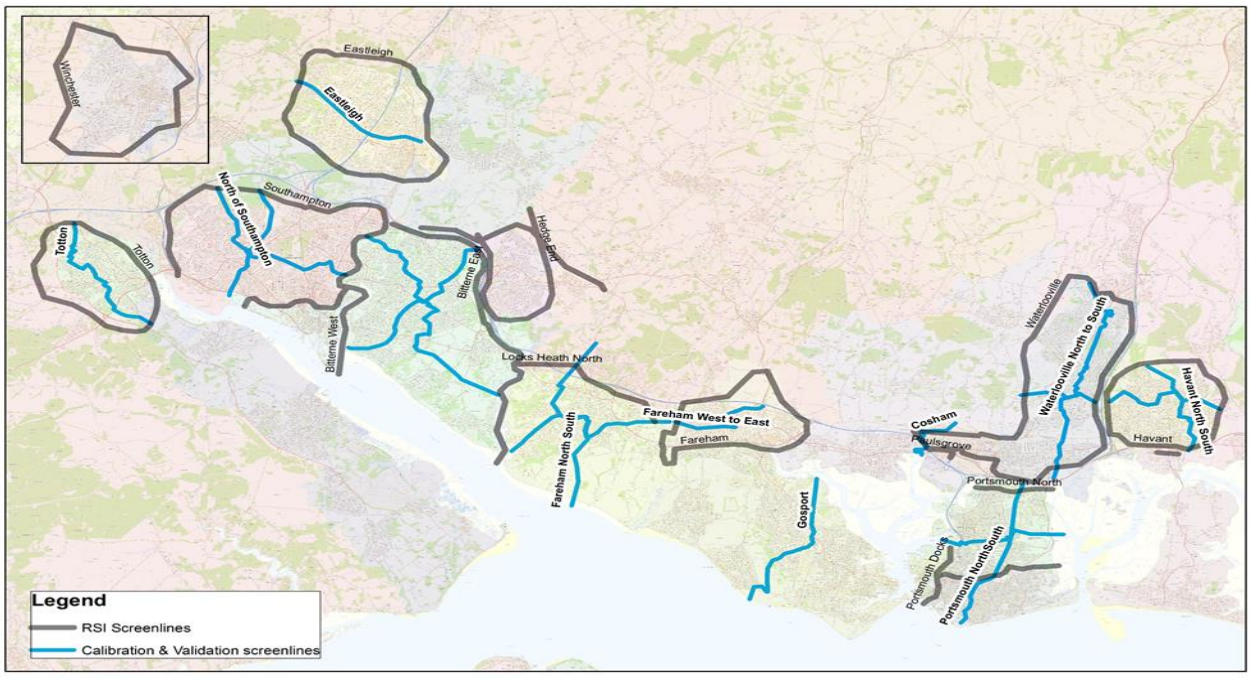
5.2 Roadside Interview (RSI) Surveys

5.2.1 The Roadside Interview (RSI) Surveys used for the development of 2010 South Hampshire Traffic model[1] were uplifted appropriately as to be indicative of the 2015 travel patterns.

5.2.2 Details of the Roadside Interview (RSI) Surveys could be found in the relevant report (Transport for South Hampshire Evidence Base, Road Traffic Model Calibration and Validation Working Paper 9, September 2011).

5.2.3 Figure 4 shows the location of the RSI sites and screenlines.

Figure 4. Location of RSI Sites and Screenlines



[1] Transport for South Hampshire Evidence Base,Road Traffic Model Calibration and Validation Working Paper 9, September 2011

5.3 Traffic Counts

5.3.1 Automatic traffic counts were undertaken in both directions at the enclosure crossing points for a two week period encompassing the manual count days, to allow for adjustment for day to day variation. These control counts were used for sample expansion and trip reversal of the interview/postcard returns.

5.3.2 In addition to movements crossing enclosure cordons described above, flow and traffic composition data was also collected at a series of specified screenlines and cordons for use in the calibration and validation of the highway assignment model.

5.3.3 The counts at these screenlines included two way manual counts for a single day (07:00 to 19:00) accompanied by automatic traffic counters for a two week period encompassing the manual count date. This allowed adjustment for day to day variation, and brought counts to a common base.

5.3.4 The vehicle counts were recorded at 15 minute intervals and classified as follows:

- Car;
- Taxi;
- Van (car based);
- Van / Light Goods Vehicle;
- HGV 2 axles;
- HGV 3 axles;
- HGV 4+ axles;
- Public Service Bus;
- Coach or Private Bus;
- Motorcycle / Scooter;
- Pedal Cycle; and
- Other.

5.4 Automatic Number Plate Recognition Survey

5.4.1 The Automatic Number Plate Recognition (ANPR) survey figures used for the development of the Hampshire Evidence Base[2] were uplifted appropriately in order to be indicative of the 2015 travel patterns. These surveys estimate the traffic movements passing through the study area via the motorways, as these movements were not intercepted in the RSI programme.

5.4.2 An Automatic Number Plate Recognition (ANPR) survey was undertaken to estimate the traffic movements passing through the study area via the motorways, as these movements were not intercepted in the RSI programme.

5.4.3 Details of the Automatic Number Plate Recognition (ANPR) survey could be found in the relevant report (Transport for South Hampshire Evidence Base, Road Traffic Model Calibration and Validation Working Paper 9, September 2011).

[2] Transport for South Hampshire Evidence Base,Road Traffic Model Calibration and Validation Working Paper 9, September 2011

5.5 Journey Time

5.5.1 Journey times for 25 routes, in both directions, were obtained from the TrafficMaster dataset. These are listed in Table 9.

Table 9. List of Journey Time Routes

NO.	SET	MAP ID	DESCRIPTION
1	Part 1 – 2010 routes	1	A336 RINGWOOD ROAD - A35 BURGESS ROAD
2	Part 1 – 2010 routes	2	A35 MILLBROOK ROAD WEST - A3025 HAMBLE LANE
3	Part 1 – 2010 routes	3	A33 DORSET STREET - A335 TWYFORD ROAD
4	Part 1 – 2010 routes	4	A33 DORSET STREET - A33
5	Part 1 – 2010 routes	5	A3024 BURSLEDON ROAD - A33 THE AVENUE
6	Part 1 – 2010 routes	6	A27 WEST END ROAD - A27 BASSETT GREEN ROAD
7	Part 1 – 2010 routes	7	A3024 BRUNSWICK PLACE - A3057 ROMSEY ROAD
8	Part 1 – 2010 routes	8	A27 WESTERN WAY - A27 BRIDGE ROAD
9	Part 1 – 2010 routes	9	A32 MUMBY ROAD - B3334 TITCHFIELD ROAD
10	Part 1 – 2010 routes	10	A32 FAREHAM ROAD - A27 WESTERN ROAD
11	Part 1 – 2010 routes	11	A397 NORTHERN ROAD - A3 LONDON ROAD
12	Part 1 – 2010 routes	12	B2177 PORTSDOWN HILL ROAD - B2149 HAVANT ROAD
13	Part 1 - Portsmouth	1	A2030 VELDER AVENUE - A2030 EASTERN ROAD
14	Part 1 - Portsmouth	2	A288 MILTON ROAD - A288 COPNOR ROAD
15	Part 1 - Portsmouth	3	M275 - - A27
16	Part 1 - Portsmouth	4	A2047 KINGSTON CRESCENT - A3 SOUTHAMPTON ROAD
17	Part 1 - Portsmouth	5	A3 MARKETWAY - A27 WESTERN ROAD
18	Part 2 – 2015 new	1	M3 Junction 11 - A32
19	Part 2 – 2015 new	2	M27 Junction 2 - A303
20	Part 2 – 2015 new	3	M27 Junction 2 - A34
21	Part 2 – 2015 new	Sec 1	Six Dials Junction un to Windhover Rbt
22	Part 2 – 2015 new	Sec 2	M27 Junction 7 to M3 Junction 11
23	Part 2 – 2015 new	Sec 3	M27 Junction 10 - M3 Junction 11
24	Motorway		M27 Junction 3 – Junction 11
25	Motorway		M3 Junction 8 – Junction 14

5.5.2 Figure 5 to Figure 12 show the locations of the routes.

Figure 5. Map of Journey Time Assessment Routes

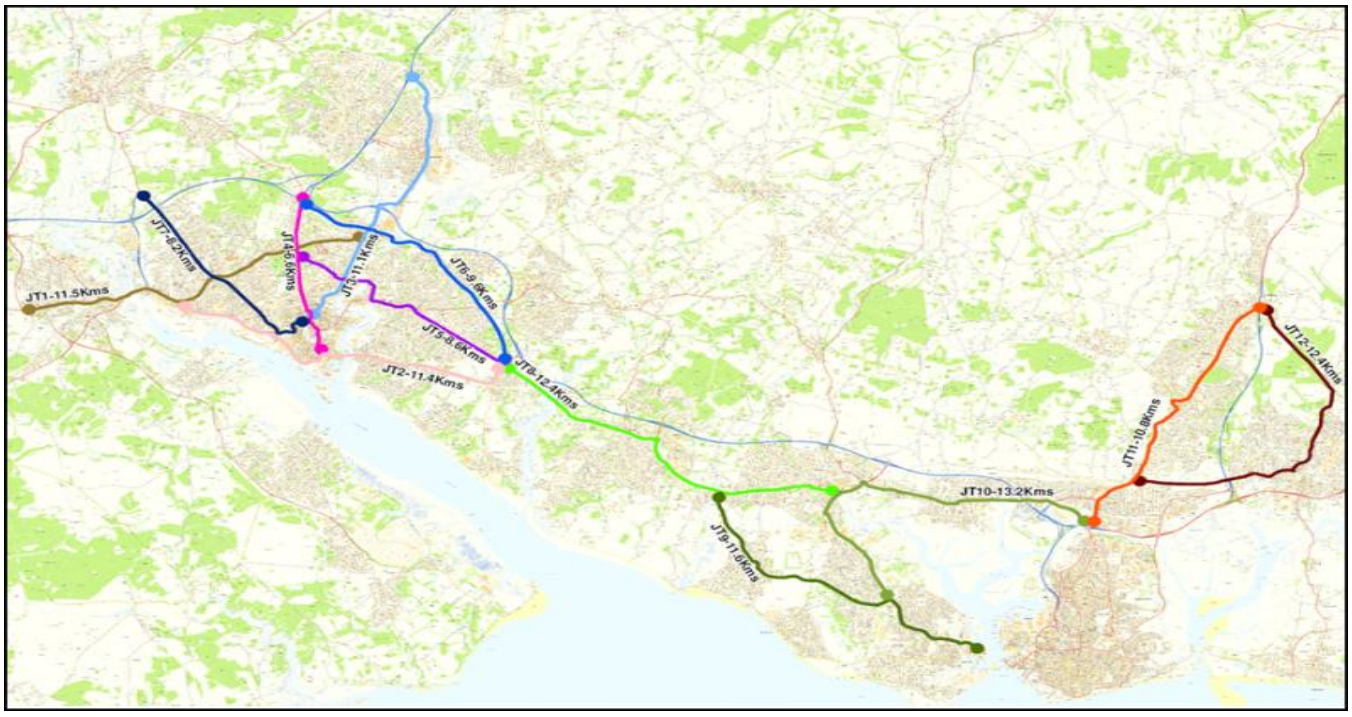


Figure 6. Map of Journey Time Assessment Routes

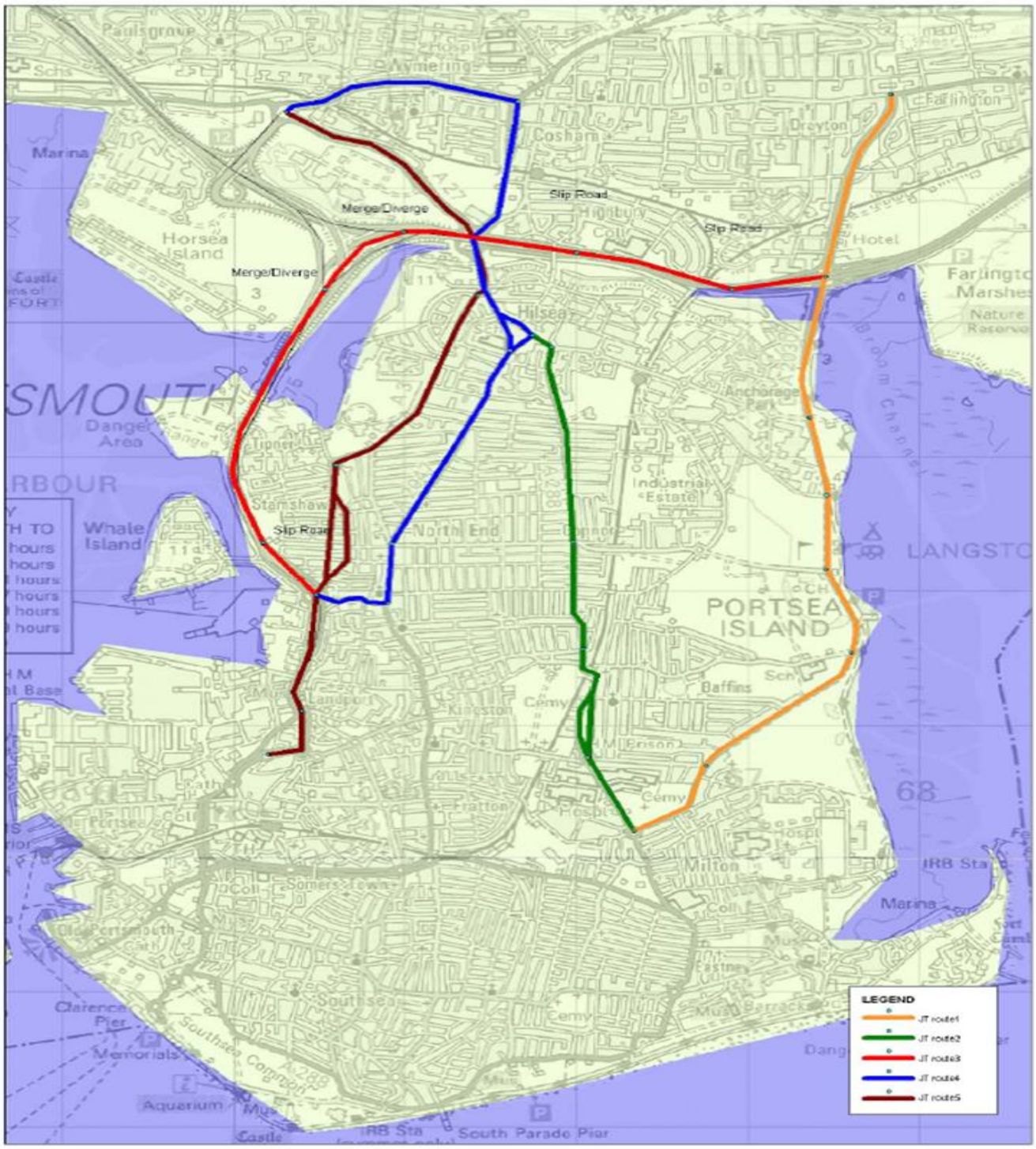


Figure 7. Route 1 M3 Junction 11 to A32 via A3090

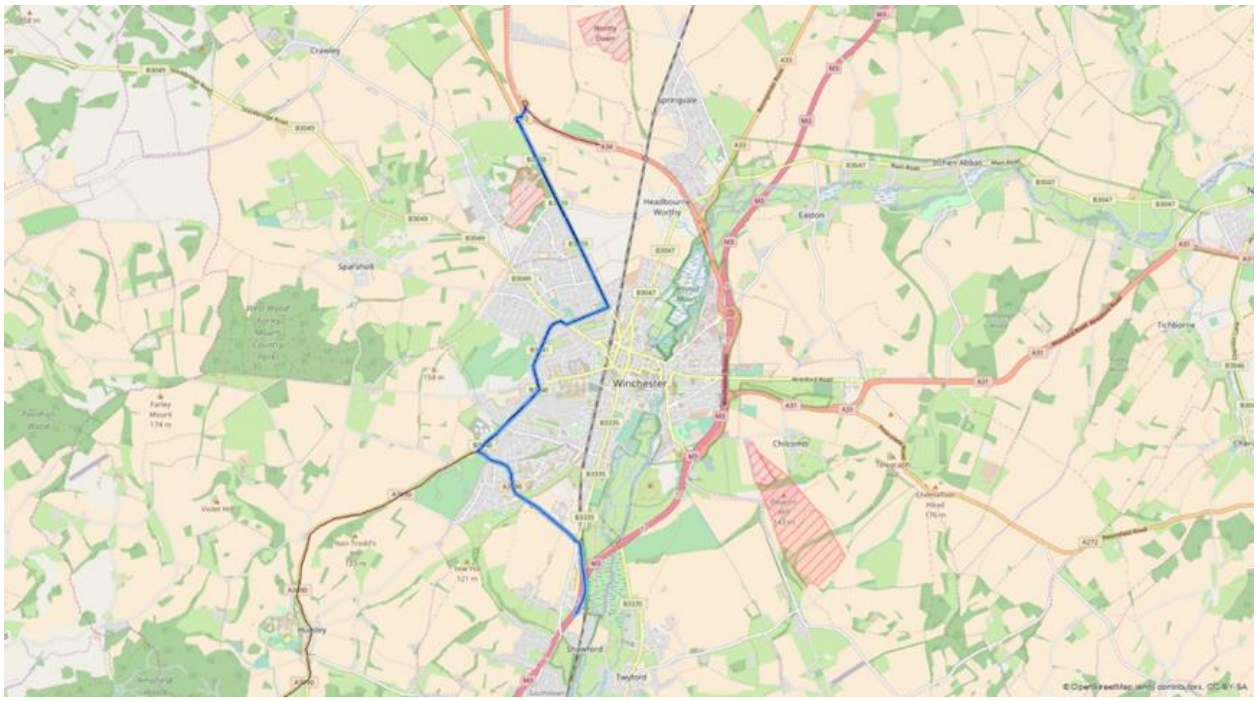


Figure 8. Route 2 M27 Junction 2 to A303 Salisbury Road via A36 and B3084

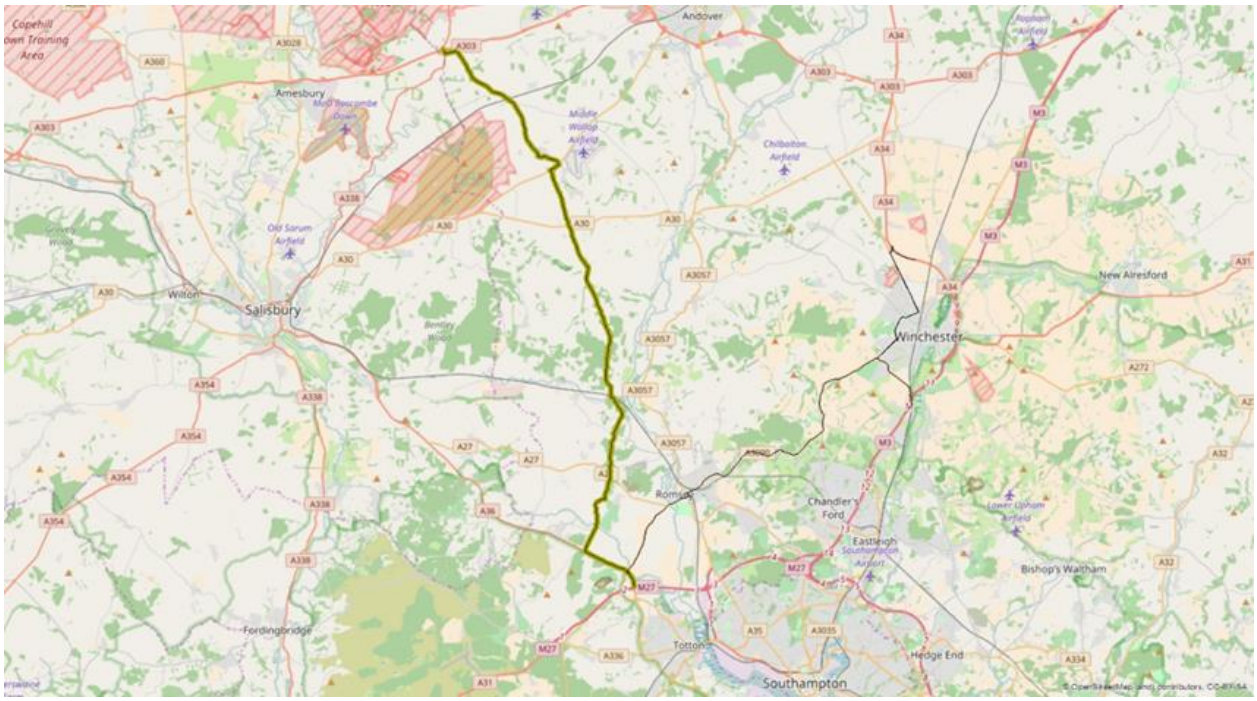


Figure 9. Route 3 M27 Junction 2 to A34 via Romsey Road and B3420

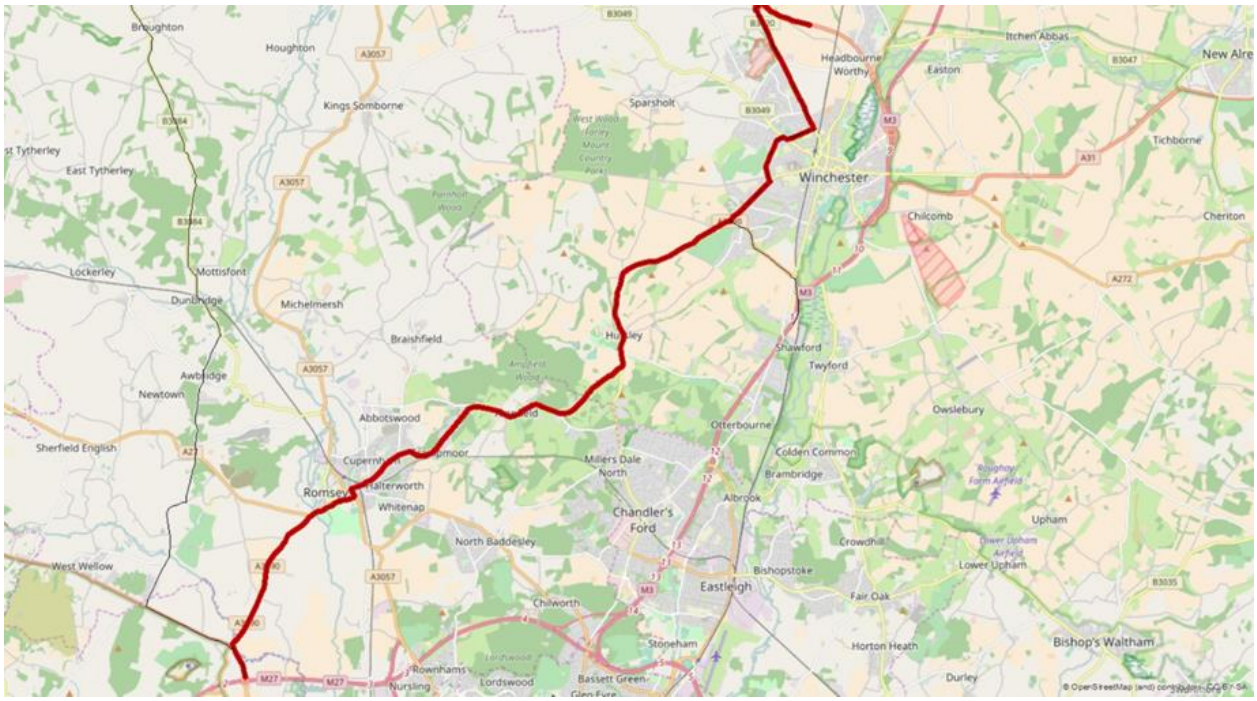


Figure 10. SEC1 Windhover Roundabout to Six Dials Junction via A3024

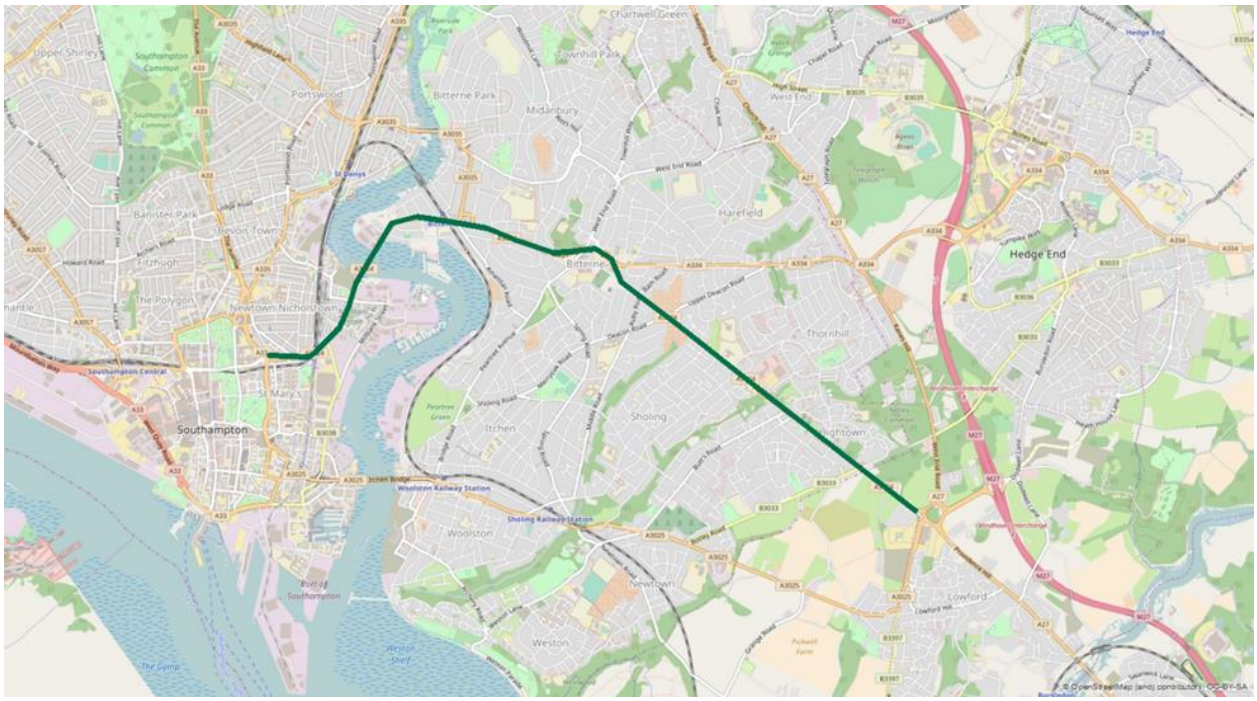


Figure 11. SEC2 M27 Junction 7 to M3 Junction 11 via Fair Oak Winchester Road

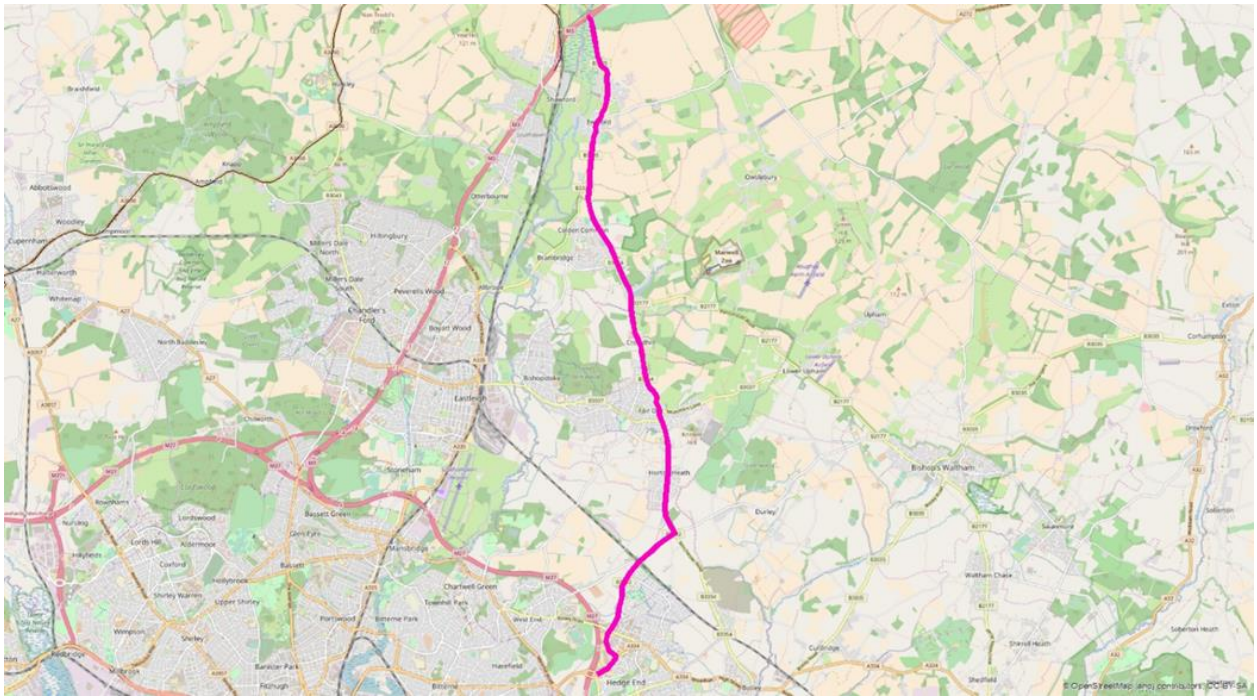
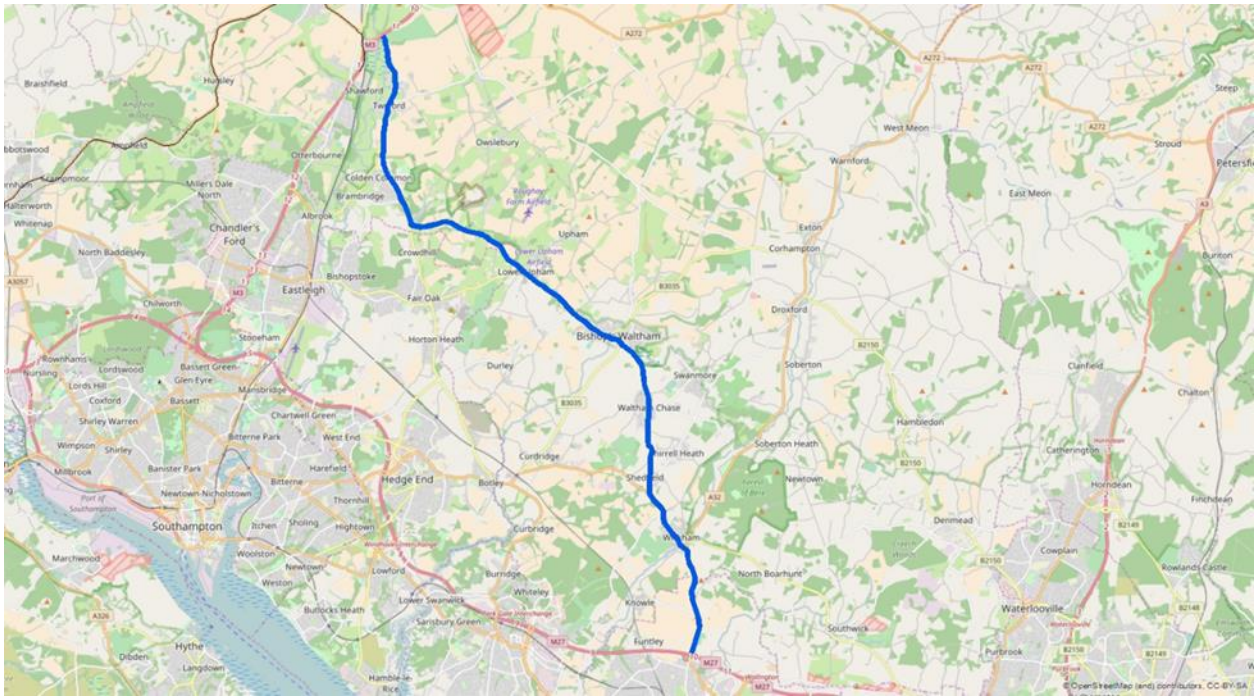


Figure 12. SEC3 M27 Junction10 to M3 Junction11 via Colden Common Main Road



6. NETWORK DEVELOPMENT

6.1 Introduction

6.1.1 This chapter summarises the network building process, including how the basic structure of the network was developed, the data sources used and methodologies adopted.

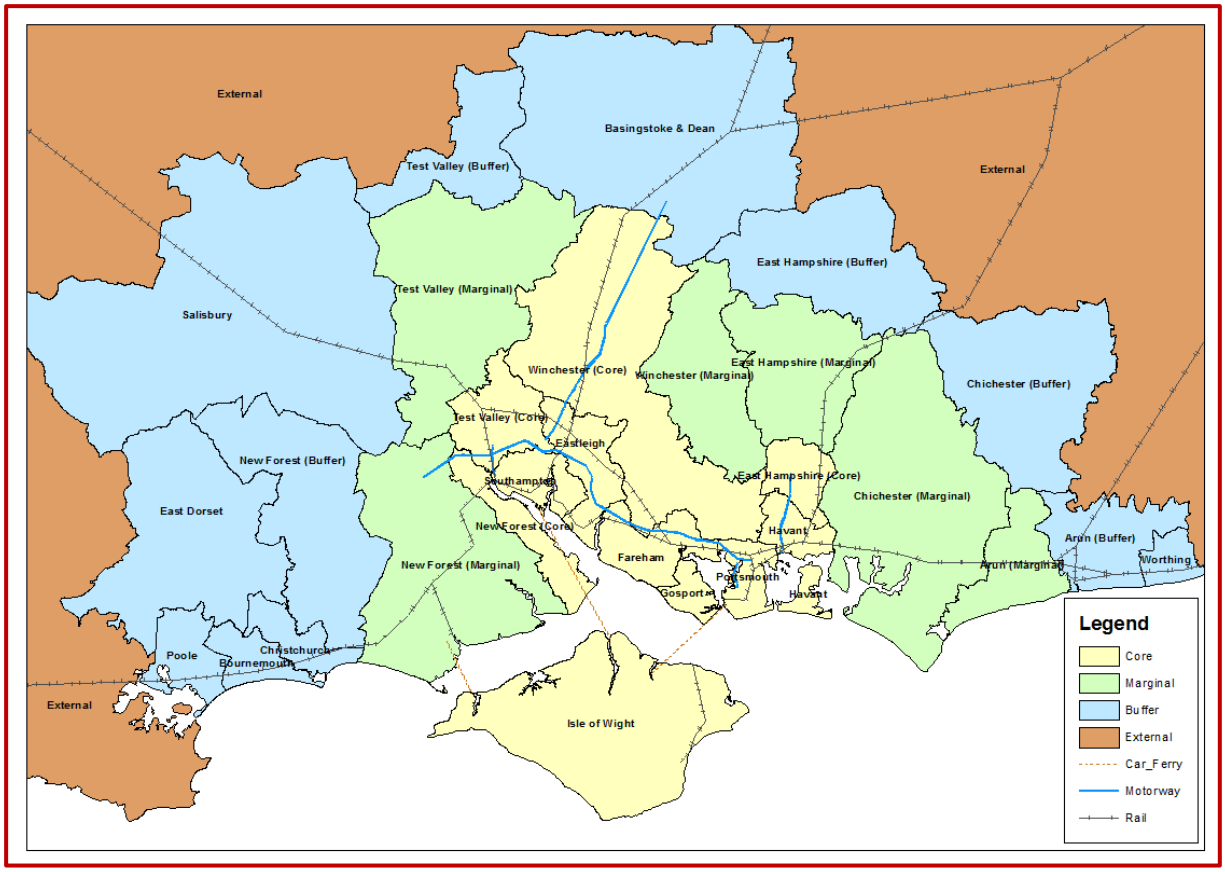
6.2 Network Structure

6.2.1 The RTM network is sub-divided into four regions which differ by zone aggregation and modelling detail, as follows:

- Core Fully Modelled Area (detailed zoning);
- Marginal Fully Modelled Area (normally based on census MSOAs);
- Buffer Area (zones based on Districts); and
- External (zones based on Districts and Counties).

6.2.2 Figure 13 shows the four regions of the study area.

Figure 13. RTM Study Area



6.2.3 The core fully modelled area is the area which will have the finest level of detail in the zoning and, for the RTM, a simulation network representation. The core modelled area includes full

junction modelling. The core fully modelled area of the traffic model will include all Motorways, A roads, B roads and minor roads and other roads carrying high volumes of traffic.

6.2.4 The marginal fully modelled area includes all motorways, A roads and B roads along strategic routes.

6.2.5 Within the buffer area, which includes all motorways and A roads along strategic routes, capacity restraint is based on flow delay curves.

6.2.6 In the external area fixed speeds are modelled along each link. The external area is a skeletal network, covering main routes into the sub-region. It includes only Motorways and major A roads.

6.2.7 The SRTM zone system has been developed following current guidance principles. The zone system has been designed to satisfy the requirements of all of the models within the model suite. Throughout the development process the zoning system has been reviewed by Solent, and amended accordingly.

6.3 Simulation Area Coding

6.3.1 This section describes how the following main elements of the simulation area were coded:

- Network structure;
- Cruise speeds;
- Speed / flow relationships;
- Traffic signal coding;
- Saturation flows;
- Gap acceptance; and
- Bus routes and bus lanes.

Network Structure

6.3.2 The coding of the simulation network followed a systematic procedure designed to ensure consistent coding across the Solent network. The coding was undertaken within pre-defined parameters and constraints so that each link and junction type is coded in a consistent manner, independent of the analyst.

6.3.3 Initially a basic node-link network structure was coded, based on an ITN layer and associated coordinates. The procedure uses a detailed source network onto which junction coding can be superimposed, in this case road mapping and aerial photography, all sourced via web based portals.

6.3.4 Following on from the basic network structure, junctions are coded. The process uses a basic set of assumptions relating to saturation flows and cruise speeds that provides coders with limited and consistent options in coding individual junctions. It also adopts conventions on saturation flows and GAP parameters at different junction types. The coding is undertaken within a spreadsheet environment with cross reference made to aerial photography and mapping associated with each junction.

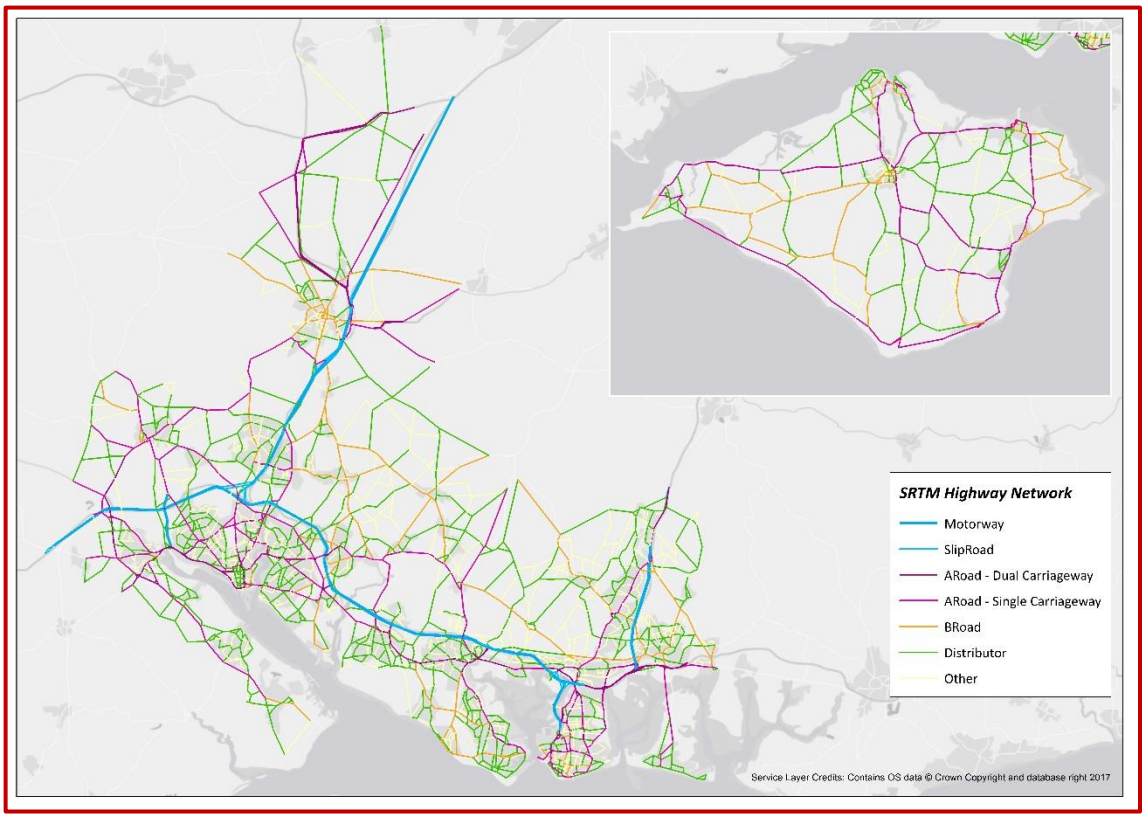
6.3.5 The use of this technique improves both coding speed and accuracy.

6.3.6 Links are defined according to the following classification:

- Motorway;
- Slip road;
- A Road - dual carriageway;
- A Road – single carriageway;
- B Road;
- Distributor Road (generally over 4m wide);
- Other Road (generally less than 4m wide);
- Buffer; and
- Spigot (Linking to Centroid Connectors).

6.3.7 Figure 14 shows the RTM network by aggregated link type.

Figure 14. RTM Network by Aggregated Link Type (Core Area only)



Gap Acceptance

6.3.8 The following gap values have been used for the RTM simulation network;

- 1.50 seconds for priority junctions;
- 0.75 seconds for merges; and
- 1.25 seconds for roundabouts.

6.3.9 These values have been adopted based on practical experience of calibrating and validating SATURN based sub regional models in the South of England, including the West London Sub Regional Model and the M25 Highway Assignment Model.

Generalised Cost Formulations and Parameter Values

6.3.10 The generalised cost parameters that are used to influence drivers' route choice are as follows:

- VOT and VOC by vehicle type derived from WebTAG. Appropriate growth factors have been applied to the VOT to get 2015 VOT and fuel price changes applied to get 2015 VOC. RPI applied to rebase prices to 2015;
- Occupancies applied for 2015 as per guidance from WebTAG; and

6.3.11 Values converted to pence per minute/pence per kilometre as required by SATURN.

Bus Routes and Bus Lanes

6.3.12 Bus lanes are coded within the simulation area, the locations of which were identified through road mapping and aerial photography sourced via web based portals and Traffic Road Orders (TRO) data.

6.4 Network Checking Process

6.4.1 At the outset of the network building process standard procedures were developed in order to minimise the incidence of serious errors later in the process, and a consistent coding framework developed. This included the specification of the structure of the network to be coded within the fully modelled area (the SATURN simulation area), link types and other key assumptions such as gap acceptance and saturation flow rates. Whilst changes to the network structure can occur during the network development process, spending time at the outset to determine the scope of the task and clarifying key assumptions within the coding team is beneficial. The coding framework ensures consistency of approach to coding by the coding team. In addition the need to measure link lengths, which is a common source of error, has been removed as this information is pre-coded at the outset using GIS.

6.4.2 Whilst the approach seeks to make the coding process more efficient and less error-prone, the following is a basic checklist of items that has been designed to further minimise problems during network development:

- check for appropriate junction types;
- check that the appropriate number of entry lanes have been coded and that flaring of approaches, where appropriate, are accounted for;
- check that turn restrictions have been correctly identified (these may vary by time period);
- check that one-way roads and no entries have been correctly specified;
- check that saturation flows are appropriate (particularly if turn rates appear excessively high or low compared to straight ahead);
- check that link lengths, link types and cruise speeds for both directions of a link are consistent, and that the link type and cruise speed coding does not vary unjustifiably along a series of links; and
- compare crow-fly link lengths against actual lengths and check that the coded link lengths in the core modelled area for links greater than 500m in length are not greater than 1.3 times the crow-fly distance, and inspect links which fall outside this range.

7. TRIP MATRIX DEVELOPMENT

7.1 Introduction

7.1.1 This section describes the methodology for the development of the base year trip matrices. These matrices were later subjected to matrix estimation as part of the process of calibrating the model; the matrix estimation process and results are reported in Section 8.2. The matrices described in this section are referred to as 'prior' matrices.

7.2 Summary of Base Year Matrix Construction

7.2.1 The key steps in developing the base year matrices were:

- Development of the partial matrices;
- Development of trip ends;
- Development of origin / destination demand; and
- Development of the one hour RTM assignment matrices.

7.2.2 The development of origin/destination demand has three components, corresponding to the three different types of movement that are being modelled, as shown in Table 10.

Table 10. Matrix Development Method Summary Demand by Modelled Area

AREA	CORE	MARGINAL	BUFFER	EXTERNAL
Core FMA	*Full [GrM/GD]*	*Full [GrM/GD/ NHTM]*	*Full [GrM/GD/ NHTM]*	*Full [GrM/GD/NHTM]*
Marginal FMA	*Full [GrM/GD/NHTM]*	*Full [GrM / ANPR]*	*Full [GrM/ ANPR]*	*Full [GrM / ANPR/NHTM]*
Buffer	*Full [GrM/GD/ NHTM]*	*Full [GrM/ ANPR]*	*Through FMA [ANPR]*	*Through FMA [ANPR]*
External	*Full [GrM/GD/NHTM]*	*Full [GrM / ANPR]*	*Through FMA [ANPR]*	*Through FMA [ANPR]*

Abbreviations: FMA – Full Modelled Area
GrM – Gravity Model
JTW – Census Journey to Work matrix
ANPR – Automatic Number Plate Recognition surveys
GD- Gateway Demand ANPR – Automatic Number Plate Recognition surveys
NHTM- North Hampshire Traffic Model

7.2.3 The table shows the coverage of the base year demand for cars, LGVs and HGVs. The base year demand in the Core and Marginal Fully Modelled Areas (FMAs) is modelled in full. Although the SRTM is only configured to model the Core FMA in detail, movements to and from the FMA from the marginal areas are influenced not only by travel costs within the FMA but also those in the marginal area that surrounds it. In addition the Local Economic Impact Model needs the travel cost responses from the RTM in both the Core and Marginal FMA to establish changes in population and employment. Trips to and from the Buffer and External areas and not terminating in the FMA are not modelled in full; only those trips that travel through the FMA are modelled.

7.2.4 As also shown in the table, the development of origin/destination demand is different for the three areas described above:

- Trips to/from the Core FMA were developed using a Gravity model (GrM);
- Trips between Winchester and the Core area of the NHTM estimated during the matrix synthesis process were replaced with the growthed demand from NHTM model.
- through-FMA trips with both their origin/destination trip ends either in the Buffer and External areas were developed by matching number plates from the Automatic Number Plate Recognition (ANPR) surveys.

7.2.5 These processes are described in Section 7.5.

7.2.6 The origin/destination demand matrices are defined at the period level: AM (07:00-10:00), IP (10:00-16:00), PM (16:00-19:00), and Off Peak (19:00-07:00). They include four home-based and two non home-based personal trip purposes for car, as well as LGV and HGV trip matrices. The origin/destination trip matrices were developed in person-trip units before being converted to one-hour RTM prior matrices.

7.2.7 The RTM prior matrices were obtained from the corresponding demand matrices for cars, LGVs and HGVs by:

- applying peak-hour or average hour factors as appropriate;
- applying trip purpose-specific vehicle occupancy factors to convert the person matrices to vehicle matrices;
- applying passenger car units (PCUs) to the HGV demand matrices; and
- aggregating the demand matrices into the assignment purposes, as shown in Table 11.

Table 11. Trip Purpose Segmentations

VEHICLE TYPE	ABBR.	OD DEMAND MATRICES	RTM ASSIGNMENT MATRICES
Car	HBB	HB Employers Business	Employers Business
Car	NHB	Non HB Employers Business	
Car	HBW	HB Work	Commuting and Other
Car	HBE	HB Education	
Car	HBO	HB Other	
Car	NHO	NHB Other	
LGV	LGV	Light Goods Vehicles	LGVs
HGV	HGV	Other Goods Vehicles	OGVs

7.2.8 Following the development of the prior matrices a validation exercise was undertaken to determine whether matrix estimation was required. The need for matrix estimation was confirmed and this process, to refine the prior matrices and better match assigned flows to counts, is described in Section 8.

7.3 Development of Partial Matrices

7.3.1 The 2015 partial matrices were created by:

- expanding the original (2010) enclosure data to new (2015) ATC controls for the movement within the Mainland;
- expanding the original (2010) Ferries data to the new (2015) Ferries Data for the movements from/to the Mainland and the Isle of Wight (and vice versa);
- adding 2013 the IoW Matrix expanded to the new (2015) ATC controls for the movements within the Isle of Wight (IoW).

7.3.2 New ATC expansion factors replaced those calculated in 2010. These factors were calculated at a site level considering all the possible direction, period and vehicle type combinations.

7.3.3 The methodology has some limitations as it is based on the 2010 pattern of OD movements. Any potential variations of these movements could be captured by the matrix estimation process.

7.3.4 The vehicle types and purposes from the RSI records required aggregation to the Solent matrix segments; These are shown in Table 12 and Figure 15.

Table 12. Aggregation of RSI Vehicle Types to Solent Vehicle Types

RSI VEHICLE TYPE	SOLENT VEHICLE TYPE
1 Car	Car
2 Taxi	Car
3 Van (Car Based)	Car
4 Van/ Light Goods	LGV
5 Other Goods Vehicle 1	HGV
6 Other Goods Vehicle 2	HGV
7 HGV (2 Axles)	HGV
8 HGV (3 Axles)	HGV
9 Large HGV (4+ Axles)	HGV

Figure 15. Aggregation of RSI Origins and Destinations to Solent Trip Purposes

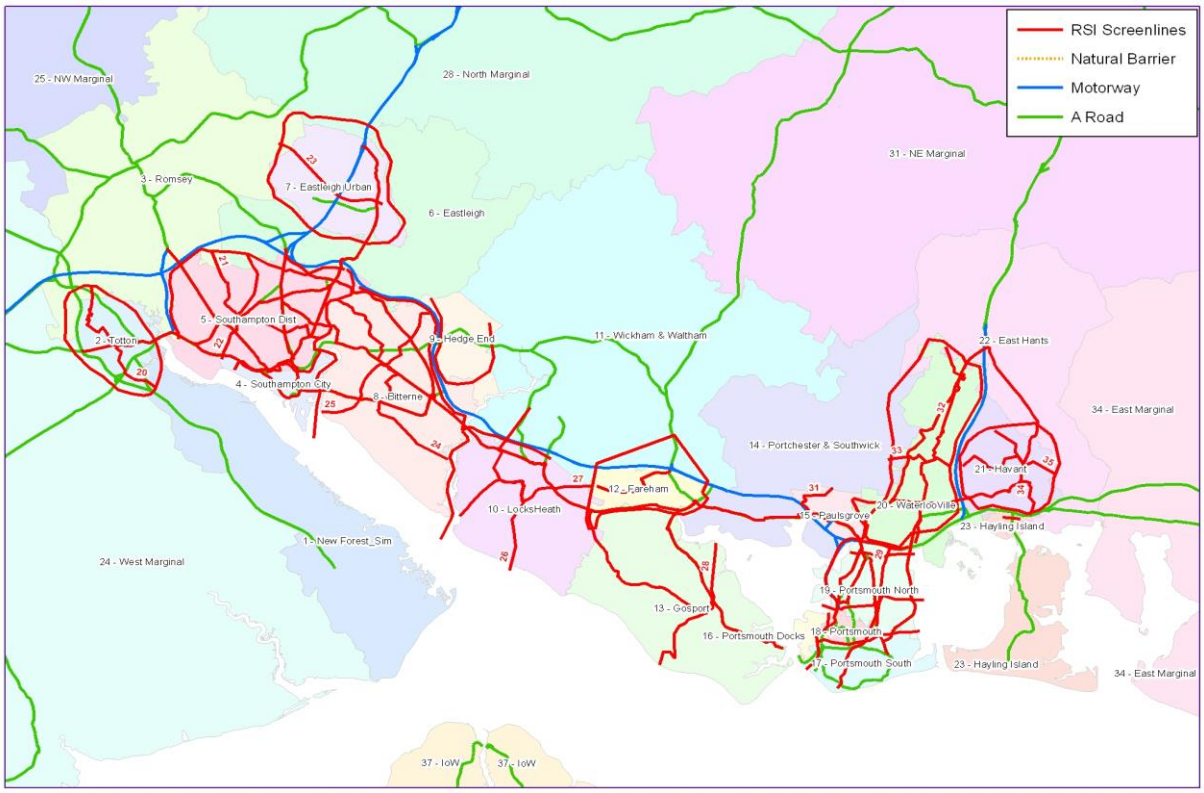
		RSI Destination Purpose								
		Home	Holiday Home/hotel	Normal place of work	Employers business	Education	Shopping	Personal business	Visit friends	Recreation/Leisure
RSI Origin Purpose	Home	HBO	HBO	HBW	HBB	HBE	HBO	HBO	HBO	HBO
	Holiday Home/hotel	HBO	NHO	NHB	NHB	NHO	NHO	NHO	NHO	NHO
	Normal place of work	HBW	NHB	NHB	NHB	NHO	NHO	NHO	NHO	NHO
	Employers business	HBB	NHB	NHB	NHB	NHO	NHO	NHO	NHO	NHO
	Education	HBE	NHO	NHO	NHO	NHO	NHO	NHO	NHO	NHO
	Shopping	HBO	NHO	NHO	NHO	NHO	NHO	NHO	NHO	NHO
	Personal business	HBO	NHO	NHO	NHO	NHO	NHO	NHO	NHO	NHO
	Visit friends	HBO	NHO	NHO	NHO	NHO	NHO	NHO	NHO	NHO
	Recreation/Leisure	HBO	NHO	NHO	NHO	NHO	NHO	NHO	NHO	NHO

TfSH Trip Purposes	
Home Based Work	HBW
Home Based Employers Business	HBB
Non Home Based Employers Business	NHB
Home Based Education	HBE
Home Based Other (leisure, personal business)	HBO
Non Home Based Other	NHO

7.3.5 The sector system used for partial matrix construction (Figure 16) is defined by the RSI screenlines and other suitable boundaries, including:

- enclosure cordons;
- natural barriers - such as the River Itchen;
- the 'Core Area' boundary; and
- Motorways.

Figure 16. Aggregation of RSI Origins and Destinations to Solent Trip Purposes



7.4 Development of Trip Ends

7.4.1 The home-based purpose origin/destination person trip ends for zones within the FMA were produced using the following steps:

- Home-based production trip ends were estimated for all FMA zones by applying the NTEM production trip rates to the population data. These trip ends represent the 'outbound' trip only;
- Home-based attraction trip ends within the FMA were estimated by applying the NTEM trip attraction trip rates to the employment data, and scaling total attractions to match total productions for each purpose, mode (including active modes), time period and car availability across the FMA;
- The Outbound/Return factors were used to calculate the ratio of from-home and to-home trips in each time period; these ratios were used to generate return trip ends from the NTEM-based outbound trip ends;

- Origin/Destination trip ends were then derived from the production/attraction trip ends by re-applying the Outbound/Return factors.

7.4.2 The non-home-based purpose origin/destination trip ends for zones within the FMA were developed using home-based to non-home based trip rate factors derived from National Travel Survey (NTS) data which has information on how many non-home based trips are made after or before any home based trips.

7.4.3 A full set of origin/destination trip ends for all model zones and purposes was therefore produced by combining these three sets of trip ends (FMA home based, FMA non-home based and all zones outside the FMA).

7.5 Origin/Destination Demand Matrices

7.5.1 The origin/destination matrices were created separately for two parts of the matrix: the Core FMA, and the Marginal FMA and the Buffer/External areas (see Table 13):

- a Gravity model (GrM) was used for the Core FMA demand;
- trip ends obtained from TEMPRO were used during the furnessing process.
- ANPR Number plate matching based technique was used for the through-FMA external demand.
- trips From/To Winchester were compared and replaced if it was considered proper using the uplifted demand from NHTM as it is considered to be a more reliable estimate of these trips.
- Demand from/to airports and ports (Gateway Demand) was considered for the External areas

Core FMA Demand - Destination Choice Model

7.5.2 The trip distribution for the development of the synthetic matrices was derived using a gravity model. Person trip matrices were synthesised and then converted to vehicle matrices using the vehicle occupancy factors derived from webTAG 2016.

7.5.3 The occupancy factors were assumed to be the same for all time periods. Table 13 presents the Occupancy factors by trip purpose.

Table 13. Vehicle Occupancies by Trip Purpose

HBW	HBB	HBE	HBO	NHB	NHO
1.113	1.128	1.697	1.512	1.181	1.467

7.5.4 The gravity model considered:

- the generalised cost of highway travel between two zones;
- trip ends data from TEMPRO;
- observed sector-to-sector movements.

7.5.5 The initial phases of the synthetic matrix development costs derived from the Solent Strategic Transport Model (SSTM) model were used. Later, when costs from the RTM became available, the SSTM costs were replaced.

7.5.6 The synthetic matrices were developed using all the observed destination choices from the RSI surveys to estimate the parameters of the gravity model. Synthetic matrix development can be broken down into three procedures: estimation, calibration and application of a destination choice model. For clarity:

- "estimation" refers to the statistical estimation of model parameters and their associated standard errors;
- "calibration" refers to the adjustment of model parameters post-estimation to ensure that the model forecasts adhere to a set of constraints that were not imposed during estimation, i.e. the trip end constraints and sector-to-sector trip observations from the RSI surveys; and
- "application" refers to the application of the calibrated parameters to populate the matrices and, as necessary, merge these matrices with partial matrices to represent some unrepresented external-to-external trips, particularly the through-FMA demand.

7.5.7 An important aspect of the estimation process was the analysis of variation in travel behaviour across different time periods. Parameters were calibrated to match observed trip cost distributions, segmented by period and purpose.

7.5.8 A Gamma distribution considered that best represents the travel behaviour based on the generalised cost for trips between two zones.

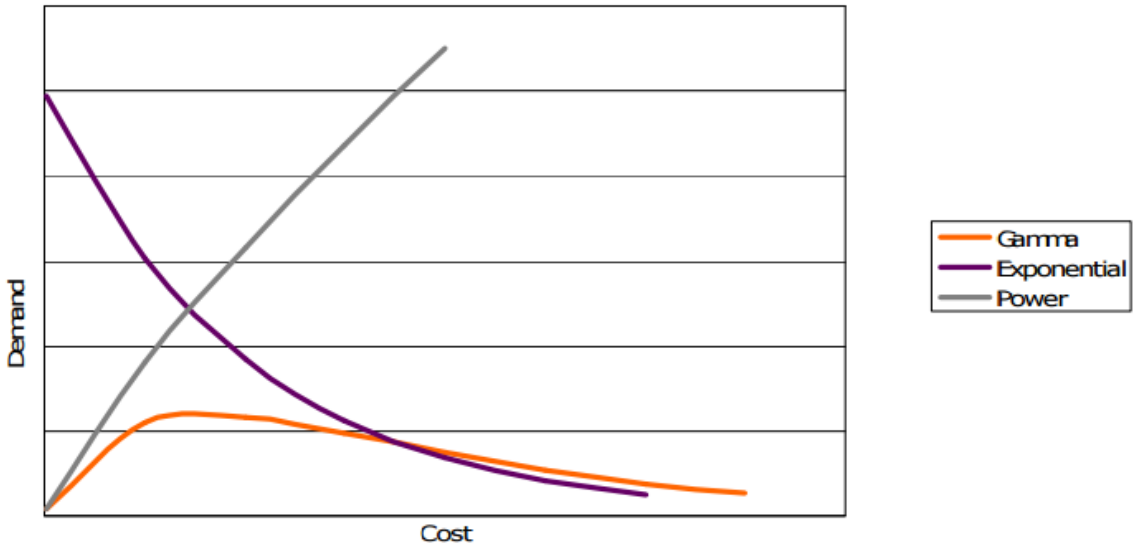
7.5.9 The cost deterrence function (Gamma distribution) requires manual calibration and takes the form:

$$F(C_{ij}) = {C_{ij}}^{X_1} \exp(X_2 C_{ij})$$

Where $F(C_{ij})$ is the cost deterrence from zone i to zone j, C_{ij} is the generalised cost from zone i to zone j and X_1 and X_2 are coefficients to be calibrated.

7.5.10 The form of the cost deterrence function is shown in Figure 17.

Figure 17. Cost Deterrence Functions



7.5.11 According to webTAG[3] doubly constrained models should be used for commuting and education in order to reflect the relative confidence in the measures of attraction for commuting and educational trips, as well as the relatively fixed nature of these attraction values in the short term. Other purposes such as shopping, social and leisure trips are typically modelled as singly production-end constrained. For these purposes, the trip end factors reflect the attraction of destinations, not the actual numbers of trips attracted.

7.5.12 For a doubly constrained trip distribution zonal origins and destinations match trip ends.

7.5.13 For a singly constrained trip distribution zonal destinations match trip ends.

7.5.14 For the calibration of the cost deterrence function a doubly or singly constrained trip distribution was used. Table 17 presents the optimised X1 and X2 values of the cost deterrence function.

7.5.15 Trip Cost Distributions for the doubly or singly constrained demand were calibrated against the trip end model.

7.5.16 The following the following trips were doubly constrained during the calibration process

- Car Home Based Work (HBW);
- Car Home Base Education (HBE);
- LGVs;
- HGVs.

7.5.17 The following trips were considered simply constrained during the calibration process

- Car Home Based Business (HBB);
- Car Home Based Other (HBO);
- Car Non-Home Based Business (NHB);
- Car Non-Home Based Other (NHO).

7.5.18 A third constraint was applied to consider the `fully observed' sector to sector movements. Zone to zone matrices were factored based on factors computed at the sector level.

7.5.19 The "fully observed" movements represent the observed movements of the Road Survey Interviews(RSI). The RSI surveys from a previous study[4] were used and uplifted properly in order to be indicative of the 2015 travel patterns.

7.5.20 Zero survey movements were not constrained.

7.5.21 Due to the lack of data in Isle of Wight(IoW), movements to the IoW were spread across destinations and movements from the IoW were spread across origins.

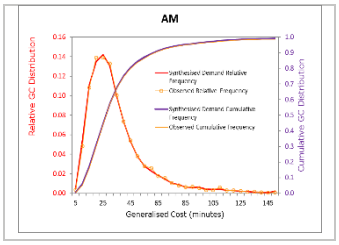
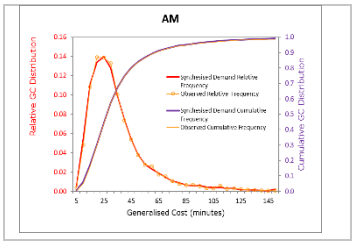
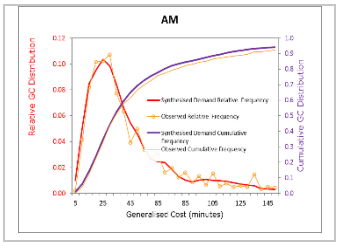
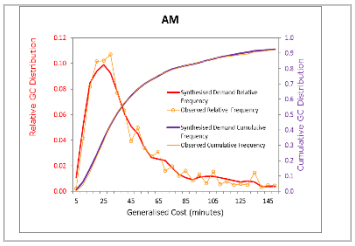
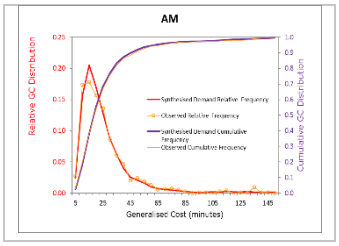
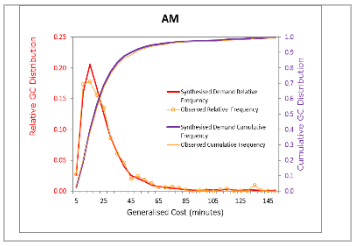
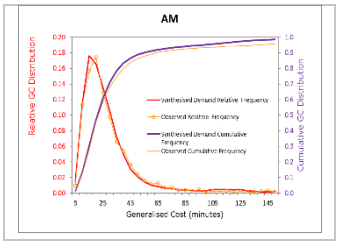
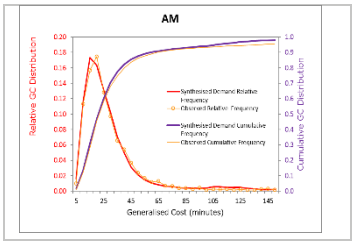
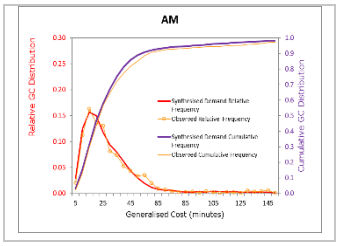
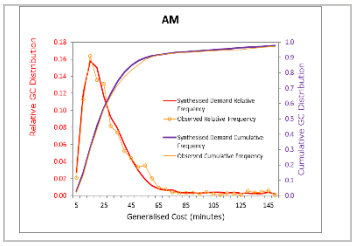
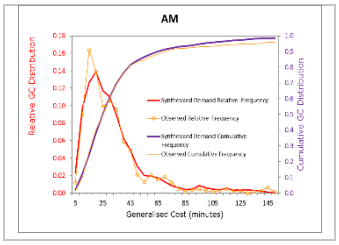
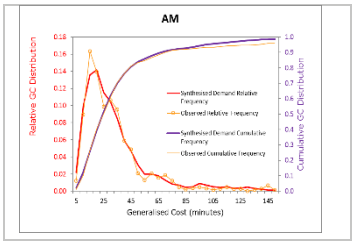
7.5.22 Table 14, Table 15, and Table 16 present a comparison of the relative and cumulative frequency between the observed and the synthesised demand.

7.5.23 Generally, there is a good fit of observed and modelled trip cost distributions.

[3] TAG Unit M2 Variable Demand Modelling 4.6 Trip Frequency

[4] Transport for South Hampshire Evidence Base,Road Traffic Model Calibration and Validation Working Paper 9, September 2011

Table 14. Synthesised vs Observed relative and cumulative frequency distribution AM

PURPOSE VEHICLE	SINGLY OR DOUBLY	TRIPLY
HBW CAR		
HBB CAR		
HBE CAR		
HBO CAR		
NHO CAR		
NHB CAR		

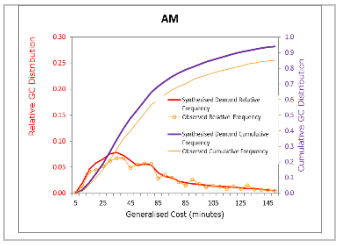
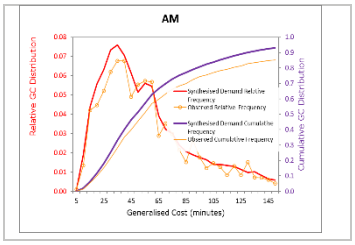
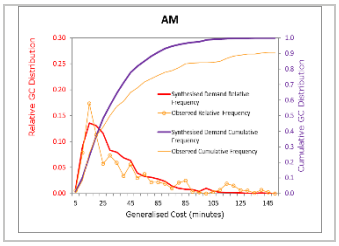
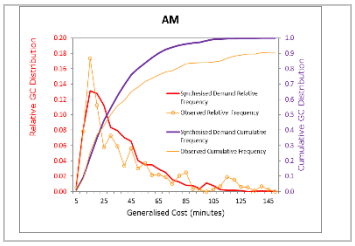
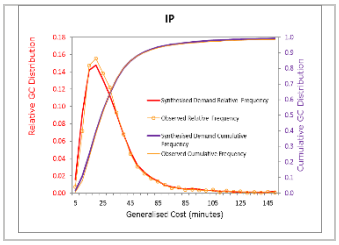
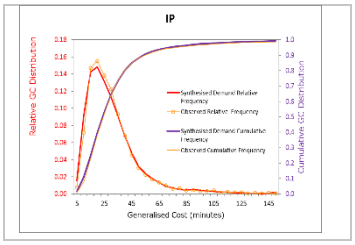
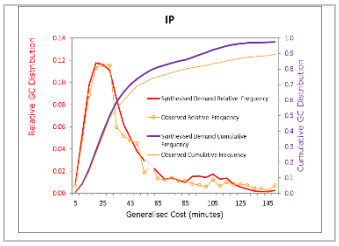
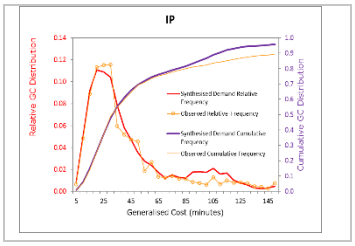
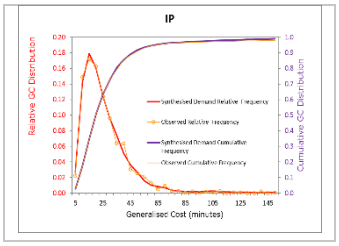
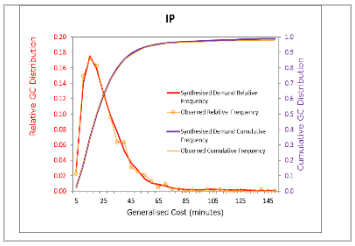
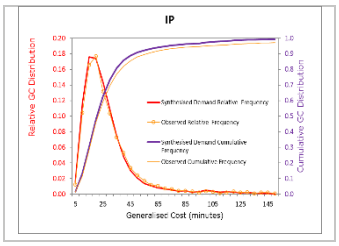
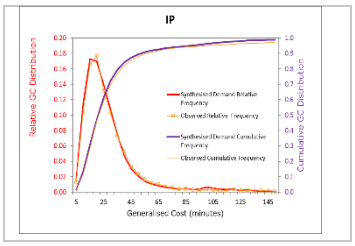
NOP LGV		
NOP HGV		

Table 15. Synthesised vs Observed relative and cumulative frequency distribution IP

PURPOSE VEHICLE	SINGLY OR DOUBLY	TRIPLY
HBW CAR		
HBB CAR		
HBE CAR		
HBO CAR		

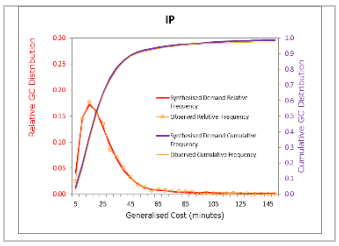
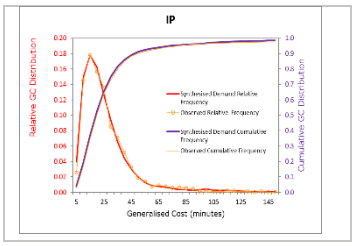
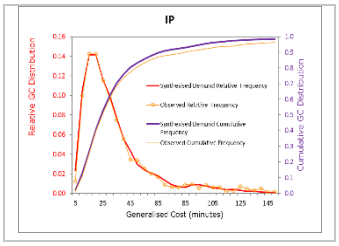
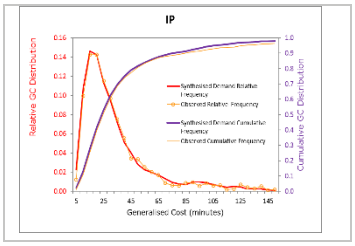
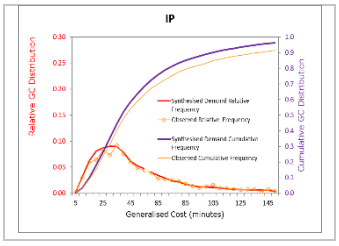
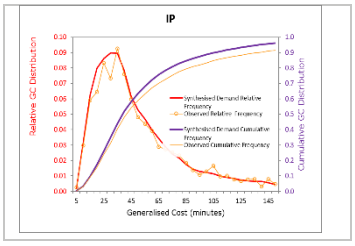
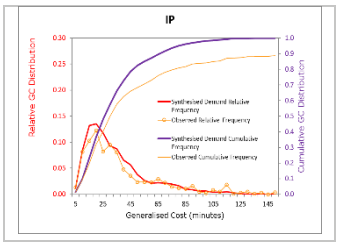
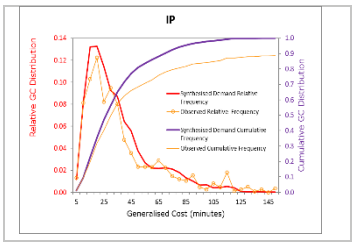
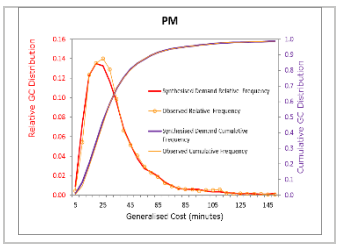
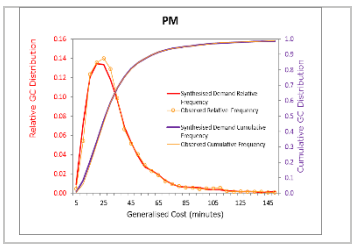
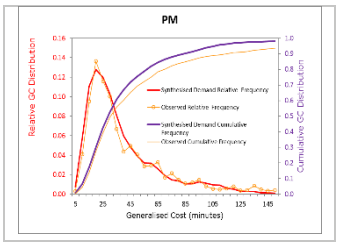
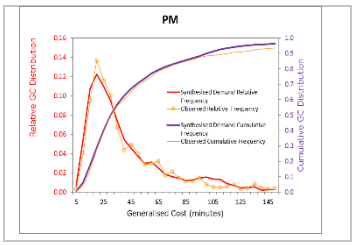
NHO CAR		
NHB CAR		
NOP LGV		
NOP HGV		

Table 16. Synthesised vs Observed relative and cumulative frequency distribution PM

PURPOSE VEHICLE	SINGLY OR DOUBLY	TRIPLY
HBW CAR		
HBB CAR		

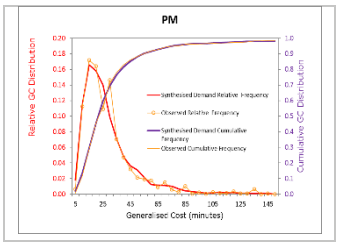
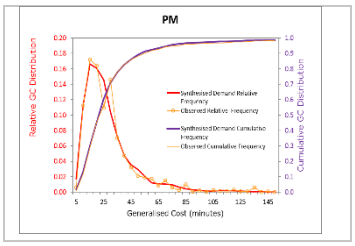
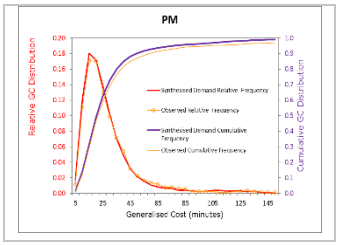
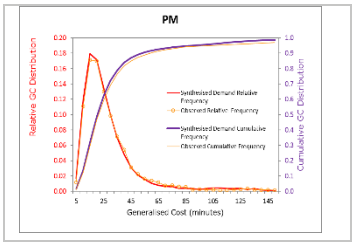
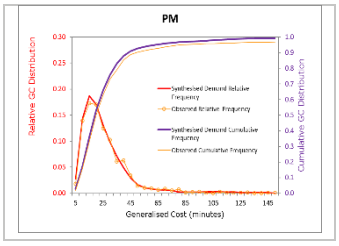
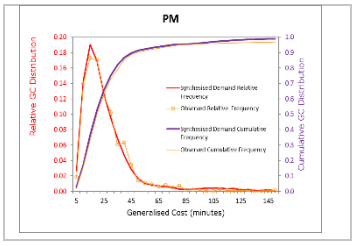
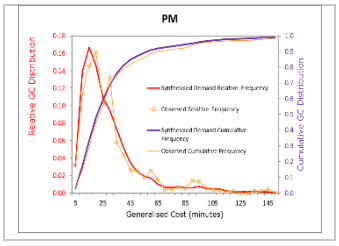
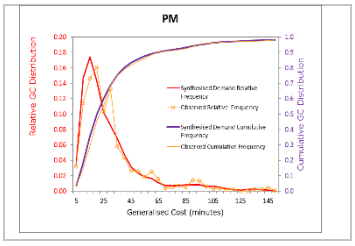
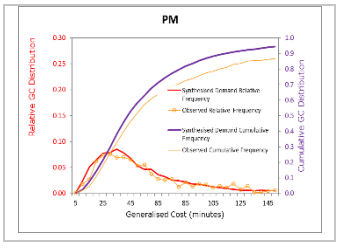
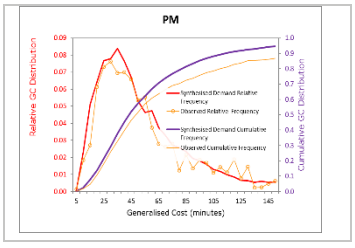
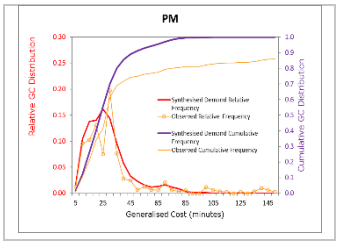
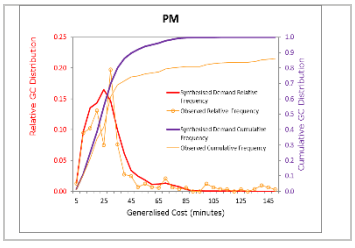
HBE CAR		
HBO CAR		
NHO CAR		
NHB CAR		
NOP LGV		
NOP HGV		

Table 17. Gravity model calibration parameters

	HBW	HBB	HBE	HBO	NHB	NHB	LGV	HGV
AM	X1 = 0.175 X2 = -0.075	X1 = -1.3 X2 = 0	X1 = -0.8 X2 = -0.1	X1 = -0.3 X2 = -0.1	X1 = -0.7 X2 = -0.05	X1 = -0.9 X2 = -0.05	X1 = 0.425 X2 = -0.05	X1 = -0.19 X2 = -0.09
IP	X1 = -0.6 X2 = -0.05	X1 = -0.2 X2 = -0.05	X1 = -1 X2 = -0.05	X1 = -0.1 X2 = -0.1	X1 = -0.7 X2 = -0.05	X1 = -1 X2 = -0.05	X1 = 0 X2 = -0.05	X1 = 0.3 X2 = -0.1
OP	X1 = -0.6 X2 = -0.05	X1 = -0.2 X2 = -0.05	X1 = -1 X2 = -0.05	X1 = -0.1 X2 = -0.1	X1 = -0.7 X2 = -0.05	X1 = -1 X2 = -0.05	X1 = 0 X2 = -0.05	X1 = 0.3 X2 = -0.1
PM	X1 = -0.4 X2 = -0.05	X1 = -0.2 X2 = -0.05	X1 = -1 X2 = -0.05	X1 = -0.2 X2 = -0.1	X1 = -0.9 X2 = -0.05	X1 = -0.2 X2 = -0.1	X1 = 0.3 X2 = -0.05	X1 = 0.2 X2 = -0.1

Utilisation of Demand from North Hampshire Transport Model (NHTM)

7.5.24 Trips between Winchester and the Core area of the NHTM estimated during the matrix synthesis process were replaced with the growthed demand from NHTM model. The 2010 NHTM demand was uplifted by 2% as an estimate of the year 2015.

Through FMA Demand – Number Plate Matching

7.5.25 Trips with both the origin and destination trip ends outside the FMA but going through the FMA were intercepted using ANPR Surveys on the key routes to Urban South Hampshire, the A27, A3(M), M3, A36 and M27 (Section 5.4). A number plate matching exercise was then used to establish the through-FMA demand. The ANPR data was collected for three classes of vehicles, Cars LGVs and HGVs.

7.5.26 The 2010 ANPR trip end data was uplifted and furnessed in order to match the 2015 TRADS data. Census Journey to Work distributions for trips travelling through the ANPR catchment were used to split the trip ends across the zones beyond the ANPR sites.

7.5.27 Table 18 presents the ANPR through traffic vehicles by period and vehicle class.

Table 18. ANPR Through Traffic Vehicles by Period and Vehicle Class

VEHICLE	AM (07:00-10:00)	INTER PEAK (10:00-16:00)	PM (16:00-19:00)	TOTAL (12HR)
CARS	2,308	2,157	2,386	6,851
LGV	260	220	99	579
HGV	1,099	835	751	2,685
TOTAL	**3,667**	**3,212**	**3,236**	**10,115**

7.6 Demand from Gateway Zones (Airport & Docks) from the GDM

7.6.1 Demand to and from 5 zones replaces synthesised values for:

- Southampton Airport;
- Southampton Port (three zones); and
- Portsmouth Port (Continental & Commercial).

7.6.2 In order to estimate the 2015 Gateway demand, the 2010 Gateway demand matrices derived from surveys were uplifted using factors based on the growth of traffic counts.

7.6.3 Table 19-23 present the growth factors applied.

Table 19. Origin Car Growth Factors

ORIGIN	CAR		
	AM	IP	PM
SOUTHAMPTON PORT GATE 4	0.67	1.02	1.66
SOUTHAMPTON PORT GATE 10	1.59	1.22	1.14
SOUTHAMPTON PORT GATE 20	0.73	0.57	0.61
PORTSMOUTH AIRPORT	1.64	0.78	0.71
SOUTHAMPTON AIRPORT	0.92	1.12	0.96

Table 20. Origin LGV Growth Factors

ORIGIN	LGV		
	AM	IP	PM
SOUTHAMPTON PORT GATE 4	1.11	1.57	1.06
SOUTHAMPTON PORT GATE 10	0.76	0.65	0.27
SOUTHAMPTON PORT GATE 20	1.35	1.12	0.66
PORTSMOUTH AIRPORT	0.68	0.77	0.55
SOUTHAMPTON AIRPORT	1.74	1.74	1.27

Table 21. Origin HGV Growth Factors

ORIGIN	HGV		
	AM	IP	PM
SOUTHAMPTON PORT GATE 4	1.85	1.75	1.12
SOUTHAMPTON PORT GATE 10	0.85	0.82	0.93
SOUTHAMPTON PORT GATE 20	0.67	0.88	1.01
PORTSMOUTH AIRPORT	0.52	0.70	0.69
SOUTHAMPTON AIRPORT	0.96	0.78	0.55

Table 22. Destination Car Growth Factors

DESTINATION	CAR		
	AM	IP	PM
SOUTHAMPTON PORT GATE 4	1.25	0.82	1.37
SOUTHAMPTON PORT GATE 10	1.36	1.28	0.93
SOUTHAMPTON PORT GATE 20	0.95	0.82	1.01
PORTSMOUTH AIRPORT	1.09	1.28	1.01
SOUTHAMPTON AIRPORT	0.79	1.12	1.01

Table 23. Destination LGV Growth Factors

DESTINATION	LGV		
	AM	IP	PM
SOUTHAMPTON PORT GATE 4	1.79	1.86	1.93
SOUTHAMPTON PORT GATE 10	0.52	0.59	0.73
SOUTHAMPTON PORT GATE 20	0.88	1.12	0.58
PORTSMOUTH AIRPORT	0.82	1.43	0.70
SOUTHAMPTON AIRPORT	2.11	2.55	3.00

Table 24. Destination HGV Growth Factors

DESTINATION	HGV		
	AM	IP	PM
SOUTHAMPTON PORT GATE 4	1.33	1.24	1.10
SOUTHAMPTON PORT GATE 10	0.52	0.59	0.73
SOUTHAMPTON PORT GATE 20	0.88	1.12	0.58
PORTSMOUTH AIRPORT	0.82	1.43	0.70
SOUTHAMPTON AIRPORT	2.11	2.55	3.00

7.6.4 Table 25 presents the Gateway Demand by period and vehicle class.

Table 25. Gateway Demand Vehicles by Period and Vehicle class

VEHICLE	AM (07:00-10:00)	INTER PEAK (10:00-16:00)	PM (16:00-19:00)	TOTAL (12HR)
CARS	5,058	6,830	3,425	15,313
LGV	739	1,470	445	2,654
HGV	935	2,639	749	4,323
TOTAL	**6,732**	**10,939**	**4,619**	**22,290**

7.7 Assignment Matrices

7.7.1 The assignment matrices were derived from the demand matrices by:

- aggregating the demand matrix trip purposes by assignment purposes;
- applying period- and purpose-specific vehicle occupancy factors; and
- applying peak hour factors calculated from the RSI and count data for the AM/PM peaks and developed average hour matrices for assignment in the inter peak periods.

The mapping from demand to assignment purposes is given in Table 16. The peak hour factors used are shown in Table 8 .

7.7.2 The prior matrix was tested by assigning it on the network and comparing the total assigned flows and total counts (in both directions) across RSI, calibration and validation screenlines for each modelled hour.

7.7.3 Assignment and validation of the one hour RTM matrices showed that matrix estimation was necessary to refine the prior matrices, particularly for trips crossing the calibration screenlines and not sampled using the OD surveys. The changes after matrix estimation are carried back to the Main Demand Model.

8. MATRIX CALIBRATION AND VALIDATION

8.1 Introduction

8.1.1 This chapter describes:

- trip matrix estimation, including checks of significance of differences between prior and estimated trip matrices; and
- trip matrix validation, including checks of screenline flow against DMRB guidelines.

8.2 Trip Matrix Estimation Process

The Purpose of Matrix Estimation

8.2.1 The primary purpose of matrix estimation is to refine estimates of trips not intercepted in surveys and which have therefore been synthesised. This is why counts on screenlines independent of the roadside interview cordons and screenlines are required. The refinements should be sufficiently small that they are not regarded as significant.

8.2.2 Matrix estimation only either increases or decreases non-zero cell values in the prior trip matrix. The technique cannot be used, therefore, to provide estimates of trips not intercepted in surveys or trips that have not been synthesised. Such situations are very rare however, as the Solent matrices are inherently "full" due to the manner in which they were constructed.

Applying Matrix Estimation

8.2.3 Count constraints should generally be grouped and applied at the short screenline level; these are referred to later as 'mini-screenlines'. The use of counts at individual sites as constraints has been avoided where possible. The reason for this is that the mismatch between modelled flows and counts at any one location may be due to a number of reasons and not due solely to deficiencies in the trip matrices. Where individual sites, or a small number of sites do form a screenline, the calibration criteria have been adjusted. In adjusting the prior matrices, matrix estimation may well compensate (undesirably) for other errors arising from the design of the zoning system, network structure, centroid connectors, network coding and route choice coefficients, which is why all these aspects should be checked before applying matrix estimation. Applying constraints at individual sites is likely to exacerbate the tendency of the matrix estimation procedure to compensate for deficiencies in other aspects of the model.

8.2.4 The calibration and RSI screenlines were subdivided into mini-screenlines. The screenlines used for matrix estimation were derived based on the principle of isolating major conurbations and activity centres, with particular emphasis on the two major, and distinct centres of Southampton and Portsmouth.

8.2.5 The counts used as constraints in the matrix estimation have been derived from two-week ATCs, and the vehicle type proportions for the four user classes (Car Business, Car Non Business, LGV and HGV) have been obtained from MCCs. Note because control counts were available at a three vehicle class level, the car user class needed to be divided between Car business and Car Non Business in order that matrix estimation could be applied at the Solent four user class assignment level. This was achieved by applying the Business/Non Business splits derived from the Pre Matrix Estimation assignment.

8.2.6 The process was undertaken using six loops between the assignment and matrix estimation. An additional process of optimising signalised junction timings was undertaken using the SIGOPT function before the first and after the sixth loop for signalised junctions for which timing data was not available.

8.2.7 The Matrix Estimation process was constrained using the XAMAX = 2.5 to restrict individual cell value changes to a factor of 2.5 to prevent excessive distortion of the matrix.

Matrix Estimation Process

8.2.8 The matrix estimation process uses the SATURN program SATME2 in conjunction with the supplementary program SATPIJA. It is based on the theoretical procedure generally referred to as ME2 - Matrix Estimation from Maximum Entropy. SATME2 essentially tries to improve the fit between modelled and observed flows by selectively factoring individual cells of the input trip matrix. SATPIJA creates a file used by SATME2 which represents the proportion of trips between origin-destination pairs which uses the counted link (from SATURN Manual Section 13).

8.2.9 The inputs to the process are:

- highway networks, AM, IP and PM;
- highway prior matrices AM, IP, PM by user class; and
- SATME2 inputs – calibration counts divided into mini-screenlines.

8.3 Trip Matrix Estimation Outcomes

8.3.1 This section describes the trip matrices before and after matrix estimation using the following analyses:

- matrix size by user class;
- statistical analysis of change in trip ends;
- statistical analysis of change in trip cost distributions.

Matrix size

8.3.2 Table 26 presents matrix sizes by user class before and after matrix estimation.

Table 26. Prior and Estimated Matrix Sizes

USER CLASS	1	2	3	4	TOTAL
	Car Business	Car Non Business	LGV	OGV	All Vehicles
AM peak hour					
Prior	14,319	159,647	18,212	19,050	211,229
Calibrated	13,829	163,080	17,045	18,370	212,324
% Diff	-3%	2%	-6%	-4%	1%
Inter peak ave hour					
Prior	11,513	122,857	13,676	14,712	162,758
Calibrated	11,098	128,055	12,568	14,613	166,335
% Diff	-4%	4%	-8%	-1%	2%
PM peak hour					
Prior	9,746	175,705	16,045	11,978	213,472
Calibrated	9,250	181,542	15,261	11,798	217,850
% Diff	-5%	3%	-5%	-2%	2%

Analysis of Matrix Differences Pre/Post Matrix Estimation

8.3.3 Figure 19-26 show scatter plots of the pre and post ME matrix row and column totals by period. All time periods show a good correlation with R^2 values, and the graph intercept is reasonably close to zero.

Figure 19. Scatter Plot of Pre and Post ME AM Peak Matrix Row Totals

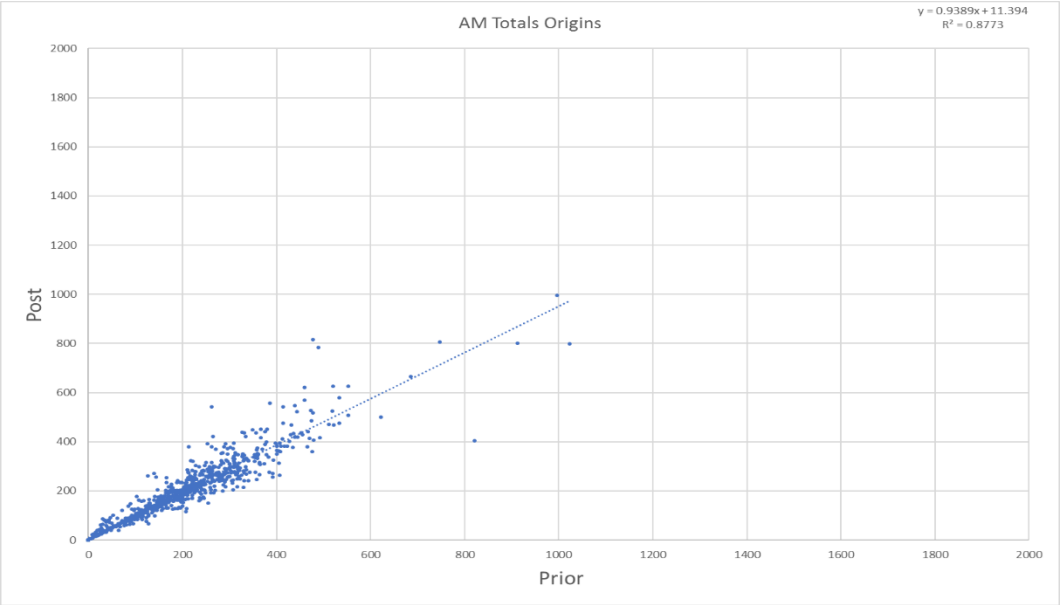


Figure 20. Scatter Plot of Pre and Post ME AM Peak Matrix Column Totals

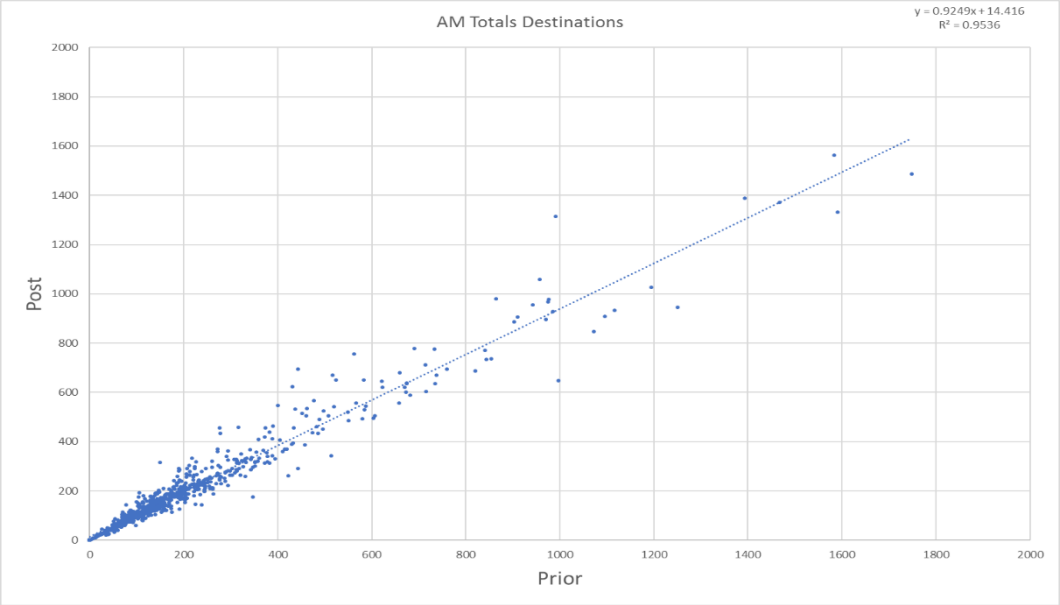


Figure 21. Scatter Plot of Pre and Post ME Inter Peak Matrix Row Totals

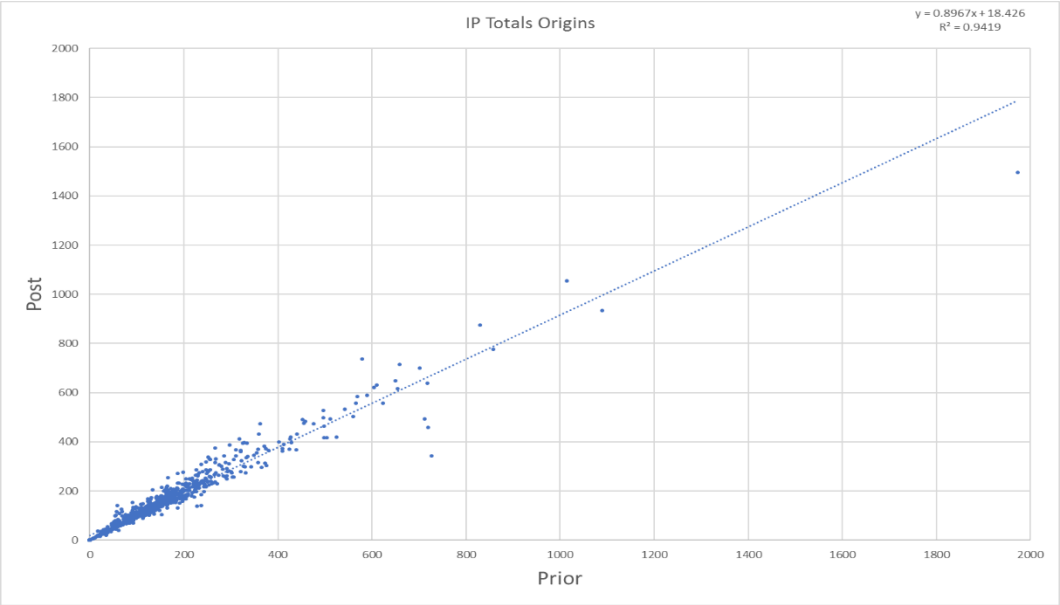


Figure 22. Scatter Plot of Pre and Post ME Inter Peak Matrix Column Totals

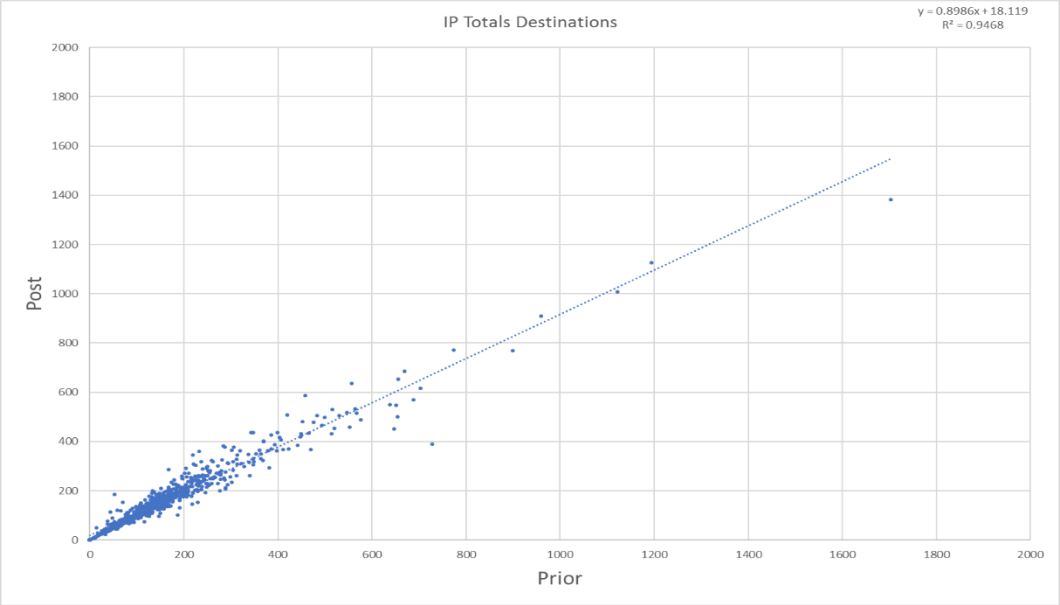


Figure 23. Scatter Plot of Pre and Post ME PM Peak Matrix Row Totals

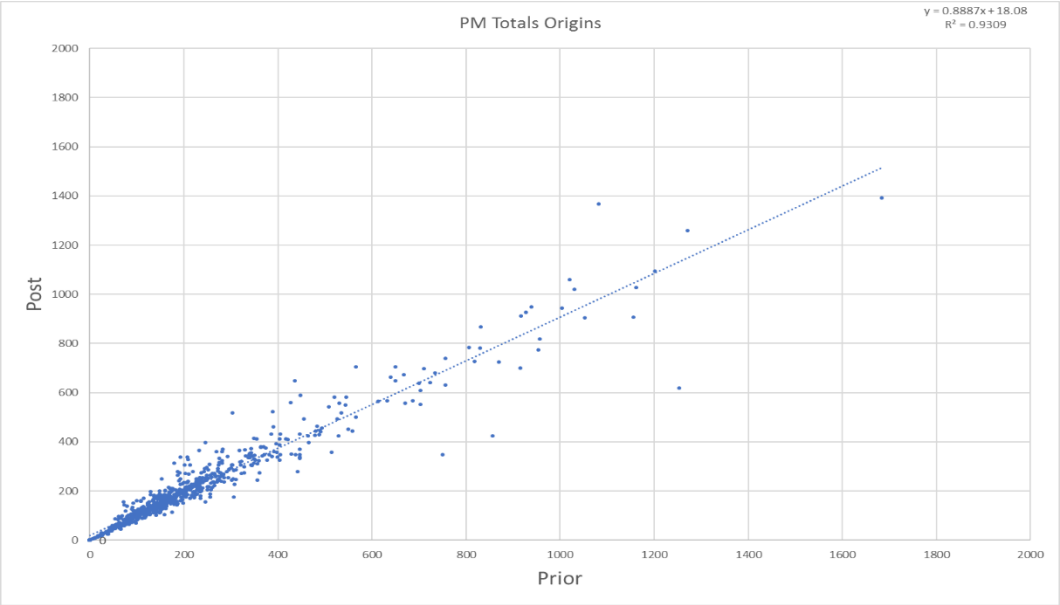
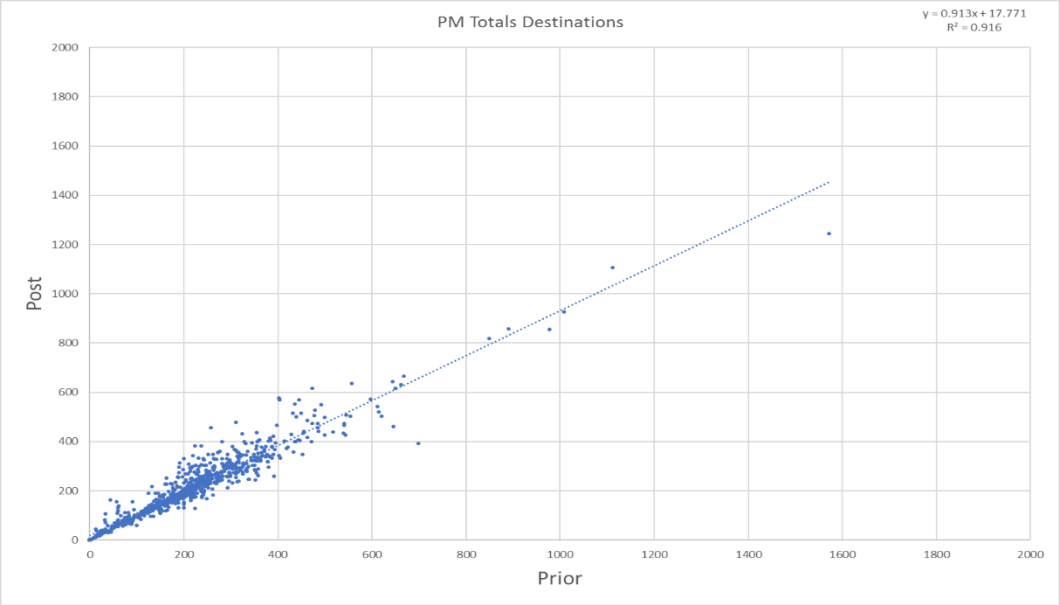


Figure 24. Scatter Plot of Pre and Post ME PM Peak Matrix Column Totals



Trip Length Distributions

8.3.4 Figure 25-29 show trip length frequency distributions, showing the number of trips lying within each distance band pre and post matrix estimation, by period. Table 27 shows the mean trip length for the prior and post estimation matrices.

8.3.5 The shape of the curves in Figure 25, Figure 26, and Figure 26 are in line with expectations for a model representing both urban and interurban trips, with short trips dominating the distribution, but a significant number of longer distance trips forming the tail of the

distribution. The results show that the matrix estimation process has not significantly distorted the distribution in any of the AM, IP or PM periods.

Figure 25. Trip Frequency Distribution Pre/Post ME AM Peak Hour – Relative frequency

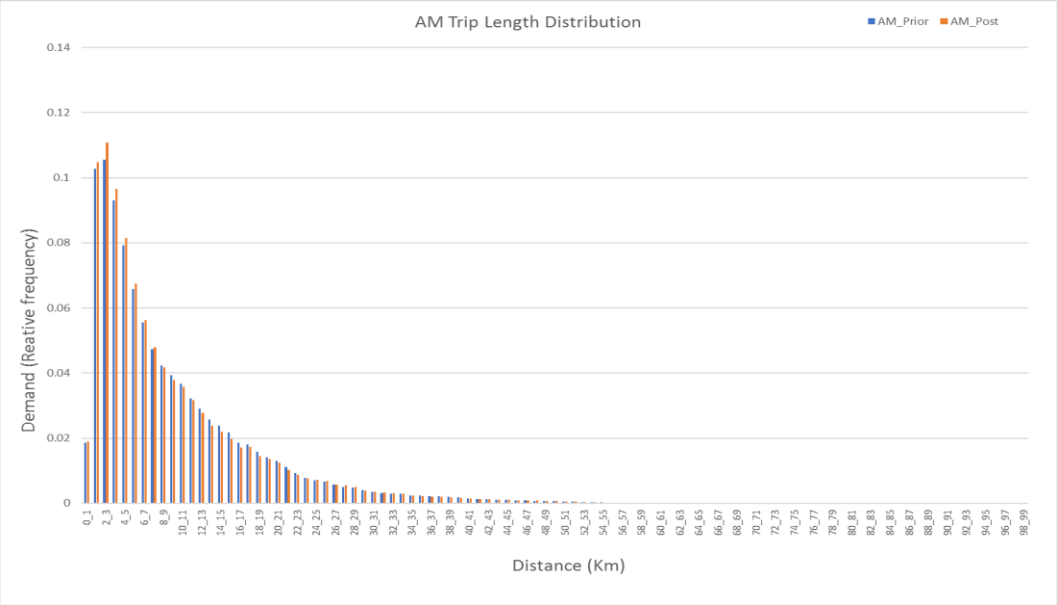


Figure 26. Trip Frequency Distribution Pre/Post ME Inter-Peak Hour – Relative frequency

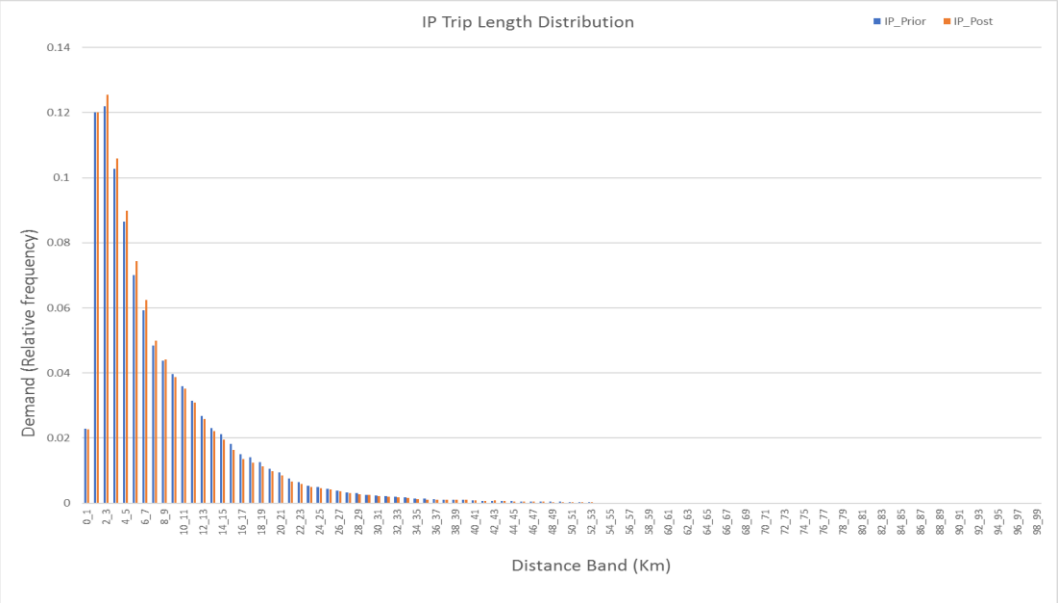
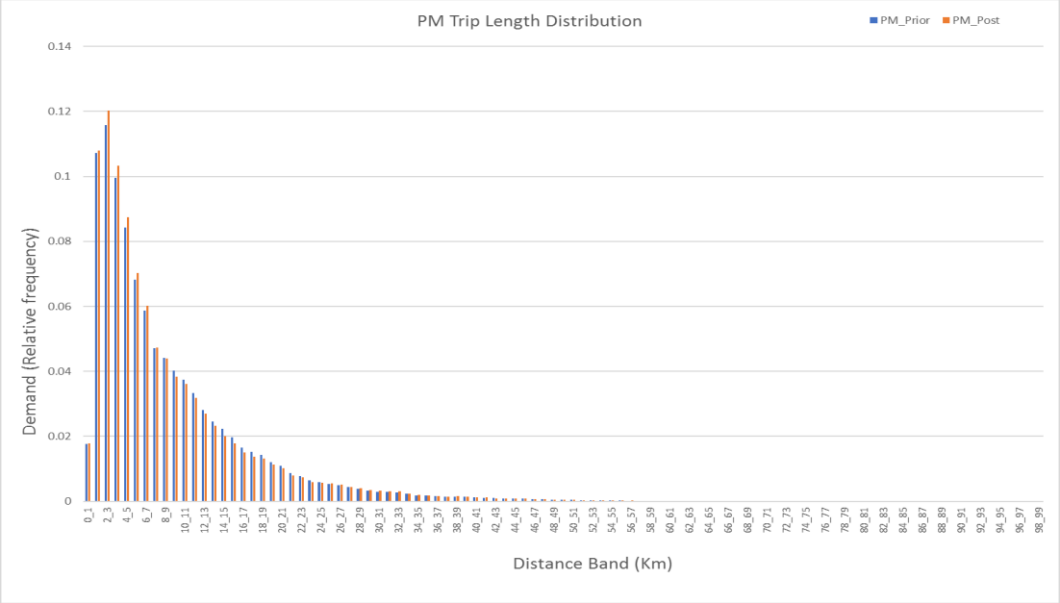


Figure 27. Trip Frequency Distribution Pre/Post ME PM Peak Hour – Relative frequency



8.3.6 The mean trip length (for within the Core area) changes by 2% to 3 %, with average trip length decreasing in all cases.

Table 27. Mean Trip Length (km)

MODEL PERIOD	PRIOR	POST	%
AM Peak Hour	5.05	4.96	-1.8%
IP Hour	4.35	4.21	-3.3%
PM Peak Hour	4.71	4.64	-1.5%

8.4 Trip Matrix Validation

8.4.1 Chapter 3 described the WebTAG validation standards. The screenline flow criteria and acceptability guidelines are reproduced in Table 28.

Table 28. Screenline Flow Validation Criterion and Acceptability Guideline

CRITERIA	ACCEPTABILITY GUIDELINE
Differences between modelled flows and counts should be less than 5% of the counts	All or nearly all screenlines

8.4.2 Table 29 and Table 30 show the results of the cordon and screenline validation analysis for each of the modelled periods, for vehicles and cars respectively. **Appendix A** shows the validation performance of each cordon and screenline.

Table 29. Cordon and Screenline Flow Validation: Vehicles

Measure	Criteria	Acceptability Guideline	AM Peak	Inter Peak	PM Peak
Matrix Validation	**Differences between modelled flows and counts should be less than 5% of the counts**	**All or nearly all screenlines (WebTAG)**	**91%**	**85%**	**85%**
	Differences between modelled flows and counts should be within GEH=4 of the counts	*N/A*	*92%*	*91%*	*82%*
	*Differences between modelled flows and counts should be less than **10%** of the counts*	*N/A*	*97%*	*95%*	*95%*

Table 30. Cordon and Screenline Flow Validation: Cars

Measure	Criteria	Acceptability Guideline	AM Peak	Inter Peak	PM Peak
Matrix Validation	**Differences between modelled flows and counts should be less than 5% of the counts**	**All or nearly all screenlines (WebTAG)**	**95%**	**89%**	**86%**
	Differences between modelled flows and counts should be within GEH=4 of the counts	*N/A*	*97%*	*94%*	*86%*
	*Differences between modelled flows and counts should be less than **10%** of the counts*	*N/A*	*98%*	*95%*	*97%*

8.4.3 Appendix A shows the validation performance of each cordon and screenline.

9. NETWORK CALIBRATION AND VALIDATION

9.1 Introduction

9.1.1 This chapter describes:

- link flow validation;
- journey time validation; and
- convergence and stability.

9.2 Link Flow Validation

9.2.1 Chapter 3 described the WebTAG validation standards. Table 31 reproduces the validation criteria and acceptability guidelines for link flows.

Table 31. Link Flow Validation Criteria and Acceptability Guidelines

CRITERIA	ACCEPTABILITY GUIDELINE
Individual flows within 15% of counts for flows from 700 to 2,700 veh/h	> 85% of cases
Individual flows within 100 veh/h of counts for flows less than 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
GEH < 5 for individual flows	> 85% of cases

9.2.2 Table 32 and Table 33 show the results of the network validation analysis for each of the modelled periods, for vehicles and cars respectively. **Appendix A** shows the validation performance of each cordon and screenline.

Table 32. Link Flow Validation: Vehicles

Measure	Criteria	Acceptability Guideline	AM Peak	Inter Peak	PM Peak
Link Flow Validation	**Individual flows within 15% of counts for flows from 700 to 2700 veh/h**	**>85% of cases (WebTAG)**	**60%**	**71%**	**60%**
	Individual flows within 100 veh/h of counts for flows less than 700 veh/h				
	Individual flows within 400 veh/h of counts for flows more than 2700 veh/h				
	GEH < 5 for individual flows	**> 85% of cases (WebTAG)**	**54%**	**63%**	**54%**
	*GEH < **10** for individual flows*	*N/A*	*80%*	*86%*	*77%*

Table 33. Link Flow Validation: Cars

Measure	Criteria	Acceptability Guideline	AM Peak	Inter Peak	PM Peak
Link Flow Validation	**Individual flows within 15% of counts for flows from 700 to 2700 veh/h**	**>85% of cases (WebTAG)**	**64%**	**75%**	**62%**
	Individual flows within 100 veh/h of counts for flows less than 700 veh/h				
	Individual flows within 400 veh/h of counts for flows more than 2700 veh/h				
	GEH < 5 for individual flows	**> 85% of cases (WebTAG)**	**59%**	**64%**	**57%**
	*GEH < **10** for individual flows*	*N/A*	*80%*	*88%*	*81%*

9.3 Journey Time Validation

9.3.1 The acceptability guideline for journey times are reproduced in Table 34.

Table 34. Journey Time Validation Criteria and Acceptability Guideline

CRITERIA	ACCEPTABILITY GUIDELINE
Modelled times along routes should be within 15% of surveyed times (or 1 minute, if higher)	> 85% of routes

9.3.2 Table 35 below shows the number of journey time routes meeting the criteria. **Appendix B** shows the validation performance of each route.

Table 35. Journey Time Validation

Measure	Criteria	Acceptability Guideline	AM Peak	Inter Peak	PM Peak
Journey Times Validation	**Modelled times along routes should be within 15% of surveyed times (or 1 minute, if higher)**	**>85% of routes (WebTAG)**	**82%**	**80%**	**64%**
	*Modelled times along routes should be within **20%** of surveyed times (or 1 minute, if higher)*	*N/A*	*90%*	*94%*	*78%*

9.3.3 **Appendix C** shows the journey time validation time versus distance profiles. Detailed investigation of journey time validation results by route showed that the slope of the observed and modelled journey times are generally similar and that the model representation of observed conditions on the surveyed network is appropriate despite falling short of the criteria for the full extent of the journey on some routes.

9.4 Convergence and Stability

9.4.1 The acceptability guideline for journey times are reproduced in Table 36.

Table 36. Summary of Convergence Measures and Base Model Acceptable Values

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%

9.4.2 There are several important parameters in SATURN that are used to ensure convergence is acceptable. These are:

KONSTP "KONtrol of SToPping Criteria"

This defines the type of the conditions required for the assignment to end. The stopping criteria for assignment – simulation loops are based on either: ISTOP (KONSTP = 0); %GAP value (1); CPU time (2); RSTOP and/or CPU (3); %GAP and/or CPU (4); %GAP and RSTOP (5); %GAP or (6) %ISTOP. The assignment will also end when the number of assignment loops reaches MASL (see below).

WebTAG: N/A *SATURN Default: 5* *Solent Model: 5*

Therefore unless MASL is reached the assignment will only stop if %GAP and RSTOP criteria are reached.

MASL

This the maximum number of assignment/simulation loops.

WebTAG: N/A *SATURN Default: 15* *Solent Model: 150*

NISTOP

The number of successive loops which must satisfy the RSTOP criteria in the test for convergence of the assignment/simulation loops.

WebTAG: 4 *SATURN Default: 4* *Solent Model: 4*

STPGAP

WebTAG: 0.1% *SATURN Default: 1.0%* *Solent Model: 0.05%*

PCNEAR

Percentage change in flows judged to be "near" in successive assignments.

WebTAG: 1.0% *SATURN Default: 1.0%* *Solent Model: 1.0%*

RSTOP

Used in the test for convergence of the assignment/simulation loops. The loops stop automatically if RSTOP % of the link flows change by less than "PCNEAR" percent (default 5%) from one assignment to the next.

WebTAG: 98% *SATURN Default: 97.5%* *Solent Model: 98%*

9.4.3 Table 37 shows the performance of the model for the criteria. The stopping criteria set for the model are also shown; these exceed the guidelines and setting these ensured that the model iterations continued until all the set criteria were satisfactorily met.

Table 37. Convergence and Stability Model Results

MEASURE OF CONVERGENCE	SATURN PARAM-ETER	BASE MODEL ACCEPTABLE VALUES	STOPPING CRITERIA	AM PEAK	INTER-PEAK	PM PEAK
%GAP	**NISTOP STPGAP**	less than **0.1%** or at least stable with convergence fully documented and all other criteria met	**<0.05%** (for base model)	0.020 0.039 0.018 0.029	0.018 0.018 0.018 0.019	0.045 0.025 0.049 0.029
Percentage of links with flow change (P)<1% **(for final four iterations)**	**NISTOP PCNEAR RSTOP**	four consecutive iterations greater than **98%**	four consecutive iterations greater than **98%**	98.5 98.4 98.3 98.7	98.2 98.4 98.6 98.6	98.6 98.3 98.9 98.0
Percentage of links with cost change (P2)<1% **(for final four iterations)**	NONE	four consecutive iterations greater than **98%**	four consecutive iterations greater than **98%**	99.1 99.2 99.1 99.3	99.9 99.9 99.9 99.9	99.3 99.4 99.3 99.1

10. SUMMARY OF MODEL DEVELOPMENT AND FITNESS FOR PURPOSE

10.1 Summary of Model Development

General

10.1.1 The Transport for South Hampshire (Solent) Sub-Regional Transport Model (SRTM) is an evidence based Land-Use and Transport Interaction model. It contains a suite of transport models and an associated Local Economic Impact Model (LEIM). The suite of transport models comprises the Main Demand Model (MDM), the Gateway Demand Model (GDM), Road Traffic Model (RTM) and Public Transport Model (PTM).

Objective

10.1.2 The SRTM will be used to support the assessment of a wide-ranging set of interventions across the Solent sub-region, and is specifically required to be capable of:

- forecasting changes in travel demand, road traffic and public transport patronage over time as a result changing economic conditions, land-use policies and development, and transport improvement and interventions;
- testing the impacts of land-use and transport policies and strategies within a relatively short model run time; and
- testing the impacts of individual transport interventions in the increased detail necessary for supporting submissions for inclusion in funding programmes within practical (but probably longer) run times.

10.1.3 The RTM has been developed to represent the base year demand, route choices and costs on the highway network. In terms of future scenarios, it will be used to represent the network impacts of different policy and infrastructure interventions.

Geographic Scope

10.1.4 The modelled area of the RTM is sub-divided into four regions which differ by zone aggregation and modelling detail, as follows:

- Core Fully Modelled Area (detailed zoning);
- Marginal Fully Modelled Area (detailed zoning);
- Buffer Area (zones based on wards); and
- External (zones based on districts).

10.1.5 The core fully modelled area is defined by the Transport for South Hampshire boundary. This is the area which will have the finest level of detail in the zoning and, for the RTM, a simulation network representation.

Centroid Connectors

10.1.6 The placing of centroid connectors has been carefully designed in order to ensure the loading of traffic onto the network is realistic. The number of centroids per zone has been

minimised to limit excessive reassignment effects through model calibration and forecasting.

10.1.7 The location of centroid connectors have been defined based on area photograph and professional judgment to identify patterns of traffic movement and feeding points of local traffic on the main model roads. This work was supported by client recommendations based on local knowledge.

Time Periods

10.1.8 The RTM is based on demand levels for one-hour periods, based on the distributions of the broader period. For the inter peak this is an average weekday hour between 10.00 and 16.00, whilst the AM (07.00-10.00) and PM (16.00-19.00) peak periods are represented by the peak hours. AM and PM peak matrices have been obtained from the period matrices, by applying peak hour factors which were calculated from an analysis of count data.

User Classes

10.1.9 The user classes for the RTM are based on the MDM trip purpose segments. The trip purpose segments are aggregated based on differentials in users' value of time (VoT) and differentials in vehicle operating cost (VoC). The RTM has the following assignment user classes:

- Car - Employer's Business;
- Car - Other;
- LGVs; and
- OGVs.

10.1.10 Travellers in the employer's business class have a higher value of time than in the other classes, which needs to be retained in the assignment model.

10.1.11 The 'Other' user class includes all car trips with purposes of commuting, shopping, education, leisure, personal business. These have been combined because the VoT:VoC relationship is considered to be sufficiently similar to not warrant the additional run times introduced by separate assignment segments.

Trip Matrices

10.1.12 The key steps in developing the base year matrices were:

- Development of the origin destination demand; and
- Development of the one hour RTM assignment matrices.

10.1.13 The origin/destination demand matrices are defined at the period level: AM (0700-1000), IP (1000-1600), PM (1600-1900), and Off Peak (1900-0700). They include four home-based and two non home-based personal trip purposes matrices.

10.1.14 The one-hour RTM assignment matrices were obtained from the corresponding origin/ destination demand matrices by:

- applying peak-hour or average hour factors;
- applying trip purpose-specific vehicle occupancy factors to convert the person matrices to vehicle matrices;
- applying passenger car units (PCUs) to the LGV and HGV demand matrices; and
- aggregating the demand matrices into the assignment purposes.

10.1.15 Assignment and validation of the one hour RTM matrices showed that matrix estimation was necessary to refine the prior matrices, particularly for trips crossing the calibration screenlines and not sampled using the OD surveys.

Assignment Methodology

10.1.16 The deterministic user equilibrium method implemented in the SATURN software is used. This assumes that users have perfect knowledge of the time taken to pass through the network from their origin to destination.

Calibration and Validation

10.1.17 Data was collected to calibrate and validate the RTM. The data is defined as either demand or supply. Demand data is any information used to calibrate and validate the demand matrices, and supply data is used for building the highway network.

10.1.18 Demand data collected for the purpose of calibrating and validation the RTM included:

- Roadside Interview Surveys (RSI);
- Screenline manual and automatic traffic counts; and
- Automatic number plate recognition (ANPR) survey.

10.1.19 Surveys were organised to collect the following supply data for the RTM:

- Journey time surveys; and
- Junction saturation flow surveys.

10.1.20 Further supply data included TrafficMaster data, signal data and speed limit information. In addition other existing models such as the PWCS were used for network validation.

10.2 Summary of Standards Achieved

10.2.1 Table 38 presents an overall view of the performance of the model against WebTAG criteria. The screenline validation in particular shows good results for the overall Road Traffic Model. The link flow and journey time validation do not meet the WebTAG criteria, however these overall criteria mask a reasonable performance, which is close to the meeting the acceptability guidelines.

Table 38. Summary of Validation Statistics

Measure	Criteria	Acceptability Guideline	AM Peak	Inter Peak	PM Peak
Matrix Validation	**Differences between modelled flows and counts should be less than 5% of the counts**	**All or nearly all screenlines (WebTAG)**	**91%**	**85%**	**85%**
	Differences between modelled flows and counts should be within GEH=4 of the counts	*N/A*	*92%*	*91%*	*82%*
	*Differences between modelled flows and counts should be less than **10%** of the counts*	*N/A*	*97%*	*95%*	*95%*
Link Flow Validation	**Individual flows within 15% of counts for flows from 700 to 2700 veh/h**	**>85% of cases (WebTAG)**	**60%**	**71%**	**60%**
	Individual flows within 100 veh/h of counts for flows less than 700 veh/h				
	Individual flows within 400 veh/h of counts for flows more than 2700 veh/h				
	GEH < 5 for individual flows	**> 85% of cases (WebTAG)**	**54%**	**63%**	**54%**
	*GEH < **10** for individual flows*	*N/A*	*80%*	*86%*	*77%*
Journey Times Validation	**Modelled times along routes should be within 15% of surveyed times (or 1 minute, if higher)**	**>85% of routes (WebTAG)**	**82%**	**80%**	**64%**
	*Modelled times along routes should be within **20%** of surveyed times (or 1 minute, if higher)*	*N/A*	*90%*	*94%*	*78%*

10.2.2 Table 38 demonstrates that the model performance is in general good, and that the screenline validation performs particularly well. This is critical, as of the three validation measures the matrix validation screenlines are of particular importance, as discussed below:

- **Matrix Validation** – Highly important, as it ensures the demand in the model is correct for assessing interventions and future changes;
- **Link Flow Validation** – Less significant at an individual link level, because routing can be volatile and vary from day to day; and
- **Journey Times Validation** – Also less crucial because journey times can vary, and it is more important that changes can be represented in the model both within mode and relatively between modes.

10.2.3 It should be noted also that the Solent Steering Group view the matrix validation to be of more importance than the link flow validation, as the expected interventions to be tested

generally cover mode shift changes rather than major highway improvements affecting traffic routing.

10.3 Conclusion

10.3.1 The SRTM model system covers a wide geographic area and contains a significant number of strategic motorways, primary routes and complex urban road networks. An unusual feature of the model is that it includes two main conurbations, Southampton and Portsmouth, significant district centres such as Fareham and Gosport, a number of peninsulas, and a third geographically distinct centre on the Isle of Wight. More typically traffic models are developed for either single corridors, free-standing cities or conurbations. The strategic validation of the Road Traffic Model needs to be considered in this context, i.e. a model of multiple, often parallel, corridors and multiple centres that generate urban and inter-urban trips combined with strategic road access routes using the Motorway and trunk road network.

10.3.2 The model has been constructed according to WebTAG recommendations, and validated against DMRB guidelines. The calibration process did not reveal any significant problems or shortcomings in the base year model. The quality of validation of the model is in general good, with the screenline validation performing particularly well. This is critical, as it ensures the demand in the model is correct for assessing multi-modal interventions and future changes.

10.3.3 The journey time validation and the patterns of junction delay appear consistent and plausible, although the link flow and journey time validation do not meet the WebTAG criteria. However, these recommended criteria mask a good model performance that is close to meeting the acceptability guidelines.

10.3.4 It is often considered that the WebTAG thresholds of acceptability are more suited to smaller, less complex models, and as such it may be argued that a certain level of flexibility is acceptable given the scale and complexity of the SRTM.

10.3.5 The calibration and validation suggest that the model is fit for the purpose of representing the highway traffic patterns in the base year, as part of the SRTM.

10.3.6 The model encompasses a large geographic area at different levels of detail and is expected to be used to consider a range of strategic and specific interventions, e.g. representing the main highway movements, the impact of major highway and public transport interventions on those movements, and providing controlled and consistent inputs to local or more detailed models.

10.3.7 It is acknowledged that whilst fit for general purpose, depending on the nature and scope of the intervention being tested, additional local validation checks may be beneficial for model application for specific interventions at a local level.

APPENDIX A
CORDONS, SCREENLINES and LINK VALIDATION

AM
Vehicles

Cordon/ Screenline	Dir	Sites	Cordon and Screenlines Validation: Observed	Model	Diff	% Diff	GEH	GEH<= 4	WebTAG within 5.0%	WebTAG within 7.5%	WebTAG within 10.0%	Link Validation: WebTAG within Abs or %	GEH=5	GEH=7.5	GEH=10
RSI Cordons and Screenlines															
1 Fareham Enclosure	Outbound	16	10,689	11,239	550	5.1%	5.3	N	N	Y	Y	69%	63%	69%	75%
1 Fareham Enclosure	Inbound	16	10,880	11,417	537	4.9%	5.1	N	Y	Y	Y	50%	50%	63%	75%
2 Havant Enclosure	Outbound	11	5,540	5,569	29	0.5%	0.4	Y	Y	Y	Y	36%	27%	73%	91%
2 Havant Enclosure	Inbound	11	5,805	5,801	-4	-0.1%	0.0	Y	Y	Y	Y	64%	55%	73%	82%
3 Hayling Island Enclosure	Outbound	1	1,498	1,508	10	0.7%	0.3	Y	Y	Y	Y	100%	100%	100%	100%
3 Hayling Island Enclosure	Inbound	1	870	880	10	1.1%	0.3	Y	Y	Y	Y	100%	100%	100%	100%
4 Hedge End Enclosure	Outbound	8	5,344	5,807	463	8.7%	6.2	N	N	N	Y	50%	63%	75%	88%
4 Hedge End Enclosure	Inbound	8	5,152	4,937	-215	-4.2%	3.0	Y	Y	Y	Y	50%	50%	75%	75%
5 Waterlooville Enclosure	Outbound	18	11,227	11,261	34	0.3%	0.3	Y	Y	Y	Y	39%	39%	50%	78%
5 Waterlooville Enclosure	Inbound	18	9,447	9,637	190	2.0%	1.9	Y	Y	Y	Y	50%	33%	67%	78%
71 Portsmouth South Enclosure	Outbound	6	4,527	4,509	-18	-0.4%	0.3	Y	Y	Y	Y	83%	83%	83%	100%
71 Portsmouth South Enclosure	Inbound	6	4,616	4,581	-36	-0.8%	0.5	Y	Y	Y	Y	50%	67%	67%	83%
72 Portsmouth North Enclosure	Outbound	8	7,231	7,086	-145	-2.0%	1.7	Y	Y	Y	Y	33%	67%	67%	83%
72 Portsmouth North Enclosure	Inbound	8	8,254	8,287	33	0.4%	0.4	Y	Y	Y	Y	75%	63%	88%	88%
8 Southampton City Enclosure	Outbound	12	4,893	5,039	147	3.0%	2.1	Y	Y	Y	Y	67%	50%	67%	83%
8 Southampton City Enclosure	Inbound	12	7,688	7,454	-234	-3.0%	2.7	Y	Y	Y	Y	25%	25%	42%	50%
91 Bitterne West Screenline	Eastbound	5	2,957	2,883	-74	-2.5%	1.4	Y	Y	Y	Y	80%	100%	100%	100%
91 Bitterne West Screenline	Westbound	5	5,586	5,627	41	0.7%	0.5	Y	Y	Y	Y	40%	40%	60%	100%
92 Bitterne East Screenline	Eastbound	4	3,669	3,581	-88	-2.4%	1.5	Y	Y	Y	Y	50%	50%	100%	100%
92 Bitterne East Screenline	Westbound	4	3,266	3,301	35	1.1%	0.6	Y	Y	Y	Y	50%	50%	50%	75%
10 Locks Heath North Screenline	Outbound	9	6,648	6,837	188	2.8%	2.3	Y	Y	Y	Y	56%	56%	89%	89%
10 Locks Heath North Screenline	Inbound	9	6,791	6,756	-35	-0.5%	0.4	Y	Y	Y	Y	56%	56%	56%	67%
11 Totton Enclosure	Outbound	19	9,671	9,785	114	1.2%	1.2	Y	Y	Y	Y	83%	72%	72%	78%
11 Totton Enclosure	Inbound	19	10,156	10,367	211	2.1%	2.1	Y	Y	Y	Y	61%	56%	61%	67%
12 Eastleigh Enclosure	Outbound	11	5,272	5,246	-26	-0.5%	0.4	Y	Y	Y	Y	64%	73%	73%	91%
12 Eastleigh Enclosure	Inbound	11	5,991	6,406	414	6.9%	5.3	N	N	Y	Y	27%	27%	55%	73%
13 Southampton Enclosure	Outbound	14	11,443	11,636	194	1.7%	1.8	Y	Y	Y	Y	64%	71%	86%	93%
13 Southampton Enclosure	Inbound	14	15,311	15,346	34	0.2%	0.3	Y	Y	Y	Y	29%	36%	64%	93%
36 Solent RSI Cordon	Northbound	3	216	180	-36	-16.8%	2.6	Y	N	N	N	100%	100%	100%	100%
36 Solent RSI Cordon	Southbound	3	198	80	-118	-59.4%	10.0	N	N	N	N	100%	67%	67%	67%
Total	**Total**	290	190,840	193,046	2,206	1.2%		83%	83%	90%	93%	55%	54%	69%	81%
Calibration Screenlines															
20 Totton	Eastbound	8	3,896	3,982	86	2.2%	1.4	Y	Y	Y	Y	88%	88%	88%	88%
20 Totton	Westbound	8	3,346	3,536	190	5.7%	3.2	Y	N	Y	Y	38%	38%	50%	75%
21 North of Southampton	Eastbound	15	11,511	11,287	-224	-1.9%	2.1	Y	Y	Y	Y	40%	27%	47%	67%
21 North of Southampton	Westbound	15	10,993	10,964	-29	-0.3%	0.3	Y	Y	Y	Y	33%	27%	47%	60%
22 South of Southampton	Eastbound	7	5,047	5,117	70	1.4%	1.0	Y	Y	Y	Y	43%	29%	43%	71%
22 South of Southampton	Westbound	7	4,442	4,604	162	3.7%	2.4	Y	Y	Y	Y	57%	57%	57%	57%
23 Eastleigh	Eastbound	6	8,843	8,668	-175	-2.0%	1.9	Y	Y	Y	Y	67%	67%	83%	100%
23 Eastleigh	Westbound	6	7,903	7,753	-150	-1.9%	1.7	Y	Y	Y	Y	33%	33%	33%	67%
24 Bitterne Northwest to Southeast	Eastbound	15	5,066	4,978	-88	-1.7%	1.2	Y	Y	Y	Y	43%	36%	50%	71%
24 Bitterne Northwest to Southeast	Westbound	15	5,686	5,543	-143	-2.5%	1.9	Y	Y	Y	Y	86%	57%	79%	93%
25 Bitterne Southwest to Northeast	Eastbound	10	4,462	4,350	-112	-2.5%	1.7	Y	Y	Y	Y	44%	44%	67%	67%
25 Bitterne Southwest to Northeast	Westbound	10	4,785	4,953	167	3.5%	2.4	Y	Y	Y	Y	67%	67%	100%	100%
26 Fareham North South	Eastbound	9	8,241	8,250	9	0.1%	0.1	Y	Y	Y	Y	67%	56%	67%	78%
26 Fareham North South	Westbound	9	7,979	8,207	228	2.9%	2.5	Y	Y	Y	Y	50%	38%	50%	88%
271 Locks Heath West to East	Northbound	11	5,031	5,124	93	1.8%	1.3	Y	Y	Y	Y	55%	55%	64%	82%
271 Locks Heath West to East	Southbound	11	3,002	2,991	-11	-0.4%	0.2	Y	Y	Y	Y	45%	36%	45%	73%
272 Fareham West to East	Northbound	4	1,885	1,945	59	3.1%	1.4	Y	Y	Y	Y	75%	75%	100%	100%
272 Fareham West to East	Southbound	4	2,042	2,117	76	3.7%	1.7	Y	Y	Y	Y	25%	50%	50%	50%
28 Gosport	Northbound	6	3,445	3,437	-8	-0.2%	0.1	Y	Y	Y	Y	50%	50%	83%	83%
28 Gosport	Southbound	6	2,768	2,721	-47	-1.7%	0.9	Y	Y	Y	Y	83%	67%	83%	83%
29 Portsmouth NorthSouth	Eastbound	16	9,608	9,269	-338	-3.5%	3.5	Y	Y	Y	Y	75%	69%	88%	88%
29 Portsmouth NorthSouth	Westbound	17	10,998	10,664	-334	-3.0%	3.2	Y	Y	Y	Y	41%	24%	47%	59%
30 Portsmouth EastWest	Northbound	9	6,377	6,350	-27	-0.4%	0.3	Y	Y	Y	Y	67%	44%	44%	89%
30 Portsmouth EastWest	Southbound	9	6,932	6,848	-84	-1.2%	1.0	Y	Y	Y	Y	78%	56%	67%	78%
31 Cosham	Eastbound	5	8,740	8,814	74	0.8%	0.8	Y	Y	Y	Y	60%	60%	60%	80%
31 Cosham	Westbound	5	7,872	7,991	118	1.5%	1.3	Y	Y	Y	Y	60%	60%	60%	60%
32 Waterlooville North to South	Eastbound	15	11,471	11,320	-151	-1.3%	1.4	Y	Y	Y	Y	40%	33%	40%	60%
32 Waterlooville North to South	Westbound	15	11,667	11,646	-21	-0.2%	0.2	Y	Y	Y	Y	53%	47%	53%	67%
33 Waterlooville West to East	Northbound	5	3,733	3,733	0	0.0%	0.0	Y	Y	Y	Y	80%	60%	100%	100%
33 Waterlooville West to East	Southbound	5	4,994	5,019	25	0.5%	0.4	Y	Y	Y	Y	80%	60%	100%	100%
34 Havant North South	Eastbound	7	4,770	4,897	127	2.7%	1.8	Y	Y	Y	Y	71%	57%	71%	86%
34 Havant North South	Westbound	7	5,131	5,189	59	1.1%	0.8	Y	Y	Y	Y	100%	100%	100%	100%
35 Havant East West	Northbound	11	4,868	4,894	26	0.5%	0.4	Y	Y	Y	Y	64%	45%	55%	64%
35 Havant East West	Southbound	11	6,360	6,294	-65	-1.0%	0.8	Y	Y	Y	Y	55%	45%	45%	73%
201 Winchester Cordon	Outbound	15	4,514	4,434	-80	-1.8%	1.2	Y	Y	Y	Y	80%	67%	73%	93%
201 Winchester Cordon	Inbound	15	5,914	5,851	-63	-1.1%	0.8	Y	Y	Y	Y	67%	60%	67%	73%
Total		349	224,324	223,741	-582	-0.3%		100%	97%	100%	100%	59%	50%	63%	77%
Motorways															
M27	Eastbound	14										86%	86%	93%	93%
M27	Westbound	14										85%	85%	85%	92%
M3	Eastbound	6										60%	60%	100%	100%
M3	Westbound	6										100%	80%	100%	100%
A3(M)	Northbound	4										100%	75%	100%	100%
A3(M)	Southbound	4										100%	100%	100%	100%
M275	Northbound	1										100%	100%	100%	100%
M275	Southbound	1										100%	100%	100%	100%
M271	Northbound	2										100%	100%	100%	100%
M271	Southbound	2										100%	100%	100%	100%
Total	**Total**	54										88%	84%	94%	96%
Overall								92%	91%	95%	97%	60%	54%	68%	80%

APPENDIX A
CORDONS, SCREENLINES and LINK VALIDATION

AM
Car

Cordon/ Screenline	Dir	Sites	Cordon and Screenlines Validation									Link Validation			
			Observed	Model	Diff	% Diff	GEH	GEH<= 4	WebTAG within 5.0%	WebTAG within 7.5%	WebTAG within 10.0%	WebTAG within Abs or %	WebTAG within GEH=5	WebTAG within GEH=7.5	WebTAG within GEH=10
RSI Cordons and Screenlines															
1 Fareham Enclosure	Outbound	16	8,963	9,305	342	3.8%	3.6	Y	Y	Y	Y	69%	63%	69%	75%
1 Fareham Enclosure	Inbound	16	9,150	9,500	351	3.8%	3.6	Y	Y	Y	Y	50%	50%	63%	81%
2 Havant Enclosure	Outbound	11	4,587	4,611	24	0.5%	0.3	Y	Y	Y	Y	55%	45%	64%	91%
2 Havant Enclosure	Inbound	11	4,834	4,853	18	0.4%	0.3	Y	Y	Y	Y	73%	64%	73%	82%
3 Hayling Island Enclosure	Outbound	1	1,193	1,204	11	0.9%	0.3	Y	Y	Y	Y	100%	100%	100%	100%
3 Hayling Island Enclosure	Inbound	1	730	677	-53	-7.3%	2.0	Y	N	Y	Y	100%	100%	100%	100%
4 Hedge End Enclosure	Outbound	8	4,506	4,730	224	5.0%	3.3	Y	Y	Y	Y	63%	75%	75%	88%
4 Hedge End Enclosure	Inbound	8	4,327	4,124	-203	-4.7%	3.1	Y	Y	Y	Y	50%	50%	63%	75%
5 Waterlooville Enclosure	Outbound	18	9,225	9,397	172	1.9%	1.8	Y	Y	Y	Y	50%	56%	72%	78%
5 Waterlooville Enclosure	Inbound	18	7,816	7,901	84	1.1%	0.9	Y	Y	Y	Y	67%	56%	67%	72%
71 Portsmouth South Enclosure	Outbound	6	4,012	3,944	-68	-1.7%	1.1	Y	Y	Y	Y	83%	83%	83%	100%
71 Portsmouth South Enclosure	Inbound	6	3,964	3,895	-68	-1.7%	1.1	Y	Y	Y	Y	67%	67%	67%	67%
72 Portsmouth North Enclosure	Outbound	8	6,093	6,013	-80	-1.3%	1.0	Y	Y	Y	Y	50%	50%	67%	83%
72 Portsmouth North Enclosure	Inbound	8	7,102	7,090	-12	-0.2%	0.1	Y	Y	Y	Y	75%	75%	75%	88%
8 Southampton City Enclosure	Outbound	12	4,098	4,067	-32	-0.8%	0.5	Y	Y	Y	Y	75%	58%	75%	83%
8 Southampton City Enclosure	Inbound	12	6,447	6,234	-214	-3.3%	2.7	Y	Y	Y	Y	42%	33%	42%	42%
91 Bitterne West Screenline	Eastbound	5	2,596	2,531	-65	-2.5%	1.3	Y	Y	Y	Y	100%	100%	100%	100%
91 Bitterne West Screenline	Westbound	5	4,907	4,971	65	1.3%	0.9	Y	Y	Y	Y	60%	60%	100%	100%
92 Bitterne East Screenline	Eastbound	4	3,159	3,036	-123	-3.9%	2.2	Y	Y	Y	Y	25%	25%	75%	100%
92 Bitterne East Screenline	Westbound	4	2,710	2,675	-34	-1.3%	0.7	Y	Y	Y	Y	50%	50%	50%	75%
10 Locks Heath North Screenline	Outbound	9	5,508	5,669	161	2.9%	2.2	Y	Y	Y	Y	78%	78%	78%	89%
10 Locks Heath North Screenline	Inbound	9	5,567	5,593	26	0.5%	0.3	Y	Y	Y	Y	56%	56%	67%	67%
11 Totton Enclosure	Outbound	19	8,095	7,955	-140	-1.7%	1.6	Y	Y	Y	Y	72%	61%	78%	83%
11 Totton Enclosure	Inbound	19	8,485	8,471	-14	-0.2%	0.2	Y	Y	Y	Y	61%	56%	61%	72%
12 Eastleigh Enclosure	Outbound	11	4,282	4,122	-160	-3.7%	2.5	Y	Y	Y	Y	73%	73%	82%	82%
12 Eastleigh Enclosure	Inbound	11	5,170	5,470	299	5.8%	4.1	N	N	Y	Y	18%	27%	55%	82%
13 Southampton Enclosure	Outbound	14	9,931	9,961	30	0.3%	0.3	Y	Y	Y	Y	79%	71%	86%	93%
13 Southampton Enclosure	Inbound	14	13,457	13,415	-41	-0.3%	0.4	Y	Y	Y	Y	43%	43%	86%	93%
36 Solent RSI Cordon	Northbound	3	172	180	8	4.6%	0.6	Y	Y	Y	Y	100%	100%	100%	100%
36 Solent RSI Cordon	Southbound	3	131	80	-51	-38.7%	4.9	N	N	N	N	100%	67%	67%	67%
Total	**Total**	290	161,218	161,674	456	0.3%		93%	90%	97%	97%	62%	58%	71%	81%
Calibration Screenlines															
20 Totton	Eastbound	8	3,246	3,266	20	0.6%	0.3	Y	Y	Y	Y	100%	88%	88%	88%
20 Totton	Westbound	8	2,634	2,722	88	3.4%	1.7	Y	Y	Y	Y	50%	50%	50%	63%
21 North of Southampton	Eastbound	15	9,924	9,738	-186	-1.9%	1.9	Y	Y	Y	Y	47%	33%	47%	67%
21 North of Southampton	Westbound	15	9,345	9,278	-67	-0.7%	0.7	Y	Y	Y	Y	33%	33%	53%	60%
22 South of Southampton	Eastbound	7	4,450	4,426	-23	-0.5%	0.4	Y	Y	Y	Y	43%	29%	43%	71%
22 South of Southampton	Westbound	7	3,927	3,962	35	0.9%	0.6	Y	Y	Y	Y	57%	57%	57%	71%
23 Eastleigh	Eastbound	6	7,521	7,298	-223	-3.0%	2.6	Y	Y	Y	Y	67%	67%	83%	100%
23 Eastleigh	Westbound	6	6,575	6,385	-190	-2.9%	2.4	Y	Y	Y	Y	33%	33%	33%	50%
24 Bitterne Northwest to Southeast	Eastbound	15	4,495	4,379	-116	-2.6%	1.7	Y	Y	Y	Y	57%	50%	57%	71%
24 Bitterne Northwest to Southeast	Westbound	15	4,959	4,796	-163	-3.3%	2.3	Y	Y	Y	Y	79%	43%	79%	86%
25 Bitterne Southwest to Northeast	Eastbound	10	3,942	3,859	-83	-2.1%	1.3	Y	Y	Y	Y	44%	44%	56%	67%
25 Bitterne Southwest to Northeast	Westbound	10	4,263	4,405	142	3.3%	2.2	Y	Y	Y	Y	67%	89%	100%	100%
26 Fareham North South	Eastbound	9	6,984	6,879	-105	-1.5%	1.3	Y	Y	Y	Y	67%	67%	78%	78%
26 Fareham North South	Westbound	9	6,731	6,887	156	2.3%	1.9	Y	Y	Y	Y	63%	50%	75%	88%
271 Locks Heath West to East	Northbound	11	4,325	4,419	94	2.2%	1.4	Y	Y	Y	Y	64%	64%	64%	82%
271 Locks Heath West to East	Southbound	11	2,528	2,544	16	0.6%	0.3	Y	Y	Y	Y	45%	36%	55%	73%
272 Fareham West to East	Northbound	4	1,618	1,690	72	4.4%	1.8	Y	Y	Y	Y	75%	75%	100%	100%
272 Fareham West to East	Southbound	4	1,728	1,814	86	5.0%	2.0	Y	Y	Y	Y	50%	50%	50%	50%
28 Gosport	Northbound	6	2,957	2,958	1	0.0%	0.0	Y	Y	Y	Y	50%	67%	67%	83%
28 Gosport	Southbound	6	2,393	2,364	-28	-1.2%	0.6	Y	Y	Y	Y	83%	67%	67%	83%
29 Portsmouth NorthSouth	Eastbound	16	7,980	7,629	-351	-4.4%	4.0	Y	Y	Y	Y	73%	69%	81%	81%
29 Portsmouth NorthSouth	Westbound	17	9,469	9,199	-270	-2.8%	2.8	Y	Y	Y	Y	47%	29%	53%	59%
30 Portsmouth EastWest	Northbound	9	5,413	5,386	-27	-0.5%	0.4	Y	Y	Y	Y	56%	44%	56%	89%
30 Portsmouth EastWest	Southbound	9	6,025	5,953	-72	-1.2%	0.9	Y	Y	Y	Y	67%	67%	67%	89%
31 Cosham	Eastbound	5	7,460	7,350	-109	-1.5%	1.3	Y	Y	Y	Y	60%	60%	60%	80%
31 Cosham	Westbound	5	6,822	6,798	-24	-0.4%	0.3	Y	Y	Y	Y	60%	60%	60%	60%
32 Waterlooville North to South	Eastbound	15	9,673	9,390	-283	-2.9%	2.9	Y	Y	Y	Y	53%	53%	53%	60%
32 Waterlooville North to South	Westbound	15	9,838	9,723	-115	-1.2%	1.2	Y	Y	Y	Y	47%	40%	60%	73%
33 Waterlooville West to East	Northbound	5	3,216	3,142	-74	-2.3%	1.3	Y	Y	Y	Y	80%	80%	100%	100%
33 Waterlooville West to East	Southbound	5	4,208	4,120	-88	-2.1%	1.4	Y	Y	Y	Y	100%	80%	100%	100%
34 Havant North South	Eastbound	7	4,035	3,978	-57	-1.4%	0.9	Y	Y	Y	Y	71%	71%	71%	86%
34 Havant North South	Westbound	7	4,398	4,389	-10	-0.2%	0.1	Y	Y	Y	Y	100%	100%	100%	100%
35 Havant East West	Northbound	11	4,116	3,986	-130	-3.2%	2.0	Y	Y	Y	Y	64%	45%	55%	73%
35 Havant East West	Southbound	11	5,424	5,480	56	1.0%	0.8	Y	Y	Y	Y	64%	45%	55%	64%
201 Winchester Cordon	Outbound	15	3,735	3,683	-52	-1.4%	0.8	Y	Y	Y	Y	92%	69%	92%	100%
201 Winchester Cordon	Inbound	15	4,996	4,923	-73	-1.5%	1.0	Y	Y	Y	Y	69%	69%	69%	69%
Total		349	191,353	189,201	-2,152	-1.1%		100%	100%	100%	100%	62%	55%	66%	77%
Motorways															
M27	Eastbound	14										93%	93%	93%	93%
M27	Westbound	14										85%	85%	92%	100%
M3	Eastbound	6										60%	60%	100%	100%
M3	Westbound	6										100%	100%	100%	100%
A3(M)	Northbound	4										100%	75%	100%	100%
A3(M)	Southbound	4										100%	100%	100%	100%
M275	Northbound	1										100%	100%	100%	100%
M275	Southbound	1										100%	100%	100%	100%
M271	Northbound	2										100%	100%	100%	100%
M271	Southbound	2										100%	100%	100%	100%
Total	**Total**	54										90%	88%	96%	98%
Overall								97%	95%	98%	98%	64%	59%	71%	80%

APPENDIX A: LINK VALIDATION SOUTHAMPTON AND NEW FOREST

SRTM 2015 **AM** **AM** **AM** **AM**

CORDONS AND SCREENLINES **VEHICLES** **CAR** **LGV** **HGV**

Site Description	*Dir*	Obs	Model	Diff	% Diff	GEH	WebTAG Within				Obs	Model	Diff	% Diff	GEH	WebTAG Within				Obs	Model	Diff	% Diff	GEH	WebTAG Within				Obs	Model	Diff	% Diff	GEH	WebTAG Within			
							Abs %	GEH5	GEH7.5	GEH10						Abs or %	GEH=5	GEH=7.5	GEH=10						Abs or %	GEH=5	GEH=7.5	GEH=10						Abs or %	GEH=5	GEH=7.5	GEH=10
8 Southampton City Enclosure																																			
Outbound																																			
A33 Mountbatten Way	*W*	1,396	1,531	135	10%	3.5	Y	Y	Y	Y	1,186	1,244	58	5%	1.7	Y	Y	Y	Y	146	166	19	13%	1.6	Y	Y	Y	Y	64	120	56	88%	5.9	Y	N	Y	Y
Central Station Bridge	*N*	587	612	24	4%	1.0	Y	Y	Y	Y	506	531	25	5%	1.1	Y	Y	Y	Y	59	79	20	34%	2.4	Y	Y	Y	Y	21	-	- 21	-100%	6.4	Y	N	Y	Y
Blechynden Terrace	*W*	133	206	73	55%	5.6	Y	N	Y	Y	105	134	28	27%	2.6	Y	Y	Y	Y	7	18	11	159%	3.1	Y	Y	Y	Y	11	10	- 1	-5%	0.2	Y	Y	Y	Y
Cumberland Place	*N*	559	289	- 270	-48%	13.1	N	N	N	N	476	224	- 252	-53%	13.5	N	N	N	N	37	24	- 13	-35%	2.3	Y	Y	Y	Y	38	41	2	7%	0.4	Y	Y	Y	Y
Above Bar Street - (one way this direction)	*N*	83	159	76	92%	6.9	Y	N	Y	Y	52	110	58	110%	6.4	Y	N	Y	Y	8	14	6	77%	1.8	Y	Y	Y	Y	15	7	- 8	-54%	2.4	Y	Y	Y	Y
East Park Terrace	*N*	249	255	6	3%	0.4	Y	Y	Y	Y	205	215	10	5%	0.7	Y	Y	Y	Y	24	8	- 16	-66%	3.9	Y	Y	Y	Y	18	29	12	67%	2.4	Y	Y	Y	Y
New Road	*E*	427	373	- 53	-12%	2.7	Y	Y	Y	Y	363	271	- 92	-25%	5.2	Y	N	Y	Y	36	39	3	8%	0.5	Y	Y	Y	Y	26	41	15	57%	2.6	Y	Y	Y	Y
Kingsway	*N*	490	310	- 181	-37%	9.0	N	N	N	Y	416	246	- 170	-41%	9.4	N	N	N	Y	44	43	- 1	-2%	0.1	Y	Y	Y	Y	30	21	- 9	-30%	1.8	Y	Y	Y	Y
St Marys Street	*N*	134	605	471	350%	24.5	N	N	N	N	112	475	363	324%	21.2	N	N	N	N	19	92	73	388%	9.8	Y	N	N	Y	3	38	35	1009%	7.6	Y	N	N	Y
Britannia Road	*N*	189	216	27	14%	1.9	Y	Y	Y	Y	137	178	40	29%	3.2	Y	Y	Y	Y	29	22	- 7	-25%	1.4	Y	Y	Y	Y	21	16	- 5	-23%	1.1	Y	Y	Y	Y
Princes Street	*W*	207	106	- 101	-49%	8.1	N	N	N	Y	146	95	- 51	-35%	4.6	Y	Y	Y	Y	37	7	- 30	-81%	6.3	Y	N	Y	Y	24	4	- 20	-82%	5.2	Y	N	Y	Y
Itchen Bridge	*E*	438	377	- 61	-14%	3.0	Y	Y	Y	Y	392	344	- 48	-12%	2.5	Y	Y	Y	Y	21	6	- 15	-73%	4.2	Y	Y	Y	Y	24	-	- 24	-100%	7.0	Y	N	Y	Y
		4,893	**5,039**	**147**	**3.0%**	**2.1**	**67%**	**50%**	**67%**	**83%**	**4,098**	**4,067**	**- 32**	**-0.8%**	**0.5**	**75%**	**58%**	**75%**	**83%**	**467**	**518**	**51**	**11.0%**	**2.3**	**100%**	**83%**	**92%**	**100%**	**294**	**328**	**34**	**11.4%**	**1.9**	**100%**	**58%**	**92%**	**100%**
Inbound																																			
A33 Mountbatten Way	*E*	2,523	2,587	63	3%	1.3	Y	Y	Y	Y	2,143	2,183	40	2%	0.9	Y	Y	Y	Y	264	295	31	12%	1.9	Y	Y	Y	Y	116	108	- 8	-7%	0.8	Y	Y	Y	Y
Central Station Bridge	*S*	499	249	- 251	-50%	13.0	N	N	N	N	440	218	- 222	-50%	12.2	N	N	N	N	45	30	- 15	-34%	2.5	Y	Y	Y	Y	14	-	- 14	-100%	5.3	Y	N	Y	Y
Blechynden Terrace	*E*	169	608	440	260%	22.3	N	N	N	N	107	481	374	348%	21.8	N	N	N	N	13	61	47	352%	7.8	Y	N	N	Y	30	21	- 9	-31%	1.9	Y	Y	Y	Y
Cumberland Place	*S*	627	400	- 227	-36%	10.0	N	N	N	N	516	293	- 223	-43%	11.1	N	N	N	N	65	53	- 12	-18%	1.5	Y	Y	Y	Y	42	52	10	23%	1.4	Y	Y	Y	Y
Above Bar Street - (one way in other direction)	*N*	83	159	76	92%	6.9	Y	N	Y	Y	52	110	58	110%	6.4	Y	N	Y	Y	8	14	6	77%	1.8	Y	Y	Y	Y	15	7	- 8	-54%	2.4	Y	Y	Y	Y
East Park Terrace	*S*	378	186	- 192	-51%	11.4	N	N	N	N	316	149	- 168	-53%	11.0	N	N	N	N	37	21	- 16	-44%	3.0	Y	Y	Y	Y	24	14	- 10	-42%	2.4	Y	Y	Y	Y
New Road	*W*	541	310	- 231	-43%	11.2	N	N	N	N	467	141	- 325	-70%	18.7	N	N	N	N	51	61	9	18%	1.3	Y	Y	Y	Y	22	86	64	286%	8.7	Y	N	N	Y
Kingsway	*S*	704	586	- 119	-17%	4.7	N	Y	Y	Y	574	491	- 83	-15%	3.6	Y	Y	Y	Y	71	51	- 19	-27%	2.5	Y	Y	Y	Y	54	43	- 11	-20%	1.6	Y	Y	Y	Y
St Marys Street	*S*	158	345	187	118%	11.8	N	N	N	N	141	292	151	106%	10.2	N	N	N	N	13	35	22	162%	4.4	Y	Y	Y	Y	3	18	15	429%	4.5	Y	Y	Y	Y
Britannia Road	*S*	161	308	147	91%	9.6	N	N	N	Y	126	275	150	119%	10.6	N	N	N	N	22	18	- 4	-16%	0.8	Y	Y	Y	Y	13	15	2	14%	0.5	Y	Y	Y	Y
Princes Street	*E*	637	495	- 142	-22%	6.0	N	N	Y	Y	505	454	- 51	-10%	2.3	Y	Y	Y	Y	91	30	- 61	-67%	7.8	Y	N	N	Y	39	11	- 29	-73%	5.7	Y	N	Y	Y
Itchen Bridge	*W*	1,207	1,221	14	1%	0.4	Y	Y	Y	Y	1,060	1,147	88	8%	2.6	Y	Y	Y	Y	89	46	- 42	-48%	5.1	Y	N	Y	Y	48	-	- 48	-100%	9.8	Y	N	N	Y
		7,688	**7,454**	**- 234**	**-3.0%**	**2.7**	**25%**	**25%**	**42%**	**50%**	**6,447**	**6,234**	**- 214**	**-3.3%**	**2.7**	**42%**	**33%**	**42%**	**42%**	**769**	**716**	**- 54**	**-7.0%**	**2.0**	**100%**	**75%**	**83%**	**100%**	**422**	**375**	**- 47**	**-11.2%**	**2.4**	**100%**	**67%**	**83%**	**100%**
91 Bitterne West Screenline																																			
Eastbound																																			
Itchen Bridge	*E*	438	377	- 61	-14%	3.0	Y	Y	Y	Y	392	344	- 48	-12%	2.5	Y	Y	Y	Y	21	6	- 15	-73%	4.2	Y	Y	Y	Y	24	-	- 24	-100%	7.0	Y	N	Y	Y
Northam Bridge	*E*	859	748	- 111	-13%	3.9	Y	Y	Y	Y	729	645	- 85	-12%	3.2	Y	Y	Y	Y	90	40	- 50	-56%	6.2	Y	N	Y	Y	39	40	0	1%	0.0	Y	Y	Y	Y
Cobden Bridge	*E*	626	686	60	10%	2.4	Y	Y	Y	Y	570	626	56	10%	2.3	Y	Y	Y	Y	34	33	- 1	-3%	0.2	Y	Y	Y	Y	20	19	- 1	-7%	0.3	Y	Y	Y	Y
Woodmill Lane	*S*	538	460	- 78	-14%	3.5	Y	Y	Y	Y	483	426	- 57	-12%	2.7	Y	Y	Y	Y	44	23	- 21	-47%	3.6	Y	Y	Y	Y	11	12	0	4%	0.1	Y	Y	Y	Y
Mansbridge Road	*E*	497	611	115	23%	4.9	N	Y	Y	Y	422	490	68	16%	3.2	Y	Y	Y	Y	55	89	34	62%	4.0	Y	Y	Y	Y	17	31	13	77%	2.7	Y	Y	Y	Y
		2,957	**2,883**	**- 74**	**-2.5%**	**1.4**	**80%**	**100%**	**100%**	**100%**	**2,596**	**2,531**	**- 65**	**-2.5%**	**1.3**	**100%**	**100%**	**100%**	**100%**	**244**	**192**	**- 53**	**-21.6%**	**3.6**	**100%**	**80%**	**100%**	**100%**	**112**	**101**	**- 12**	**-10.3%**	**1.1**	**100%**	**80%**	**100%**	**100%**
Westbound																																			
Itchen Bridge	*W*	1,207	1,221	14	1%	0.4	Y	Y	Y	Y	1,060	1,147	88	8%	2.6	Y	Y	Y	Y	89	46	- 42	-48%	5.1	Y	N	Y	Y	48	-	- 48	-100%	9.8	Y	N	N	Y
Northam Bridge	*W*	2,012	1,660	- 352	-17%	8.2	N	N	N	Y	1,709	1,431	- 278	-16%	7.0	N	N	Y	Y	211	98	- 112	-53%	9.0	N	N	N	Y	92	106	14	15%	1.4	Y	Y	Y	Y
Cobden Bridge	*W*	1,176	1,390	214	18%	6.0	N	N	Y	Y	1,077	1,224	146	14%	4.3	Y	Y	Y	Y	59	117	57	97%	6.1	Y	N	Y	Y	38	42	4	10%	0.6	Y	Y	Y	Y
Woodmill Lane	*N*	295	442	146	50%	7.6	N	N	N	Y	260	377	117	45%	6.6	N	N	Y	Y	27	40	13	50%	2.3	Y	Y	Y	Y	8	24	16	190%	3.9	Y	Y	Y	Y
Mansbridge Road	*W*	895	913	18	2%	0.6	Y	Y	Y	Y	801	792	- 9	-1%	0.3	Y	Y	Y	Y	67	70	3	4%	0.3	Y	Y	Y	Y	25	50	26	103%	4.2	Y	Y	Y	Y
		5,586	**5,627**	**41**	**0.7%**	**0.5**	**40%**	**40%**	**60%**	**100%**	**4,907**	**4,971**	**65**	**1.3%**	**0.9**	**60%**	**60%**	**100%**	**100%**	**453**	**372**	**- 81**	**-17.9%**	**4.0**	**80%**	**40%**	**80%**	**100%**	**212**	**223**	**11**	**5.3%**	**0.8**	**100%**	**80%**	**80%**	**100%**
92 Bitterne East Screenline																																			
Eastbound																																			
Botley Road	*E*	807	637	- 170	-21%	6.3	N	N	Y	Y	706	502	- 204	-29%	8.3	N	N	N	Y	74	79	5	7%	0.6	Y	Y	Y	Y	24	53	29	117%	4.6	Y	Y	Y	Y
A334 Charles Watts Way	*E*	882	989	106	12%	3.5	Y	Y	Y	Y	757	883	126	17%	4.4	N	Y	Y	Y	85	83	- 3	-3%	0.3	Y	Y	Y	Y	38	22	- 16	-42%	2.9	Y	Y	Y	Y
St. John's Road	*N*	384	544	160	42%	7.4	N	N	Y	Y	344	489	145	42%	7.1	N	N	Y	Y	34	55	21	61%	3.1	Y	Y	Y	Y	6	-	- 6	-100%	3.6	Y	Y	Y	Y
A3024 North-East of Windhover (eastbound approach	*E*	1,596	1,412	- 184	-12%	4.7	Y	Y	Y	Y	1,353	1,162	- 190	-14%	5.4	Y	N	Y	Y	148	124	- 24	-16%	2.1	Y	Y	Y	Y	90	125	34	38%	3.3	Y	Y	Y	Y
		3,669	**3,581**	**- 88**	**-2.4%**	**1.5**	**50%**	**50%**	**100%**	**100%**	**3,159**	**3,036**	**- 123**	**-3.9%**	**2.2**	**25%**	**25%**	**75%**	**100%**	**341**	**340**	**- 1**	**-0.3%**	**0.0**	**100%**	**100%**	**100%**	**100%**	**159**	**200**	**40**	**25.4%**	**3.0**	**100%**	**100%**	**100%**	**100%**
Westbound																																			
Botley Road	*W*	655	684	29	4%	1.1	Y	Y	Y	Y	592	565	- 27	-5%	1.1	Y	Y	Y	Y	48	72	24	50%	3.1	Y	Y	Y	Y	14	44	29	207%	5.5	Y	N	Y	Y
A334 Charles Watts Way	*W*	1,028	794	- 234	-23%	7.8	N	N	N	Y	895	683	- 212	-24%	7.5	N	N	N	Y	91	72	- 19	-21%	2.2	Y	Y	Y	Y	38	37	- 0	0%	0.0	Y	Y	Y	Y
St. John's Road	*S*	252	544	293	116%	14.7	N	N	N	N	226	484	258	114%	13.7	N	N	N	N	21	60	39	185%	6.1	Y	N	Y	Y	5	-	- 5	-100%	3.1	Y	Y	Y	Y
A3024 North-East of Windhover (westbound from to N	*W*	1,332	1,279	- 53	-4%	1.5	Y	Y	Y	Y	996	942	- 54	-5%	1.7	Y	Y	Y	Y	222	182	- 39	-18%	2.8	Y	Y	Y	Y	105	154	49	46%	4.3	Y	Y	Y	Y
		3,266	**3,301**	**35**	**1.1%**	**0.6**	**50%**	**50%**	**50%**	**75%**	**2,710**	**2,675**	**- 34**	**-1.3%**	**0.7**	**50%**	**50%**	**50%**	**75%**	**382**	**387**	**4**	**1.2%**	**0.2**	**100%**	**75%**	**100%**	**100%**	**162**	**235**	**73**	**45.2%**	**5.2**	**100%**	**75%**	**100%**	**100%**
11 Totton Enclosure																																			
Outbound																																			
Redbridge roundabout approach from west on Totton	*N*	2,129	2,231	102	5%	2.2	Y	Y	Y	Y	1,755	1,761	6	0%	0.1	Y	Y	Y	Y	237	311	74	31%	4.5	Y	Y	Y	Y	132	156	24	18%	2.0	Y	Y	Y	Y
Redbridge roundabout approach from west on Comme	*E*	1,061	1,062	2	0%	0.1	Y	Y	Y	Y	989	952	- 37	-4%	1.2	Y	Y	Y	Y	47	50	2	5%	0.3	Y	Y	Y	Y	24	53	30	125%	4.8	Y	Y	Y	Y
Hill Street	*N*	4	0	- 4	-98%	2.8	Y	Y	Y	Y	3	0	- 3	-98%	2.4	Y	Y	Y	Y	1	-	- 1	-100%	1.1	Y	Y	Y	Y	0	-	- 0	-100%	0.9	Y	Y	Y	Y
A36 east of A326	*W*	738	734	- 5	-1%	0.2	Y	Y	Y	Y	561	495	- 66	-12%	2.9	Y	Y	Y	Y	100	145	46	46%	4.2	Y	Y	Y	Y	74	92	18	25%	2.0	Y	Y	Y	Y
A326 Totton Western Bypass south of A36	*N*	1,402	1,325	- 77	-5%	2.1	Y	Y	Y	Y	1,186	1,165	- 21	-2%	0.6	Y	Y	Y	Y	146	110	- 36	-25%	3.2	Y	Y	Y	Y	64	50	- 14	-22%	1.9	Y	Y	Y	Y
Loperwood Lane	*N*	25	179	154	621%	15.3	N	N	N	N	20	141	120	596%	13.4	N	N	N	N	3	24	20	591%	5.5	Y	N	Y	Y	1	14	13	1167%	4.8	Y	Y	Y	Y
Loperwood	*W*	82	59	- 23	-28%	2.8	Y	Y	Y	Y	72	40	- 32	-45%	4.3	Y	Y	Y	Y	8	12	3	39%	1.0	Y	Y	Y	Y	2	7	5	241%	2.3	Y	Y	Y	Y
Tatchbury Lane		5	5	-							5	5	-							0	0	-							-	-	-						
A336 westbound at junction to Bartley	*W*	530	244	- 286	-54%	14.6	N	N	N	N	444	186	- 258	-58%	14.5	N	N	N	N	56	29	- 27	-49%	4.2	Y	Y	Y	Y	28	29	1	2%	0.1	Y	Y	Y	Y
Woodlands Road	*W*	78	164	87	111%	7.9	Y	N	N	Y	65	140	75	116%	7.4	Y	N	Y	Y	8	18	10	125%	2.8	Y	Y	Y	Y	5	6	1	18%	0.4	Y	Y	Y	Y
Foxhills	*W*	103	259	156	151%	11.6	N	N	N	N	93	202	110	118%	9.0	N	N	N	Y	8	39	31	398%	6.5	Y	N	Y	Y	2	17	15	632%	4.7	Y	Y	Y	Y
A35 on dual close to Western Bypass	*W*	741	769	28	4%	1.0	Y	Y	Y	Y	588	602	13	2%	0.5	Y	Y	Y	Y	96	119	23	24%	2.2	Y	Y	Y	Y	50	48	- 2	-5%	0.4	Y	Y	Y	Y
Deerleap Lane	*S*	83	-	- 83	-100%	12.9	Y	N	N	N	72	-	- 72	-100%	12.0	Y	N	N	N	7	-	- 7	-100%	3.8	Y	Y	Y	Y	3	-	- 3	-100%	2.6	Y	Y	Y	Y
Staplewood Lane	*S*	2	-	- 2	-100%	1.8	Y	Y	Y	Y	1	-	- 1	-100%	1.4	Y	Y	Y	Y	1	-	- 1	-100%	1.1	Y	Y	Y	Y	-	-	-						
Twiggs Lane	*S*	99	129	29	29%	2.7	Y	Y	Y	Y	81	101	20	25%	2.1	Y	Y	Y	Y	15	27	12	86%	2.7	Y	Y	Y	Y	3	-	- 3	-100%	2.5	Y	Y	Y	Y
A326 Marchwood Bypass	*S*	1,105	1,104	- 1	0%	0.0	Y	Y	Y	Y	968	930	- 38	-4%	1.2	Y	Y	Y	Y	76	88	12	16%	1.3	Y	Y	Y	Y	58	85	27	47%	3.2	Y	Y	Y	Y
Hythe Road	*S*	190	200	11	6%	0.8	Y	Y	Y	Y	155	190	35	23%	2.7	Y	Y	Y	Y	16	9	- 7	-45%	2.0	Y	Y	Y	Y	18	0	- 18	-98%	5.9	Y	N	Y	Y
Marchwood Bypass	*E*	625	712	87	14%	3.4	Y	Y	Y	Y	453	622	169	37%	7.3	N	N	Y	Y	114	61	- 53	-46%	5.6	Y	N	Y	Y	55	29	- 26	-47%	4.0	Y	Y	Y	Y
Marchwood Road	*E*	669	608	- 61	-9%	2.4	Y	Y	Y	Y	585	424	- 161	-27%	7.2	N	N	Y	Y	38	102	63	165%	7.6	Y	N	N	Y	45	83	38	84%	4.7	Y	Y	Y	Y
		9,671	**9,785**	**114**	**1.2%**	**1.2**	**83%**	**72%**	**72%**	**78%**	**8,095**	**7,955**	**- 140**	**-1.7%**	**1.6**	**72%**	**61%**	**78%**	**83%**	**977**	**1,143**	**166**	**17.0%**	**5.1**	**100%**	**78%**	**94%**	**100%**	**565**	**668**	**104**	**18.3%**	**4.2**	**100%**	**94%**	**100%**	**100%**

APPENDIX A: LINK VALIDATION SOUTHAMPTON AND NEW FOREST

SRTM 2015 **AM** **AM** **AM** **AM**

CORDONS AND SCREENLINES **VEHICLES** **CAR** **LGV** **HGV**

Site Description	Dir	Obs	Model	Diff	% Diff	GEH	WebTAG Within				Obs	Model	Diff	% Diff	GEH	WebTAG Within				Obs	Model	Diff	% Diff	GEH	WebTAG Within				Obs	Model	Diff	% Diff	GEH	WebTAG Within			
							Abs %	GEH5	GEH7.5	GEH10						Abs or %	GEH<5	GEH<7.5	GEH<10						Abs or %	GEH<5	GEH<7.5	GEH<10						Abs or %	GEH<5	GEH<7.5	GEH<10
Inbound																																			
Redbridge roundabout approach from west on Totton	*S*	1,455	1,613	158	11%	4.0	Y	Y	Y	Y	1,077	1,145	68	6%	2.0	Y	Y	Y	Y	211	268	57	27%	3.7	Y	Y	Y	Y	158	198	39	25%	3.0	Y	Y	Y	Y
Redbridge roundabout approach from west on Comme	*W*	1,053	992	-61	-6%	1.9	Y	Y	Y	Y	941	884	-57	-6%	1.9	Y	Y	Y	Y	70	63	-7	-10%	0.8	Y	Y	Y	Y	40	38	-2	-5%	0.3	Y	Y	Y	Y
Hill Street	*S*	4	-	-4	-100%	3.0	Y	Y	Y	Y	4	-	-4	-100%	2.7	Y	Y	Y	Y	1	-	-1	-100%	1.1	Y	Y	Y	Y	0	-	0	-100%	0.5	Y	Y	Y	Y
A36 east of A326	*E*	643	709	66	10%	2.5	Y	Y	Y	Y	512	536	24	5%	1.1	Y	Y	Y	Y	82	114	31	38%	3.2	Y	Y	Y	Y	45	59	13	29%	1.8	Y	Y	Y	Y
A326 Totton Western Bypass south of A36	*S*	881	592	-290	-33%	10.7	N	N	N	N	745	519	-227	-30%	9.0	N	N	N	Y	92	51	-41	-45%	4.9	Y	Y	Y	Y	40	22	-18	-46%	3.3	Y	Y	Y	Y
Loperwood Lane	*S*	64	254	190	296%	15.1	N	N	N	N	61	229	168	275%	13.9	N	N	N	N	2	16	14	551%	4.5	Y	Y	Y	Y	1	9	8	1599%	3.9	Y	Y	Y	Y
Loperwood	*E*	94	165	71	76%	6.3	Y	N	Y	Y	82	154	73	89%	6.7	Y	N	Y	Y	10	6	-3	-35%	1.2	Y	Y	Y	Y	3	4	1	50%	0.7	Y	Y	Y	Y
Tatchbury Lane		2	2	-							2	2	-							0	0	-							-	-	-						
A336 westbound at junction to Bartley	*E*	480	276	-203	-42%	10.5	N	N	N	N	402	224	-178	-44%	10.1	N	N	N	N	51	40	-10	-20%	1.5	Y	Y	Y	Y	25	12	-13	-51%	3.0	Y	Y	Y	Y
Woodlands Road	*E*	116	131	14	12%	1.3	Y	Y	Y	Y	105	121	16	15%	1.5	Y	Y	Y	Y	7	8	1	13%	0.3	Y	Y	Y	Y	4	1	-3	-75%	2.0	Y	Y	Y	Y
Foxhills	*E*	55	216	161	291%	13.8	N	N	N	N	50	202	153	306%	13.6	N	N	N	N	3	10	7	240%	2.8	Y	Y	Y	Y	2	2	0	-13%	0.2	Y	Y	Y	Y
A35 on dual close to Western Bypass	*E*	787	787	-1	0%	0.0	Y	Y	Y	Y	678	615	-63	-9%	2.5	Y	Y	Y	Y	86	124	38	45%	3.8	Y	Y	Y	Y	21	48	27	129%	4.6	Y	Y	Y	Y
Deerleap Lane	*N*	205	54	-152	-74%	13.4	N	N	N	N	184	48	-136	-74%	12.6	N	N	N	N	17	5	-12	-70%	3.6	Y	Y	Y	Y	4	-	-4	-100%	2.8	Y	Y	Y	Y
Staplewood Lane	*N*	4	0	-4	-100%	2.7	Y	Y	Y	Y	3	0	-3	-100%	2.5	Y	Y	Y	Y	0	-	0	-100%	1.0	Y	Y	Y	Y	-	-	-						
Twiggs Lane	*N*	122	247	125	102%	9.2	N	N	N	Y	104	243	139	134%	10.6	N	N	N	N	15	4	-11	-74%	3.6	Y	Y	Y	Y	4	-	-4	-100%	2.7	Y	Y	Y	Y
A326 Marchwood Bypass	*N*	1,576	1,384	-192	-12%	5.0	Y	Y	Y	Y	1,246	1,081	-165	-13%	4.8	Y	Y	Y	Y	237	207	-30	-13%	2.0	Y	Y	Y	Y	87	92	5	6%	0.5	Y	Y	Y	Y
Hythe Road	*N*	325	533	208	64%	10.0	N	N	N	N	278	443	165	60%	8.7	N	N	N	Y	26	86	60	234%	8.0	Y	N	N	Y	20	3	-17	-85%	5.0	Y	Y	Y	Y
Marchwood Bypass	*W*	1,637	1,689	52	3%	1.3	Y	Y	Y	Y	1,391	1,389	-1	0%	0.0	Y	Y	Y	Y	165	202	36	22%	2.7	Y	Y	Y	Y	77	94	17	22%	1.8	Y	Y	Y	Y
Marchwood Road	*W*	652	725	73	11%	2.8	Y	Y	Y	Y	622	636	14	2%	0.6	Y	Y	Y	Y	15	81	67	448%	9.6	Y	N	N	Y	15	7	-8	-55%	2.5	Y	Y	Y	Y
		10,156	**10,367**	**211**	**2.1%**	**2.1**	**61%**	**56%**	**61%**	**67%**	**8,485**	**8,471**	**-14**	**-0.2%**	**0.2**	**61%**	**56%**	**61%**	**72%**	**1,089**	**1,286**	**196**	**18.0%**	**5.7**	**100%**	**89%**	**89%**	**100%**	**547**	**589**	**42**	**7.6%**	**1.8**	**100%**	**100%**	**100%**	**100%**
13 Southampton Enclosure																																			
Outbound																																			
A35 Redbridge Road	*W*	2,110	2,216	106	5%	2.3	Y	Y	Y	Y	1,794	1,809	15	1%	0.4	Y	Y	Y	Y	211	236	25	12%	1.7	Y	Y	Y	Y	106	163	58	55%	5.0	Y	Y	Y	Y
Brownhill Way	*W*	1,022	1,120	98	10%	3.0	Y	Y	Y	Y	878	951	73	8%	2.4	Y	Y	Y	Y	107	139	32	30%	2.9	Y	Y	Y	Y	36	30	-6	-17%	1.1	Y	Y	Y	Y
Romsey Road	*N*	609	722	112	18%	4.3	N	Y	Y	Y	531	589	57	11%	2.4	Y	Y	Y	Y	56	88	32	58%	3.8	Y	Y	Y	Y	21	45	24	116%	4.2	Y	Y	Y	Y
Rownhams Lane	*N*	523	382	-141	-27%	6.6	N	N	Y	Y	436	345	-92	-21%	4.6	Y	Y	Y	Y	64	31	-33	-51%	4.8	Y	Y	Y	Y	22	5	-17	-79%	4.8	Y	Y	Y	Y
A33 Bassett Avenue between Winchester Road and Ba:	*N*	1,495	1,818	323	22%	7.9	N	N	N	Y	1,400	1,563	163	12%	4.2	Y	Y	Y	Y	58	136	78	136%	8.0	Y	N	N	Y	36	114	79	221%	9.1	Y	N	N	Y
A27 Bassett Green Road close to Lobelia Road	*N*	699	345	-354	-51%	15.5	N	N	N	N	622	279	-343	-55%	16.2	N	N	N	N	55	39	-17	-30%	2.4	Y	Y	Y	Y	19	28	9	48%	1.9	Y	Y	Y	Y
Stoneham Lane	*N*	115	207	92	80%	7.2	Y	N	Y	Y	101	187	86	85%	7.2	Y	N	Y	Y	9	15	6	69%	1.8	Y	Y	Y	Y	5	1	-3	-72%	2.0	Y	Y	Y	Y
A335 Stoneham Way	*N*	1,084	1,227	143	13%	4.2	Y	Y	Y	Y	846	1,125	279	33%	8.9	N	N	N	Y	142	70	-73	-51%	7.1	Y	N	Y	Y	86	32	-54	-63%	7.0	Y	N	Y	Y
Wide Lane	*N*	827	716	-111	-13%	4.0	Y	Y	Y	Y	726	583	-143	-20%	5.6	N	N	Y	Y	71	88	17	24%	1.9	Y	Y	Y	Y	27	36	9	34%	1.7	Y	Y	Y	Y
Mansbridge Road	*E*	497	611	115	23%	4.9	N	Y	Y	Y	422	490	68	16%	3.2	Y	Y	Y	Y	55	89	34	62%	4.0	Y	Y	Y	Y	17	31	13	77%	2.7	Y	Y	Y	Y
Woodmill Lane	*S*	538	460	-78	-14%	3.5	Y	Y	Y	Y	483	426	-57	-12%	2.7	Y	Y	Y	Y	44	23	-21	-47%	3.6	Y	Y	Y	Y	11	12	0	4%	0.1	Y	Y	Y	Y
Cobden Bridge	*E*	626	686	60	10%	2.4	Y	Y	Y	Y	570	626	56	10%	2.3	Y	Y	Y	Y	34	33	-1	-3%	0.2	Y	Y	Y	Y	20	19	-1	-7%	0.3	Y	Y	Y	Y
Northam Bridge	*E*	859	748	-111	-13%	3.9	Y	Y	Y	Y	729	645	-85	-12%	3.2	Y	Y	Y	Y	90	40	-50	-56%	6.2	Y	N	Y	Y	39	40	0	1%	0.0	Y	Y	Y	Y
Itchen Bridge	*E*	438	377	-61	-14%	3.0	Y	Y	Y	Y	392	344	-48	-12%	2.5	Y	Y	Y	Y	21	6	-15	-73%	4.2	Y	Y	Y	Y	24	-	-24	-100%	7.0	Y	N	Y	Y
		11,443	**11,636**	**194**	**1.7%**	**1.8**	**64%**	**71%**	**86%**	**93%**	**9,931**	**9,961**	**30**	**0.3%**	**0.3**	**79%**	**71%**	**86%**	**93%**	**1,018**	**1,034**	**16**	**1.6%**	**0.5**	**100%**	**79%**	**93%**	**100%**	**469**	**555**	**86**	**18.3%**	**3.8**	**100%**	**79%**	**93%**	**100%**
Inbound																																			
A35 Redbridge Road	*E*	3,225	3,304	79	2%	1.4	Y	Y	Y	Y	2,742	2,718	-24	-1%	0.5	Y	Y	Y	Y	323	384	61	19%	3.3	Y	Y	Y	Y	161	191	30	19%	2.3	Y	Y	Y	Y
Brownhill Way	*E*	1,008	775	-233	-23%	7.8	N	N	N	Y	909	652	-257	-28%	9.2	N	N	N	Y	69	94	25	36%	2.7	Y	Y	Y	Y	28	28	0	0%	0.0	Y	Y	Y	Y
Romsey Road	*S*	494	616	122	25%	5.2	N	N	Y	Y	434	536	102	23%	4.6	N	Y	Y	Y	43	55	13	30%	1.8	Y	Y	Y	Y	17	25	8	48%	1.8	Y	Y	Y	Y
Rownhams Lane	*S*	606	716	110	18%	4.3	N	Y	Y	Y	524	678	154	29%	6.3	N	N	Y	Y	61	28	-32	-53%	4.8	Y	Y	Y	Y	18	8	-11	-58%	2.9	Y	Y	Y	Y
A33 Bassett Avenue between Winchester Road and Ba:	*S*	1,693	2,004	312	18%	7.2	N	N	Y	Y	1,601	1,821	220	14%	5.3	Y	N	Y	Y	45	50	6	13%	0.8	Y	Y	Y	Y	45	122	77	169%	8.4	Y	N	N	Y
A27 Bassett Green Road close to Lobelia Road	*S*	542	546	4	1%	0.2	Y	Y	Y	Y	477	511	33	7%	1.5	Y	Y	Y	Y	46	19	-27	-60%	4.8	Y	Y	Y	Y	17	16	-1	-5%	0.2	Y	Y	Y	Y
Stoneham Lane	*S*	237	7	-229	-97%	20.8	N	N	N	N	220	5	-215	-98%	20.3	N	N	N	N	9	0	-8	-98%	4.0	Y	Y	Y	Y	8	0	-8	-99%	3.9	Y	Y	Y	Y
A335 Stoneham Way	*S*	1,497	1,171	-326	-22%	8.9	N	N	N	Y	1,291	1,053	-238	-18%	7.0	N	N	Y	Y	119	100	-19	-16%	1.9	Y	Y	Y	Y	81	19	-62	-77%	8.7	Y	N	N	Y
Wide Lane	*S*	424	580	157	37%	7.0	N	N	Y	Y	351	470	119	34%	5.9	N	N	Y	Y	46	87	41	89%	5.0	Y	N	Y	Y	24	17	-7	-29%	1.5	Y	Y	Y	Y
Mansbridge Road	*W*	895	913	18	2%	0.6	Y	Y	Y	Y	801	792	-9	-1%	0.3	Y	Y	Y	Y	67	70	3	4%	0.3	Y	Y	Y	Y	25	50	26	103%	4.2	Y	Y	Y	Y
Woodmill Lane	*N*	295	442	146	50%	7.6	N	N	N	Y	260	377	117	45%	6.6	N	N	N	Y	27	40	13	50%	2.3	Y	Y	Y	Y	8	24	16	190%	3.9	Y	Y	Y	Y
Cobden Bridge	*W*	1,176	1,390	214	18%	6.0	N	N	Y	Y	1,077	1,224	146	14%	4.3	Y	Y	Y	Y	59	117	57	97%	6.1	Y	N	Y	Y	38	42	4	10%	0.6	Y	Y	Y	Y
Northam Bridge	*W*	2,012	1,660	-352	-17%	8.2	N	N	N	Y	1,709	1,431	-278	-16%	7.0	N	N	Y	Y	211	98	-112	-53%	9.0	N	N	N	Y	92	106	14	15%	1.4	Y	Y	Y	Y
Itchen Bridge	*W*	1,207	1,221	14	1%	0.4	Y	Y	Y	Y	1,060	1,147	88	8%	2.6	Y	Y	Y	Y	89	46	-42	-48%	5.1	Y	N	Y	Y	48	-	-48	-100%	9.8	Y	N	N	Y
		15,311	**15,346**	**34**	**0.2%**	**0.3**	**29%**	**36%**	**64%**	**93%**	**13,457**	**13,415**	**-41**	**-0.3%**	**0.4**	**43%**	**43%**	**86%**	**93%**	**1,212**	**1,188**	**-24**	**-2.0%**	**0.7**	**93%**	**71%**	**93%**	**100%**	**612**	**651**	**39**	**6.3%**	**1.5**	**100%**	**79%**	**79%**	**100%**
20 Totton																																			
Eastbound																																			
Marchwood Bypass south of Jacobs Gutter Lane	*N*	73	4	-69	-94%	11.1	Y	N	N	N	59	0	-59	-100%	10.9	Y	N	N	N	6	0	-6	-100%	3.5	Y	Y	Y	Y	7	4	-3	-40%	1.2	Y	Y	Y	Y
Spicers Hill south of Spicers Way	*N*	2,032	2,013	-18	-1%	0.4	Y	Y	Y	Y	1,655	1,586	-68	-4%	1.7	Y	Y	Y	Y	260	297	37	14%	2.2	Y	Y	Y	Y	111	127	16	14%	1.4	Y	Y	Y	Y
Rushington Lane	*E*	3	1	-2	-69%	1.5	Y	Y	Y	Y	1	-	-1	-100%	1.6	Y	Y	Y	Y	0	-	0	-100%	0.7	Y	Y	Y	Y	1	-	-1	-100%	1.6	Y	Y	Y	Y
Ringwood Road east of Calmore Road	*E*	695	679	-16	-2%	0.6	Y	Y	Y	Y	637	630	-6	-1%	0.2	Y	Y	Y	Y	46	27	-18	-40%	3.0	Y	Y	Y	Y	12	19	7	56%	1.7	Y	Y	Y	Y
Water Lane near Totton College	*E*	174	196	22	13%	1.6	Y	Y	Y	Y	152	180	28	18%	2.2	Y	Y	Y	Y	14	9	-5	-34%	1.4	Y	Y	Y	Y	8	4	-3	-40%	1.2	Y	Y	Y	Y
Calmore Drive	*E*	205	204	-1	0%	0.1	Y	Y	Y	Y	179	183	4	2%	0.3	Y	Y	Y	Y	19	18	-0	-2%	0.1	Y	Y	Y	Y	8	3	-5	-63%	2.1	Y	Y	Y	Y
Cooks Lane east of Calmore Road	*E*	129	179	49	38%	4.0	Y	Y	Y	Y	105	151	46	43%	4.0	Y	Y	Y	Y	19	17	-3	-13%	0.6	Y	Y	Y	Y	5	11	6	128%	2.2	Y	Y	Y	Y
Salisbury Road east of Pauletts Lane	*E*	585	706	121	21%	4.8	N	Y	Y	Y	459	536	77	17%	3.5	Y	Y	Y	Y	75	114	39	52%	4.0	Y	Y	Y	Y	46	55	9	19%	1.2	Y	Y	Y	Y
		3,896	**3,982**	**86**	**2.2%**	**1.4**	**88%**	**88%**	**88%**	**88%**	**3,246**	**3,266**	**20**	**0.6%**	**0.3**	**100%**	**88%**	**88%**	**88%**	**439**	**482**	**43**	**9.9%**	**2.0**	**100%**	**100%**	**100%**	**100%**	**198**	**224**	**26**	**13.0%**	**1.8**	**100%**	**100%**	**100%**	**100%**
Westbound																																			
Marchwood Bypass south of Jacobs Gutter Lane	*S*	676	898	222	33%	7.9	N	N	N	Y	514	736	222	43%	8.9	N	N	N	Y	92	104	12	13%	1.2	Y	Y	Y	Y	65	56	-10	-15%	1.3	Y	Y	Y	Y
Spicers Hill south of Spicers Way	*S*	892	547	-345	-39%	12.9	N	N	N	N	645	352	-292	-45%	13.1	N	N	N	N	151	126	-25	-17%	2.2	Y	Y	Y	Y	88	69	-19	-22%	2.2	Y	Y	Y	Y
Rushington Lane	*W*	79	72	-7	-9%	0.9	Y	Y	Y	Y	67	66	-2	-2%	0.2	Y	Y	Y	Y	9	3	-6	-65%	2.4	Y	Y	Y	Y	2	1	-1	-34%	0.6	Y	Y	Y	Y
Ringwood Road east of Calmore Road	*W*	466	287	-178	-38%	9.2	N	N	N	Y	404	200	-204	-51%	11.7	N	N	N	N	42	47	5	11%	0.7	Y	Y	Y	Y	18	39	20	109%	3.8	Y	Y	Y	Y
Water Lane near Totton College	*W*	280	525	245	88%	12.2	N	N	N	N	241	459	219	91%	11.7	N	N	N	N	27	44	17	62%	2.8	Y	Y	Y	Y	11	19	8	72%	2.1	Y	Y	Y	Y
Calmore Drive	*W*	149	208	59	39%	4.4	Y	Y	Y	Y	136	193	57	42%	4.4	Y	Y	Y	Y	8	5	-3	-38%	1.2	Y	Y	Y	Y	5	10	5	104%	1.8	Y	Y	Y	Y
Cooks Lane east of Calmore Road	*W*	177	266	89	50%	6.0	Y	N	Y	Y	157	221	64	41%	4.7	Y	Y	Y	Y	15	27	12	78%	2.6	Y	Y	Y	Y	5	18	13	278%	3.9	Y	Y	Y	Y
Salisbury Road east of Pauletts Lane	*W*	627	734	107	17%	4.1	N	Y	Y	Y	470	495	25	5%	1.2	Y	Y	Y	Y	90	145	56	62%	5.1	Y	N	Y	Y	64	92	28	44%	3.2	Y	Y	Y	Y
		3,346	**3,536**	**190**	**5.7%**	**3.2**	**38%**	**38%**	**50%**	**75%**	**2,634**	**2,722**	**88**	**3.4%**	**1.7**	**50%**	**50%**	**50%**	**63%**	**435**	**501**	**66**	**15.2%**	**3.1**	**100%**	**88%**	**100%**	**100%**	**259**	**303**	**45**	**17.3%**	**2.7**	**100%**	**100%**	**100%**	**100%**

APPENDIX A: LINK VALIDATION SOUTHAMPTON AND NEW FOREST

SRTM 2015 **AM** **AM** **AM** **AM**

CORDONS AND SCREENLINES **VEHICLES** **CAR** **LGV** **HGV**

Site Description	Dir	Obs	Model	Diff	% Diff	GEH	WebTAG Within				Obs	Model	Diff	% Diff	GEH	WebTAG Within				Obs	Model	Diff	% Diff	GEH	WebTAG Within				Obs	Model	Diff	% Diff	GEH	WebTAG Within			
							Abs %	GEH5	GEH7.5	GEH10						Abs or %	GEH=5	GEH=7.5	GEH=10						Abs or %	GEH=5	GEH=7.5	GEH=10						Abs or %	GEH=5	GEH=7.5	GEH=10
21 North of Southampton																																			
Eastbound																																			
A335 Thomas Lewis Way South of Horse Shoe Bridge	*N*	718	589	-129	-18%	5.0	N	N	Y	Y	620	537	-84	-13%	3.5	Y	Y	Y	Y	52	38	-14	-27%	2.1	Y	Y	Y	Y	42	14	-27	-65%	5.1	Y	N	Y	Y
Lawn Road East off Horse Shoe Bridge	*E*	56	115	59	105%	6.4	Y	N	Y	Y	48	104	56	118%	6.5	Y	N	Y	Y	6	8	2	31%	0.7	Y	Y	Y	Y	2	3	1	26%	0.3	Y	Y	Y	Y
Tennyson Road	*N*	19	163	144	761%	15.1	N	N	N	N	17	154	137	816%	14.8	N	N	N	N	2	7	5	270%	2.3	Y	Y	Y	Y	0	3	3	621%	2.0	Y	Y	Y	Y
Portswood Road north of Portswood Avenue	*N*	287	94	-193	-67%	14.0	N	N	N	N	231	78	-153	-66%	12.3	N	N	N	N	33	2	-32	-95%	7.6	Y	N	N	Y	18	1	-18	-95%	5.7	Y	N	Y	Y
A33 The Avenue South of Westwood Road	*N*	859	1,157	298	35%	9.4	N	N	N	Y	775	1,003	227	29%	7.6	N	N	N	Y	47	75	28	59%	3.6	Y	Y	Y	Y	31	63	32	105%	4.7	Y	Y	Y	Y
Hill Lane	*N*	411	125	-285	-69%	17.4	N	N	N	N	359	120	-239	-66%	15.4	N	N	N	N	39	4	-36	-91%	7.7	Y	N	N	Y	12	1	-10	-89%	4.1	Y	Y	Y	Y
Ivanhoe Road	*N*	72	185	113	157%	9.9	N	N	N	Y	64	170	106	165%	9.8	N	N	N	Y	7	12	4	62%	1.5	Y	Y	Y	Y	1	2	1	167%	1.0	Y	Y	Y	Y
Wilton Road north of Colebrook Avenue	*N*	88	-	-88	-100%	13.3	Y	N	N	N	78	-	-78	-100%	12.5	Y	N	N	N	6	-	-6	-100%	3.5	Y	Y	Y	Y	3	-	-3	-100%	2.6	Y	Y	Y	Y
St James Road	*N*	452	329	-124	-27%	6.3	N	N	Y	Y	416	290	-126	-30%	6.7	N	N	Y	Y	27	34	7	27%	1.3	Y	Y	Y	Y	9	4	-5	-52%	1.8	Y	Y	Y	Y
Winchester Road north of Wordsworth Road	*N*	683	496	-187	-27%	7.7	N	N	N	Y	619	436	-184	-30%	8.0	N	N	N	Y	47	25	-21	-46%	3.6	Y	Y	Y	Y	17	35	18	109%	3.6	Y	Y	Y	Y
Tremona Road	*E*	286	290	4	1%	0.2	Y	Y	Y	Y	269	267	-2	-1%	0.1	Y	Y	Y	Y	13	20	7	53%	1.7	Y	Y	Y	Y	3	2	-1	-43%	0.9	Y	Y	Y	Y
Coxford Road east of Warren Ave	*E*	499	812	313	63%	12.2	N	N	N	N	432	685	254	59%	10.7	N	N	N	N	37	90	53	142%	6.6	Y	N	Y	Y	20	21	1	5%	0.2	Y	Y	Y	Y
Aldermoor Road	*E*	126	135	9	7%	0.8	Y	Y	Y	Y	110	123	13	12%	1.2	Y	Y	Y	Y	9	4	-5	-52%	1.8	Y	Y	Y	Y	6	0	-6	-93%	3.2	Y	Y	Y	Y
Lords Hill Way	*E*	683	613	-71	-10%	2.8	Y	Y	Y	Y	569	572	3	0%	0.1	Y	Y	Y	Y	83	21	-62	-75%	8.5	Y	N	N	Y	24	11	-13	-54%	3.1	Y	Y	Y	Y
M0027_J0003_J0004	*E*	6,271	6,185	-86	-1%	1.1	Y	Y	Y	Y	5,315	5,199	-116	-2%	1.6	Y	Y	Y	Y	396	387	-9	-2%	0.5	Y	Y	Y	Y	560	599	40	7%	1.6	Y	Y	Y	Y
		11,511	**11,287**	**-224**	**-1.9%**	**2.1**	**40%**	**27%**	**47%**	**67%**	**9,924**	**9,738**	**-186**	**-1.9%**	**1.9**	**47%**	**33%**	**47%**	**67%**	**805**	**726**	**-79**	**-9.8%**	**2.8**	**100%**	**73%**	**80%**	**100%**	**748**	**760**	**12**	**1.6%**	**0.4**	**100%**	**87%**	**100%**	**100%**
21 North of Southampton																																			
Westbound																																			
A335 Thomas Lewis Way South of Horse Shoe Bridge	*S*	1,222	1,408	186	15%	5.1	N	N	Y	Y	1,036	1,218	182	18%	5.4	N	N	Y	Y	114	157	42	37%	3.6	Y	Y	Y	Y	63	34	-30	-47%	4.3	Y	Y	Y	Y
Lawn Road East off Horse Shoe Bridge	*W*	95	23	-71	-75%	9.3	Y	N	N	Y	85	19	-66	-77%	9.1	Y	N	N	Y	7	2	-5	-71%	2.4	Y	Y	Y	Y	2	2	0	-18%	0.3	Y	Y	Y	Y
Tennyson Road	*S*	17	167	150	904%	15.7	N	N	N	N	14	156	142	1012%	15.4	N	N	N	N	2	8	6	319%	2.8	Y	Y	Y	Y	1	3	2	340%	1.6	Y	Y	Y	Y
Portswood Road north of Portswood Avenue	*S*	335	101	-235	-70%	15.9	N	N	N	N	271	68	-203	-75%	15.6	N	N	N	N	38	14	-25	-64%	4.8	Y	Y	Y	Y	22	6	-16	-72%	4.2	Y	Y	Y	Y
A33 The Avenue South of Westwood Road	*S*	1,101	1,320	219	20%	6.3	N	N	Y	Y	967	1,122	154	16%	4.8	N	Y	Y	Y	86	101	15	18%	1.6	Y	Y	Y	Y	40	83	43	107%	5.5	Y	N	Y	Y
Hill Lane	*S*	527	356	-171	-33%	8.2	N	N	N	Y	472	327	-145	-31%	7.3	N	N	Y	Y	41	24	-17	-41%	2.9	Y	Y	Y	Y	12	4	-8	-67%	2.8	Y	Y	Y	Y
Ivanhoe Road	*S*	58	302	244	422%	18.2	N	N	N	N	44	295	251	573%	19.3	N	N	N	N	13	4	-9	-71%	3.2	Y	Y	Y	Y	1	2	1	106%	0.9	Y	Y	Y	Y
Wilton Road north of Colebrook Avenue	*S*	115	-	-115	-100%	15.2	N	N	N	N	108	-	-108	-100%	14.7	N	N	N	N	5	-	-5	-100%	3.2	Y	Y	Y	Y	2	-	-2	-100%	2.1	Y	Y	Y	Y
St James Road	*S*	320	289	-31	-10%	1.8	Y	Y	Y	Y	296	268	-29	-10%	1.7	Y	Y	Y	Y	18	18	0	0%	0.0	Y	Y	Y	Y	5	3	-2	-46%	1.2	Y	Y	Y	Y
Winchester Road north of Wordsworth Road	*S*	708	394	-315	-44%	13.4	N	N	N	N	633	356	-276	-44%	12.4	N	N	N	N	53	15	-39	-72%	6.6	Y	N	Y	Y	21	22	1	7%	0.3	Y	Y	Y	Y
Tremona Road	*W*	200	201	1	0%	0.1	Y	Y	Y	Y	174	169	-5	-3%	0.4	Y	Y	Y	Y	21	26	4	20%	0.9	Y	Y	Y	Y	5	6	2	36%	0.7	Y	Y	Y	Y
Coxford Road east of Warren Ave	*W*	240	522	283	118%	14.5	N	N	N	N	197	416	220	112%	12.5	N	N	N	N	18	75	57	312%	8.3	Y	N	N	Y	16	15	-1	-9%	0.4	Y	Y	Y	Y
Aldermoor Road	*W*	74	95	21	29%	2.3	Y	Y	Y	Y	64	83	19	30%	2.2	Y	Y	Y	Y	6	3	-3	-46%	1.3	Y	Y	Y	Y	3	1	-2	-78%	1.6	Y	Y	Y	Y
Lords Hill Way	*W*	594	436	-159	-27%	7.0	N	N	Y	Y	535	400	-135	-25%	6.3	N	N	Y	Y	37	17	-20	-53%	3.7	Y	Y	Y	Y	21	10	-11	-54%	2.9	Y	Y	Y	Y
M0027_J0004_J0003	*W*	5,386	5,350	-36	-1%	0.5	Y	Y	Y	Y	4,449	4,381	-68	-2%	1.0	Y	Y	Y	Y	430	444	15	3%	0.7	Y	Y	Y	Y	508	525	18	4%	0.8	Y	Y	Y	Y
		10,993	**10,964**	**-29**	**-0.3%**	**0.3**	**33%**	**27%**	**47%**	**60%**	**9,345**	**9,278**	**-67**	**-0.7%**	**0.7**	**33%**	**33%**	**53%**	**60%**	**891**	**909**	**18**	**2.0%**	**0.6**	**100%**	**87%**	**93%**	**100%**	**722**	**716**	**-7**	**-0.9%**	**0.2**	**100%**	**93%**	**100%**	**100%**
22 South of Southampton																																			
Eastbound																																			
Milbrook Road East West of Waterhouse Lane		2,123	2,928	805	38%	16.0	N	N	N	N	1,804	2,452	647	36%	14.0	N	N	N	N	212	321	109	51%	6.7	N	N	Y	Y	106	143	37	35%	3.3	Y	Y	Y	Y
Waterhouse Way near Shirley Park Westbound Hail an	*E*	261	231	-30	-11%	1.9	Y	Y	Y	Y	227	224	-3	-1%	0.2	Y	Y	Y	Y	28	5	-23	-84%	5.8	Y	N	Y	Y	6	2	-4	-73%	2.2	Y	Y	Y	Y
Shirley High Street East of Park St	*S*	550	360	-190	-35%	8.9	N	N	N	Y	488	300	-189	-39%	9.5	N	N	N	Y	34	17	-18	-52%	3.5	Y	Y	Y	Y	24	6	-18	-76%	4.7	Y	Y	Y	Y
Victor Street east of Crown Street	*N*	157	78	-79	-50%	7.3	Y	N	Y	Y	144	72	-72	-50%	6.9	Y	N	Y	Y	11	5	-6	-58%	2.3	Y	Y	Y	Y	3	1	-1	-44%	0.8	Y	Y	Y	Y
Winchester Road north of Wordsworth Road	*N*	683	496	-187	-27%	7.7	N	N	N	Y	619	436	-184	-30%	8.0	N	N	N	Y	47	25	-21	-46%	3.6	Y	Y	Y	Y	17	35	18	109%	3.6	Y	Y	Y	Y
Dale Road north of Norham Avenue	*N*	470	260	-209	-45%	11.0	N	N	N	N	412	212	-199	-48%	11.3	N	N	N	N	41	36	-5	-13%	0.9	Y	Y	Y	Y	17	9	-8	-46%	2.1	Y	Y	Y	Y
Lordswood Road east of Dale Valley Road	*E*	804	765	-39	-5%	1.4	Y	Y	Y	Y	756	731	-24	-3%	0.9	Y	Y	Y	Y	37	20	-17	-45%	3.1	Y	Y	Y	Y	11	12	1	9%	0.3	Y	Y	Y	Y
		5,047	**5,117**	**70**	**1.4%**	**1.0**	**43%**	**29%**	**43%**	**71%**	**4,450**	**4,426**	**-23**	**-0.5%**	**0.4**	**43%**	**29%**	**43%**	**71%**	**410**	**429**	**18**	**4.5%**	**0.9**	**86%**	**71%**	**100%**	**100%**	**183**	**208**	**25**	**13.7%**	**1.8**	**100%**	**100%**	**100%**	**100%**
Westbound																																			
Milbrook Road East West of Waterhouse Lane		1,662	2,182	519	31%	11.8	N	N	N	N	1,413	1,786	373	26%	9.3	N	N	N	Y	166	247	80	48%	5.6	Y	N	Y	Y	83	140	57	69%	5.4	Y	N	Y	Y
Waterhouse Way near Shirley Park Westbound Hail an	*W*	234	247	13	5%	0.8	Y	Y	Y	Y	206	235	29	14%	2.0	Y	Y	Y	Y	23	9	-14	-62%	3.6	Y	Y	Y	Y	6	3	-3	-54%	1.5	Y	Y	Y	Y
Shirley High Street East of Park St	*N*	449	497	48	11%	2.2	Y	Y	Y	Y	407	412	5	1%	0.3	Y	Y	Y	Y	22	36	14	63%	2.6	Y	Y	Y	Y	17	12	-5	-29%	1.3	Y	Y	Y	Y
Victor Street east of Crown Street	*N*	157	-	-157	-100%	17.7	N	N	N	N	144	-	-144	-100%	16.9	N	N	N	N	11	-	-11	-100%	4.7	Y	Y	Y	Y	3	-	-3	-100%	2.3	Y	Y	Y	Y
Winchester Road north of Wordsworth Road	*S*	708	394	-315	-44%	13.4	N	N	N	N	633	356	-276	-44%	12.4	N	N	N	N	53	15	-39	-72%	6.6	Y	N	Y	Y	21	22	1	7%	0.3	Y	Y	Y	Y
Dale Road north of Norham Avenue	*S*	323	361	38	12%	2.0	Y	Y	Y	Y	292	319	27	9%	1.5	Y	Y	Y	Y	22	34	12	56%	2.3	Y	Y	Y	Y	9	5	-4	-47%	1.6	Y	Y	Y	Y
Lordswood Road east of Dale Valley Road	*W*	907	924	17	2%	0.5	Y	Y	Y	Y	833	853	21	2%	0.7	Y	Y	Y	Y	56	47	-8	-15%	1.2	Y	Y	Y	Y	18	22	4	24%	1.0	Y	Y	Y	Y
		4,442	**4,604**	**162**	**3.7%**	**2.4**	**57%**	**57%**	**57%**	**57%**	**3,927**	**3,962**	**35**	**0.9%**	**0.6**	**57%**	**57%**	**57%**	**71%**	**353**	**388**	**34**	**9.7%**	**1.8**	**100%**	**71%**	**100%**	**100%**	**156**	**204**	**48**	**31.0%**	**3.6**	**100%**	**86%**	**100%**	**100%**
24 Bitterne Northwest to Southeast																																			
Eastbound																																			
Hamble Lane		608	822	214	35%	8.0	N	N	N	Y	517	609	92	18%	3.9	Y	Y	Y	Y	61	124	63	103%	6.5	Y	N	Y	Y	30	88	58	191%	7.5	Y	N	N	Y
Grange Road South of A3025	*N*	257	172	-85	-33%	5.8	Y	N	Y	Y	216	160	-56	-26%	4.1	Y	Y	Y	Y	31	12	-19	-62%	4.2	Y	Y	Y	Y	10	1	-9	-93%	4.0	Y	Y	Y	Y
Coxs Drive	*E*	2	128	126	6640%	15.7	N	N	N	N	2	125	123	7237%	15.5	N	N	N	N	0	3	2	1203%	2.0	Y	Y	Y	Y	-	1	1		1.3	Y	Y	Y	Y
Portsmouth Road	*E*	859	512	-347	-40%	13.3	N	N	N	N	769	468	-301	-39%	12.1	N	N	N	N	61	25	-37	-60%	5.6	Y	N	Y	Y	28	14	-14	-50%	3.0	Y	Y	Y	Y
Butts Road	*E*	291	241	-50	-17%	3.1	Y	Y	Y	Y	251	216	-36	-14%	2.3	Y	Y	Y	Y	27	13	-15	-53%	3.2	Y	Y	Y	Y	11	10	-1	-10%	0.4	Y	Y	Y	Y
Kathleen Road	*E*	155	555	400	258%	21.2	N	N	N	N	128	530	401	313%	22.1	N	N	N	N	15	11	-4	-27%	1.1	Y	Y	Y	Y	9	5	-4	-42%	1.4	Y	Y	Y	Y
Burlesdon Road	*S*	708	293	-416	-59%	18.6	N	N	N	N	655	230	-424	-65%	20.2	N	N	N	N	37	11	-26	-71%	5.3	Y	N	Y	Y	16	34	17	107%	3.5	Y	Y	Y	Y
Upper Deacon Road	*N*	194	235	41	21%	2.8	Y	Y	Y	Y	185	216	31	17%	2.2	Y	Y	Y	Y	6	18	11	179%	3.3	Y	Y	Y	Y	3	-	-3	-100%	2.5	Y	Y	Y	Y
Bitterne Road	*E*	473	602	128	27%	5.5	N	N	Y	Y	418	544	126	30%	5.7	N	N	Y	Y	34	57	23	68%	3.4	Y	Y	Y	Y	21	-	-21	-100%	6.5	Y	N	Y	Y
Shales Road south of Taunton Drive	*N*	91	136	45	50%	4.3	Y	Y	Y	Y	80	125	45	56%	4.4	Y	Y	Y	Y	9	8	-1	-14%	0.4	Y	Y	Y	Y	2	4	2	89%	1.1	Y	Y	Y	Y
West End Road	*E*	724	858	134	18%	4.8	N	Y	Y	Y	676	773	97	14%	3.6	Y	Y	Y	Y	34	53	19	55%	2.8	Y	Y	Y	Y	14	29	16	115%	3.4	Y	Y	Y	Y
Townhill Way	*N*	467	279	-188	-40%	9.7	N	N	N	Y	397	254	-143	-36%	7.9	N	N	N	Y	48	17	-31	-65%	5.4	Y	N	Y	Y	16	2	-15	-90%	4.9	Y	Y	Y	Y
Wakefield Road north of Cornwall Road	*N*	124	43	-81	-65%	8.9	Y	N	N	Y	110	42	-69	-62%	7.9	Y	N	N	Y	7	1	-6	-84%	2.9	Y	Y	Y	Y	5	0	-5	-98%	3.0	Y	Y	Y	Y
Northfield Road		20	20	-							19	19	-							0	0	-							0	0	-						
Foresthill Drive north of Woodmill Lane	*E*	92	82	-10	-11%	1.1	Y	Y	Y	Y	71	68	-3	-4%	0.4	Y	Y	Y	Y	6	2	-4	-74%	2.3	Y	Y	Y	Y	15	1	-14	-94%	5.0	Y	Y	Y	Y
		5,066	**4,978**	**-88**	**-1.7%**	**1.2**	**43%**	**36%**	**50%**	**71%**	**4,495**	**4,379**	**-116**	**-2.6%**	**1.7**	**57%**	**50%**	**57%**	**71%**	**377**	**352**	**-25**	**-6.5%**	**1.3**	**100%**	**71%**	**100%**	**100%**	**180**	**189**	**9**	**4.9%**	**0.6**	**100%**	**86%**	**93%**	**100%**

APPENDIX A: LINK VALIDATION SOUTHAMPTON AND NEW FOREST

SRTM 2015 **AM** **AM** **AM** **AM**

CORDONS AND SCREENLINES **VEHICLES** **CAR** **LGV** **HGV**

Site Description	Dir	Obs	Model	Diff	% Diff	GEH	WebTAG Within				Obs	Model	Diff	% Diff	GEH	WebTAG Within				Obs	Model	Diff	% Diff	GEH	WebTAG Within				Obs	Model	Diff	% Diff	GEH	WebTAG Within			
							Abs %	GEH5	GEH7.5	GEH10						Abs or %	GEH<5	GEH<7.5	GEH<10						Abs or %	GEH<5	GEH<7.5	GEH<10						Abs or %	GEH<5	GEH<7.5	GEH<10
Westbound																																			
Hamble Lane		963	894	- 69	-7%	2.2	Y	Y	Y	Y	818	679	- 140	-17%	5.1	N	N	Y	Y	96	153	57	59%	5.1	Y	N	Y	Y	48	62	13	28%	1.8	Y	Y	Y	Y
Grange Road South of A3025	S	268	184	- 84	-31%	5.6	Y	N	Y	Y	227	159	- 67	-30%	4.8	Y	Y	Y	Y	32	24	- 8	-25%	1.5	Y	Y	Y	Y	9	1	- 8	-93%	3.8	Y	Y	Y	Y
Coxs Drive	W	8	83	75	984%	11.2	Y	N	N	N	7	77	69	925%	10.7	Y	N	N	N	0	4	4		2.9	Y	Y	Y	Y	0	2	2	1412%	1.8	Y	Y	Y	Y
Portsmouth Road	W	801	836	36	4%	1.3	Y	Y	Y	Y	704	740	36	5%	1.4	Y	Y	Y	Y	62	68	7	11%	0.8	Y	Y	Y	Y	32	18	- 14	-44%	2.9	Y	Y	Y	Y
Butts Road	W	281	206	- 75	-27%	4.8	Y	Y	Y	Y	247	174	- 73	-30%	5.1	Y	N	Y	Y	26	16	- 10	-39%	2.2	Y	Y	Y	Y	8	16	8	99%	2.3	Y	Y	Y	Y
Kathleen Road	W	145	57	- 88	-60%	8.7	Y	N	N	Y	118	41	- 76	-65%	8.6	Y	N	N	Y	14	3	- 11	-79%	3.9	Y	Y	Y	Y	10	5	- 5	-48%	1.7	Y	Y	Y	Y
Burlesdon Road	N	671	566	- 105	-16%	4.2	N	Y	Y	Y	562	429	- 133	-24%	6.0	N	N	Y	Y	53	22	- 31	-58%	5.0	Y	N	Y	Y	53	96	43	81%	5.0	Y	Y	Y	Y
Upper Deacon Road	S	153	76	- 77	-50%	7.2	Y	N	Y	Y	145	75	- 70	-48%	6.7	Y	N	Y	Y	3	1	- 2	-61%	1.4	Y	Y	Y	Y	5	-	- 5	-100%	3.1	Y	Y	Y	Y
Bitterne Road	W	710	973	262	37%	9.0	N	N	N	Y	628	919	291	46%	10.5	N	N	N	N	53	50	- 2	-4%	0.3	Y	Y	Y	Y	28	-	- 28	-100%	7.5	Y	N	N	Y
Shales Road south of Taunton Drive	S	64	125	61	96%	6.3	Y	N	Y	Y	59	118	59	99%	6.2	Y	N	Y	Y	3	4	1	34%	0.5	Y	Y	Y	Y	2	2	1	45%	0.5	Y	Y	Y	Y
West End Road	W	874	940	66	8%	2.2	Y	Y	Y	Y	781	832	51	7%	1.8	Y	Y	Y	Y	70	69	- 1	-1%	0.1	Y	Y	Y	Y	20	37	17	83%	3.1	Y	Y	Y	Y
Townhill Way	S	448	383	- 65	-15%	3.2	Y	Y	Y	Y	386	346	- 40	-10%	2.1	Y	Y	Y	Y	34	21	- 13	-38%	2.5	Y	Y	Y	Y	27	3	- 25	-91%	6.4	Y	N	Y	Y
Wakefield Road north of Cornwall Road	S	124	92	- 31	-25%	3.0	Y	Y	Y	Y	114	87	- 27	-24%	2.7	Y	Y	Y	Y	6	1	- 5	-79%	2.6	Y	Y	Y	Y	3	0	- 3	-95%	2.4	Y	Y	Y	Y
Northfield Road		22	22	-							22	22	-							0	0	-							0	0	-						
Foresthill Drive north of Woodmill Lane	W	154	104	- 50	-32%	4.4	Y	Y	Y	Y	140	98	- 42	-30%	3.9	Y	Y	Y	Y	11	5	- 6	-58%	2.3	Y	Y	Y	Y	4	2	- 1	-37%	0.8	Y	Y	Y	Y
		5,686	**5,543**	**- 143**	**-2.5%**	**1.9**	**86%**	**57%**	**79%**	**93%**	**4,959**	**4,796**	**- 163**	**-3.3%**	**2.3**	**79%**	**43%**	**79%**	**86%**	**464**	**443**	**- 21**	**-4.6%**	**1.0**	**100%**	**86%**	**100%**	**100%**	**250**	**244**	**- 6**	**-2.3%**	**0.4**	**100%**	**86%**	**93%**	**100%**
25 Bitterne Southwest to Northeast																																			
Eastbound																																			
Victoria Road		8	8	-							-	-	-							-	-	-							-	-	-						
Archery Road	N	446	211	- 235	-53%	13.0	N	N	N	N	391	190	- 201	-51%	11.8	N	N	N	N	32	16	- 16	-51%	3.3	Y	Y	Y	Y	22	5	- 17	-79%	4.7	Y	Y	Y	Y
Portsmouth Road	E	871	971	100	11%	3.3	Y	Y	Y	Y	814	922	108	13%	3.7	Y	Y	Y	Y	39	36	- 3	-7%	0.4	Y	Y	Y	Y	16	4	- 12	-73%	3.7	Y	Y	Y	Y
STATION ROAD	E	126	176	50	40%	4.1	Y	Y	Y	Y	107	163	56	52%	4.8	Y	Y	Y	Y	9	4	- 6	-61%	2.3	Y	Y	Y	Y	8	0	- 8	-100%	4.1	Y	Y	Y	Y
South East Road	E	227	460	233	102%	12.6	N	N	N	N	208	443	234	112%	13.0	N	N	N	N	15	14	- 1	-10%	0.4	Y	Y	Y	Y	4	4	0	10%	0.2	Y	Y	Y	Y
Bursledon Road West of NE Road	S	659	393	- 267	-40%	11.6	N	N	N	N	586	328	- 258	-44%	12.1	N	N	N	N	49	13	- 36	-73%	6.5	Y	N	Y	Y	24	34	10	40%	1.8	Y	Y	Y	Y
A334 Thornhill Park Road	E	590	721	131	22%	5.1	N	N	Y	Y	509	650	140	28%	5.8	N	N	Y	Y	58	70	13	22%	1.6	Y	Y	Y	Y	22	-	- 22	-100%	6.6	Y	N	Y	Y
Pine Drive	S	48	36	- 12	-25%	1.8	Y	Y	Y	Y	42	34	- 8	-19%	1.3	Y	Y	Y	Y	5	2	- 3	-54%	1.4	Y	Y	Y	Y	1	-	- 1	-100%	1.6	Y	Y	Y	Y
A27 Moorhill Road		679	736	57	8%	2.2	Y	Y	Y	Y	577	627	50	9%	2.0	Y	Y	Y	Y	68	63	- 5	-7%	0.6	Y	Y	Y	Y	34	47	13	38%	2.0	Y	Y	Y	Y
Botley Road	E	807	637	- 170	-21%	6.3	N	N	Y	Y	706	502	- 204	-29%	8.3	N	N	N	Y	74	79	5	7%	0.6	Y	Y	Y	Y	24	53	29	117%	4.6	Y	Y	Y	Y
		4,462	**4,350**	**- 112**	**-2.5%**	**1.7**	**44%**	**44%**	**67%**	**67%**	**3,942**	**3,859**	**- 83**	**-2.1%**	**1.3**	**44%**	**44%**	**56%**	**67%**	**349**	**297**	**- 52**	**-14.8%**	**2.9**	**100%**	**89%**	**100%**	**100%**	**156**	**147**	**- 9**	**-6.0%**	**0.8**	**100%**	**89%**	**100%**	**100%**
Westbound																																			
Victoria Road		8	8	-							-	-	-							-	-	-							-	-	-						
Archery Road	S	238	229	- 9	-4%	0.6	Y	Y	Y	Y	206	201	- 5	-3%	0.4	Y	Y	Y	Y	19	25	7	37%	1.5	Y	Y	Y	Y	13	2	- 10	-82%	3.8	Y	Y	Y	Y
Portsmouth Road	W	1,075	1,214	139	13%	4.1	Y	Y	Y	Y	977	1,127	150	15%	4.6	N	Y	Y	Y	72	77	5	7%	0.6	Y	Y	Y	Y	25	2	- 23	-92%	6.2	Y	N	Y	Y
STATION ROAD	W	225	142	- 83	-37%	6.1	Y	N	Y	Y	193	132	- 61	-32%	4.8	Y	Y	Y	Y	18	2	- 16	-88%	4.9	Y	Y	Y	Y	10	-	- 10	-100%	4.4	Y	Y	Y	Y
South East Road	W	356	475	119	33%	5.8	N	N	Y	Y	327	439	113	34%	5.8	N	N	Y	Y	22	22	0	0%	0.0	Y	Y	Y	Y	8	14	6	82%	1.9	Y	Y	Y	Y
Bursledon Road West of NE Road	N	664	594	- 70	-11%	2.8	Y	Y	Y	Y	552	456	- 96	-17%	4.3	Y	Y	Y	Y	64	23	- 41	-64%	6.2	Y	N	Y	Y	46	96	51	112%	6.0	Y	N	Y	Y
A334 Thornhill Park Road	W	822	688	- 134	-16%	4.9	N	Y	Y	Y	738	657	- 81	-11%	3.1	Y	Y	Y	Y	56	30	- 26	-47%	4.0	Y	Y	Y	Y	27	-	- 27	-100%	7.3	Y	N	Y	Y
Pine Drive	N	53	86	33	63%	4.0	Y	Y	Y	Y	48	83	35	73%	4.3	Y	Y	Y	Y	4	3	- 1	-18%	0.4	Y	Y	Y	Y	1	-	- 1	-100%	1.5	Y	Y	Y	Y
A27 Moorhill Road	S	690	833	143	21%	5.2	N	N	Y	Y	629	745	115	18%	4.4	N	Y	Y	Y	44	45	1	2%	0.1	Y	Y	Y	Y	16	43	28	176%	5.1	Y	N	Y	Y
Botley Road	W	655	684	29	4%	1.1	Y	Y	Y	Y	592	565	- 27	-5%	1.1	Y	Y	Y	Y	48	72	24	50%	3.1	Y	Y	Y	Y	14	44	29	207%	5.5	Y	N	Y	Y
		4,785	**4,953**	**167**	**3.5%**	**2.4**	**67%**	**67%**	**100%**	**100%**	**4,263**	**4,405**	**142**	**3.3%**	**2.2**	**67%**	**89%**	**100%**	**100%**	**346**	**299**	**- 47**	**-13.5%**	**2.6**	**100%**	**89%**	**100%**	**100%**	**158**	**202**	**44**	**27.6%**	**3.3**	**100%**	**44%**	**100%**	**100%**
116 Motorway - M27																																			
Eastbound																																			
J2 to J3	E	4,023	5,169	1,145	28%	16.9	N	N	N	N	3,410	4,376	965	28%	15.5	N	N	N	N	254	328	74	29%	4.4	Y	Y	Y	Y	359	465	106	29%	5.2	N	N	Y	Y
J3 to J4	E	6,271	6,185	- 86	-1%	1.1	Y	Y	Y	Y	5,315	5,199	- 116	-2%	1.6	Y	Y	Y	Y	396	387	- 9	-2%	0.5	Y	Y	Y	Y	560	599	40	7%	1.6	Y	Y	Y	Y
J4 to J5	E	5,072	4,653	- 419	-8%	6.0	N	N	Y	Y	4,299	4,070	- 228	-5%	3.5	Y	Y	Y	Y	349	335	- 14	-4%	0.8	Y	Y	Y	Y	424	248	- 177	-42%	9.6	N	N	N	Y
J5 to J7	E	5,507	5,299	- 208	-4%	2.8	Y	Y	Y	Y	4,667	4,414	- 253	-5%	3.8	Y	Y	Y	Y	379	402	22	6%	1.1	Y	Y	Y	Y	461	484	23	5%	1.1	Y	Y	Y	Y
J7 to J8	E	5,272	5,076	- 196	-4%	2.7	Y	Y	Y	Y	4,468	4,201	- 267	-6%	4.1	Y	Y	Y	Y	363	376	12	3%	0.6	Y	Y	Y	Y	441	499	58	13%	2.7	Y	Y	Y	Y
Westbound																																			
J8 to J7	W	6,106	5,925	- 181	-3%	2.3	Y	Y	Y	Y	5,297	5,078	- 220	-4%	3.1	Y	Y	Y	Y	409	426	18	4%	0.9	Y	Y	Y	Y	400	421	21	5%	1.0	Y	Y	Y	Y
J7 to J5	W	7,138	6,297	- 841	-12%	10.3	N	N	N	N	6,192	5,555	- 638	-10%	8.3	N	N	N	Y	478	439	- 39	-8%	1.8	Y	Y	Y	Y	468	303	- 165	-35%	8.4	N	N	N	Y
J5 to J4	W	5,692	5,113	- 579	-10%	7.9	N	N	N	Y	4,938	4,514	- 424	-9%	6.2	N	N	Y	Y	381	359	- 22	-6%	1.1	Y	Y	Y	Y	373	240	- 133	-36%	7.6	N	N	N	Y
J4 to J3	W	5,386	5,350	- 36	-1%	0.5	Y	Y	Y	Y	4,449	4,381	- 68	-2%	1.0	Y	Y	Y	Y	430	444	15	3%	0.7	Y	Y	Y	Y	508	525	18	4%	0.8	Y	Y	Y	Y
J3 to J2	W	4,000	4,114	114	3%	1.8	Y	Y	Y	Y	3,304	3,351	47	1%	0.8	Y	Y	Y	Y	319	330	11	4%	0.6	Y	Y	Y	Y	377	433	56	15%	2.8	Y	Y	Y	Y
118 Motorway - M3																																			
Eastbound																																			
J14 to J13	E	6,419	6,419	-							5,535	5,535	-							371	371	-							514	514	-						
Westbound																																			
J13 to J14	W	2,550	2,884	334	13%	6.4	Y	N	Y	Y	2,119	2,224	105	5%	2.3	Y	Y	Y	Y	149	209	60	40%	4.5	Y	Y	Y	Y	283	452	169	60%	8.8	N	N	N	Y

APPENDIX A
CORDONS, SCREENLINES and LINK VALIDATION

IP
Vehicles

Cordon/ Screenline	Dir	Sites	Cordon and Screenlines Validation: Observed	Model	Diff	% Diff	GEH	GEH<= 4	WebTAG within 5.0%	WebTAG within 7.5%	WebTAG within 10.0%	Link Validation: WebTAG within Abs or %	GEH=5	GEH=7.5	GEH=10
RSI Cordons and Screenlines															
1 Fareham Enclosure	Outbound	16	7,571	7,668	97	1.3%	1.1	Y	Y	Y	Y	75%	56%	75%	81%
1 Fareham Enclosure	Inbound	16	7,844	7,950	106	1.4%	1.2	Y	Y	Y	Y	63%	56%	81%	88%
2 Havant Enclosure	Outbound	11	4,489	4,325	-164	-3.7%	2.5	Y	Y	Y	Y	73%	73%	73%	91%
2 Havant Enclosure	Inbound	11	4,579	4,460	-118	-2.6%	1.8	Y	Y	Y	Y	73%	73%	82%	82%
3 Hayling Island Enclosure	Outbound	1	912	926	14	1.6%	0.5	Y	Y	Y	Y	100%	100%	100%	100%
3 Hayling Island Enclosure	Inbound	1	945	958	13	1.3%	0.4	Y	Y	Y	Y	100%	100%	100%	100%
4 Hedge End Enclosure	Outbound	8	3,815	3,995	180	4.7%	2.9	Y	Y	Y	Y	75%	75%	75%	75%
4 Hedge End Enclosure	Inbound	8	4,328	4,394	66	1.5%	1.0	Y	Y	Y	Y	50%	63%	75%	88%
5 Waterlooville Enclosure	Outbound	18	7,469	7,240	-229	-3.1%	2.7	Y	Y	Y	Y	50%	50%	67%	83%
5 Waterlooville Enclosure	Inbound	18	7,630	7,400	-230	-3.0%	2.6	Y	Y	Y	Y	56%	56%	67%	83%
71 Portsmouth South Enclosure	Outbound	6	3,571	3,538	-33	-0.9%	0.6	Y	Y	Y	Y	67%	67%	100%	100%
71 Portsmouth South Enclosure	Inbound	6	3,833	3,760	-73	-1.9%	1.2	Y	Y	Y	Y	83%	83%	83%	83%
72 Portsmouth North Enclosure	Outbound	8	5,711	5,563	-148	-2.6%	2.0	Y	Y	Y	Y	67%	67%	83%	100%
72 Portsmouth North Enclosure	Inbound	8	5,628	5,583	-45	-0.8%	0.6	Y	Y	Y	Y	100%	88%	100%	100%
8 Southampton City Enclosure	Outbound	12	4,983	4,984	1	0.0%	0.0	Y	Y	Y	Y	50%	50%	58%	67%
8 Southampton City Enclosure	Inbound	12	4,883	4,642	-241	-4.9%	3.5	Y	Y	Y	Y	42%	42%	50%	58%
91 Bitterne West Screenline	Eastbound	5	3,207	2,984	-223	-6.9%	4.0	Y	N	Y	Y	100%	100%	100%	100%
91 Bitterne West Screenline	Westbound	5	2,912	2,664	-248	-8.5%	4.7	N	N	N	Y	80%	80%	100%	100%
92 Bitterne East Screenline	Eastbound	4	2,720	2,788	68	2.5%	1.3	Y	Y	Y	Y	50%	50%	75%	100%
92 Bitterne East Screenline	Westbound	4	2,561	2,629	68	2.7%	1.3	Y	Y	Y	Y	75%	75%	100%	100%
10 Locks Heath North Screenline	Outbound	9	4,635	4,871	236	5.1%	3.4	Y	N	Y	Y	78%	78%	78%	89%
10 Locks Heath North Screenline	Inbound	9	4,698	4,910	212	4.5%	3.1	Y	Y	Y	Y	78%	56%	89%	100%
11 Totton Enclosure	Outbound	19	6,430	6,557	127	2.0%	1.6	Y	Y	Y	Y	50%	44%	61%	78%
11 Totton Enclosure	Inbound	19	6,825	6,802	-24	-0.3%	0.3	Y	Y	Y	Y	72%	56%	67%	72%
12 Eastleigh Enclosure	Outbound	11	3,776	3,654	-122	-3.2%	2.0	Y	Y	Y	Y	82%	73%	91%	100%
12 Eastleigh Enclosure	Inbound	11	3,636	3,366	-270	-7.4%	4.6	N	N	Y	Y	82%	82%	91%	100%
13 Southampton Enclosure	Outbound	14	9,677	9,578	-99	-1.0%	1.0	Y	Y	Y	Y	71%	64%	79%	86%
13 Southampton Enclosure	Inbound	14	9,305	9,108	-197	-2.1%	2.1	Y	Y	Y	Y	64%	57%	71%	93%
36 Solent RSI Cordon	Northbound	3	161	59	-102	-63.4%	9.7	N	N	N	N	100%	67%	67%	67%
36 Solent RSI Cordon	Southbound	3	159	78	-82	-51.3%	7.5	N	N	N	N	100%	67%	67%	67%
Total	**Total**	290	138,894	137,436	-1,459	-1.1%		87%	80%	90%	93%	68%	63%	76%	85%
Calibration Screenlines															
20 Totton	Eastbound	8	2,469	2,535	66	2.7%	1.3	Y	Y	Y	Y	63%	38%	63%	75%
20 Totton	Westbound	8	2,699	2,832	134	5.0%	2.5	Y	Y	Y	Y	38%	50%	63%	88%
21 North of Southampton	Eastbound	15	8,273	8,377	104	1.3%	1.1	Y	Y	Y	Y	40%	27%	40%	53%
21 North of Southampton	Westbound	15	8,405	8,469	64	0.8%	0.7	Y	Y	Y	Y	60%	33%	33%	53%
22 South of Southampton	Eastbound	7	3,812	3,698	-114	-3.0%	1.9	Y	Y	Y	Y	29%	29%	29%	71%
22 South of Southampton	Westbound	7	4,038	4,005	-34	-0.8%	0.5	Y	Y	Y	Y	43%	43%	57%	71%
23 Eastleigh	Eastbound	6	6,152	6,342	191	3.1%	2.4	Y	Y	Y	Y	67%	83%	100%	100%
23 Eastleigh	Westbound	6	6,236	6,426	189	3.0%	2.4	Y	Y	Y	Y	67%	67%	67%	100%
24 Bitterne Northwest to Southeast	Eastbound	15	4,162	4,199	37	0.9%	0.6	Y	Y	Y	Y	64%	50%	71%	71%
24 Bitterne Northwest to Southeast	Westbound	15	4,319	3,866	-453	-10.5%	7.1	N	N	N	N	79%	50%	79%	86%
25 Bitterne Southwest to Northeast	Eastbound	10	3,647	3,534	-112	-3.1%	1.9	Y	Y	Y	Y	67%	67%	89%	100%
25 Bitterne Southwest to Northeast	Westbound	10	3,548	3,428	-119	-3.4%	2.0	Y	Y	Y	Y	78%	56%	78%	100%
26 Fareham North South	Eastbound	9	5,261	5,529	268	5.1%	3.6	Y	N	Y	Y	78%	67%	78%	89%
26 Fareham North South	Westbound	9	5,706	5,774	68	1.2%	0.9	Y	Y	Y	Y	63%	38%	50%	100%
271 Locks Heath West to East	Northbound	11	3,000	3,076	76	2.5%	1.4	Y	Y	Y	Y	82%	73%	82%	82%
271 Locks Heath West to East	Southbound	11	3,042	3,067	25	0.8%	0.5	Y	Y	Y	Y	82%	64%	82%	91%
272 Fareham West to East	Northbound	4	1,435	1,420	-15	-1.0%	0.4	Y	Y	Y	Y	75%	75%	75%	100%
272 Fareham West to East	Southbound	4	1,377	1,365	-12	-0.9%	0.3	Y	Y	Y	Y	100%	100%	100%	100%
28 Gosport	Northbound	6	2,524	2,473	-50	-2.0%	1.0	Y	Y	Y	Y	50%	67%	83%	83%
28 Gosport	Southbound	6	2,472	2,419	-53	-2.1%	1.1	Y	Y	Y	Y	83%	67%	67%	83%
29 Portsmouth NorthSouth	Eastbound	16	7,769	7,816	47	0.6%	0.5	Y	Y	Y	Y	56%	38%	56%	75%
29 Portsmouth NorthSouth	Westbound	17	8,075	8,012	-63	-0.8%	0.7	Y	Y	Y	Y	65%	47%	71%	94%
30 Portsmouth EastWest	Northbound	9	4,984	4,930	-54	-1.1%	0.8	Y	Y	Y	Y	67%	67%	67%	89%
30 Portsmouth EastWest	Southbound	9	5,010	4,866	-144	-2.9%	2.0	Y	Y	Y	Y	67%	33%	67%	89%
31 Cosham	Eastbound	5	5,241	5,516	275	5.2%	3.7	Y	N	Y	Y	60%	60%	60%	60%
31 Cosham	Westbound	5	5,131	5,379	248	4.8%	3.4	Y	Y	Y	Y	60%	60%	60%	60%
32 Waterlooville North to South	Eastbound	15	8,268	7,986	-282	-3.4%	3.1	Y	Y	Y	Y	80%	73%	87%	93%
32 Waterlooville North to South	Westbound	15	8,210	8,023	-187	-2.3%	2.1	Y	Y	Y	Y	87%	87%	87%	93%
33 Waterlooville West to East	Northbound	5	2,977	3,049	71	2.4%	1.3	Y	Y	Y	Y	60%	60%	80%	100%
33 Waterlooville West to East	Southbound	5	3,312	3,389	77	2.3%	1.3	Y	Y	Y	Y	60%	60%	80%	80%
34 Havant North South	Eastbound	7	3,795	3,846	51	1.4%	0.8	Y	Y	Y	Y	71%	43%	71%	100%
34 Havant North South	Westbound	7	3,808	3,817	9	0.2%	0.1	Y	Y	Y	Y	100%	86%	100%	100%
35 Havant East West	Northbound	11	4,098	4,218	120	2.9%	1.9	Y	Y	Y	Y	73%	55%	64%	73%
35 Havant East West	Southbound	11	4,165	4,433	268	6.4%	4.1	N	N	Y	Y	82%	73%	73%	82%
201 Winchester Cordon	Outbound	15	3,678	3,536	-142	-3.9%	2.4	Y	Y	Y	Y	100%	87%	100%	100%
201 Winchester Cordon	Inbound	15	3,616	3,509	-107	-2.9%	1.8	Y	Y	Y	Y	93%	80%	100%	100%
Total		349	164,709	165,157	447	0.3%		94%	89%	97%	97%	70%	58%	72%	85%
Motorways															
M27	Eastbound	14										100%	93%	100%	100%
M27	Westbound	14										100%	100%	100%	100%
M3	Eastbound	6										100%	100%	100%	100%
M3	Westbound	6										80%	80%	80%	80%
A3(M)	Northbound	4										100%	100%	100%	100%
A3(M)	Southbound	4										100%	100%	100%	100%
M275	Northbound	1										100%	100%	100%	100%
M275	Southbound	1										100%	100%	100%	100%
M271	Northbound	2										100%	100%	100%	100%
M271	Southbound	2										100%	100%	100%	100%
Total	**Total**	54										98%	96%	98%	98%
Overall								91%	85%	94%	95%	71%	63%	76%	86%

APPENDIX A
CORDONS, SCREENLINES and LINK VALIDATION

IP
Car

Cordon/ Screenline	Dir	Sites	Cordon and Screenlines Validation									Link Validation			
			Observed	Model	Diff	% Diff	GEH	GEH<= 4	WebTAG within 5.0%	WebTAG within 7.5%	WebTAG within 10.0%	WebTAG within Abs or %	WebTAG within GEH=5	WebTAG within GEH=7.5	WebTAG within GEH=10
RSI Cordons and Screenlines															
1 Fareham Enclosure	Outbound	16	6,353	6,406	53	0.8%	0.7	Y	Y	Y	Y	88%	56%	75%	88%
1 Fareham Enclosure	Inbound	16	6,558	6,618	60	0.9%	0.7	Y	Y	Y	Y	75%	63%	81%	88%
2 Havant Enclosure	Outbound	11	3,847	3,744	-103	-2.7%	1.7	Y	Y	Y	Y	73%	73%	73%	100%
2 Havant Enclosure	Inbound	11	3,846	3,750	-96	-2.5%	1.6	Y	Y	Y	Y	73%	64%	91%	91%
3 Hayling Island Enclosure	Outbound	1	715	713	-3	-0.4%	0.1	Y	Y	Y	Y	100%	100%	100%	100%
3 Hayling Island Enclosure	Inbound	1	812	819	6	0.8%	0.2	Y	Y	Y	Y	100%	100%	100%	100%
4 Hedge End Enclosure	Outbound	8	3,216	3,231	14	0.4%	0.3	Y	Y	Y	Y	63%	63%	75%	75%
4 Hedge End Enclosure	Inbound	8	3,662	3,694	32	0.9%	0.5	Y	Y	Y	Y	75%	63%	75%	88%
5 Waterlooville Enclosure	Outbound	18	6,121	6,029	-93	-1.5%	1.2	Y	Y	Y	Y	61%	44%	67%	83%
5 Waterlooville Enclosure	Inbound	18	6,394	6,298	-96	-1.5%	1.2	Y	Y	Y	Y	61%	56%	67%	89%
71 Portsmouth South Enclosure	Outbound	6	3,127	3,062	-65	-2.1%	1.2	Y	Y	Y	Y	67%	67%	100%	100%
71 Portsmouth South Enclosure	Inbound	6	3,338	3,256	-83	-2.5%	1.4	Y	Y	Y	Y	83%	83%	83%	100%
72 Portsmouth North Enclosure	Outbound	8	4,819	4,734	-85	-1.8%	1.2	Y	Y	Y	Y	83%	83%	83%	100%
72 Portsmouth North Enclosure	Inbound	8	4,767	4,728	-39	-0.8%	0.6	Y	Y	Y	Y	100%	100%	100%	100%
8 Southampton City Enclosure	Outbound	12	4,172	4,089	-83	-2.0%	1.3	Y	Y	Y	Y	42%	42%	58%	67%
8 Southampton City Enclosure	Inbound	12	3,999	3,785	-214	-5.4%	3.4	Y	N	Y	Y	42%	33%	67%	67%
91 Bitterne West Screenline	Eastbound	5	2,793	2,675	-118	-4.2%	2.3	Y	Y	Y	Y	100%	100%	100%	100%
91 Bitterne West Screenline	Westbound	5	2,547	2,432	-115	-4.5%	2.3	Y	Y	Y	Y	100%	100%	100%	100%
92 Bitterne East Screenline	Eastbound	4	2,297	2,309	11	0.5%	0.2	Y	Y	Y	Y	50%	50%	100%	100%
92 Bitterne East Screenline	Westbound	4	2,123	2,141	18	0.9%	0.4	Y	Y	Y	Y	50%	50%	100%	100%
10 Locks Heath North Screenline	Outbound	9	3,761	3,917	155	4.1%	2.5	Y	Y	Y	Y	78%	78%	89%	89%
10 Locks Heath North Screenline	Inbound	9	3,715	3,832	116	3.1%	1.9	Y	Y	Y	Y	78%	56%	89%	89%
11 Totton Enclosure	Outbound	19	5,304	5,300	-4	-0.1%	0.1	Y	Y	Y	Y	72%	50%	56%	67%
11 Totton Enclosure	Inbound	19	5,407	5,398	-9	-0.2%	0.1	Y	Y	Y	Y	78%	50%	72%	72%
12 Eastleigh Enclosure	Outbound	11	2,981	2,823	-158	-5.3%	2.9	Y	N	Y	Y	73%	55%	82%	100%
12 Eastleigh Enclosure	Inbound	11	3,057	2,796	-261	-8.5%	4.8	N	N	N	Y	82%	82%	82%	91%
13 Southampton Enclosure	Outbound	14	8,282	8,218	-65	-0.8%	0.7	Y	Y	Y	Y	79%	71%	86%	93%
13 Southampton Enclosure	Inbound	14	8,044	7,947	-97	-1.2%	1.1	Y	Y	Y	Y	79%	71%	71%	93%
36 Solent RSI Cordon	Northbound	3	123	59	-64	-52.4%	6.8	N	N	N	N	100%	67%	67%	67%
36 Solent RSI Cordon	Southbound	3	136	78	-58	-42.9%	5.6	N	N	N	N	100%	67%	67%	100%
Total	**Total**	290	116,318	114,878	-1,440	-1.2%		90%	83%	90%	93%	73%	62%	77%	87%
Calibration Screenlines															
20 Totton	Eastbound	8	1,966	1,990	25	1.3%	0.6	Y	Y	Y	Y	75%	38%	63%	75%
20 Totton	Westbound	8	2,194	2,277	82	3.7%	1.7	Y	Y	Y	Y	50%	50%	75%	88%
21 North of Southampton	Eastbound	15	6,953	6,917	-36	-0.5%	0.4	Y	Y	Y	Y	53%	33%	40%	53%
21 North of Southampton	Westbound	15	6,992	6,981	-11	-0.2%	0.1	Y	Y	Y	Y	60%	33%	40%	53%
22 South of Southampton	Eastbound	7	3,365	3,252	-113	-3.4%	2.0	Y	Y	Y	Y	29%	29%	29%	57%
22 South of Southampton	Westbound	7	3,556	3,478	-78	-2.2%	1.3	Y	Y	Y	Y	57%	57%	71%	71%
23 Eastleigh	Eastbound	6	5,096	5,214	118	2.3%	1.6	Y	Y	Y	Y	67%	67%	100%	100%
23 Eastleigh	Westbound	6	5,101	5,207	106	2.1%	1.5	Y	Y	Y	Y	67%	67%	67%	100%
24 Bitterne Northwest to Southeast	Eastbound	15	3,682	3,714	32	0.9%	0.5	Y	Y	Y	Y	79%	57%	71%	79%
24 Bitterne Northwest to Southeast	Westbound	15	3,766	3,360	-406	-10.8%	6.8	N	N	N	N	71%	57%	71%	93%
25 Bitterne Southwest to Northeast	Eastbound	10	3,228	3,177	-52	-1.6%	0.9	Y	Y	Y	Y	67%	67%	89%	100%
25 Bitterne Southwest to Northeast	Westbound	10	3,157	3,105	-51	-1.6%	0.9	Y	Y	Y	Y	67%	44%	78%	100%
26 Fareham North South	Eastbound	9	4,354	4,480	126	2.9%	1.9	Y	Y	Y	Y	89%	67%	78%	89%
26 Fareham North South	Westbound	9	4,648	4,697	48	1.0%	0.7	Y	Y	Y	Y	88%	38%	88%	100%
271 Locks Heath West to East	Northbound	11	2,570	2,618	48	1.9%	0.9	Y	Y	Y	Y	82%	73%	82%	82%
271 Locks Heath West to East	Southbound	11	2,597	2,628	31	1.2%	0.6	Y	Y	Y	Y	91%	64%	91%	91%
272 Fareham West to East	Northbound	4	1,238	1,233	-5	-0.4%	0.1	Y	Y	Y	Y	75%	75%	75%	100%
272 Fareham West to East	Southbound	4	1,162	1,157	-5	-0.4%	0.2	Y	Y	Y	Y	100%	100%	100%	100%
28 Gosport	Northbound	6	2,191	2,170	-22	-1.0%	0.5	Y	Y	Y	Y	33%	67%	83%	83%
28 Gosport	Southbound	6	2,165	2,142	-23	-1.0%	0.5	Y	Y	Y	Y	67%	67%	67%	83%
29 Portsmouth NorthSouth	Eastbound	16	6,511	6,532	22	0.3%	0.3	Y	Y	Y	Y	63%	44%	56%	81%
29 Portsmouth NorthSouth	Westbound	17	6,931	6,905	-26	-0.4%	0.3	Y	Y	Y	Y	65%	47%	71%	94%
30 Portsmouth EastWest	Northbound	9	4,224	4,178	-47	-1.1%	0.7	Y	Y	Y	Y	78%	56%	78%	100%
30 Portsmouth EastWest	Southbound	9	4,317	4,260	-57	-1.3%	0.9	Y	Y	Y	Y	67%	44%	67%	100%
31 Cosham	Eastbound	5	4,364	4,494	130	3.0%	2.0	Y	Y	Y	Y	60%	60%	60%	60%
31 Cosham	Westbound	5	4,280	4,396	116	2.7%	1.8	Y	Y	Y	Y	60%	60%	60%	80%
32 Waterlooville North to South	Eastbound	15	6,989	6,736	-252	-3.6%	3.0	Y	Y	Y	Y	87%	80%	87%	87%
32 Waterlooville North to South	Westbound	15	6,956	6,743	-213	-3.1%	2.6	Y	Y	Y	Y	87%	87%	87%	93%
33 Waterlooville West to East	Northbound	5	2,574	2,607	33	1.3%	0.7	Y	Y	Y	Y	80%	80%	80%	100%
33 Waterlooville West to East	Southbound	5	2,784	2,841	57	2.1%	1.1	Y	Y	Y	Y	60%	60%	80%	80%
34 Havant North South	Eastbound	7	3,243	3,197	-45	-1.4%	0.8	Y	Y	Y	Y	86%	57%	86%	100%
34 Havant North South	Westbound	7	3,252	3,277	25	0.8%	0.4	Y	Y	Y	Y	100%	86%	100%	100%
35 Havant East West	Northbound	11	3,501	3,532	32	0.9%	0.5	Y	Y	Y	Y	73%	55%	64%	82%
35 Havant East West	Southbound	11	3,542	3,728	186	5.2%	3.1	Y	N	Y	Y	82%	64%	82%	91%
201 Winchester Cordon	Outbound	15	3,056	2,965	-91	-3.0%	1.7	Y	Y	Y	Y	100%	92%	100%	100%
201 Winchester Cordon	Inbound	15	3,054	2,962	-92	-3.0%	1.7	Y	Y	Y	Y	100%	85%	100%	100%
Total		349	139,560	139,150	-410	-0.3%		97%	94%	97%	97%	74%	60%	75%	87%
Motorways															
M27	Eastbound	14										100%	100%	100%	100%
M27	Westbound	14										100%	100%	100%	100%
M3	Eastbound	6										100%	100%	100%	100%
M3	Westbound	6										80%	80%	80%	80%
A3(M)	Northbound	4										100%	100%	100%	100%
A3(M)	Southbound	4										100%	100%	100%	100%
M275	Northbound	1										100%	100%	100%	100%
M275	Southbound	1										100%	100%	100%	100%
M271	Northbound	2										100%	100%	100%	100%
M271	Southbound	2										100%	100%	100%	100%
Total	**Total**	54										98%	98%	98%	98%
Overall								94%	89%	94%	95%	75%	64%	78%	88%

APPENDIX A: LINK VALIDATION SOUTHAMPTON AND NEW FOREST

SRTM 2015 | ***IP*** | ***IP*** | ***IP*** | ***IP***

CORDONS AND SCREENLINES | ***VEHICLES*** | ***CAR*** | ***LGV*** | ***HGV***

Site Description	*Dir*	Obs	Model	Diff	% Diff	GEH	WebTAG Within				Obs	Model	Diff	% Diff	GEH	WebTAG Within				Obs	Model	Diff	% Diff	GEH	WebTAG Within				Obs	Model	Diff	% Diff	GEH	WebTAG Within			
							Abs %	GEH5	GEH7.5	GEH10						Abs or %	GEH<5	GEH<7.5	GEH<10						Abs or %	GEH<5	GEH<7.5	GEH<10						Abs or %	GEH<5	GEH<7.5	GEH<10
8 Southampton City Enclosure																																			
Outbound																																			
A33 Mountbatten Way	*W*	1,451	1,524	73	5%	1.9	Y	Y	Y	Y	1,249	1,293	44	4%	1.2	Y	Y	Y	Y	140	157	17	12%	1.4	Y	Y	Y	Y	63	73	10	16%	1.2	Y	Y	Y	Y
Central Station Bridge	*N*	525	491	-35	-7%	1.5	Y	Y	Y	Y	451	422	-29	-6%	1.4	Y	Y	Y	Y	54	68	13	25%	1.7	Y	Y	Y	Y	19	-	-19	-100%	6.2	Y	N	Y	Y
Blechynden Terrace	*W*	104	330	225	216%	15.3	N	N	N	N	74	233	160	217%	12.9	N	N	N	N	6	25	19	344%	4.9	Y	Y	Y	Y	15	28	13	85%	2.7	Y	Y	Y	Y
Cumberland Place	*N*	573	271	-302	-53%	14.7	N	N	N	N	492	226	-267	-54%	14.1	N	N	N	N	45	21	-24	-53%	4.2	Y	Y	Y	Y	30	24	-6	-19%	1.1	Y	Y	Y	Y
Above Bar Street - (one way this direction)	*N*	93	269	176	190%	13.1	N	N	N	N	59	205	147	251%	12.8	N	N	N	N	10	23	13	128%	3.2	Y	Y	Y	Y	16	13	-3	-18%	0.7	Y	Y	Y	Y
East Park Terrace	*N*	287	141	-145	-51%	9.9	N	N	N	Y	239	120	-119	-50%	8.9	N	N	N	Y	29	9	-20	-69%	4.5	Y	Y	Y	Y	18	9	-8	-47%	2.3	Y	Y	Y	Y
New Road	*E*	349	270	-79	-23%	4.5	Y	Y	Y	Y	297	197	-100	-34%	6.4	N	N	Y	Y	27	28	1	3%	0.2	Y	Y	Y	Y	23	22	-2	-7%	0.4	Y	Y	Y	Y
Kingsway	*N*	427	313	-114	-27%	5.9	N	N	Y	Y	356	250	-107	-30%	6.1	N	N	Y	Y	42	39	-3	-8%	0.5	Y	Y	Y	Y	27	24	-2	-8%	0.4	Y	Y	Y	Y
St Marys Street	*N*	134	449	314	234%	18.4	N	N	N	N	105	303	198	189%	13.9	N	N	N	N	24	102	79	334%	9.9	Y	N	N	Y	6	43	37	638%	7.6	Y	N	N	Y
Britannia Road	*N*	231	274	43	19%	2.7	Y	Y	Y	Y	177	233	56	32%	3.9	Y	Y	Y	Y	33	21	-12	-35%	2.3	Y	Y	Y	Y	20	19	-1	-3%	0.1	Y	Y	Y	Y
Princes Street	*W*	266	207	-60	-22%	3.9	Y	Y	Y	Y	195	191	-4	-2%	0.3	Y	Y	Y	Y	43	11	-33	-76%	6.3	Y	N	Y	Y	27	5	-21	-80%	5.4	Y	N	Y	Y
Itchen Bridge	*E*	542	446	-96	-18%	4.3	Y	Y	Y	Y	479	416	-63	-13%	3.0	Y	Y	Y	Y	26	2	-24	-91%	6.3	Y	N	Y	Y	36	-	-36	-100%	8.5	Y	N	N	Y
		4,983	**4,984**	**1**	**0.0%**	**0.0**	**50%**	**50%**	**58%**	**67%**	**4,172**	**4,089**	**-83**	**-2.0%**	**1.3**	**42%**	**42%**	**58%**	**67%**	**480**	**507**	**26**	**5.5%**	**1.2**	**100%**	**75%**	**92%**	**100%**	**298**	**260**	**-38**	**-12.7%**	**2.3**	**100%**	**67%**	**83%**	**100%**
Inbound																																			
A33 Mountbatten Way	*E*	1,470	1,489	18	1%	0.5	Y	Y	Y	Y	1,265	1,253	-12	-1%	0.3	Y	Y	Y	Y	142	167	25	18%	2.0	Y	Y	Y	Y	63	68	5	7%	0.6	Y	Y	Y	Y
Central Station Bridge	*S*	431	277	-153	-36%	8.2	N	N	N	Y	372	257	-115	-31%	6.5	N	N	Y	Y	46	19	-27	-58%	4.7	Y	Y	Y	Y	13	-	-13	-100%	5.1	Y	N	Y	Y
Blechynden Terrace	*E*	121	428	307	254%	18.5	N	N	N	N	59	319	260	441%	18.9	N	N	N	N	11	51	41	381%	7.3	Y	N	Y	Y	32	10	-21	-68%	4.7	Y	Y	Y	Y
Cumberland Place	*S*	568	180	-388	-68%	20.1	N	N	N	N	464	135	-329	-71%	19.0	N	N	N	N	60	19	-41	-68%	6.5	Y	N	Y	Y	38	24	-15	-39%	2.7	Y	Y	Y	Y
Above Bar Street - (one way in other direction)	*N*	93	269	176	190%	13.1	N	N	N	N	59	205	147	251%	12.8	N	N	N	N	10	23	13	128%	3.2	Y	Y	Y	Y	16	13	-3	-18%	0.7	Y	Y	Y	Y
East Park Terrace	*S*	288	258	-30	-10%	1.8	Y	Y	Y	Y	247	203	-43	-18%	2.9	Y	Y	Y	Y	27	30	3	11%	0.5	Y	Y	Y	Y	13	22	9	65%	2.1	Y	Y	Y	Y
New Road	*W*	359	289	-70	-20%	3.9	Y	Y	Y	Y	308	194	-114	-37%	7.2	N	N	Y	Y	31	44	12	40%	2.0	Y	Y	Y	Y	19	28	9	46%	1.8	Y	Y	Y	Y
Kingsway	*S*	524	281	-243	-46%	12.1	N	N	N	N	417	212	-205	-49%	11.6	N	N	N	N	57	43	-14	-24%	2.0	Y	Y	Y	Y	47	26	-20	-43%	3.4	Y	Y	Y	Y
St Marys Street	*S*	135	279	144	107%	10.0	N	N	N	N	117	210	93	80%	7.3	Y	N	Y	Y	15	39	24	157%	4.6	Y	Y	Y	Y	3	30	27	862%	6.6	Y	N	Y	Y
Britannia Road	*S*	119	156	37	31%	3.1	Y	Y	Y	Y	89	141	52	58%	4.8	Y	Y	Y	Y	18	5	-13	-72%	3.8	Y	Y	Y	Y	11	9	-2	-18%	0.6	Y	Y	Y	Y
Princes Street	*E*	295	368	73	25%	4.0	Y	Y	Y	Y	207	318	111	54%	6.9	N	N	Y	Y	52	34	-18	-34%	2.7	Y	Y	Y	Y	34	16	-18	-53%	3.6	Y	Y	Y	Y
Itchen Bridge	*W*	481	368	-113	-23%	5.5	N	N	Y	Y	396	338	-58	-15%	3.0	Y	Y	Y	Y	49	2	-46	-95%	9.2	Y	N	N	Y	26	-	-26	-100%	7.2	Y	N	Y	Y
		4,883	**4,642**	**-241**	**-4.9%**	**3.5**	**42%**	**42%**	**50%**	**58%**	**3,999**	**3,785**	**-214**	**-5.4%**	**3.4**	**42%**	**33%**	**67%**	**67%**	**517**	**477**	**-40**	**-7.8%**	**1.8**	**100%**	**75%**	**92%**	**100%**	**316**	**247**	**-69**	**-21.9%**	**4.1**	**100%**	**75%**	**100%**	**100%**
91 Bitterne West Screenline																																			
Eastbound																																			
Itchen Bridge	*E*	542	446	-96	-18%	4.3	Y	Y	Y	Y	479	416	-63	-13%	3.0	Y	Y	Y	Y	26	2	-24	-91%	6.3	Y	N	Y	Y	36	-	-36	-100%	8.5	Y	N	N	Y
Northam Bridge	*E*	1,078	936	-142	-13%	4.5	Y	Y	Y	Y	928	856	-72	-8%	2.4	Y	Y	Y	Y	104	37	-67	-64%	7.9	Y	N	N	Y	47	19	-27	-58%	4.7	Y	Y	Y	Y
Cobden Bridge	*E*	686	602	-84	-12%	3.3	Y	Y	Y	Y	601	545	-56	-9%	2.3	Y	Y	Y	Y	55	39	-16	-29%	2.3	Y	Y	Y	Y	28	9	-18	-67%	4.3	Y	Y	Y	Y
Woodmill Lane	*S*	286	352	66	23%	3.7	Y	Y	Y	Y	258	312	54	21%	3.2	Y	Y	Y	Y	22	28	6	26%	1.2	Y	Y	Y	Y	6	12	6	104%	2.0	Y	Y	Y	Y
Mansbridge Road	*E*	615	648	33	5%	1.3	Y	Y	Y	Y	527	546	19	4%	0.8	Y	Y	Y	Y	68	73	6	9%	0.7	Y	Y	Y	Y	19	28	9	49%	1.9	Y	Y	Y	Y
		3,207	**2,984**	**-223**	**-6.9%**	**4.0**	**100%**	**100%**	**100%**	**100%**	**2,793**	**2,675**	**-118**	**-4.2%**	**2.3**	**100%**	**100%**	**100%**	**100%**	**275**	**180**	**-95**	**-34.6%**	**6.3**	**100%**	**60%**	**80%**	**100%**	**135**	**68**	**-66**	**-49.2%**	**6.6**	**100%**	**80%**	**80%**	**100%**
Westbound																																			
Itchen Bridge	*W*	481	368	-113	-23%	5.5	N	N	Y	Y	396	338	-58	-15%	3.0	Y	Y	Y	Y	49	2	-46	-95%	9.2	Y	N	N	Y	26	-	-26	-100%	7.2	Y	N	Y	Y
Northam Bridge	*W*	953	814	-139	-15%	4.7	Y	Y	Y	Y	820	752	-68	-8%	2.4	Y	Y	Y	Y	92	21	-71	-77%	9.4	Y	N	N	Y	41	17	-24	-58%	4.4	Y	Y	Y	Y
Cobden Bridge	*W*	675	617	-58	-9%	2.3	Y	Y	Y	Y	614	570	-43	-7%	1.8	Y	Y	Y	Y	34	26	-8	-23%	1.4	Y	Y	Y	Y	26	13	-14	-52%	3.1	Y	Y	Y	Y
Woodmill Lane	*N*	270	304	35	13%	2.1	Y	Y	Y	Y	238	273	34	14%	2.2	Y	Y	Y	Y	24	18	-7	-27%	1.4	Y	Y	Y	Y	7	14	7	103%	2.2	Y	Y	Y	Y
Mansbridge Road	*W*	533	560	26	5%	1.1	Y	Y	Y	Y	479	500	21	4%	0.9	Y	Y	Y	Y	39	42	3	8%	0.5	Y	Y	Y	Y	15	17	2	12%	0.5	Y	Y	Y	Y
		2,912	**2,664**	**-248**	**-8.5%**	**4.7**	**80%**	**80%**	**100%**	**100%**	**2,547**	**2,432**	**-115**	**-4.5%**	**2.3**	**100%**	**100%**	**100%**	**100%**	**238**	**110**	**-128**	**-53.8%**	**9.7**	**100%**	**60%**	**60%**	**100%**	**115**	**60**	**-55**	**-47.6%**	**5.8**	**100%**	**80%**	**100%**	**100%**
92 Bitterne East Screenline																																			
Eastbound																																			
Botley Road	*E*	574	571	-4	-1%	0.2	Y	Y	Y	Y	512	465	-47	-9%	2.1	Y	Y	Y	Y	43	60	17	39%	2.4	Y	Y	Y	Y	17	43	25	146%	4.6	Y	Y	Y	Y
A334 Charles Watts Way	*E*	834	597	-238	-28%	8.9	N	N	N	Y	712	539	-173	-24%	6.9	N	N	Y	Y	86	52	-34	-40%	4.1	Y	Y	Y	Y	35	5	-30	-86%	6.7	Y	N	Y	Y
St. John's Road	*N*	213	268	54	26%	3.5	Y	Y	Y	Y	194	243	49	26%	3.3	Y	Y	Y	Y	16	25	9	55%	1.9	Y	Y	Y	Y	4	-	-4	-100%	2.7	Y	Y	Y	Y
A3024 North-East of Windhover (eastbound approach	*E*	1,099	1,353	255	23%	7.3	N	N	Y	Y	880	1,062	182	21%	5.8	N	N	Y	Y	129	165	35	27%	2.9	Y	Y	Y	Y	84	126	41	49%	4.0	Y	Y	Y	Y
		2,720	**2,788**	**68**	**2.5%**	**1.3**	**50%**	**50%**	**75%**	**100%**	**2,297**	**2,309**	**11**	**0.5%**	**0.2**	**50%**	**50%**	**100%**	**100%**	**274**	**301**	**27**	**10.0%**	**1.6**	**100%**	**100%**	**100%**	**100%**	**141**	**173**	**33**	**23.3%**	**2.6**	**100%**	**75%**	**100%**	**100%**
Westbound																																			
Botley Road	*W*	568	477	-92	-16%	4.0	Y	Y	Y	Y	513	390	-123	-24%	5.8	N	N	Y	Y	40	50	10	26%	1.5	Y	Y	Y	Y	16	34	18	117%	3.7	Y	Y	Y	Y
A334 Charles Watts Way	*W*	782	775	-7	-1%	0.2	Y	Y	Y	Y	674	689	16	2%	0.6	Y	Y	Y	Y	73	66	-7	-10%	0.8	Y	Y	Y	Y	33	19	-14	-43%	2.8	Y	Y	Y	Y
St. John's Road	*S*	183	122	-62	-34%	5.0	Y	Y	Y	Y	164	112	-52	-32%	4.4	Y	Y	Y	Y	16	10	-6	-37%	1.6	Y	Y	Y	Y	4	-	-4	-100%	2.8	Y	Y	Y	Y
A3024 North-East of Windhover (westbound from to N	*W*	1,027	1,256	229	22%	6.8	N	N	Y	Y	772	950	177	23%	6.0	N	N	Y	Y	165	202	37	22%	2.7	Y	Y	Y	Y	85	104	19	22%	1.9	Y	Y	Y	Y
		2,561	**2,629**	**68**	**2.7%**	**1.3**	**75%**	**75%**	**100%**	**100%**	**2,123**	**2,141**	**18**	**0.9%**	**0.4**	**50%**	**50%**	**100%**	**100%**	**292**	**327**	**34**	**11.8%**	**2.0**	**100%**	**100%**	**100%**	**100%**	**138**	**156**	**19**	**13.6%**	**1.5**	**100%**	**100%**	**100%**	**100%**
11 Totton Enclosure																																			
Outbound																																			
Redbridge roundabout approach from west on Totton	*N*	1,151	1,204	53	5%	1.5	Y	Y	Y	Y	888	907	19	2%	0.6	Y	Y	Y	Y	151	171	20	13%	1.6	Y	Y	Y	Y	107	122	15	14%	1.4	Y	Y	Y	Y
Redbridge roundabout approach from west on Comme	*E*	724	706	-17	-2%	0.7	Y	Y	Y	Y	681	660	-21	-3%	0.8	Y	Y	Y	Y	26	6	-20	-77%	5.0	Y	N	Y	Y	17	32	16	96%	3.2	Y	Y	Y	Y
Hill Street	*N*	4	-	-4	-100%	2.9	Y	Y	Y	Y	3	-	-3	-100%	2.5	Y	Y	Y	Y	1	-	-1	-100%	1.2	Y	Y	Y	Y	0	-	-0	-100%	0.7	Y	Y	Y	Y
A36 east of A326	*W*	397	516	118	30%	5.5	N	N	Y	Y	302	375	74	24%	4.0	Y	Y	Y	Y	53	90	38	72%	4.5	Y	Y	Y	Y	40	49	9	22%	1.3	Y	Y	Y	Y
A326 Totton Western Bypass south of A36	*N*	643	440	-203	-32%	8.7	N	N	N	Y	551	383	-168	-30%	7.8	N	N	N	Y	62	41	-21	-34%	2.9	Y	Y	Y	Y	28	16	-11	-41%	2.4	Y	Y	Y	Y
Loperwood Lane	*N*	26	204	178	681%	16.6	N	N	N	N	23	172	149	663%	15.1	N	N	N	N	3	19	16	570%	4.8	Y	Y	Y	Y	1	13	13	1552%	4.7	Y	Y	Y	Y
Loperwood	*W*	69	42	-27	-39%	3.6	Y	Y	Y	Y	61	35	-26	-43%	3.8	Y	Y	Y	Y	6	5	-1	-20%	0.5	Y	Y	Y	Y	2	2	-0	-22%	0.3	Y	Y	Y	Y
Tatchbury Lane		2	2	-							2	2	-							0	0	-							-	-	-						
A336 westbound at junction to Bartley	*W*	363	251	-112	-31%	6.4	N	N	Y	Y	304	211	-93	-31%	5.8	Y	N	Y	Y	38	25	-13	-33%	2.3	Y	Y	Y	Y	20	14	-6	-28%	1.3	Y	Y	Y	Y
Woodlands Road	*W*	73	181	108	148%	9.6	N	N	N	Y	65	157	92	143%	8.8	Y	N	N	Y	5	19	14	252%	3.9	Y	Y	Y	Y	3	3	1	25%	0.4	Y	Y	Y	Y
Foxhills	*W*	54	248	195	364%	15.9	N	N	N	N	46	206	159	342%	14.2	N	N	N	N	5	30	26	558%	6.2	Y	N	Y	Y	2	11	9	439%	3.6	Y	Y	Y	Y
A35 on dual close to Western Bypass	*W*	576	481	-95	-17%	4.1	Y	Y	Y	Y	463	376	-86	-19%	4.2	Y	Y	Y	Y	76	67	-9	-12%	1.1	Y	Y	Y	Y	34	38	4	11%	0.6	Y	Y	Y	Y
Deerleap Lane	*S*	103	-	-103	-100%	14.4	N	N	N	N	92	-	-92	-100%	13.5	Y	N	N	N	8	-	-8	-100%	4.0	Y	Y	Y	Y	3	-	-3	-100%	2.6	Y	Y	Y	Y
Staplewood Lane	*S*	3	-	-3	-100%	2.4	Y	Y	Y	Y	2	-	-2	-100%	1.9	Y	Y	Y	Y	1	-	-1	-100%	1.2	Y	Y	Y	Y	0	-	-0	-100%	0.9	Y	Y	Y	Y
Twiggs Lane	*S*	67	1	-66	-99%	11.4	Y	N	N	N	57	0	-57	-100%	10.7	Y	N	N	N	7	1	-6	-88%	3.2	Y	Y	Y	Y	2	-	-2	-100%	2.2	Y	Y	Y	Y
A326 Marchwood Bypass	*S*	953	1,026	74	8%	2.3	Y	Y	Y	Y	792	821	30	4%	1.0	Y	Y	Y	Y	92	111	19	21%	1.9	Y	Y	Y	Y	65	92	27	41%	3.0	Y	Y	Y	Y
Hythe Road	*S*	205	172	-33	-16%	2.4	Y	Y	Y	Y	171	162	-10	-6%	0.8	Y	Y	Y	Y	17	9	-8	-47%	2.2	Y	Y	Y	Y	16	1	-15	-97%	5.3	Y	N	Y	Y
Marchwood Bypass	*E*	471	695	224	48%	9.3	N	N	N	Y	357	581	224	63%	10.3	N	N	N	N	74	73	-0	0%	0.0	Y	Y	Y	Y	37	41	4	10%	0.6	Y	Y	Y	Y
Marchwood Road	*E*	548	389	-159	-29%	7.4	N	N	Y	Y	446	254	-192	-43%	10.3	N	N	N	N	36	58	22	60%	3.2	Y	Y	Y	Y	64	77	13	20%	1.5	Y	Y	Y	Y
		6,430	**6,557**	**127**	**2.0%**	**1.6**	**50%**	**44%**	**61%**	**78%**	**5,304**	**5,300**	**-4**	**-0.1%**	**0.1**	**72%**	**50%**	**56%**	**67%**	**660**	**726**	**66**	**10.0%**	**2.5**	**100%**	**89%**	**100%**	**100%**	**442**	**511**	**70**	**15.8%**	**3.2**	**100%**	**94%**	**100%**	**100%**

APPENDIX A: LINK VALIDATION SOUTHAMPTON AND NEW FOREST

SRTM 2015 | ***IP*** | ***IP*** | ***IP*** | ***IP***

CORDONS AND SCREENLINES | ***VEHICLES*** | ***CAR*** | ***LGV*** | ***HGV***

Site Description	Dir	Obs	Model	Diff	% Diff	GEH	WebTAG Within				Obs	Model	Diff	% Diff	GEH	WebTAG Within				Obs	Model	Diff	% Diff	GEH	WebTAG Within				Obs	Model	Diff	% Diff	GEH	WebTAG Within			
							Abs %	GEH5	GEH7.5	GEH10						Abs or %	GEH=5	GEH=7.5	GEH=10							Abs or %	GEH=5	GEH=7.5	GEH=10						Abs or %	GEH=5	GEH=7.5	GEH=10
Inbound																																	
Redbridge roundabout approach from west on Totton	*S*	1,150	1,259	109	10%	3.1	Y	Y	Y	Y	867	938	71	8%	2.4	Y	Y	Y	Y	138	158	20	14%	1.6	Y	Y	Y	Y	134	161	27	20%	2.3	Y	Y	Y	Y
Redbridge roundabout approach from west on Comme	*W*	926	916	-10	-1%	0.3	Y	Y	Y	Y	834	824	-10	-1%	0.3	Y	Y	Y	Y	62	54	-8	-12%	1.0	Y	Y	Y	Y	30	31	1	4%	0.2	Y	Y	Y	Y
Hill Street	*S*	5	-	-5	-100%	3.2	Y	Y	Y	Y	4	-	-4	-100%	2.9	Y	Y	Y	Y	1	-	-1	-100%	1.2	Y	Y	Y	Y	0	-	-	0	-100%	0.7	Y	Y	Y	Y
A36 east of A326	*E*	402	490	89	22%	4.2	Y	Y	Y	Y	288	338	50	17%	2.8	Y	Y	Y	Y	60	91	32	53%	3.6	Y	Y	Y	Y	51	60	9	18%	1.3	Y	Y	Y	Y
A326 Totton Western Bypass south of A36	*S*	682	495	-187	-27%	7.7	N	N	N	Y	584	427	-157	-27%	7.0	N	N	Y	Y	65	49	-17	-26%	2.2	Y	Y	Y	Y	29	19	-10	-34%	2.0	Y	Y	Y	Y
Loperwood Lane	*S*	21	178	157	733%	15.7	N	N	N	N	19	156	137	710%	14.6	N	N	N	N	2	13	12	684%	4.3	Y	Y	Y	Y	0	9	8	2106%	3.9	Y	Y	Y	Y
Loperwood	*E*	66	71	5	8%	0.6	Y	Y	Y	Y	55	57	2	3%	0.2	Y	Y	Y	Y	8	10	2	24%	0.6	Y	Y	Y	Y	2	3	1	21%	0.3	Y	Y	Y	Y
Tatchbury Lane		4	4	-							4	4	-							0	0	-							-	-	-						
A336 westbound at junction to Bartley	*E*	366	264	-103	-28%	5.8	N	N	Y	Y	308	218	-90	-29%	5.5	Y	N	Y	Y	36	33	-3	-7%	0.5	Y	Y	Y	Y	21	12	-9	-42%	2.2	Y	Y	Y	Y
Woodlands Road	*E*	68	134	65	96%	6.5	Y	N	Y	Y	60	122	61	101%	6.4	Y	N	Y	Y	5	9	4	80%	1.5	Y	Y	Y	Y	3	2	-1	-22%	0.4	Y	Y	Y	Y
Foxhills	*E*	33	135	102	309%	11.1	N	N	N	N	29	123	95	333%	10.9	Y	N	N	N	2	8	6	288%	2.6	Y	Y	Y	Y	3	3	1	25%	0.4	Y	Y	Y	Y
A35 on dual close to Western Bypass	*E*	502	481	-21	-4%	1.0	Y	Y	Y	Y	420	376	-43	-10%	2.2	Y	Y	Y	Y	59	67	8	14%	1.0	Y	Y	Y	Y	23	38	15	67%	2.8	Y	Y	Y	Y
Deerleap Lane	*N*	90	-	-90	-100%	13.4	Y	N	N	N	80	-	-80	-100%	12.7	Y	N	N	N	6	-	-6	-100%	3.6	Y	Y	Y	Y	3	-	-3	-100%	2.5	Y	Y	Y	Y
Staplewood Lane	*N*	2	-	-2	-100%	2.2	Y	Y	Y	Y	2	-	-2	-100%	1.9	Y	Y	Y	Y	0	-	-0	-100%	1.0	Y	Y	Y	Y	0	-	-0	-100%	0.7	Y	Y	Y	Y
Twiggs Lane	*N*	69	0	-69	-100%	11.7	Y	N	N	N	56	-	-56	-100%	10.5	Y	N	N	N	10	0	-10	-100%	4.5	Y	Y	Y	Y	3	-	-3	-100%	2.3	Y	Y	Y	Y
A326 Marchwood Bypass	*N*	949	919	-30	-3%	1.0	Y	Y	Y	Y	524	659	135	26%	5.6	N	N	Y	Y	342	175	-167	-49%	10.4	N	N	N	N	76	81	5	7%	0.6	Y	Y	Y	Y
Hythe Road	*N*	186	45	-141	-76%	13.1	N	N	N	N	155	25	-130	-84%	13.7	N	N	N	N	13	16	3	26%	0.9	Y	Y	Y	Y	18	3	-15	-81%	4.5	Y	Y	Y	Y
Marchwood Bypass	*W*	930	995	65	7%	2.1	Y	Y	Y	Y	764	737	-27	-4%	1.0	Y	Y	Y	Y	92	174	82	89%	7.1	Y	N	Y	Y	71	81	10	14%	1.1	Y	Y	Y	Y
Marchwood Road	*W*	373	416	43	11%	2.1	Y	Y	Y	Y	356	396	40	11%	2.1	Y	Y	Y	Y	9	14	5	49%	1.3	Y	Y	Y	Y	8	5	-3	-36%	1.1	Y	Y	Y	Y
		6,825	**6,802**	**-24**	**-0.3%**	**0.3**	**72%**	**56%**	**67%**	**72%**	**5,407**	**5,398**	**-9**	**-0.2%**	**0.1**	**78%**	**50%**	**72%**	**72%**	**911**	**871**	**-39**	**-4.3%**	**1.3**	**94%**	**89%**	**94%**	**94%**	**475**	**509**	**34**	**7.2%**	**1.5**	**100%**	**100%**	**100%**	**100%**
13 Southampton Enclosure																																	
Outbound																																	
A35 Redbridge Road	*W*	2,175	2,212	37	2%	0.8	Y	Y	Y	Y	1,849	1,860	11	1%	0.3	Y	Y	Y	Y	218	228	11	5%	0.7	Y	Y	Y	Y	109	115	6	5%	0.6	Y	Y	Y	Y
Brownhill Way	*W*	621	613	-8	-1%	0.3	Y	Y	Y	Y	537	511	-26	-5%	1.1	Y	Y	Y	Y	59	73	14	24%	1.8	Y	Y	Y	Y	24	28	4	17%	0.8	Y	Y	Y	Y
Romsey Road	*N*	321	455	135	42%	6.8	N	N	Y	Y	278	381	103	37%	5.7	N	N	Y	Y	30	51	21	70%	3.3	Y	Y	Y	Y	12	23	11	88%	2.6	Y	Y	Y	Y
Rownhams Lane	*N*	293	222	-72	-24%	4.5	Y	Y	Y	Y	248	202	-47	-19%	3.1	Y	Y	Y	Y	34	16	-18	-53%	3.6	Y	Y	Y	Y	11	2	-9	-80%	3.4	Y	Y	Y	Y
A33 Bassett Avenue between Winchester Road and Ba	*N*	1,186	1,149	-36	-3%	1.1	Y	Y	Y	Y	1,052	969	-83	-8%	2.6	Y	Y	Y	Y	82	127	46	56%	4.5	Y	Y	Y	Y	49	48	-1	-3%	0.2	Y	Y	Y	Y
A27 Bassett Green Road close to Lobelia Road	*N*	363	619	256	71%	11.6	N	N	N	N	318	493	175	55%	8.7	N	N	N	Y	31	78	47	154%	6.4	Y	N	Y	Y	12	49	37	307%	6.7	Y	N	Y	Y
Stoneham Lane	*N*	92	8	-84	-91%	11.8	Y	N	N	N	83	5	-78	-94%	11.8	Y	N	N	N	5	0	-5	-92%	2.9	Y	Y	Y	Y	4	0	-4	-98%	2.9	Y	Y	Y	Y
A335 Stoneham Way	*N*	1,032	772	-260	-25%	8.7	N	N	N	Y	792	689	-103	-13%	3.8	Y	Y	Y	Y	143	54	-90	-63%	9.0	Y	N	N	Y	90	29	-61	-68%	7.9	Y	N	N	Y
Wide Lane	*N*	388	543	156	40%	7.2	N	N	Y	Y	333	433	100	30%	5.1	N	N	Y	Y	35	59	24	69%	3.5	Y	Y	Y	Y	18	43	25	138%	4.5	Y	Y	Y	Y
Mansbridge Road	*E*	615	648	33	5%	1.3	Y	Y	Y	Y	527	546	19	4%	0.8	Y	Y	Y	Y	68	73	6	9%	0.7	Y	Y	Y	Y	19	28	9	49%	1.9	Y	Y	Y	Y
Woodmill Lane	*S*	286	352	66	23%	3.7	Y	Y	Y	Y	258	312	54	21%	3.2	Y	Y	Y	Y	22	28	6	26%	1.2	Y	Y	Y	Y	6	12	6	104%	2.0	Y	Y	Y	Y
Cobden Bridge	*E*	686	602	-84	-12%	3.3	Y	Y	Y	Y	601	545	-56	-9%	2.3	Y	Y	Y	Y	55	39	-16	-29%	2.3	Y	Y	Y	Y	28	9	-18	-67%	4.3	Y	Y	Y	Y
Northam Bridge	*E*	1,078	936	-142	-13%	4.5	Y	Y	Y	Y	928	856	-72	-8%	2.4	Y	Y	Y	Y	104	37	-67	-64%	7.9	Y	N	N	Y	47	19	-27	-58%	4.7	Y	Y	Y	Y
Itchen Bridge	*E*	542	446	-96	-18%	4.3	Y	Y	Y	Y	479	416	-63	-13%	3.0	Y	Y	Y	Y	26	2	-24	-91%	6.3	Y	N	Y	Y	36	-	-36	-100%	8.5	Y	N	N	Y
		9,677	**9,578**	**-99**	**-1.0%**	**1.0**	**71%**	**64%**	**79%**	**86%**	**8,282**	**8,218**	**-65**	**-0.8%**	**0.7**	**79%**	**71%**	**86%**	**93%**	**911**	**867**	**-44**	**-4.8%**	**1.5**	**100%**	**71%**	**86%**	**100%**	**464**	**405**	**-59**	**-12.7%**	**2.8**	**100%**	**79%**	**86%**	**100%**
Inbound																																	
A35 Redbridge Road	*E*	2,121	2,082	-40	-2%	0.9	Y	Y	Y	Y	1,803	1,755	-48	-3%	1.1	Y	Y	Y	Y	212	214	2	1%	0.1	Y	Y	Y	Y	106	101	-5	-5%	0.5	Y	Y	Y	Y
Brownhill Way	*E*	540	547	6	1%	0.3	Y	Y	Y	Y	474	450	-24	-5%	1.1	Y	Y	Y	Y	45	79	34	74%	4.3	Y	Y	Y	Y	20	18	-2	-11%	0.5	Y	Y	Y	Y
Romsey Road	*S*	320	491	171	53%	8.5	N	N	N	Y	278	434	156	56%	8.3	N	N	N	Y	31	31	0	0%	0.0	Y	Y	Y	Y	11	26	15	135%	3.5	Y	Y	Y	Y
Rownhams Lane	*S*	286	146	-140	-49%	9.5	N	N	N	Y	243	132	-111	-46%	8.1	N	N	N	Y	31	10	-21	-69%	4.8	Y	Y	Y	Y	11	3	-8	-77%	3.2	Y	Y	Y	Y
A33 Bassett Avenue between Winchester Road and Ba	*S*	1,229	1,392	162	13%	4.5	Y	Y	Y	Y	1,120	1,246	126	11%	3.7	Y	Y	Y	Y	59	66	7	12%	0.9	Y	Y	Y	Y	48	68	20	42%	2.6	Y	Y	Y	Y
A27 Bassett Green Road close to Lobelia Road	*S*	429	263	-166	-39%	8.9	N	N	N	Y	367	234	-133	-36%	7.7	N	N	N	Y	45	13	-31	-70%	5.8	Y	N	Y	Y	17	15	-2	-9%	0.4	Y	Y	Y	Y
Stoneham Lane	*S*	78	8	-71	-90%	10.8	Y	N	N	N	72	5	-67	-93%	10.7	Y	N	N	N	3	0	-2	-87%	1.9	Y	Y	Y	Y	4	0	-4	-100%	2.7	Y	Y	Y	Y
A335 Stoneham Way	*S*	863	865	2	0%	0.1	Y	Y	Y	Y	695	724	29	4%	1.1	Y	Y	Y	Y	97	93	-3	-4%	0.4	Y	Y	Y	Y	67	48	-19	-29%	2.5	Y	Y	Y	Y
Wide Lane	*S*	526	652	126	24%	5.2	N	N	Y	Y	445	535	89	20%	4.0	Y	Y	Y	Y	57	88	31	53%	3.6	Y	Y	Y	Y	22	23	1	6%	0.3	Y	Y	Y	Y
Mansbridge Road	*W*	533	560	26	5%	1.1	Y	Y	Y	Y	479	500	21	4%	0.9	Y	Y	Y	Y	39	42	3	8%	0.5	Y	Y	Y	Y	15	17	2	12%	0.5	Y	Y	Y	Y
Woodmill Lane	*N*	270	304	35	13%	2.1	Y	Y	Y	Y	238	273	34	14%	2.2	Y	Y	Y	Y	24	18	-7	-27%	1.4	Y	Y	Y	Y	7	14	7	103%	2.2	Y	Y	Y	Y
Cobden Bridge	*W*	675	617	-58	-9%	2.3	Y	Y	Y	Y	614	570	-43	-7%	1.8	Y	Y	Y	Y	34	26	-8	-23%	1.4	Y	Y	Y	Y	26	13	-14	-52%	3.1	Y	Y	Y	Y
Northam Bridge	*W*	953	814	-139	-15%	4.7	Y	Y	Y	Y	820	752	-68	-8%	2.4	Y	Y	Y	Y	92	21	-71	-77%	9.4	Y	N	N	Y	41	17	-24	-58%	4.4	Y	Y	Y	Y
Itchen Bridge	*W*	481	368	-113	-23%	5.5	N	N	Y	Y	396	338	-58	-15%	3.0	Y	Y	Y	Y	49	2	-46	-95%	9.2	Y	N	N	Y	26	-	-26	-100%	7.2	Y	N	Y	Y
		9,305	**9,108**	**-197**	**-2.1%**	**2.1**	**64%**	**57%**	**71%**	**93%**	**8,044**	**7,947**	**-97**	**-1.2%**	**1.1**	**79%**	**71%**	**71%**	**93%**	**818**	**704**	**-114**	**-14.0%**	**4.1**	**100%**	**79%**	**86%**	**100%**	**421**	**363**	**-58**	**-13.9%**	**3.0**	**100%**	**93%**	**100%**	**100%**
20 Totton																																	
Eastbound																																	
Marchwood Bypass south of Jacobs Gutter Lane	*N*	63	-	-63	-100%	11.3	Y	N	N	N	51	-	-51	-100%	10.1	Y	N	N	N	6	-	-6	-100%	3.5	Y	Y	Y	Y	6	-	-6	-100%	3.5	Y	Y	Y	Y
Spicers Hill south of Spicers Way	*N*	1,213	1,286	74	6%	2.1	Y	Y	Y	Y	923	963	40	4%	1.3	Y	Y	Y	Y	181	209	28	15%	2.0	Y	Y	Y	Y	102	110	8	8%	0.8	Y	Y	Y	Y
Rushington Lane	*E*	1	1	-0	-30%	0.4	Y	Y	Y	Y	1	-	-1	-100%	1.1	Y	Y	Y	Y	0	-	-0	-100%	0.4	Y	Y	Y	Y	1	-	-1	-100%	1.2	Y	Y	Y	Y
Ringwood Road east of Calmore Road	*E*	449	195	-254	-57%	14.2	N	N	N	N	411	171	-240	-58%	14.1	N	N	N	N	28	8	-21	-73%	4.9	Y	Y	Y	Y	10	15	5	53%	1.5	Y	Y	Y	Y
Water Lane near Totton College	*E*	146	270	123	84%	8.5	N	N	N	Y	128	255	127	99%	9.1	N	N	N	Y	12	7	-5	-43%	1.7	Y	Y	Y	Y	6	6	-0	-4%	0.1	Y	Y	Y	Y
Calmore Drive	*E*	133	114	-19	-14%	1.7	Y	Y	Y	Y	119	103	-16	-13%	1.5	Y	Y	Y	Y	10	7	-3	-28%	1.0	Y	Y	Y	Y	4	4	-0	0%	0.0	Y	Y	Y	Y
Cooks Lane east of Calmore Road	*E*	106	184	79	74%	6.5	Y	N	Y	Y	86	160	74	86%	6.7	Y	N	Y	Y	15	11	-4	-26%	1.1	Y	Y	Y	Y	4	13	9	223%	3.0	Y	Y	Y	Y
Salisbury Road east of Pauletts Lane	*E*	356	483	127	36%	6.2	N	N	Y	Y	246	338	91	37%	5.4	Y	N	Y	Y	53	91	38	70%	4.4	Y	Y	Y	Y	53	53	0	1%	0.0	Y	Y	Y	Y
		2,469	**2,535**	**66**	**2.7%**	**1.3**	**63%**	**38%**	**63%**	**75%**	**1,966**	**1,990**	**25**	**1.3%**	**0.6**	**75%**	**38%**	**63%**	**75%**	**306**	**333**	**27**	**8.8%**	**1.5**	**100%**	**100%**	**100%**	**100%**	**186**	**201**	**15**	**8.2%**	**1.1**	**100%**	**100%**	**100%**	**100%**
Westbound																																	
Marchwood Bypass south of Jacobs Gutter Lane	*S*	608	786	178	29%	6.7	N	N	Y	Y	474	648	175	37%	7.4	N	N	Y	Y	75	84	8	11%	0.9	Y	Y	Y	Y	56	51	-5	-9%	0.7	Y	Y	Y	Y
Spicers Hill south of Spicers Way	*S*	713	604	-108	-15%	4.2	N	Y	Y	Y	536	470	-66	-12%	2.9	Y	Y	Y	Y	117	100	-17	-15%	1.6	Y	Y	Y	Y	55	34	-21	-38%	3.1	Y	Y	Y	Y
Rushington Lane	*W*	38	39	1	2%	0.2	Y	Y	Y	Y	32	35	3	9%	0.5	Y	Y	Y	Y	4	3	-2	-36%	0.8	Y	Y	Y	Y	2	1	-1	-67%	1.1	Y	Y	Y	Y
Ringwood Road east of Calmore Road	*W*	538	220	-318	-59%	16.3	N	N	N	N	484	167	-316	-65%	17.5	N	N	N	N	40	23	-17	-43%	3.1	Y	Y	Y	Y	13	27	14	112%	3.2	Y	Y	Y	Y
Water Lane near Totton College	*W*	211	273	62	29%	4.0	Y	Y	Y	Y	184	239	55	30%	3.8	Y	Y	Y	Y	19	22	3	18%	0.8	Y	Y	Y	Y	8	9	1	18%	0.5	Y	Y	Y	Y
Calmore Drive	*W*	133	166	32	24%	2.6	Y	Y	Y	Y	124	144	20	16%	1.8	Y	Y	Y	Y	7	12	5	72%	1.6	Y	Y	Y	Y	3	10	7	275%	2.9	Y	Y	Y	Y
Cooks Lane east of Calmore Road	*W*	104	229	125	120%	9.7	N	N	N	Y	90	197	108	120%	9.0	N	N	N	Y	11	20	10	90%	2.5	Y	Y	Y	Y	4	11	8	206%	2.8	Y	Y	Y	Y
Salisbury Road east of Pauletts Lane	*W*	353	516	162	46%	7.8	N	N	N	Y	271	375	104	38%	5.8	N	N	Y	Y	45	90	45	99%	5.5	Y	N	Y	Y	34	49	15	45%	2.3	Y	Y	Y	Y
		2,699	**2,832**	**134**	**5.0%**	**2.5**	**38%**	**50%**	**63%**	**88%**	**2,194**	**2,277**	**82**	**3.7%**	**1.7**	**50%**	**50%**	**75%**	**88%**	**319**	**354**	**35**	**11.0%**	**1.9**	**100%**	**88%**	**100%**	**100%**	**174**	**193**	**19**	**10.9%**	**1.4**	**100%**	**100%**	**100%**	**100%**

APPENDIX A: LINK VALIDATION SOUTHAMPTON AND NEW FOREST

SRTM 2015 | ***IP*** | ***IP*** | ***IP*** | ***IP***

CORDONS AND SCREENLINES | ***VEHICLES*** | ***CAR*** | ***LGV*** | ***HGV***

Site Description	*Dir*	Obs	Model	Diff	% Diff	GEH	WebTAG Within				Obs	Model	Diff	% Diff	GEH	WebTAG Within				Obs	Model	Diff	% Diff	GEH	WebTAG Within				Obs	Model	Diff	% Diff	GEH	WebTAG Within			
							Abs %	GEH5	GEH7.5	GEH10						Abs or %	GEH<5	GEH<7.5	GEH<10						Abs or %	GEH<5	GEH<7.5	GEH<10						Abs or %	GEH<5	GEH<7.5	GEH<10
21 North of Southampton																																		
Eastbound																																		
A335 Thomas Lewis Way South of Horse Shoe Bridge	*N*	767	639	-128	-17%	4.8	N	Y	Y	Y	659	595	-64	-10%	2.6	Y	Y	Y	Y	64	32	-32	-50%	4.7	Y	Y	Y	Y	40	12	-28	-70%	5.5	Y	N	Y	Y
Lawn Road East off Horse Shoe Bridge	*E*	67	115	47	70%	5.0	Y	Y	Y	Y	59	99	40	67%	4.5	Y	Y	Y	Y	6	9	3	44%	1.0	Y	Y	Y	Y	2	7	5	257%	2.4	Y	Y	Y	Y
Tennyson Road	*N*	25	189	164	649%	15.8	N	N	N	N	21	178	157	738%	15.7	N	N	N	N	3	9	6	199%	2.5	Y	Y	Y	Y	1	2	1	97%	0.7	Y	Y	Y	Y
Portswood Road north of Portswood Avenue	*N*	341	76	-265	-78%	18.3	N	N	N	N	291	49	-242	-83%	18.5	N	N	N	N	32	2	-30	-94%	7.3	Y	N	Y	Y	16	11	-4	-27%	1.2	Y	Y	Y	Y
A33 The Avenue South of Westwood Road	*N*	755	1,025	269	36%	9.0	N	N	N	Y	655	884	229	35%	8.3	N	N	N	Y	59	85	26	45%	3.1	Y	Y	Y	Y	37	40	3	9%	0.5	Y	Y	Y	Y
Hill Lane	*N*	362	148	-214	-59%	13.4	N	N	N	N	317	137	-180	-57%	11.9	N	N	N	N	35	6	-29	-82%	6.4	Y	N	Y	Y	9	4	-5	-52%	1.9	Y	Y	Y	Y
Ivanhoe Road	*N*	33	133	100	304%	11.0	N	N	N	N	29	117	87	299%	10.2	Y	N	N	N	3	12	9	339%	3.4	Y	Y	Y	Y	1	3	2	255%	1.6	Y	Y	Y	Y
Wilton Road north of Colebrook Avenue	*N*	49	-	-49	-100%	9.9	Y	N	N	Y	43	-	-43	-100%	9.3	Y	N	N	Y	4	-	-4	-100%	2.8	Y	Y	Y	Y	2	-	-2	-100%	1.9	Y	Y	Y	Y
St James Road	*N*	366	278	-87	-24%	4.9	Y	Y	Y	Y	335	248	-87	-26%	5.1	Y	N	Y	Y	24	23	-0	-1%	0.1	Y	Y	Y	Y	7	7	-0	-4%	0.1	Y	Y	Y	Y
Winchester Road north of Wordsworth Road	*N*	626	286	-340	-54%	15.9	N	N	N	N	567	264	-302	-53%	14.8	N	N	N	N	43	17	-26	-61%	4.8	Y	Y	Y	Y	16	5	-11	-68%	3.4	Y	Y	Y	Y
Tremona Road	*E*	158	100	-58	-37%	5.1	Y	N	Y	Y	144	93	-51	-35%	4.7	Y	Y	Y	Y	11	6	-5	-46%	1.8	Y	Y	Y	Y	4	1	-2	-64%	1.5	Y	Y	Y	Y
Coxford Road east of Warren Ave	*E*	208	786	577	277%	25.9	N	N	N	N	165	685	519	314%	25.2	N	N	N	N	21	64	44	209%	6.7	Y	N	Y	Y	13	20	7	53%	1.7	Y	Y	Y	Y
Aldermoor Road	*E*	107	85	-23	-21%	2.3	Y	Y	Y	Y	93	75	-18	-19%	1.9	Y	Y	Y	Y	8	1	-6	-84%	3.1	Y	Y	Y	Y	6	1	-5	-90%	3.0	Y	Y	Y	Y
Lords Hill Way	*E*	415	181	-234	-56%	13.5	N	N	N	N	342	165	-176	-52%	11.1	N	N	N	N	50	5	-45	-89%	8.5	Y	N	N	Y	16	1	-15	-94%	5.2	Y	N	Y	Y
M0027_J0003_J0004	*E*	3,992	4,336	344	9%	5.3	Y	N	Y	Y	3,233	3,328	94	3%	1.6	Y	Y	Y	Y	275	329	55	20%	3.1	Y	Y	Y	Y	484	679	195	40%	8.1	N	N	N	Y
		8,273	**8,377**	**104**	**1.3%**	**1.1**	**40%**	**27%**	**40%**	**53%**	**6,953**	**6,917**	**-36**	**-0.5%**	**0.4**	**53%**	**33%**	**40%**	**53%**	**636**	**601**	**-35**	**-5.5%**	**1.4**	**100%**	**73%**	**93%**	**100%**	**654**	**794**	**140**	**21.5%**	**5.2**	**93%**	**80%**	**93%**	**100%**
21 North of Southampton																																		
Westbound																																		
A335 Thomas Lewis Way South of Horse Shoe Bridge	*S*	723	706	-17	-2%	0.6	Y	Y	Y	Y	582	618	36	6%	1.5	Y	Y	Y	Y	87	75	-12	-13%	1.3	Y	Y	Y	Y	49	12	-37	-75%	6.7	Y	N	Y	Y
Lawn Road East off Horse Shoe Bridge	*W*	68	18	-50	-73%	7.6	Y	N	N	Y	59	13	-45	-77%	7.6	Y	N	N	Y	7	2	-5	-73%	2.4	Y	Y	Y	Y	2	3	1	34%	0.5	Y	Y	Y	Y
Tennyson Road	*S*	27	124	96	350%	11.1	Y	N	N	N	23	115	92	399%	11.1	Y	N	N	N	3	7	4	107%	1.6	Y	Y	Y	Y	1	2	1	47%	0.4	Y	Y	Y	Y
Portswood Road north of Portswood Avenue	*S*	332	105	-228	-68%	15.4	N	N	N	N	285	74	-210	-74%	15.7	N	N	N	N	29	11	-19	-64%	4.2	Y	Y	Y	Y	15	6	-9	-58%	2.7	Y	Y	Y	Y
A33 The Avenue South of Westwood Road	*S*	775	1,052	277	36%	9.2	N	N	N	Y	652	881	230	35%	8.3	N	N	N	Y	76	89	12	16%	1.4	Y	Y	Y	Y	39	68	28	72%	3.9	Y	Y	Y	Y
Hill Lane	*S*	376	242	-134	-36%	7.6	N	N	N	Y	333	227	-106	-32%	6.3	N	N	Y	Y	33	11	-22	-67%	4.7	Y	Y	Y	Y	10	4	-6	-57%	2.1	Y	Y	Y	Y
Ivanhoe Road	*S*	34	124	91	270%	10.2	Y	N	N	N	26	117	91	357%	10.8	Y	N	N	N	7	5	-2	-26%	0.7	Y	Y	Y	Y	1	1	0	25%	0.3	Y	Y	Y	Y
Wilton Road north of Colebrook Avenue	*S*	90	-	-90	-100%	13.4	Y	N	N	N	82	-	-82	-100%	12.8	Y	N	N	N	5	-	-5	-100%	3.2	Y	Y	Y	Y	3	-	-3	-100%	2.3	Y	Y	Y	Y
St James Road	*S*	275	279	4	1%	0.2	Y	Y	Y	Y	255	258	3	1%	0.2	Y	Y	Y	Y	15	17	2	13%	0.5	Y	Y	Y	Y	4	4	-0	-11%	0.2	Y	Y	Y	Y
Winchester Road north of Wordsworth Road	*S*	606	214	-393	-65%	19.4	N	N	N	N	543	198	-345	-64%	17.9	N	N	N	N	45	10	-35	-77%	6.6	Y	N	Y	Y	17	5	-12	-70%	3.6	Y	Y	Y	Y
Tremona Road	*W*	194	260	66	34%	4.4	Y	Y	Y	Y	165	225	60	37%	4.3	Y	Y	Y	Y	23	25	2	7%	0.3	Y	Y	Y	Y	6	10	4	72%	1.5	Y	Y	Y	Y
Coxford Road east of Warren Ave	*W*	215	669	454	211%	21.6	N	N	N	N	175	588	413	237%	21.2	N	N	N	N	20	48	28	142%	4.8	Y	Y	Y	Y	13	17	5	39%	1.3	Y	Y	Y	Y
Aldermoor Road	*W*	76	84	8	11%	0.9	Y	Y	Y	Y	66	74	8	12%	1.0	Y	Y	Y	Y	6	1	-5	-85%	2.7	Y	Y	Y	Y	3	1	-2	-74%	1.7	Y	Y	Y	Y
Lords Hill Way	*W*	416	178	-238	-57%	13.8	N	N	N	N	376	159	-217	-58%	13.3	N	N	N	N	22	8	-14	-64%	3.7	Y	Y	Y	Y	16	2	-14	-87%	4.7	Y	Y	Y	Y
M0027_J0004_J0003	*W*	4,198	4,414	216	5%	3.3	Y	Y	Y	Y	3,372	3,432	61	2%	1.0	Y	Y	Y	Y	308	363	55	18%	3.0	Y	Y	Y	Y	518	619	100	19%	4.2	N	Y	Y	Y
		8,405	**8,469**	**64**	**0.8%**	**0.7**	**60%**	**33%**	**33%**	**53%**	**6,992**	**6,981**	**-11**	**-0.2%**	**0.1**	**60%**	**33%**	**40%**	**53%**	**687**	**671**	**-15**	**-2.2%**	**0.6**	**100%**	**93%**	**100%**	**100%**	**699**	**755**	**56**	**8.0%**	**2.1**	**93%**	**93%**	**100%**	**100%**
22 South of Southampton																																		
Eastbound																																		
Milbrook Road East West of Waterhouse Lane		1,433	1,783	351	24%	8.7	N	N	N	Y	1,218	1,514	296	24%	8.0	N	N	N	Y	143	179	36	25%	2.8	Y	Y	Y	Y	72	79	7	10%	0.8	Y	Y	Y	Y
Waterhouse Way near Shirley Park Westbound Hail an	*E*	179	230	51	29%	3.6	Y	Y	Y	Y	154	222	68	44%	5.0	Y	Y	Y	Y	19	5	-14	-72%	4.0	Y	Y	Y	Y	5	1	-4	-73%	2.1	Y	Y	Y	Y
Shirley High Street East of Park St	*S*	433	267	-166	-38%	8.9	N	N	N	Y	389	211	-179	-46%	10.3	N	N	N	N	21	13	-8	-37%	1.9	Y	Y	Y	Y	19	5	-14	-74%	4.0	Y	Y	Y	Y
Victor Street east of Crown Street	*N*	248	106	-142	-57%	10.7	N	N	N	N	233	99	-134	-57%	10.4	N	N	N	N	12	5	-7	-61%	2.5	Y	Y	Y	Y	3	2	-1	-38%	0.7	Y	Y	Y	Y
Winchester Road north of Wordsworth Road	*N*	626	286	-340	-54%	15.9	N	N	N	N	567	264	-302	-53%	14.8	N	N	N	N	43	17	-26	-61%	4.8	Y	Y	Y	Y	16	5	-11	-68%	3.4	Y	Y	Y	Y
Dale Road north of Norham Avenue	*N*	307	487	180	59%	9.0	N	N	N	Y	268	422	154	57%	8.3	N	N	N	Y	29	48	19	67%	3.1	Y	Y	Y	Y	11	15	4	34%	1.1	Y	Y	Y	Y
Lordswood Road east of Dale Valley Road	*E*	586	538	-47	-8%	2.0	Y	Y	Y	Y	536	521	-16	-3%	0.7	Y	Y	Y	Y	37	14	-23	-62%	4.6	Y	Y	Y	Y	12	3	-9	-78%	3.4	Y	Y	Y	Y
		3,812	**3,698**	**-114**	**-3.0%**	**1.9**	**29%**	**29%**	**29%**	**71%**	**3,365**	**3,252**	**-113**	**-3.4%**	**2.0**	**29%**	**29%**	**29%**	**57%**	**305**	**282**	**-24**	**-7.8%**	**1.4**	**100%**	**100%**	**100%**	**100%**	**138**	**109**	**-28**	**-20.6%**	**2.6**	**100%**	**100%**	**100%**	**100%**
Westbound																																		
Milbrook Road East West of Waterhouse Lane		1,691	2,017	325	19%	7.6	N	N	N	Y	1,438	1,702	265	18%	6.7	N	N	Y	Y	169	213	44	26%	3.2	Y	Y	Y	Y	85	92	8	9%	0.8	Y	Y	Y	Y
Waterhouse Way near Shirley Park Westbound Hail an	*W*	209	218	9	4%	0.6	Y	Y	Y	Y	182	205	23	12%	1.6	Y	Y	Y	Y	20	10	-10	-50%	2.6	Y	Y	Y	Y	7	3	-5	-63%	2.1	Y	Y	Y	Y
Shirley High Street East of Park St	*N*	344	482	138	40%	6.8	N	N	Y	Y	319	394	76	24%	4.0	Y	Y	Y	Y	11	35	24	207%	4.9	Y	Y	Y	Y	12	15	3	23%	0.8	Y	Y	Y	Y
Victor Street east of Crown Street	*N*	248	-	-248	-100%	22.3	N	N	N	N	233	-	-233	-100%	21.6	N	N	N	N	12	-	-12	-100%	4.9	Y	Y	Y	Y	3	-	-3	-100%	2.4	Y	Y	Y	Y
Winchester Road north of Wordsworth Road	*S*	606	214	-393	-65%	19.4	N	N	N	N	543	198	-345	-64%	17.9	N	N	N	N	45	10	-35	-77%	6.6	Y	N	Y	Y	17	5	-12	-70%	3.6	Y	Y	Y	Y
Dale Road north of Norham Avenue	*S*	283	354	70	25%	3.9	Y	Y	Y	Y	254	317	63	25%	3.7	Y	Y	Y	Y	22	27	5	23%	1.0	Y	Y	Y	Y	7	7	-0	-4%	0.1	Y	Y	Y	Y
Lordswood Road east of Dale Valley Road	*W*	657	721	64	10%	2.4	Y	Y	Y	Y	588	662	74	13%	2.9	Y	Y	Y	Y	51	40	-11	-22%	1.7	Y	Y	Y	Y	17	18	1	6%	0.3	Y	Y	Y	Y
		4,038	**4,005**	**-34**	**-0.8%**	**0.5**	**43%**	**43%**	**57%**	**71%**	**3,556**	**3,478**	**-78**	**-2.2%**	**1.3**	**57%**	**57%**	**71%**	**71%**	**330**	**335**	**5**	**1.4%**	**0.3**	**100%**	**86%**	**100%**	**100%**	**148**	**140**	**-8**	**-5.6%**	**0.7**	**100%**	**100%**	**100%**	**100%**
24 Bitterne Northwest to Southeast																																		
Eastbound																																		
Hamble Lane		451	746	295	66%	12.1	N	N	N	N	383	552	168	44%	7.8	N	N	N	Y	45	113	68	150%	7.6	Y	N	N	Y	23	81	59	260%	8.1	Y	N	N	Y
Grange Road South of A3025	*N*	216	140	-76	-35%	5.7	Y	N	Y	Y	185	129	-56	-30%	4.5	Y	Y	Y	Y	22	11	-12	-53%	2.9	Y	Y	Y	Y	8	1	-7	-90%	3.4	Y	Y	Y	Y
Coxs Drive	*E*	1	78	76	5868%	12.1	Y	N	N	N	1	74	73	7270%	11.9	Y	N	N	N	0	2	2	1067%	1.8	Y	Y	Y	Y	0	2	2	1640%	1.7	Y	Y	Y	Y
Portsmouth Road	*E*	610	504	-107	-17%	4.5	N	Y	Y	Y	541	453	-88	-16%	4.0	Y	Y	Y	Y	42	25	-17	-40%	2.9	Y	Y	Y	Y	27	20	-6	-24%	1.3	Y	Y	Y	Y
Butts Road	*E*	229	161	-68	-30%	4.9	Y	Y	Y	Y	200	151	-49	-24%	3.7	Y	Y	Y	Y	19	4	-15	-78%	4.4	Y	Y	Y	Y	9	4	-5	-57%	2.0	Y	Y	Y	Y
Kathleen Road	*E*	164	360	196	119%	12.1	N	N	N	N	139	331	192	138%	12.5	N	N	N	N	12	13	1	6%	0.2	Y	Y	Y	Y	10	7	-3	-28%	1.0	Y	Y	Y	Y
Burlesdon Road	*S*	617	253	-364	-59%	17.5	N	N	N	N	548	213	-335	-61%	17.2	N	N	N	N	44	9	-35	-79%	6.7	Y	N	Y	Y	24	13	-11	-44%	2.5	Y	Y	Y	Y
Upper Deacon Road	*N*	166	260	94	57%	6.4	Y	N	Y	Y	156	244	87	56%	6.2	Y	N	Y	Y	7	15	8	124%	2.5	Y	Y	Y	Y	3	-	-3	-100%	2.4	Y	Y	Y	Y
Bitterne Road	*E*	549	585	37	7%	1.5	Y	Y	Y	Y	490	548	57	12%	2.5	Y	Y	Y	Y	36	37	1	3%	0.2	Y	Y	Y	Y	22	-	-22	-100%	6.7	Y	N	Y	Y
Shales Road south of Taunton Drive	*N*	73	74	2	2%	0.2	Y	Y	Y	Y	66	72	6	9%	0.7	Y	Y	Y	Y	5	2	-3	-69%	1.9	Y	Y	Y	Y	2	1	-1	-50%	0.8	Y	Y	Y	Y
West End Road	*E*	535	635	100	19%	4.2	N	Y	Y	Y	497	575	78	16%	3.4	Y	Y	Y	Y	25	37	12	46%	2.1	Y	Y	Y	Y	12	20	8	68%	2.0	Y	Y	Y	Y
Townhill Way	*N*	319	266	-53	-17%	3.1	Y	Y	Y	Y	277	254	-23	-8%	1.4	Y	Y	Y	Y	27	6	-22	-79%	5.3	Y	N	Y	Y	10	0	-10	-96%	4.3	Y	Y	Y	Y
Wakefield Road north of Cornwall Road	*N*	83	32	-50	-61%	6.6	Y	N	Y	Y	73	32	-41	-56%	5.7	Y	N	Y	Y	5	0	-4	-92%	2.8	Y	Y	Y	Y	3	0	-3	-99%	2.4	Y	Y	Y	Y
Northfield Road		10	10	-							10	10	-							0	0	-							0	0	-						
Foresthill Drive north of Woodmill Lane	*E*	139	94	-45	-32%	4.2	Y	Y	Y	Y	115	79	-36	-32%	3.7	Y	Y	Y	Y	7	2	-5	-66%	2.1	Y	Y	Y	Y	16	1	-15	-96%	5.3	Y	N	Y	Y
		4,162	**4,199**	**37**	**0.9%**	**0.6**	**64%**	**50%**	**71%**	**71%**	**3,682**	**3,714**	**32**	**0.9%**	**0.5**	**79%**	**57%**	**71%**	**79%**	**296**	**275**	**-21**	**-7.0%**	**1.2**	**100%**	**79%**	**93%**	**100%**	**169**	**151**	**-18**	**-10.8%**	**1.4**	**100%**	**79%**	**93%**	**100%**

APPENDIX A: LINK VALIDATION SOUTHAMPTON AND NEW FOREST

SRTM 2015 | **IP** | **IP** | **IP** | **IP**

CORDONS AND SCREENLINES | **VEHICLES** | **CAR** | **LGV** | **HGV**

Site Description	*Dir*	Obs	Model	Diff	% Diff	GEH	WebTAG Within				Obs	Model	Diff	% Diff	GEH	WebTAG Within				Obs	Model	Diff	% Diff	GEH	WebTAG Within				Obs	Model	Diff	% Diff	GEH	WebTAG Within			
							Abs %	GEH<5	GEH<7.5	GEH<10						Abs or %	GEH<5	GEH<7.5	GEH<10						Abs or %	GEH<5	GEH<7.5	GEH<10						Abs or %	GEH<5	GEH<7.5	GEH<10
Westbound																																			
Hamble Lane		714	585	- 129	-18%	5.1	N	N	Y	Y	607	389	- 219	-36%	9.8	N	N	N	Y	71	125	54	75%	5.4	Y	N	Y	Y	36	70	35	97%	4.8	Y	Y	Y	Y
Grange Road South of A3025	*S*	245	106	- 139	-57%	10.5	N	N	N	N	214	92	- 121	-57%	9.8	N	N	N	Y	24	13	- 11	-45%	2.5	Y	Y	Y	Y	7	1	- 7	-93%	3.4	Y	Y	Y	Y
Coxs Drive	*W*	4	89	85	2160%	12.5	Y	N	N	N	3	84	81	2538%	12.3	Y	N	N	N	0	2	2	394%	1.6	Y	Y	Y	Y	0	2	2	730%	1.7	Y	Y	Y	Y
Portsmouth Road	*W*	593	564	- 28	-5%	1.2	Y	Y	Y	Y	514	489	- 25	-5%	1.1	Y	Y	Y	Y	49	42	- 7	-14%	1.0	Y	Y	Y	Y	28	23	- 5	-18%	1.0	Y	Y	Y	Y
Butts Road	*W*	218	245	27	12%	1.8	Y	Y	Y	Y	195	225	30	16%	2.1	Y	Y	Y	Y	18	13	- 4	-25%	1.1	Y	Y	Y	Y	6	7	1	17%	0.4	Y	Y	Y	Y
Kathleen Road	*W*	155	89	- 67	-43%	6.0	Y	N	Y	Y	132	76	- 55	-42%	5.4	Y	N	Y	Y	12	3	- 9	-77%	3.4	Y	Y	Y	Y	10	2	- 9	-82%	3.5	Y	Y	Y	Y
Burlesdon Road	*N*	561	349	- 212	-38%	9.9	N	N	N	Y	480	302	- 177	-37%	9.0	N	N	N	Y	42	9	- 34	-80%	6.7	Y	N	Y	Y	36	19	- 17	-48%	3.3	Y	Y	Y	Y
Upper Deacon Road	*S*	120	157	37	31%	3.1	Y	Y	Y	Y	113	149	37	33%	3.2	Y	Y	Y	Y	5	8	2	49%	1.0	Y	Y	Y	Y	2	-	- 2	-100%	2.2	Y	Y	Y	Y
Bitterne Road	*W*	509	576	67	13%	2.9	Y	Y	Y	Y	444	547	104	23%	4.7	N	Y	Y	Y	41	26	- 15	-37%	2.6	Y	Y	Y	Y	24	-	- 24	-100%	6.9	Y	N	Y	Y
Shales Road south of Taunton Drive	*S*	46	80	34	73%	4.2	Y	Y	Y	Y	43	75	32	75%	4.2	Y	Y	Y	Y	2	3	1	44%	0.6	Y	Y	Y	Y	1	1	- 0	-33%	0.4	Y	Y	Y	Y
West End Road	*W*	578	632	54	9%	2.2	Y	Y	Y	Y	515	568	53	10%	2.3	Y	Y	Y	Y	47	42	- 5	-10%	0.7	Y	Y	Y	Y	16	21	5	32%	1.2	Y	Y	Y	Y
Townhill Way	*S*	352	262	- 90	-26%	5.1	Y	N	Y	Y	303	237	- 66	-22%	4.0	Y	Y	Y	Y	25	10	- 15	-60%	3.5	Y	Y	Y	Y	23	1	- 22	-96%	6.4	Y	N	Y	Y
Wakefield Road north of Cornwall Road	*S*	81	35	- 46	-57%	6.1	Y	N	Y	Y	76	30	- 45	-60%	6.2	Y	N	Y	Y	4	1	- 4	-85%	2.3	Y	Y	Y	Y	1	0	- 1	-98%	1.5	Y	Y	Y	Y
Northfield Road		22	22	-							22	22	-							0	0	-							0	0	-						
Foresthill Drive north of Woodmill Lane	*W*	120	76	- 44	-37%	4.5	Y	Y	Y	Y	108	73	- 35	-32%	3.7	Y	Y	Y	Y	9	2	- 7	-81%	3.1	Y	Y	Y	Y	3	1	- 2	-74%	1.7	Y	Y	Y	Y
		4,319	**3,866**	**- 453**	**-10.5%**	**7.1**	**79%**	**50%**	**79%**	**86%**	**3,766**	**3,360**	**- 406**	**-10.8%**	**6.8**	**71%**	**57%**	**71%**	**93%**	**349**	**297**	**- 51**	**-14.7%**	**2.9**	**100%**	**86%**	**100%**	**100%**	**195**	**147**	**- 47**	**-24.2%**	**3.6**	**100%**	**86%**	**100%**	**100%**
25 Bitterne Southwest to Northeast																																			
Eastbound																																			
Victoria Road		8	8	-							-	-	-							-	-	-							-	-	-						
Archery Road	*N*	234	166	- 68	-29%	4.8	Y	Y	Y	Y	204	147	- 56	-28%	4.2	Y	Y	Y	Y	17	14	- 3	-19%	0.8	Y	Y	Y	Y	13	5	- 8	-64%	2.8	Y	Y	Y	Y
Portsmouth Road	*E*	740	686	- 54	-7%	2.0	Y	Y	Y	Y	680	652	- 28	-4%	1.1	Y	Y	Y	Y	39	20	- 19	-48%	3.4	Y	Y	Y	Y	19	6	- 14	-70%	3.8	Y	Y	Y	Y
STATION ROAD	*E*	134	171	38	28%	3.0	Y	Y	Y	Y	116	160	44	38%	3.8	Y	Y	Y	Y	8	3	- 6	-70%	2.5	Y	Y	Y	Y	8	0	- 8	-99%	4.0	Y	Y	Y	Y
South East Road	*E*	230	347	117	51%	6.9	N	N	Y	Y	210	333	123	58%	7.4	N	N	Y	Y	15	10	- 5	-31%	1.3	Y	Y	Y	Y	5	4	- 1	-19%	0.4	Y	Y	Y	Y
Bursledon Road West of NE Road	*S*	586	382	- 204	-35%	9.3	N	N	N	Y	516	339	- 177	-34%	8.6	N	N	N	Y	43	11	- 31	-73%	6.0	Y	N	Y	Y	25	14	- 12	-46%	2.6	Y	Y	Y	Y
A334 Thornhill Park Road	*E*	597	728	131	22%	5.1	N	N	Y	Y	529	676	148	28%	6.0	N	N	Y	Y	46	51	4	10%	0.6	Y	Y	Y	Y	21	-	- 21	-100%	6.4	Y	N	Y	Y
Pine Drive	*S*	40	44	4	9%	0.6	Y	Y	Y	Y	35	42	7	21%	1.2	Y	Y	Y	Y	4	2	- 2	-60%	1.4	Y	Y	Y	Y	1	-	- 1	-100%	1.5	Y	Y	Y	Y
A27 Moorhill Road		504	432	- 72	-14%	3.3	Y	Y	Y	Y	428	363	- 65	-15%	3.3	Y	Y	Y	Y	50	41	- 9	-18%	1.4	Y	Y	Y	Y	25	28	3	10%	0.5	Y	Y	Y	Y
Botley Road	*E*	574	571	- 4	-1%	0.2	Y	Y	Y	Y	512	465	- 47	-9%	2.1	Y	Y	Y	Y	43	60	17	39%	2.4	Y	Y	Y	Y	17	43	25	146%	4.6	Y	Y	Y	Y
		3,647	**3,534**	**- 112**	**-3.1%**	**1.9**	**67%**	**67%**	**89%**	**100%**	**3,228**	**3,177**	**- 52**	**-1.6%**	**0.9**	**67%**	**67%**	**89%**	**100%**	**266**	**212**	**- 54**	**-20.3%**	**3.5**	**100%**	**89%**	**100%**	**100%**	**135**	**99**	**- 36**	**-27.0%**	**3.4**	**100%**	**89%**	**100%**	**100%**
Westbound																																			
Victoria Road		8	8	-							-	-	-							-	-	-							-	-	-						
Archery Road	*S*	246	166	- 80	-33%	5.6	Y	N	Y	Y	215	140	- 75	-35%	5.6	Y	N	Y	Y	19	21	2	12%	0.5	Y	Y	Y	Y	13	5	- 7	-58%	2.5	Y	Y	Y	Y
Portsmouth Road	*W*	735	704	- 31	-4%	1.1	Y	Y	Y	Y	659	662	3	0%	0.1	Y	Y	Y	Y	52	30	- 22	-43%	3.5	Y	Y	Y	Y	23	5	- 18	-77%	4.7	Y	Y	Y	Y
STATION ROAD	*W*	124	92	- 32	-26%	3.1	Y	Y	Y	Y	103	82	- 20	-20%	2.1	Y	Y	Y	Y	10	1	- 9	-87%	3.7	Y	Y	Y	Y	6	0	- 6	-99%	3.5	Y	Y	Y	Y
South East Road	*W*	195	354	158	81%	9.6	N	N	N	Y	179	337	158	88%	9.8	N	N	N	Y	12	11	- 1	-8%	0.3	Y	Y	Y	Y	4	6	2	44%	0.8	Y	Y	Y	Y
Bursledon Road West of NE Road	*N*	558	377	- 181	-32%	8.4	N	N	N	Y	481	330	- 151	-31%	7.5	N	N	Y	Y	45	9	- 35	-79%	6.8	Y	N	Y	Y	31	19	- 12	-39%	2.5	Y	Y	Y	Y
A334 Thornhill Park Road	*W*	598	646	48	8%	1.9	Y	Y	Y	Y	540	614	73	14%	3.1	Y	Y	Y	Y	38	32	- 7	-18%	1.2	Y	Y	Y	Y	19	-	- 19	-100%	6.1	Y	N	Y	Y
Pine Drive	*N*	23	74	51	228%	7.4	Y	N	Y	Y	20	73	52	256%	7.7	Y	N	N	Y	2	1	- 0	-11%	0.1	Y	Y	Y	Y	1	-	- 1	-100%	1.1	Y	Y	Y	Y
A27 Moorhill Road	*S*	492	530	38	8%	1.7	Y	Y	Y	Y	447	478	32	7%	1.5	Y	Y	Y	Y	31	33	1	5%	0.3	Y	Y	Y	Y	14	19	6	43%	1.4	Y	Y	Y	Y
Botley Road	*W*	568	477	- 92	-16%	4.0	Y	Y	Y	Y	513	390	- 123	-24%	5.8	N	N	Y	Y	40	50	10	26%	1.5	Y	Y	Y	Y	16	34	18	117%	3.7	Y	Y	Y	Y
		3,548	**3,428**	**- 119**	**-3.4%**	**2.0**	**78%**	**56%**	**78%**	**100%**	**3,157**	**3,105**	**- 51**	**-1.6%**	**0.9**	**67%**	**44%**	**78%**	**100%**	**248**	**187**	**- 60**	**-24.3%**	**4.1**	**100%**	**89%**	**100%**	**100%**	**126**	**89**	**- 37**	**-29.7%**	**3.6**	**100%**	**89%**	**100%**	**100%**
116 Motorway - M27																																			
Eastbound																																			
J2 to J3	*E*	3,317	3,514	197	6%	3.4	Y	Y	Y	Y	2,686	2,766	80	3%	1.5	Y	Y	Y	Y	228	268	40	18%	2.5	Y	Y	Y	Y	402	480	77	19%	3.7	Y	Y	Y	Y
J3 to J4	*E*	3,992	4,336	344	9%	5.3	Y	N	Y	Y	3,233	3,328	94	3%	1.6	Y	Y	Y	Y	275	329	55	20%	3.1	Y	Y	Y	Y	484	679	195	40%	8.1	N	N	N	Y
J4 to J5	*E*	3,298	3,410	112	3%	1.9	Y	Y	Y	Y	2,707	2,783	76	3%	1.5	Y	Y	Y	Y	249	300	50	20%	3.0	Y	Y	Y	Y	342	327	- 15	-4%	0.8	Y	Y	Y	Y
J5 to J7	*E*	3,813	4,044	231	6%	3.7	Y	Y	Y	Y	3,129	3,217	87	3%	1.6	Y	Y	Y	Y	288	350	61	21%	3.4	Y	Y	Y	Y	395	478	82	21%	3.9	Y	Y	Y	Y
J7 to J8	*E*	3,667	3,888	221	6%	3.6	Y	Y	Y	Y	3,009	3,101	91	3%	1.7	Y	Y	Y	Y	277	332	55	20%	3.1	Y	Y	Y	Y	380	455	75	20%	3.7	Y	Y	Y	Y
Westbound																																			
J8 to J7	*W*	3,859	4,079	220	6%	3.5	Y	Y	Y	Y	3,171	3,257	87	3%	1.5	Y	Y	Y	Y	270	321	51	19%	2.9	Y	Y	Y	Y	418	501	83	20%	3.9	Y	Y	Y	Y
J7 to J5	*W*	3,978	4,149	170	4%	2.7	Y	Y	Y	Y	3,269	3,357	88	3%	1.5	Y	Y	Y	Y	278	328	50	18%	2.9	Y	Y	Y	Y	431	463	32	7%	1.5	Y	Y	Y	Y
J5 to J4	*W*	3,497	3,635	138	4%	2.3	Y	Y	Y	Y	2,874	2,953	80	3%	1.5	Y	Y	Y	Y	245	284	39	16%	2.4	Y	Y	Y	Y	379	398	19	5%	1.0	Y	Y	Y	Y
J4 to J3	*W*	4,198	4,414	216	5%	3.3	Y	Y	Y	Y	3,372	3,432	61	2%	1.0	Y	Y	Y	Y	308	363	55	18%	3.0	Y	Y	Y	Y	518	619	100	19%	4.2	N	Y	Y	Y
J3 to J2	*W*	3,065	3,216	151	5%	2.7	Y	Y	Y	Y	2,462	2,506	44	2%	0.9	Y	Y	Y	Y	225	264	39	17%	2.5	Y	Y	Y	Y	379	447	68	18%	3.3	Y	Y	Y	Y
118 Motorway - M3																																			
Eastbound																																			
J14 to J13	*E*	4,557	4,557	-							3,722	3,722	-							338	338	-							497	497	-						
Westbound																																			
J13 to J14	*W*	1,842	2,457	615	33%	13.3	N	N	N	N	1,491	1,930	439	29%	10.6	N	N	N	N	114	162	48	42%	4.1	Y	Y	Y	Y	237	365	128	54%	7.4	N	N	Y	Y

APPENDIX A
CORDONS, SCREENLINES and LINK VALIDATION

PM
Vehicles

Cordon/ Screenline	Dir	Sites	Cordon and Screenlines Validation: Observed	Model	Diff	% Diff	GEH	GEH<= 4	WebTAG within 5.0%	WebTAG within 7.5%	WebTAG within 10.0%	Link Validation: WebTAG within Abs or %	GEH=5	GEH=7.5	GEH=10
RSI Cordons and Screenlines															
1 Fareham Enclosure	Outbound	16	10,096	10,517	421	4.2%	4.1	N	Y	Y	Y	75%	63%	75%	75%
1 Fareham Enclosure	Inbound	16	9,848	10,290	442	4.5%	4.4	N	Y	Y	Y	63%	50%	81%	81%
2 Havant Enclosure	Outbound	11	5,721	5,577	-144	-2.5%	1.9	Y	Y	Y	Y	64%	64%	82%	91%
2 Havant Enclosure	Inbound	11	6,052	5,842	-210	-3.5%	2.7	Y	Y	Y	Y	36%	27%	45%	73%
3 Hayling Island Enclosure	Outbound	1	828	837	10	1.2%	0.3	Y	Y	Y	Y	100%	100%	100%	100%
3 Hayling Island Enclosure	Inbound	1	1,394	1,427	34	2.4%	0.9	Y	Y	Y	Y	100%	100%	100%	100%
4 Hedge End Enclosure	Outbound	8	4,577	4,661	85	1.9%	1.2	Y	Y	Y	Y	50%	50%	50%	50%
4 Hedge End Enclosure	Inbound	8	5,827	5,857	30	0.5%	0.4	Y	Y	Y	Y	25%	25%	50%	63%
5 Waterlooville Enclosure	Outbound	18	9,803	9,830	28	0.3%	0.3	Y	Y	Y	Y	56%	61%	67%	72%
5 Waterlooville Enclosure	Inbound	18	11,189	11,306	117	1.0%	1.1	Y	Y	Y	Y	39%	44%	61%	83%
71 Portsmouth South Enclosure	Outbound	6	4,182	4,153	-29	-0.7%	0.4	Y	Y	Y	Y	67%	67%	83%	83%
71 Portsmouth South Enclosure	Inbound	6	5,196	5,156	-40	-0.8%	0.6	Y	Y	Y	Y	33%	33%	33%	67%
72 Portsmouth North Enclosure	Outbound	8	7,935	7,962	28	0.4%	0.3	Y	Y	Y	Y	67%	67%	67%	83%
72 Portsmouth North Enclosure	Inbound	8	7,541	7,648	106	1.4%	1.2	Y	Y	Y	Y	63%	50%	88%	88%
8 Southampton City Enclosure	Outbound	12	7,101	7,162	60	0.8%	0.7	Y	Y	Y	Y	42%	50%	50%	58%
8 Southampton City Enclosure	Inbound	12	5,362	5,230	-132	-2.5%	1.8	Y	Y	Y	Y	50%	50%	50%	67%
91 Bitterne West Screenline	Eastbound	5	5,359	5,276	-83	-1.6%	1.1	Y	Y	Y	Y	60%	60%	80%	80%
91 Bitterne West Screenline	Westbound	5	2,811	2,641	-170	-6.0%	3.3	Y	N	Y	Y	60%	60%	80%	100%
92 Bitterne East Screenline	Eastbound	4	3,382	3,461	79	2.3%	1.4	Y	Y	Y	Y	50%	50%	50%	50%
92 Bitterne East Screenline	Westbound	4	2,811	2,813	3	0.1%	0.1	Y	Y	Y	Y	25%	25%	25%	25%
10 Locks Heath North Screenline	Outbound	9	6,578	6,486	-92	-1.4%	1.1	Y	Y	Y	Y	67%	67%	78%	89%
10 Locks Heath North Screenline	Inbound	9	6,668	7,252	585	8.8%	7.0	N	N	N	Y	67%	44%	78%	89%
11 Totton Enclosure	Outbound	19	9,107	9,367	260	2.9%	2.7	Y	Y	Y	Y	50%	44%	61%	67%
11 Totton Enclosure	Inbound	19	9,993	10,102	109	1.1%	1.1	Y	Y	Y	Y	39%	44%	56%	56%
12 Eastleigh Enclosure	Outbound	11	5,497	5,138	-359	-6.5%	4.9	N	N	Y	Y	55%	64%	82%	82%
12 Eastleigh Enclosure	Inbound	11	5,156	4,867	-289	-5.6%	4.1	N	N	Y	Y	45%	45%	64%	82%
13 Southampton Enclosure	Outbound	14	14,164	14,234	69	0.5%	0.6	Y	Y	Y	Y	71%	71%	79%	86%
13 Southampton Enclosure	Inbound	14	11,849	11,891	42	0.4%	0.4	Y	Y	Y	Y	64%	64%	86%	93%
36 Solent RSI Cordon	Northbound	3	194	170	-24	-12.2%	1.8	Y	N	N	N	100%	100%	100%	100%
36 Solent RSI Cordon	Southbound	3	163	74	-88	-54.3%	8.1	N	N	N	N	100%	33%	33%	67%
Total	**Total**	290	186,383	187,229	846	0.5%		80%	80%	90%	93%	55%	53%	67%	75%
Calibration Screenlines															
20 Totton	Eastbound	8	3,297	3,420	123	3.7%	2.1	Y	Y	Y	Y	75%	50%	75%	88%
20 Totton	Westbound	8	4,077	4,448	371	9.1%	5.7	N	N	N	Y	38%	38%	63%	75%
21 North of Southampton	Eastbound	15	11,378	11,259	-119	-1.0%	1.1	Y	Y	Y	Y	40%	27%	33%	53%
21 North of Southampton	Westbound	15	11,550	11,657	107	0.9%	1.0	Y	Y	Y	Y	33%	27%	33%	47%
22 South of Southampton	Eastbound	7	4,464	4,578	114	2.5%	1.7	Y	Y	Y	Y	29%	29%	29%	43%
22 South of Southampton	Westbound	7	4,901	4,990	88	1.8%	1.3	Y	Y	Y	Y	43%	43%	57%	57%
23 Eastleigh	Eastbound	6	8,069	7,981	-88	-1.1%	1.0	Y	Y	Y	Y	67%	50%	100%	100%
23 Eastleigh	Westbound	6	8,779	8,690	-89	-1.0%	0.9	Y	Y	Y	Y	50%	50%	83%	83%
24 Bitterne Northwest to Southeast	Eastbound	15	5,620	6,118	498	8.9%	6.5	N	N	N	Y	43%	36%	50%	57%
24 Bitterne Northwest to Southeast	Westbound	15	5,699	4,900	-799	-14.0%	11.0	N	N	N	N	64%	50%	64%	79%
25 Bitterne Southwest to Northeast	Eastbound	10	4,953	5,121	168	3.4%	2.4	Y	Y	Y	Y	67%	56%	78%	89%
25 Bitterne Southwest to Northeast	Westbound	10	4,533	4,506	-28	-0.6%	0.4	Y	Y	Y	Y	56%	44%	44%	67%
26 Fareham North South	Eastbound	9	7,668	7,869	201	2.6%	2.3	Y	Y	Y	Y	78%	56%	56%	67%
26 Fareham North South	Westbound	9	8,379	8,464	84	1.0%	0.9	Y	Y	Y	Y	50%	25%	63%	75%
271 Locks Heath West to East	Northbound	11	3,392	3,438	46	1.4%	0.8	Y	Y	Y	Y	64%	55%	73%	73%
271 Locks Heath West to East	Southbound	11	5,026	4,911	-116	-2.3%	1.6	Y	Y	Y	Y	36%	27%	64%	73%
272 Fareham West to East	Northbound	4	2,180	2,256	76	3.5%	1.6	Y	Y	Y	Y	100%	75%	100%	100%
272 Fareham West to East	Southbound	4	2,159	2,192	33	1.5%	0.7	Y	Y	Y	Y	75%	50%	75%	100%
28 Gosport	Northbound	6	2,906	2,852	-54	-1.9%	1.0	Y	Y	Y	Y	83%	83%	83%	83%
28 Gosport	Southbound	6	3,382	3,371	-11	-0.3%	0.2	Y	Y	Y	Y	67%	67%	67%	67%
29 Portsmouth NorthSouth	Eastbound	16	10,392	10,472	80	0.8%	0.8	Y	Y	Y	Y	44%	38%	50%	63%
29 Portsmouth NorthSouth	Westbound	17	10,254	10,094	-160	-1.6%	1.6	Y	Y	Y	Y	71%	53%	71%	94%
30 Portsmouth EastWest	Northbound	9	6,512	6,573	62	0.9%	0.8	Y	Y	Y	Y	67%	56%	78%	89%
30 Portsmouth EastWest	Southbound	9	7,312	7,224	-89	-1.2%	1.0	Y	Y	Y	Y	78%	44%	56%	67%
31 Cosham	Eastbound	5	7,791	7,927	136	1.7%	1.5	Y	Y	Y	Y	60%	60%	60%	60%
31 Cosham	Westbound	5	8,015	8,212	197	2.5%	2.2	Y	Y	Y	Y	60%	60%	60%	80%
32 Waterlooville North to South	Eastbound	15	11,513	11,972	459	4.0%	4.2	N	Y	Y	Y	53%	53%	73%	87%
32 Waterlooville North to South	Westbound	15	11,481	10,975	-505	-4.4%	4.8	N	Y	Y	Y	67%	60%	73%	80%
33 Waterlooville West to East	Northbound	5	4,641	4,771	130	2.8%	1.9	Y	Y	Y	Y	40%	40%	40%	100%
33 Waterlooville West to East	Southbound	5	4,587	4,799	212	4.6%	3.1	Y	Y	Y	Y	60%	60%	60%	80%
34 Havant North South	Eastbound	7	5,156	5,398	241	4.7%	3.3	Y	Y	Y	Y	57%	57%	71%	86%
34 Havant North South	Westbound	7	4,766	4,845	78	1.6%	1.1	Y	Y	Y	Y	43%	43%	43%	86%
35 Havant East West	Northbound	11	6,111	5,964	-147	-2.4%	1.9	Y	Y	Y	Y	64%	36%	55%	64%
35 Havant East West	Southbound	11	5,423	5,910	487	9.0%	6.5	N	N	N	Y	45%	36%	36%	45%
201 Winchester Cordon	Outbound	15	5,633	5,753	120	2.1%	1.6	Y	Y	Y	Y	93%	73%	87%	93%
201 Winchester Cordon	Inbound	15	4,881	4,792	-89	-1.8%	1.3	Y	Y	Y	Y	87%	73%	93%	93%
Total		349	226,881	228,701	1,820	0.8%		83%	89%	89%	97%	59%	48%	63%	75%
Motorways															
M27	Eastbound	14										93%	93%	100%	100%
M27	Westbound	14										100%	100%	100%	100%
M3	Eastbound	6										100%	100%	100%	100%
M3	Westbound	6										100%	100%	100%	100%
A3(M)	Northbound	4										100%	100%	100%	100%
A3(M)	Southbound	4										100%	100%	100%	100%
M275	Northbound	1										100%	100%	100%	100%
M275	Southbound	1										100%	100%	100%	100%
M271	Northbound	2										100%	100%	100%	100%
M271	Southbound	2										50%	50%	100%	100%
Total	**Total**	54										96%	96%	100%	100%
Overall								82%	85%	89%	95%	60%	54%	67%	77%

APPENDIX A
CORDONS, SCREENLINES and LINK VALIDATION

PM
Car

Cordon/ Screenline	Dir	Sites	Cordon and Screenlines Validation									Link Validation			
			Observed	Model	Diff	% Diff	GEH	GEH<= 4	WebTAG within 5.0%	WebTAG within 7.5%	WebTAG within 10.0%	WebTAG within Abs or %	WebTAG within GEH=5	WebTAG within GEH=7.5	WebTAG within GEH=10
RSI Cordons and Screenlines															
1 Fareham Enclosure	Outbound	16	8,938	9,239	301	3.4%	3.2	Y	Y	Y	Y	69%	69%	69%	81%
1 Fareham Enclosure	Inbound	16	8,605	8,956	351	4.1%	3.7	Y	Y	Y	Y	69%	63%	81%	88%
2 Havant Enclosure	Outbound	11	5,077	5,004	-73	-1.4%	1.0	Y	Y	Y	Y	64%	64%	82%	91%
2 Havant Enclosure	Inbound	11	5,209	5,142	-66	-1.3%	0.9	Y	Y	Y	Y	45%	36%	64%	91%
3 Hayling Island Enclosure	Outbound	1	689	691	2	0.3%	0.1	Y	Y	Y	Y	100%	100%	100%	100%
3 Hayling Island Enclosure	Inbound	1	1,220	1,235	15	1.3%	0.4	Y	Y	Y	Y	100%	100%	100%	100%
4 Hedge End Enclosure	Outbound	8	4,018	4,053	35	0.9%	0.6	Y	Y	Y	Y	50%	50%	50%	50%
4 Hedge End Enclosure	Inbound	8	5,064	5,083	19	0.4%	0.3	Y	Y	Y	Y	13%	25%	38%	63%
5 Waterlooville Enclosure	Outbound	18	8,366	8,454	88	1.1%	1.0	Y	Y	Y	Y	72%	72%	72%	78%
5 Waterlooville Enclosure	Inbound	18	9,745	9,798	53	0.5%	0.5	Y	Y	Y	Y	50%	44%	67%	89%
71 Portsmouth South Enclosure	Outbound	6	3,811	3,788	-23	-0.6%	0.4	Y	Y	Y	Y	67%	67%	83%	83%
71 Portsmouth South Enclosure	Inbound	6	4,722	4,714	-8	-0.2%	0.1	Y	Y	Y	Y	33%	33%	50%	100%
72 Portsmouth North Enclosure	Outbound	8	6,826	6,939	113	1.7%	1.4	Y	Y	Y	Y	33%	67%	83%	100%
72 Portsmouth North Enclosure	Inbound	8	6,670	6,806	137	2.1%	1.7	Y	Y	Y	Y	63%	63%	88%	88%
8 Southampton City Enclosure	Outbound	12	6,348	6,288	-60	-0.9%	0.8	Y	Y	Y	Y	50%	50%	50%	50%
8 Southampton City Enclosure	Inbound	12	4,682	4,482	-199	-4.3%	2.9	Y	Y	Y	Y	42%	33%	67%	67%
91 Bitterne West Screenline	Eastbound	5	4,808	4,730	-78	-1.6%	1.1	Y	Y	Y	Y	60%	60%	80%	80%
91 Bitterne West Screenline	Westbound	5	2,560	2,479	-81	-3.2%	1.6	Y	Y	Y	Y	60%	80%	80%	100%
92 Bitterne East Screenline	Eastbound	4	3,032	3,043	11	0.4%	0.2	Y	Y	Y	Y	25%	25%	25%	50%
92 Bitterne East Screenline	Westbound	4	2,529	2,509	-20	-0.8%	0.4	Y	Y	Y	Y	25%	25%	25%	25%
10 Locks Heath North Screenline	Outbound	9	5,693	5,632	-61	-1.1%	0.8	Y	Y	Y	Y	89%	78%	89%	89%
10 Locks Heath North Screenline	Inbound	9	5,618	6,039	422	7.5%	5.5	N	N	N	Y	67%	78%	89%	100%
11 Totton Enclosure	Outbound	19	7,963	8,038	75	0.9%	0.8	Y	Y	Y	Y	44%	56%	61%	67%
11 Totton Enclosure	Inbound	19	8,464	8,546	81	1.0%	0.9	Y	Y	Y	Y	56%	44%	56%	61%
12 Eastleigh Enclosure	Outbound	11	4,777	4,381	-397	-8.3%	5.9	N	N	N	Y	55%	55%	82%	82%
12 Eastleigh Enclosure	Inbound	11	4,544	4,278	-266	-5.9%	4.0	N	N	Y	Y	45%	36%	73%	82%
13 Southampton Enclosure	Outbound	14	12,630	12,662	32	0.3%	0.3	Y	Y	Y	Y	71%	71%	86%	86%
13 Southampton Enclosure	Inbound	14	10,630	10,657	27	0.3%	0.3	Y	Y	Y	Y	64%	79%	86%	93%
36 Solent RSI Cordon	Northbound	3	163	170	7	4.2%	0.5	Y	Y	Y	Y	100%	100%	100%	100%
36 Solent RSI Cordon	Southbound	3	141	74	-66	-47.2%	6.4	N	N	N	N	100%	33%	67%	100%
Total	**Total**	290	163,539	163,911	372	0.2%		87%	87%	90%	97%	57%	57%	70%	79%
Calibration Screenlines															
20 Totton	Eastbound	8	2,784	2,838	54	1.9%	1.0	Y	Y	Y	Y	75%	63%	88%	88%
20 Totton	Westbound	8	3,513	3,753	240	6.8%	4.0	Y	N	Y	Y	50%	38%	63%	75%
21 North of Southampton	Eastbound	15	10,120	10,055	-65	-0.6%	0.6	Y	Y	Y	Y	40%	33%	40%	60%
21 North of Southampton	Westbound	15	10,197	10,240	42	0.4%	0.4	Y	Y	Y	Y	33%	27%	33%	47%
22 South of Southampton	Eastbound	7	4,004	4,018	14	0.4%	0.2	Y	Y	Y	Y	14%	29%	29%	43%
22 South of Southampton	Westbound	7	4,371	4,385	14	0.3%	0.2	Y	Y	Y	Y	57%	57%	57%	57%
23 Eastleigh	Eastbound	6	7,069	7,097	28	0.4%	0.3	Y	Y	Y	Y	67%	67%	100%	100%
23 Eastleigh	Westbound	6	7,540	7,416	-124	-1.6%	1.4	Y	Y	Y	Y	33%	50%	83%	83%
24 Bitterne Northwest to Southeast	Eastbound	15	5,095	5,575	480	9.4%	6.6	N	N	N	Y	57%	43%	50%	57%
24 Bitterne Northwest to Southeast	Westbound	15	5,083	4,474	-609	-12.0%	8.8	N	N	N	N	57%	50%	64%	79%
25 Bitterne Southwest to Northeast	Eastbound	10	4,515	4,612	97	2.1%	1.4	Y	Y	Y	Y	56%	44%	56%	89%
25 Bitterne Southwest to Northeast	Westbound	10	4,152	4,154	2	0.0%	0.0	Y	Y	Y	Y	56%	44%	44%	78%
26 Fareham North South	Eastbound	9	6,699	6,699	1	0.0%	0.0	Y	Y	Y	Y	78%	56%	56%	78%
26 Fareham North South	Westbound	9	7,227	7,270	43	0.6%	0.5	Y	Y	Y	Y	63%	50%	63%	88%
271 Locks Heath West to East	Northbound	11	2,998	3,016	18	0.6%	0.3	Y	Y	Y	Y	73%	55%	64%	82%
271 Locks Heath West to East	Southbound	11	4,377	4,361	-16	-0.4%	0.2	Y	Y	Y	Y	55%	36%	64%	73%
272 Fareham West to East	Northbound	4	1,955	2,007	52	2.6%	1.2	Y	Y	Y	Y	100%	75%	100%	100%
272 Fareham West to East	Southbound	4	1,884	1,894	9	0.5%	0.2	Y	Y	Y	Y	75%	75%	100%	100%
28 Gosport	Northbound	6	2,636	2,626	-10	-0.4%	0.2	Y	Y	Y	Y	83%	83%	83%	83%
28 Gosport	Southbound	6	3,063	3,081	18	0.6%	0.3	Y	Y	Y	Y	50%	67%	67%	67%
29 Portsmouth NorthSouth	Eastbound	16	9,039	9,059	20	0.2%	0.2	Y	Y	Y	Y	44%	38%	56%	63%
29 Portsmouth NorthSouth	Westbound	17	8,989	8,891	-98	-1.1%	1.0	Y	Y	Y	Y	71%	47%	71%	94%
30 Portsmouth EastWest	Northbound	9	5,633	5,695	62	1.1%	0.8	Y	Y	Y	Y	67%	44%	78%	100%
30 Portsmouth EastWest	Southbound	9	6,583	6,536	-48	-0.7%	0.6	Y	Y	Y	Y	78%	56%	56%	67%
31 Cosham	Eastbound	5	6,829	6,901	73	1.1%	0.9	Y	Y	Y	Y	60%	60%	60%	80%
31 Cosham	Westbound	5	7,070	7,207	137	1.9%	1.6	Y	Y	Y	Y	60%	60%	80%	80%
32 Waterlooville North to South	Eastbound	15	9,907	10,379	472	4.8%	4.7	N	Y	Y	Y	60%	53%	87%	87%
32 Waterlooville North to South	Westbound	15	9,882	9,333	-548	-5.5%	5.6	N	N	Y	Y	67%	53%	73%	80%
33 Waterlooville West to East	Northbound	5	4,041	4,124	83	2.0%	1.3	Y	Y	Y	Y	40%	40%	60%	100%
33 Waterlooville West to East	Southbound	5	3,969	4,032	63	1.6%	1.0	Y	Y	Y	Y	60%	60%	60%	80%
34 Havant North South	Eastbound	7	4,485	4,693	209	4.7%	3.1	Y	Y	Y	Y	57%	57%	71%	86%
34 Havant North South	Westbound	7	4,123	4,170	48	1.2%	0.7	Y	Y	Y	Y	71%	43%	57%	86%
35 Havant East West	Northbound	11	5,284	5,186	-98	-1.8%	1.4	Y	Y	Y	Y	64%	36%	55%	73%
35 Havant East West	Southbound	11	4,664	5,069	405	8.7%	5.8	N	N	N	Y	55%	36%	45%	73%
201 Winchester Cordon	Outbound	15	4,905	4,876	-29	-0.6%	0.4	Y	Y	Y	Y	100%	92%	100%	100%
201 Winchester Cordon	Inbound	15	4,301	4,121	-181	-4.2%	2.8	Y	Y	Y	Y	85%	85%	92%	100%
Total		349	198,984	199,841	857	0.4%		86%	86%	92%	97%	61%	51%	65%	78%
Motorways															
M27	Eastbound	14										100%	100%	100%	100%
M27	Westbound	14										100%	100%	100%	100%
M3	Eastbound	6										100%	80%	100%	100%
M3	Westbound	6										100%	100%	100%	100%
A3(M)	Northbound	4										100%	100%	100%	100%
A3(M)	Southbound	4										100%	100%	100%	100%
M275	Northbound	1										100%	100%	100%	100%
M275	Southbound	1										100%	100%	100%	100%
M271	Northbound	2										100%	100%	100%	100%
M271	Southbound	2										100%	100%	100%	100%
Total	**Total**	54										100%	98%	100%	100%
Overall								86%	86%	91%	97%	62%	57%	70%	81%

APPENDIX A: LINK VALIDATION SOUTHAMPTON AND NEW FOREST

SRTM 2015 **PM** **PM** **PM** **PM**

CORDONS AND SCREENLINES **VEHICLES** **CAR** **LGV** **HGV**

Site Description	*Dir*	Obs	Model	Diff	% Diff	GEH	WebTAG Within				Obs	Model	Diff	% Diff	GEH	WebTAG Within				Obs	Model	Diff	% Diff	GEH	WebTAG Within				Obs	Model	Diff	% Diff	GEH	WebTAG Within			
							Abs %	GEH5	GEH7.5	GEH10						Abs or %	GEH<5	GEH<7.5	GEH<10						Abs or %	GEH<5	GEH<7.5	GEH<10						Abs or %	GEH<5	GEH<7.5	GEH<10
8 Southampton City Enclosure																																		
Outbound																																		
A33 Mountbatten Way	*W*	2,033	2,127	94	5%	2.1	Y	Y	Y	Y	1,800	1,889	89	5%	2.1	Y	Y	Y	Y	174	195	20	12%	1.5	Y	Y	Y	Y	58	42	-16	-28%	2.3	Y	Y	Y	Y
Central Station Bridge	*N*	737	683	-55	-7%	2.0	Y	Y	Y	Y	679	598	-81	-12%	3.2	Y	Y	Y	Y	44	84	41	93%	5.1	Y	N	Y	Y	15	-	-15	-100%	5.4	Y	N	Y	Y
Blechynden Terrace	*W*	130	406	276	213%	16.9	N	N	N	N	104	316	213	205%	14.7	N	N	N	N	5	19	14	285%	4.1	Y	Y	Y	Y	11	27	16	153%	3.7	Y	Y	Y	Y
Cumberland Place	*N*	750	346	-403	-54%	17.2	N	N	N	N	678	324	-353	-52%	15.8	N	N	N	N	43	11	-32	-75%	6.3	Y	N	Y	Y	23	11	-12	-52%	2.9	Y	Y	Y	Y
Above Bar Street - (one way this direction)	*N*	94	425	331	353%	20.6	N	N	N	N	68	367	299	443%	20.3	N	N	N	N	8	16	9	116%	2.5	Y	Y	Y	Y	12	14	2	18%	0.6	Y	Y	Y	Y
East Park Terrace	*N*	359	173	-186	-52%	11.4	N	N	N	N	319	163	-156	-49%	10.1	N	N	N	N	25	4	-21	-84%	5.6	Y	N	Y	Y	14	3	-10	-75%	3.5	Y	Y	Y	Y
New Road	*E*	459	302	-157	-34%	8.0	N	N	N	Y	418	142	-276	-66%	16.5	N	N	N	N	22	34	12	56%	2.3	Y	Y	Y	Y	19	103	85	452%	10.8	Y	N	N	N
Kingsway	*N*	555	448	-107	-19%	4.8	N	Y	Y	Y	499	416	-83	-17%	3.9	Y	Y	Y	Y	39	24	-15	-38%	2.6	Y	Y	Y	Y	16	7	-9	-54%	2.6	Y	Y	Y	Y
St Marys Street	*N*	160	540	380	238%	20.3	N	N	N	N	133	441	308	231%	18.1	N	N	N	N	24	75	51	217%	7.3	Y	N	Y	Y	3	24	21	718%	5.7	Y	N	Y	Y
Britannia Road	*N*	373	377	5	1%	0.2	Y	Y	Y	Y	327	345	19	6%	1.0	Y	Y	Y	Y	33	25	-9	-26%	1.6	Y	Y	Y	Y	12	7	-5	-40%	1.6	Y	Y	Y	Y
Princes Street	*W*	255	249	-7	-3%	0.4	Y	Y	Y	Y	220	240	20	9%	1.3	Y	Y	Y	Y	27	7	-20	-75%	5.0	Y	Y	Y	Y	8	2	-6	-79%	2.8	Y	Y	Y	Y
Itchen Bridge	*E*	1,197	1,086	-112	-9%	3.3	Y	Y	Y	Y	1,104	1,046	-59	-5%	1.8	Y	Y	Y	Y	42	12	-30	-71%	5.8	Y	N	Y	Y	49	-	-49	-100%	9.9	Y	N	N	Y
		7,101	**7,162**	**60**	**0.8%**	**0.7**	**42%**	**50%**	**50%**	**58%**	**6,348**	**6,288**	**-60**	**-0.9%**	**0.8**	**50%**	**50%**	**50%**	**50%**	**486**	**505**	**19**	**4.0%**	**0.9**	**100%**	**58%**	**100%**	**100%**	**238**	**240**	**2**	**0.9%**	**0.1**	**100%**	**67%**	**83%**	**92%**
Inbound																																		
A33 Mountbatten Way	*E*	1,671	1,794	123	7%	2.9	Y	Y	Y	Y	1,480	1,518	38	3%	1.0	Y	Y	Y	Y	143	167	23	16%	1.9	Y	Y	Y	Y	48	108	60	127%	6.8	Y	N	Y	Y
Central Station Bridge	*S*	486	258	-228	-47%	11.8	N	N	N	N	446	247	-200	-45%	10.7	N	N	N	N	32	11	-22	-67%	4.7	Y	Y	Y	Y	7	-	-7	-100%	3.9	Y	Y	Y	Y
Blechynden Terrace	*E*	153	470	317	207%	18.0	N	N	N	N	93	343	251	271%	17.0	N	N	N	N	12	60	48	410%	8.1	Y	N	N	Y	30	19	-11	-36%	2.2	Y	Y	Y	Y
Cumberland Place	*S*	658	173	-485	-74%	23.8	N	N	N	N	568	147	-421	-74%	22.2	N	N	N	N	56	13	-43	-77%	7.4	Y	N	Y	Y	30	11	-20	-65%	4.3	Y	Y	Y	Y
Above Bar Street - (one way in other direction)	*N*	94	425	331	353%	20.6	N	N	N	N	68	367	299	443%	20.3	N	N	N	N	8	16	9	116%	2.5	Y	Y	Y	Y	12	14	2	18%	0.6	Y	Y	Y	Y
East Park Terrace	*S*	317	249	-68	-21%	4.0	Y	Y	Y	Y	286	223	-63	-22%	3.9	Y	Y	Y	Y	21	14	-6	-31%	1.5	Y	Y	Y	Y	9	8	-1	-7%	0.2	Y	Y	Y	Y
New Road	*W*	398	334	-64	-16%	3.3	Y	Y	Y	Y	361	244	-117	-32%	6.7	N	N	Y	Y	25	33	8	31%	1.5	Y	Y	Y	Y	11	34	22	199%	4.7	Y	Y	Y	Y
Kingsway	*S*	581	410	-171	-29%	7.7	N	N	N	Y	504	359	-145	-29%	7.0	N	N	Y	Y	41	39	-2	-4%	0.2	Y	Y	Y	Y	34	12	-23	-66%	4.7	Y	Y	Y	Y
St Marys Street	*S*	159	278	119	75%	8.1	N	N	N	Y	144	244	100	69%	7.2	N	N	Y	Y	12	22	10	76%	2.3	Y	Y	Y	Y	2	12	10	552%	3.8	Y	Y	Y	Y
Britannia Road	*S*	103	121	18	17%	1.7	Y	Y	Y	Y	90	118	28	31%	2.7	Y	Y	Y	Y	10	1	-8	-85%	3.5	Y	Y	Y	Y	4	2	-2	-47%	1.0	Y	Y	Y	Y
Princes Street	*E*	212	274	62	29%	4.0	Y	Y	Y	Y	177	257	81	46%	5.5	Y	N	Y	Y	24	11	-13	-56%	3.2	Y	Y	Y	Y	10	6	-5	-44%	1.6	Y	Y	Y	Y
Itchen Bridge	*W*	531	445	-86	-16%	3.9	Y	Y	Y	Y	466	414	-51	-11%	2.4	Y	Y	Y	Y	41	3	-38	-93%	8.2	Y	N	N	Y	17	-	-17	-100%	5.9	Y	N	Y	Y
		5,362	**5,230**	**-132**	**-2.5%**	**1.8**	**50%**	**50%**	**50%**	**67%**	**4,682**	**4,482**	**-199**	**-4.3%**	**2.9**	**42%**	**33%**	**67%**	**67%**	**425**	**390**	**-35**	**-8.2%**	**1.7**	**100%**	**75%**	**83%**	**100%**	**215**	**225**	**10**	**4.7%**	**0.7**	**100%**	**83%**	**100%**	**100%**
91 Bitterne West Screenline																																		
Eastbound																																		
Itchen Bridge	*E*	1,197	1,086	-112	-9%	3.3	Y	Y	Y	Y	1,104	1,046	-59	-5%	1.8	Y	Y	Y	Y	42	12	-30	-71%	5.8	Y	N	Y	Y	49	-	-49	-100%	9.9	Y	N	N	Y
Northam Bridge	*E*	1,817	1,705	-112	-6%	2.7	Y	Y	Y	Y	1,609	1,487	122	-8%	3.1	Y	Y	Y	Y	156	88	-68	-43%	6.1	Y	N	Y	Y	52	105	53	103%	6.0	Y	N	Y	Y
Cobden Bridge	*E*	1,112	944	-168	-15%	5.2	N	N	Y	Y	1,000	842	-158	-16%	5.2	N	N	Y	Y	47	53	7	14%	0.9	Y	Y	Y	Y	53	41	-12	-22%	1.7	Y	Y	Y	Y
Woodmill Lane	*S*	262	531	269	103%	13.5	N	N	N	N	247	505	257	104%	13.3	N	N	N	N	12	23	11	93%	2.7	Y	Y	Y	Y	3	3	1	20%	0.3	Y	Y	Y	Y
Mansbridge Road	*E*	971	1,011	39	4%	1.3	Y	Y	Y	Y	848	851	3	0%	0.1	Y	Y	Y	Y	99	122	23	23%	2.2	Y	Y	Y	Y	23	37	14	60%	2.5	Y	Y	Y	Y
		5,359	**5,276**	**-83**	**-1.6%**	**1.1**	**60%**	**60%**	**80%**	**80%**	**4,808**	**4,730**	**-78**	**-1.6%**	**1.1**	**60%**	**60%**	**80%**	**80%**	**356**	**299**	**-57**	**-16.0%**	**3.1**	**100%**	**60%**	**100%**	**100%**	**180**	**187**	**7**	**3.8%**	**0.5**	**100%**	**60%**	**80%**	**100%**
Westbound																																		
Northam Bridge	*W*	901	812	-89	-10%	3.0	Y	Y	Y	Y	798	759	-39	-5%	1.4	Y	Y	Y	Y	77	6	-71	-92%	11.1	Y	N	N	N	26	23	-2	-9%	0.5	Y	Y	Y	Y
Cobden Bridge	*W*	751	621	-131	-17%	5.0	N	N	Y	Y	719	591	-127	-18%	5.0	N	Y	Y	Y	19	14	-5	-24%	1.1	Y	Y	Y	Y	13	7	-6	-48%	2.0	Y	Y	Y	Y
Woodmill Lane	*N*	141	266	125	89%	8.8	N	N	N	Y	132	261	129	98%	9.2	N	N	N	Y	6	5	-1	-19%	0.5	Y	Y	Y	Y	2	0	-2	-99%	1.8	Y	Y	Y	Y
Mansbridge Road	*W*	487	498	10	2%	0.5	Y	Y	Y	Y	446	453	7	2%	0.3	Y	Y	Y	Y	31	33	2	6%	0.3	Y	Y	Y	Y	10	11	1	8%	0.2	Y	Y	Y	Y
		2,811	**2,641**	**-170**	**-6.0%**	**3.3**	**60%**	**60%**	**80%**	**100%**	**2,560**	**2,479**	**-81**	**-3.2%**	**1.6**	**60%**	**80%**	**80%**	**100%**	**174**	**60**	**-113**	**-65.2%**	**10.5**	**100%**	**60%**	**60%**	**80%**	**68**	**42**	**-27**	**-39.3%**	**3.6**	**100%**	**80%**	**100%**	**100%**
92 Bitterne East Screenline																																		
Eastbound																																		
Botley Road	*E*	654	569	-85	-13%	3.4	Y	Y	Y	Y	606	431	-175	-29%	7.7	N	N	N	Y	36	80	44	122%	5.8	Y	N	Y	Y	11	55	44	403%	7.7	Y	N	N	Y
A334 Charles Watts Way	*E*	993	698	-295	-30%	10.2	N	N	N	N	907	621	-286	-32%	10.3	N	N	N	N	56	74	18	31%	2.2	Y	Y	Y	Y	27	2	-26	-94%	6.7	Y	N	Y	Y
St. John's Road	*N*	284	832	547	192%	23.2	N	N	N	N	262	788	525	200%	22.9	N	N	N	N	19	44	25	135%	4.5	Y	Y	Y	Y	3	-	-3	-100%	2.6	Y	Y	Y	Y
A3024 North-East of Windhover (eastbound approach	*E*	1,451	1,363	-88	-6%	2.3	Y	Y	Y	Y	1,257	1,204	-54	-4%	1.5	Y	Y	Y	Y	133	77	-56	-42%	5.5	Y	N	Y	Y	57	82	24	42%	2.9	Y	Y	Y	Y
		3,382	**3,461**	**79**	**2.3%**	**1.4**	**50%**	**50%**	**50%**	**50%**	**3,032**	**3,043**	**11**	**0.4%**	**0.2**	**25%**	**25%**	**25%**	**50%**	**244**	**275**	**31**	**12.7%**	**1.9**	**100%**	**50%**	**100%**	**100%**	**99**	**138**	**39**	**39.6%**	**3.6**	**100%**	**50%**	**75%**	**100%**
Westbound																																		
Botley Road	*W*	883	562	-321	-36%	12.0	N	N	N	N	802	503	-299	-37%	11.7	N	N	N	N	63	55	-9	-14%	1.1	Y	Y	Y	Y	16	2	-15	-91%	5.0	Y	Y	Y	Y
A334 Charles Watts Way	*W*	887	782	-105	-12%	3.6	Y	Y	Y	Y	832	731	-101	-12%	3.6	Y	Y	Y	Y	39	37	-2	-6%	0.4	Y	Y	Y	Y	15	14	-2	-11%	0.4	Y	Y	Y	Y
St. John's Road	*S*	376	125	-251	-67%	15.9	N	N	N	N	334	116	-217	-65%	14.5	N	N	N	N	36	8	-28	-77%	5.9	Y	N	Y	Y	6	-	-6	-100%	3.5	Y	Y	Y	Y
A3024 North-East of Windhover (westbound from to N	*W*	665	1,345	680	102%	21.5	N	N	N	N	561	1,159	598	107%	20.4	N	N	N	N	61	114	53	87%	5.7	Y	N	Y	Y	33	71	37	112%	5.2	Y	N	Y	Y
		2,811	**2,813**	**3**	**0.1%**	**0.1**	**25%**	**25%**	**25%**	**25%**	**2,529**	**2,509**	**-20**	**-0.8%**	**0.4**	**25%**	**25%**	**25%**	**25%**	**199**	**214**	**14**	**7.2%**	**1.0**	**100%**	**50%**	**100%**	**100%**	**71**	**86**	**15**	**20.8%**	**1.7**	**100%**	**75%**	**100%**	**100%**
11 Totton Enclosure																																		
Outbound																																		
Redbridge roundabout approach from west on Totton	*N*	1,428	1,610	182	13%	4.7	Y	Y	Y	Y	1,199	1,347	149	12%	4.2	Y	Y	Y	Y	153	177	24	16%	1.9	Y	Y	Y	Y	74	81	8	10%	0.9	Y	Y	Y	Y
Redbridge roundabout approach from west on Comme	*E*	883	916	33	4%	1.1	Y	Y	Y	Y	853	815	-39	-5%	1.3	Y	Y	Y	Y	20	28	8	38%	1.6	Y	Y	Y	Y	10	66	56	554%	9.1	Y	N	N	Y
Hill Street	*N*	5	-	-5	-100%	3.3	Y	Y	Y	Y	4	-	-4	-100%	3.0	Y	Y	Y	Y	1	-	-1	-100%	1.4	Y	Y	Y	Y	0	-	0	-100%	0.3	Y	Y	Y	Y
A36 east of A326	*W*	609	756	147	24%	5.6	N	N	Y	Y	526	637	112	21%	4.6	N	Y	Y	Y	61	107	46	76%	5.0	Y	N	Y	Y	22	11	-11	-51%	2.7	Y	Y	Y	Y
A326 Totton Western Bypass south of A36	*N*	928	493	-436	-47%	16.3	N	N	N	N	820	442	-378	-46%	15.0	N	N	N	N	79	31	-49	-61%	6.5	Y	N	Y	Y	26	20	-7	-25%	1.4	Y	Y	Y	Y
Loperwood Lane	*N*	54	408	354	655%	23.3	N	N	N	N	48	387	339	701%	23.0	N	N	N	N	5	19	13	252%	3.8	Y	Y	Y	Y	0	2	1	312%	1.3	Y	Y	Y	Y
Loperwood	*W*	99	83	-16	-16%	1.7	Y	Y	Y	Y	90	73	-18	-20%	2.0	Y	Y	Y	Y	7	9	2	32%	0.8	Y	Y	Y	Y	2	0	-2	-83%	1.6	Y	Y	Y	Y
Tatchbury Lane		5	5	-							5	5	-							1	1	-							-	-	-						
A336 westbound at junction to Bartley	*W*	484	424	-60	-12%	2.8	Y	Y	Y	Y	420	377	-43	-10%	2.2	Y	Y	Y	Y	47	43	-4	-9%	0.7	Y	Y	Y	Y	16	4	-12	-75%	3.8	Y	Y	Y	Y
Woodlands Road	*W*	110	256	146	133%	10.8	N	N	N	N	101	231	129	128%	10.0	N	N	N	N	6	23	18	315%	4.6	Y	Y	Y	Y	3	1	-2	-53%	1.1	Y	Y	Y	Y
Foxhills	*W*	68	345	277	405%	19.2	N	N	N	N	61	295	235	387%	17.6	N	N	N	N	7	41	34	502%	7.0	Y	N	Y	Y	1	8	7	812%	3.4	Y	Y	Y	Y
A35 on dual close to Western Bypass	*W*	840	653	-187	-22%	6.9	N	N	Y	Y	726	540	-186	-26%	7.4	N	N	Y	Y	95	84	-11	-12%	1.2	Y	Y	Y	Y	18	29	11	65%	2.4	Y	Y	Y	Y
Deerleap Lane	*S*	318	-	-318	-100%	25.2	N	N	N	N	290	-	-290	-100%	24.1	N	N	N	N	23	-	-23	-100%	6.8	Y	N	Y	Y	4	-	-4	-100%	3.0	Y	Y	Y	Y
Staplewood Lane	*S*	3	-	-3	-100%	2.3	Y	Y	Y	Y	2	-	-2	-100%	2.1	Y	Y	Y	Y	0	-	0	-100%	0.9	Y	Y	Y	Y	0	-	0	-100%	0.5	Y	Y	Y	Y
Twiggs Lane	*S*	75	126	51	68%	5.1	Y	N	Y	Y	68	91	23	34%	2.6	Y	Y	Y	Y	6	35	30	538%	6.6	Y	N	Y	Y	2	-	-2	-100%	1.9	Y	Y	Y	Y
A326 Marchwood Bypass	*S*	1,416	1,134	-282	-20%	7.9	N	N	N	Y	1,230	926	-304	-25%	9.3	N	N	N	Y	140	149	10	7%	0.8	Y	Y	Y	Y	44	57	13	30%	1.8	Y	Y	Y	Y
Hythe Road	*S*	344	686	343	100%	15.1	N	N	N	N	305	641	337	111%	15.5	N	N	N	N	29	42	13	44%	2.1	Y	Y	Y	Y	9	2	-8	-82%	3.3	Y	Y	Y	Y
Marchwood Bypass	*E*	696	762	66	9%	2.4	Y	Y	Y	Y	559	674	115	21%	4.6	N	Y	Y	Y	111	52	-59	-53%	6.5	Y	N	Y	Y	24	36	13	53%	2.3	Y	Y	Y	Y
Marchwood Road	*E*	741	711	-30	-4%	1.1	Y	Y	Y	Y	657	558	-99	-15%	4.0	Y	Y	Y	Y	34	110	76	225%	9.0	Y	N	N	Y	49	43	-6	-12%	0.9	Y	Y	Y	Y
		9,107	**9,367**	**260**	**2.9%**	**2.7**	**50%**	**44%**	**61%**	**67%**	**7,963**	**8,038**	**75**	**0.9%**	**0.8**	**44%**	**56%**	**61%**	**67%**	**823**	**949**	**126**	**15.3%**	**4.2**	**100%**	**61%**	**94%**	**100%**	**305**	**361**	**56**	**18.5%**	**3.1**	**100%**	**94%**	**94%**	**100%**

APPENDIX A: LINK VALIDATION SOUTHAMPTON AND NEW FOREST

SRTM 2015 **PM** **PM** **PM** **PM**

CORDONS AND SCREENLINES **VEHICLES** **CAR** **LGV** **HGV**

Site Description	Dir	Obs	Model	Diff	% Diff	GEH	WebTAG Within				Obs	Model	Diff	% Diff	GEH	WebTAG Within				Obs	Model	Diff	% Diff	GEH	WebTAG Within				Obs	Model	Diff	% Diff	GEH	WebTAG Within			
							Abs %	GEH5	GEH7.5	GEH10						Abs or %	GEH=5	GEH=7.5	GEH=10							Abs or %	GEH=5	GEH=7.5	GEH=10							Abs or %	GEH=5	GEH=7.5	GEH=10
Inbound																																			
Redbridge roundabout approach from west on Totton	*S*	2,076	2,396	320	15%	6.8	N	N	Y	Y	1,733	1,943	210	12%	4.9	Y	Y	Y	Y	208	288	80	38%	5.1	Y	N	Y	Y	131	164	32	25%	2.7	Y	Y	Y	Y
Redbridge roundabout approach from west on Comme	*W*	1,235	1,245	10	1%	0.3	Y	Y	Y	Y	1,147	1,148	1	0%	0.0	Y	Y	Y	Y	59	57	-2	-4%	0.3	Y	Y	Y	Y	28	33	5	18%	0.9	Y	Y	Y	Y
Hill Street	*S*	9	-	-9	-100%	4.3	Y	Y	Y	Y	8	-	-8	-100%	4.0	Y	Y	Y	Y	1	-	-1	-100%	1.3	Y	Y	Y	Y	0	-	0	-100%	0.5	Y	Y	Y	Y
A36 east of A326	*E*	662	781	119	18%	4.4	N	Y	Y	Y	535	591	56	10%	2.4	Y	Y	Y	Y	87	125	37	43%	3.6	Y	Y	Y	Y	38	64	26	69%	3.7	Y	Y	Y	Y
A326 Totton Western Bypass south of A36	*S*	1,312	870	-441	-34%	13.4	N	N	N	N	1,158	798	-360	-31%	11.5	N	N	N	N	112	57	-56	-49%	6.0	Y	N	Y	Y	37	15	-22	-59%	4.3	Y	Y	Y	Y
Loperwood Lane	*S*	32	290	257	794%	20.3	N	N	N	N	29	258	229	778%	19.1	N	N	N	N	3	31	28	1047%	6.9	Y	N	Y	Y	0	1	0	90%	0.4	Y	Y	Y	Y
Loperwood	*E*	87	134	47	55%	4.5	Y	Y	Y	Y	70	117	47	67%	4.9	Y	Y	Y	Y	13	15	2	15%	0.5	Y	Y	Y	Y	3	1	-2	-74%	1.7	Y	Y	Y	Y
Tatchbury Lane		6	6	-							6	6	-							0	0	-							-	-	-						
A336 westbound at junction to Bartley	*E*	544	323	-221	-41%	10.6	N	N	N	N	480	290	-190	-40%	9.7	N	N	N	Y	46	23	-23	-49%	3.9	Y	Y	Y	Y	17	10	-7	-43%	2.0	Y	Y	Y	Y
Woodlands Road	*E*	84	213	128	152%	10.5	N	N	N	N	75	196	121	161%	10.4	N	N	N	N	7	15	8	109%	2.3	Y	Y	Y	Y	2	1	-1	-62%	1.1	Y	Y	Y	Y
Foxhills	*E*	46	166	120	260%	11.6	N	N	N	N	43	151	108	253%	11.0	N	N	N	N	2	12	10	446%	3.7	Y	Y	Y	Y	1	1	0	31%	0.3	Y	Y	Y	Y
A35 on dual close to Western Bypass	*E*	625	653	27	4%	1.1	Y	Y	Y	Y	546	540	-6	-1%	0.2	Y	Y	Y	Y	62	84	21	34%	2.5	Y	Y	Y	Y	17	29	12	76%	2.6	Y	Y	Y	Y
Deerleap Lane	*N*	108	-	-108	-100%	14.7	N	N	N	N	100	-	-100	-100%	14.1	Y	N	N	N	6	-	-6	-100%	3.6	Y	Y	Y	Y	2	-	-2	-100%	1.8	Y	Y	Y	Y
Staplewood Lane	*N*	3	-	-3	-100%	2.3	Y	Y	Y	Y	3	-	-3	-100%	2.2	Y	Y	Y	Y	0	-	-0	-100%	0.7	Y	Y	Y	Y	-	-	-						
Twiggs Lane	*N*	107	2	-105	-98%	14.3	N	N	N	N	90	2	-88	-98%	13.0	Y	N	N	N	15	0	-15	-100%	5.5	Y	N	Y	Y	3	-	-3	-100%	2.3	Y	Y	Y	Y
A326 Marchwood Bypass	*N*	1,160	1,175	15	1%	0.4	Y	Y	Y	Y	744	931	187	25%	6.5	N	N	Y	Y	364	182	-183	-50%	11.0	N	N	N	N	49	59	9	19%	1.3	Y	Y	Y	Y
Hythe Road	*N*	213	50	-163	-77%	14.2	N	N	N	N	189	38	-151	-80%	14.2	N	N	N	N	14	7	-6	-46%	1.9	Y	Y	Y	Y	10	4	-6	-60%	2.3	Y	Y	Y	Y
Marchwood Bypass	*W*	1,264	1,221	-42	-3%	1.2	Y	Y	Y	Y	1,105	991	-115	-10%	3.5	Y	Y	Y	Y	99	168	69	69%	6.0	Y	N	Y	Y	57	59	2	3%	0.2	Y	Y	Y	Y
Marchwood Road	*W*	421	578	158	37%	7.1	N	N	Y	Y	404	547	143	35%	6.5	N	N	Y	Y	10	21	11	108%	2.8	Y	Y	Y	Y	6	9	3	48%	1.1	Y	Y	Y	Y
		9,993	**10,102**	**109**	**1.1%**	**1.1**	**39%**	**44%**	**56%**	**56%**	**8,464**	**8,546**	**81**	**1.0%**	**0.9**	**56%**	**44%**	**56%**	**61%**	**1,110**	**1,084**	**-26**	**-2.3%**	**0.8**	**94%**	**67%**	**94%**	**94%**	**402**	**449**	**47**	**11.7%**	**2.3**	**100%**	**100%**	**100%**	**100%**
13 Southampton Enclosure																																			
Outbound																																			
A35 Redbridge Road	*W*	3,013	3,141	127	4%	2.3	Y	Y	Y	Y	2,561	2,640	78	3%	1.5	Y	Y	Y	Y	301	322	21	7%	1.2	Y	Y	Y	Y	151	170	19	13%	1.5	Y	Y	Y	Y
Brownhill Way	*W*	957	888	-68	-7%	2.2	Y	Y	Y	Y	880	750	-130	-15%	4.5	Y	Y	Y	Y	58	118	61	105%	6.5	Y	N	Y	Y	18	20	2	10%	0.4	Y	Y	Y	Y
Romsey Road	*N*	478	659	181	38%	7.6	N	N	N	Y	429	586	157	37%	7.0	N	N	Y	Y	39	43	5	12%	0.7	Y	Y	Y	Y	10	30	20	195%	4.4	Y	Y	Y	Y
Rownhams Lane	*N*	604	573	-31	-5%	1.3	Y	Y	Y	Y	521	549	29	5%	1.2	Y	Y	Y	Y	65	19	-45	-70%	7.0	Y	N	Y	Y	17	2	-15	-87%	4.8	Y	Y	Y	Y
A33 Bassett Avenue between Winchester Road and Ba	*N*	1,637	1,722	85	5%	2.1	Y	Y	Y	Y	1,550	1,626	76	5%	1.9	Y	Y	Y	Y	50	56	6	12%	0.8	Y	Y	Y	Y	35	34	-1	-2%	0.1	Y	Y	Y	Y
A27 Bassett Green Road close to Lobelia Road	*N*	504	531	27	5%	1.2	Y	Y	Y	Y	463	475	11	2%	0.5	Y	Y	Y	Y	30	41	11	36%	1.8	Y	Y	Y	Y	8	15	7	90%	2.1	Y	Y	Y	Y
Stoneham Lane	*N*	166	12	-154	-93%	16.4	N	N	N	N	153	9	-145	-94%	16.1	N	N	N	N	7	0	-7	-97%	3.6	Y	Y	Y	Y	6	0	-6	-99%	3.4	Y	Y	Y	Y
A335 Stoneham Way	*N*	1,103	1,033	-71	-6%	2.2	Y	Y	Y	Y	964	967	2	0%	0.1	Y	Y	Y	Y	78	38	-40	-51%	5.2	Y	N	Y	Y	54	28	-26	-49%	4.1	Y	Y	Y	Y
Wide Lane	*N*	343	400	57	16%	2.9	Y	Y	Y	Y	300	331	31	10%	1.7	Y	Y	Y	Y	30	39	9	31%	1.5	Y	Y	Y	Y	12	22	10	79%	2.3	Y	Y	Y	Y
Mansbridge Road	*E*	971	1,011	39	4%	1.3	Y	Y	Y	Y	848	851	3	0%	0.1	Y	Y	Y	Y	99	122	23	23%	2.2	Y	Y	Y	Y	23	37	14	60%	2.5	Y	Y	Y	Y
Woodmill Lane	*S*	262	531	269	103%	13.5	N	N	N	N	247	505	257	104%	13.3	N	N	N	N	12	23	11	93%	2.7	Y	Y	Y	Y	3	3	1	20%	0.3	Y	Y	Y	Y
Cobden Bridge	*E*	1,112	944	-168	-15%	5.2	N	N	Y	Y	1,000	842	-158	-16%	5.2	N	N	Y	Y	47	53	7	14%	0.9	Y	Y	Y	Y	53	41	-12	-22%	1.7	Y	Y	Y	Y
Northam Bridge	*E*	1,817	1,705	-112	-6%	2.7	Y	Y	Y	Y	1,609	1,487	-122	-8%	3.1	Y	Y	Y	Y	156	88	-68	-43%	6.1	Y	N	Y	Y	52	105	53	103%	6.0	Y	N	Y	Y
Itchen Bridge	*E*	1,197	1,086	-112	-9%	3.3	Y	Y	Y	Y	1,104	1,046	-59	-5%	1.8	Y	Y	Y	Y	42	12	-30	-71%	5.8	Y	N	Y	Y	49	-	-49	-100%	9.9	Y	N	N	Y
		14,164	**14,234**	**69**	**0.5%**	**0.6**	**71%**	**71%**	**79%**	**86%**	**12,630**	**12,662**	**32**	**0.3%**	**0.3**	**71%**	**71%**	**86%**	**86%**	**1,013**	**976**	**-37**	**-3.7%**	**1.2**	**100%**	**64%**	**100%**	**100%**	**491**	**507**	**17**	**3.4%**	**0.7**	**100%**	**86%**	**93%**	**100%**
Inbound																																			
A35 Redbridge Road	*E*	2,317	2,433	116	5%	2.4	Y	Y	Y	Y	1,970	2,003	33	2%	0.7	Y	Y	Y	Y	232	244	13	5%	0.8	Y	Y	Y	Y	116	174	58	50%	4.8	Y	Y	Y	Y
Brownhill Way	*E*	945	871	-74	-8%	2.4	Y	Y	Y	Y	863	739	-124	-14%	4.4	Y	Y	Y	Y	60	109	49	81%	5.3	Y	N	Y	Y	21	23	2	10%	0.5	Y	Y	Y	Y
Romsey Road	*S*	584	754	169	29%	6.5	N	N	Y	Y	516	688	172	33%	7.0	N	N	Y	Y	56	41	-15	-27%	2.1	Y	Y	Y	Y	13	25	12	97%	2.8	Y	Y	Y	Y
Rownhams Lane	*S*	500	468	-32	-6%	1.5	Y	Y	Y	Y	438	439	0	0%	0.0	Y	Y	Y	Y	48	23	-25	-52%	4.2	Y	Y	Y	Y	13	4	-9	-68%	3.0	Y	Y	Y	Y
A33 Bassett Avenue between Winchester Road and Ba	*S*	1,682	1,887	205	12%	4.9	Y	Y	Y	Y	1,604	1,716	112	7%	2.7	Y	Y	Y	Y	38	93	54	143%	6.7	Y	N	Y	Y	38	67	29	76%	4.0	Y	Y	Y	Y
A27 Bassett Green Road close to Lobelia Road	*S*	765	624	-141	-18%	5.4	N	N	Y	Y	696	577	-120	-17%	4.8	N	Y	Y	Y	51	30	-20	-40%	3.2	Y	Y	Y	Y	16	17	1	5%	0.2	Y	Y	Y	Y
Stoneham Lane	*S*	201	13	-188	-93%	18.1	N	N	N	N	187	11	-176	-94%	17.7	N	N	N	N	7	0	-7	-98%	3.7	Y	Y	Y	Y	7	0	-7	-98%	3.6	Y	Y	Y	Y
A335 Stoneham Way	*S*	1,258	1,346	88	7%	2.4	Y	Y	Y	Y	1,109	1,268	159	14%	4.6	Y	Y	Y	Y	97	69	-29	-29%	3.1	Y	Y	Y	Y	48	9	-39	-81%	7.3	Y	N	Y	Y
Wide Lane	*S*	785	854	69	9%	2.4	Y	Y	Y	Y	686	738	52	8%	2.0	Y	Y	Y	Y	77	80	3	4%	0.4	Y	Y	Y	Y	20	29	9	44%	1.8	Y	Y	Y	Y
Mansbridge Road	*W*	487	498	10	2%	0.5	Y	Y	Y	Y	446	453	7	2%	0.3	Y	Y	Y	Y	31	33	2	6%	0.3	Y	Y	Y	Y	10	11	1	8%	0.2	Y	Y	Y	Y
Woodmill Lane	*N*	141	266	125	89%	8.8	N	N	N	Y	132	261	129	98%	9.2	N	N	N	Y	6	5	-1	-19%	0.5	Y	Y	Y	Y	2	0	-2	-99%	1.8	Y	Y	Y	Y
Cobden Bridge	*W*	751	621	-131	-17%	5.0	N	N	Y	Y	719	591	-127	-18%	5.0	N	Y	Y	Y	19	14	-5	-24%	1.1	Y	Y	Y	Y	13	7	-6	-48%	2.0	Y	Y	Y	Y
Northam Bridge	*W*	901	812	-89	-10%	3.0	Y	Y	Y	Y	798	759	-39	-5%	1.4	Y	Y	Y	Y	77	6	-71	-92%	11.1	Y	N	N	N	26	23	-2	-9%	0.5	Y	Y	Y	Y
Itchen Bridge	*W*	531	445	-86	-16%	3.9	Y	Y	Y	Y	466	414	-51	-11%	2.4	Y	Y	Y	Y	41	3	-38	-93%	8.2	Y	N	N	Y	17	-	-17	-100%	5.9	Y	N	Y	Y
		11,849	**11,891**	**42**	**0.4%**	**0.4**	**64%**	**64%**	**86%**	**93%**	**10,630**	**10,657**	**27**	**0.3%**	**0.3**	**64%**	**79%**	**86%**	**93%**	**840**	**750**	**-90**	**-10.7%**	**3.2**	**100%**	**71%**	**86%**	**93%**	**361**	**391**	**30**	**8.3%**	**1.6**	**100%**	**86%**	**100%**	**100%**
20 Totton																																			
Eastbound																																			
Marchwood Bypass south of Jacobs Gutter Lane	*N*	145	-	-145	-100%	17.1	N	N	N	N	131	-	-131	-100%	16.2	N	N	N	N	8	-	-8	-100%	3.9	Y	Y	Y	Y	7	-	-7	-100%	3.7	Y	Y	Y	Y
Spicers Hill south of Spicers Way	*N*	1,545	1,580	35	2%	0.9	Y	Y	Y	Y	1,261	1,290	28	2%	0.8	Y	Y	Y	Y	206	219	13	6%	0.9	Y	Y	Y	Y	75	67	-7	-10%	0.9	Y	Y	Y	Y
Rushington Lane	*E*	4	1	-3	-74%	1.8	Y	Y	Y	Y	3	-	-3	-100%	2.3	Y	Y	Y	Y	0	-	-0	-100%	0.5	Y	Y	Y	Y	1	-	-1	-100%	1.2	Y	Y	Y	Y
Ringwood Road east of Calmore Road	*E*	502	487	-14	-3%	0.6	Y	Y	Y	Y	468	448	-21	-4%	1.0	Y	Y	Y	Y	27	18	-9	-33%	1.9	Y	Y	Y	Y	7	20	13	191%	3.6	Y	Y	Y	Y
Water Lane near Totton College	*E*	204	138	-66	-32%	5.1	Y	N	Y	Y	181	126	-56	-31%	4.5	Y	Y	Y	Y	18	8	-10	-56%	2.8	Y	Y	Y	Y	5	2	-3	-51%	1.3	Y	Y	Y	Y
Calmore Drive	*E*	196	187	-9	-5%	0.7	Y	Y	Y	Y	176	157	-19	-11%	1.5	Y	Y	Y	Y	17	25	9	53%	1.9	Y	Y	Y	Y	4	5	1	36%	0.6	Y	Y	Y	Y
Cooks Lane east of Calmore Road	*E*	162	255	94	58%	6.5	Y	N	Y	Y	137	228	92	67%	6.8	Y	N	Y	Y	20	16	-4	-20%	0.9	Y	Y	Y	Y	5	11	6	132%	2.3	Y	Y	Y	Y
Salisbury Road east of Pauletts Lane	*E*	539	772	232	43%	9.1	N	N	N	Y	427	591	163	38%	7.2	N	N	Y	Y	74	125	51	68%	5.1	Y	N	Y	Y	37	55	19	51%	2.8	Y	Y	Y	Y
		3,297	**3,420**	**123**	**3.7%**	**2.1**	**75%**	**50%**	**75%**	**88%**	**2,784**	**2,838**	**54**	**1.9%**	**1.0**	**75%**	**63%**	**88%**	**88%**	**369**	**411**	**42**	**11.3%**	**2.1**	**100%**	**88%**	**100%**	**100%**	**140**	**162**	**22**	**15.8%**	**1.8**	**100%**	**100%**	**100%**	**100%**
Westbound																																			
Marchwood Bypass south of Jacobs Gutter Lane	*S*	793	1,220	427	54%	13.5	N	N	N	N	669	1,051	382	57%	13.0	N	N	N	N	89	146	57	64%	5.3	Y	N	Y	Y	33	20	-12	-38%	2.4	Y	Y	Y	Y
Spicers Hill south of Spicers Way	*S*	1,245	1,184	-61	-5%	1.7	Y	Y	Y	Y	1,022	916	-106	-10%	3.4	Y	Y	Y	Y	175	172	-3	-2%	0.2	Y	Y	Y	Y	46	96	50	111%	6.0	Y	N	Y	Y
Rushington Lane	*W*	60	48	-12	-19%	1.6	Y	Y	Y	Y	47	43	-4	-8%	0.5	Y	Y	Y	Y	10	4	-6	-60%	2.2	Y	Y	Y	Y	3	0	-3	-95%	2.2	Y	Y	Y	Y
Ringwood Road east of Calmore Road	*W*	746	361	-386	-52%	16.4	N	N	N	N	683	316	-368	-54%	16.4	N	N	N	N	50	30	-20	-41%	3.2	Y	Y	Y	Y	12	13	1	8%	0.3	Y	Y	Y	Y
Water Lane near Totton College	*W*	302	446	144	48%	7.4	N	N	Y	Y	265	403	138	52%	7.6	N	N	N	Y	29	39	10	35%	1.7	Y	Y	Y	Y	9	2	-6	-72%	2.7	Y	Y	Y	Y
Calmore Drive	*W*	219	182	-37	-17%	2.6	Y	Y	Y	Y	204	162	-43	-21%	3.1	Y	Y	Y	Y	11	17	6	56%	1.6	Y	Y	Y	Y	4	3	-1	-24%	0.5	Y	Y	Y	Y
Cooks Lane east of Calmore Road	*W*	145	251	106	73%	7.5	N	N	N	Y	130	225	95	73%	7.1	Y	N	Y	Y	11	23	12	110%	2.9	Y	Y	Y	Y	4	3	-1	-16%	0.3	Y	Y	Y	Y
Salisbury Road east of Pauletts Lane	*W*	566	756	190	33%	7.4	N	N	Y	Y	493	637	145	29%	6.1	N	N	Y	Y	54	107	53	99%	5.9	Y	N	Y	Y	19	11	-8	-43%	2.1	Y	Y	Y	Y
		4,077	**4,448**	**371**	**9.1%**	**5.7**	**38%**	**38%**	**63%**	**75%**	**3,513**	**3,753**	**240**	**6.8%**	**4.0**	**50%**	**38%**	**63%**	**75%**	**428**	**537**	**109**	**25.4%**	**5.0**	**100%**	**75%**	**100%**	**100%**	**128**	**149**	**21**	**16.1%**	**1.8**	**100%**	**88%**	**100%**	**100%**

APPENDIX A: LINK VALIDATION SOUTHAMPTON AND NEW FOREST

SRTM 2015 **PM** **PM** **PM** **PM**

CORDONS AND SCREENLINES **VEHICLES** **CAR** **LGV** **HGV**

Site Description	Dir	Obs	Model	Diff	% Diff	GEH	WebTAG Within				Obs	Model	Diff	% Diff	GEH	WebTAG Within				Obs	Model	Diff	% Diff	GEH	WebTAG Within				Obs	Model	Diff	% Diff	GEH	WebTAG Within			
							Abs %	GEH5	GEH7.5	GEH10						Abs or %	GEH=5	GEH=7.5	GEH=10						Abs or %	GEH=5	GEH=7.5	GEH=10						Abs or %	GEH=5	GEH=7.5	GEH=10
21 North of Southampton																																				
Eastbound																																				
A335 Thomas Lewis Way South of Horse Shoe Bridge	*N*	1,101	1,021	-79	-7%	2.4	Y	Y	Y	Y	1,007	955	-53	-5%	1.7	Y	Y	Y	Y	57	49	-8	-15%	1.2	Y	Y	Y	Y	34	18	-15	-46%	3.0	Y	Y	Y	Y
Lawn Road East off Horse Shoe Bridge	*E*	96	152	56	59%	5.0	Y	N	Y	Y	88	139	51	57%	4.8	Y	Y	Y	Y	7	10	4	52%	1.2	Y	Y	Y	Y	1	3	2	191%	1.4	Y	Y	Y	Y
Tennyson Road	*N*	30	233	204	684%	17.7	N	N	N	N	27	221	194	708%	17.4	N	N	N	N	2	10	8	376%	3.2	Y	Y	Y	Y	0	2	2	649%	1.7	Y	Y	Y	Y
Portswood Road north of Portswood Avenue	*N*	432	84	-348	-81%	21.6	N	N	N	N	386	64	-322	-83%	21.5	N	N	N	N	31	2	-29	-95%	7.2	Y	N	Y	Y	13	5	-8	-65%	2.9	Y	Y	Y	Y
A33 The Avenue South of Westwood Road	*N*	1,028	1,343	315	31%	9.2	N	N	N	Y	953	1,247	295	31%	8.9	N	N	N	Y	49	57	8	16%	1.1	Y	Y	Y	Y	23	23	0	2%	0.1	Y	Y	Y	Y
Hill Lane	*N*	473	269	-204	-43%	10.6	N	N	N	N	431	260	-171	-40%	9.2	N	N	N	Y	32	7	-25	-78%	5.7	Y	N	Y	Y	10	2	-7	-75%	2.9	Y	Y	Y	Y
Ivanhoe Road	*N*	36	221	185	512%	16.3	N	N	N	N	33	209	177	536%	16.0	N	N	N	N	3	8	6	195%	2.3	Y	Y	Y	Y	0	2	2	532%	1.5	Y	Y	Y	Y
Wilton Road north of Colebrook Avenue	*N*	82	-	-82	-100%	12.8	Y	N	N	N	74	-	-74	-100%	12.1	Y	N	N	N	4	-	-4	-100%	3.0	Y	Y	Y	Y	3	-	-3	-100%	2.5	Y	Y	Y	Y
St James Road	*N*	453	293	-160	-35%	8.3	N	N	N	Y	423	265	-158	-37%	8.5	N	N	N	Y	22	23	0	2%	0.1	Y	Y	Y	Y	7	5	-1	-21%	0.6	Y	Y	Y	Y
Winchester Road north of Wordsworth Road	*N*	722	409	-312	-43%	13.1	N	N	N	N	672	383	-289	-43%	12.6	N	N	N	N	37	19	-18	-49%	3.4	Y	Y	Y	Y	13	7	-5	-41%	1.7	Y	Y	Y	Y
Tremona Road	*E*	165	127	-39	-23%	3.2	Y	Y	Y	Y	154	117	-37	-24%	3.2	Y	Y	Y	Y	10	9	-1	-7%	0.2	Y	Y	Y	Y	2	1	-1	-47%	0.7	Y	Y	Y	Y
Coxford Road east of Warren Ave	*E*	248	798	550	222%	24.1	N	N	N	N	203	691	488	240%	23.1	N	N	N	N	23	77	54	237%	7.6	Y	N	N	Y	14	15	1	10%	0.4	Y	Y	Y	Y
Aldermoor Road	*E*	155	136	-19	-12%	1.6	Y	Y	Y	Y	140	122	-18	-13%	1.5	Y	Y	Y	Y	9	5	-4	-44%	1.5	Y	Y	Y	Y	5	1	-5	-87%	2.6	Y	Y	Y	Y
Lords Hill Way	*E*	623	420	-203	-33%	8.9	N	N	N	Y	527	391	-135	-26%	6.3	N	N	Y	Y	75	18	-57	-76%	8.4	Y	N	N	Y	15	2	-13	-86%	4.4	Y	Y	Y	Y
M0027_J0003_J0004	*E*	5,734	5,751	17	0%	0.2	Y	Y	Y	Y	5,002	4,990	-12	0%	0.2	Y	Y	Y	Y	313	334	21	7%	1.2	Y	Y	Y	Y	419	427	8	2%	0.4	Y	Y	Y	Y
		11,378	**11,259**	**-119**	**-1.0%**	**1.1**	**40%**	**27%**	**33%**	**53%**	**10,120**	**10,055**	**-65**	**-0.6%**	**0.6**	**40%**	**33%**	**40%**	**60%**	**674**	**627**	**-47**	**-6.9%**	**1.8**	**100%**	**73%**	**87%**	**100%**	**557**	**514**	**-44**	**-7.8%**	**1.9**	**100%**	**100%**	**100%**	**100%**
21 North of Southampton																																				
Westbound																																				
A335 Thomas Lewis Way South of Horse Shoe Bridge	*S*	797	795	-2	0%	0.1	Y	Y	Y	Y	695	740	45	6%	1.7	Y	Y	Y	Y	67	41	-26	-39%	3.6	Y	Y	Y	Y	30	15	-15	-51%	3.2	Y	Y	Y	Y
Lawn Road East off Horse Shoe Bridge	*W*	85	26	-60	-70%	8.0	Y	N	N	Y	77	19	-58	-75%	8.3	Y	N	N	Y	7	2	-4	-63%	2.0	Y	Y	Y	Y	2	4	2	129%	1.3	Y	Y	Y	Y
Tennyson Road	*S*	39	184	146	375%	13.8	N	N	N	N	35	178	143	408%	13.8	N	N	N	N	3	5	2	57%	0.9	Y	Y	Y	Y	1	2	1	136%	0.9	Y	Y	Y	Y
Portswood Road north of Portswood Avenue	*S*	408	108	-300	-74%	18.7	N	N	N	N	367	86	-281	-76%	18.6	N	N	N	N	26	6	-20	-79%	5.1	Y	N	Y	Y	13	3	-10	-78%	3.6	Y	Y	Y	Y
A33 The Avenue South of Westwood Road	*S*	936	1,355	419	45%	12.4	N	N	N	N	837	1,223	386	46%	12.0	N	N	N	N	64	92	27	42%	3.1	Y	Y	Y	Y	26	26	-1	-2%	0.1	Y	Y	Y	Y
Hill Lane	*S*	496	221	-275	-55%	14.5	N	N	N	N	457	207	-249	-55%	13.7	N	N	N	N	32	10	-21	-68%	4.7	Y	Y	Y	Y	7	4	-4	-50%	1.6	Y	Y	Y	Y
Ivanhoe Road	*S*	47	228	181	382%	15.4	N	N	N	N	37	217	181	495%	16.0	N	N	N	N	9	8	-2	-17%	0.6	Y	Y	Y	Y	1	2	0	36%	0.4	Y	Y	Y	Y
Wilton Road north of Colebrook Avenue	*S*	130	-	-130	-100%	16.1	N	N	N	N	122	-	-122	-100%	15.6	N	N	N	N	7	-	-7	-100%	3.6	Y	Y	Y	Y	1	-	-1	-100%	1.6	Y	Y	Y	Y
St James Road	*S*	352	306	-47	-13%	2.6	Y	Y	Y	Y	334	286	-48	-14%	2.7	Y	Y	Y	Y	13	17	3	25%	0.9	Y	Y	Y	Y	4	3	-2	-34%	0.8	Y	Y	Y	Y
Winchester Road north of Wordsworth Road	*S*	699	244	-455	-65%	21.0	N	N	N	N	645	215	-429	-67%	20.7	N	N	N	N	40	13	-27	-67%	5.2	Y	N	Y	Y	14	15	2	13%	0.5	Y	Y	Y	Y
Tremona Road	*W*	301	490	189	63%	9.5	N	N	N	Y	264	452	188	71%	9.9	N	N	N	Y	32	30	-2	-7%	0.4	Y	Y	Y	Y	5	8	3	76%	1.4	Y	Y	Y	Y
Coxford Road east of Warren Ave	*W*	388	813	425	110%	17.3	N	N	N	N	336	747	410	122%	17.6	N	N	N	N	27	43	16	57%	2.6	Y	Y	Y	Y	16	8	-8	-53%	2.5	Y	Y	Y	Y
Aldermoor Road	*W*	191	137	-54	-28%	4.2	Y	Y	Y	Y	169	122	-47	-28%	3.9	Y	Y	Y	Y	14	7	-7	-52%	2.3	Y	Y	Y	Y	6	0	-5	-92%	3.0	Y	Y	Y	Y
Lords Hill Way	*W*	611	442	-169	-28%	7.4	N	N	Y	Y	569	414	-156	-27%	7.0	N	N	Y	Y	25	16	-10	-38%	2.1	Y	Y	Y	Y	15	3	-12	-80%	4.0	Y	Y	Y	Y
M0027_J0004_J0003	*W*	6,070	6,309	238	4%	3.0	Y	Y	Y	Y	5,252	5,333	80	2%	1.1	Y	Y	Y	Y	398	480	82	21%	3.9	Y	Y	Y	Y	420	497	76	18%	3.6	Y	Y	Y	Y
		11,550	**11,657**	**107**	**0.9%**	**1.0**	**33%**	**27%**	**33%**	**47%**	**10,197**	**10,240**	**42**	**0.4%**	**0.4**	**33%**	**27%**	**33%**	**47%**	**764**	**767**	**4**	**0.5%**	**0.1**	**100%**	**87%**	**100%**	**100%**	**562**	**589**	**27**	**4.8%**	**1.1**	**100%**	**100%**	**100%**	**100%**
22 South of Southampton																																				
Eastbound																																				
Milbrook Road East West of Waterhouse Lane		1,608	2,152	545	34%	12.6	N	N	N	N	1,367	1,808	442	32%	11.1	N	N	N	N	161	193	32	20%	2.4	Y	Y	Y	Y	80	140	59	74%	5.7	Y	N	Y	Y
Waterhouse Way near Shirley Park Westbound Hail an	*E*	278	266	-12	-4%	0.7	Y	Y	Y	Y	248	254	6	3%	0.4	Y	Y	Y	Y	26	8	-18	-70%	4.4	Y	Y	Y	Y	4	3	-1	-27%	0.6	Y	Y	Y	Y
Shirley High Street East of Park St	*S*	540	305	-234	-43%	11.4	N	N	N	N	496	238	-257	-52%	13.4	N	N	N	N	23	20	-3	-13%	0.7	Y	Y	Y	Y	18	9	-9	-49%	2.4	Y	Y	Y	Y
Victor Street east of Crown Street	*N*	276	106	-170	-62%	12.3	N	N	N	N	255	96	-159	-62%	12.0	N	N	N	N	16	7	-10	-58%	2.8	Y	Y	Y	Y	4	3	-1	-32%	0.7	Y	Y	Y	Y
Winchester Road north of Wordsworth Road	*N*	722	409	-312	-43%	13.1	N	N	N	N	672	383	-289	-43%	12.6	N	N	N	N	37	19	-18	-49%	3.4	Y	Y	Y	Y	13	7	-5	-41%	1.7	Y	Y	Y	Y
Dale Road north of Norham Avenue	*N*	297	490	194	65%	9.8	N	N	N	Y	263	424	161	61%	8.7	N	N	N	Y	26	46	20	79%	3.4	Y	Y	Y	Y	8	18	10	114%	2.6	Y	Y	Y	Y
Lordswood Road east of Dale Valley Road	*E*	745	849	104	14%	3.7	Y	Y	Y	Y	705	815	110	16%	4.0	N	Y	Y	Y	31	28	-3	-10%	0.6	Y	Y	Y	Y	9	5	-4	-46%	1.6	Y	Y	Y	Y
		4,464	**4,578**	**114**	**2.5%**	**1.7**	**29%**	**29%**	**29%**	**43%**	**4,004**	**4,018**	**14**	**0.4%**	**0.2**	**14%**	**29%**	**29%**	**43%**	**320**	**320**	**0**	**0.0%**	**0.0**	**100%**	**100%**	**100%**	**100%**	**137**	**185**	**48**	**35.3%**	**3.8**	**100%**	**86%**	**100%**	**100%**
Westbound																																				
Milbrook Road East West of Waterhouse Lane		2,132	2,770	637	30%	12.9	N	N	N	N	1,812	2,407	594	33%	12.9	N	N	N	N	213	255	42	20%	2.8	Y	Y	Y	Y	107	99	-8	-8%	0.8	Y	Y	Y	Y
Waterhouse Way near Shirley Park Westbound Hail an	*W*	282	234	-48	-17%	3.0	Y	Y	Y	Y	250	222	-28	-11%	1.8	Y	Y	Y	Y	27	7	-19	-73%	4.7	Y	Y	Y	Y	5	4	-2	-31%	0.8	Y	Y	Y	Y
Shirley High Street East of Park St	*N*	450	578	128	28%	5.6	N	N	Y	Y	424	479	55	13%	2.6	Y	Y	Y	Y	12	42	30	255%	5.8	Y	N	Y	Y	12	19	7	53%	1.7	Y	Y	Y	Y
Victor Street east of Crown Street	*N*	276	-	-276	-100%	23.5	N	N	N	N	255	-	-255	-100%	22.6	N	N	N	N	16	-	-16	-100%	5.7	Y	N	Y	Y	4	-	-4	-100%	2.8	Y	Y	Y	Y
Winchester Road north of Wordsworth Road	*S*	699	244	-455	-65%	21.0	N	N	N	N	645	215	-429	-67%	20.7	N	N	N	N	40	13	-27	-67%	5.2	Y	N	Y	Y	14	15	2	13%	0.5	Y	Y	Y	Y
Dale Road north of Norham Avenue	*S*	251	312	61	25%	3.7	Y	Y	Y	Y	230	279	49	21%	3.1	Y	Y	Y	Y	15	24	9	61%	2.1	Y	Y	Y	Y	4	6	2	36%	0.7	Y	Y	Y	Y
Lordswood Road east of Dale Valley Road	*W*	812	852	40	5%	1.4	Y	Y	Y	Y	755	782	28	4%	1.0	Y	Y	Y	Y	46	53	7	14%	0.9	Y	Y	Y	Y	11	16	5	43%	1.3	Y	Y	Y	Y
		4,901	**4,990**	**88**	**1.8%**	**1.3**	**43%**	**43%**	**57%**	**57%**	**4,371**	**4,385**	**14**	**0.3%**	**0.2**	**57%**	**57%**	**57%**	**57%**	**370**	**395**	**25**	**6.9%**	**1.3**	**100%**	**57%**	**100%**	**100%**	**157**	**158**	**1**	**0.7%**	**0.1**	**100%**	**100%**	**100%**	**100%**
24 Bitterne Northwest to Southeast																																				
Eastbound																																				
Hamble Lane		606	1,196	590	97%	19.7	N	N	N	N	515	1,085	569	110%	20.1	N	N	N	N	61	101	40	66%	4.5	Y	Y	Y	Y	30	10	-20	-66%	4.5	Y	Y	Y	Y
Grange Road South of A3025	*N*	251	56	-195	-78%	15.7	N	N	N	N	219	44	-176	-80%	15.3	N	N	N	N	27	12	-15	-56%	3.5	Y	Y	Y	Y	4	0	-4	-93%	2.7	Y	Y	Y	Y
Coxs Drive	*E*	1	79	78	7844%	12.3	Y	N	N	N	1	77	76	9862%	12.2	Y	N	N	N	0	2	2	4875%	1.9	Y	Y	Y	Y	0	0	0	-37%	0.2	Y	Y	Y	Y
Portsmouth Road	*E*	882	716	-166	-19%	5.9	N	N	Y	Y	810	683	-127	-16%	4.7	N	Y	Y	Y	49	23	-25	-52%	4.2	Y	Y	Y	Y	22	4	-19	-84%	5.2	Y	N	Y	Y
Butts Road	*E*	327	208	-119	-36%	7.3	N	N	Y	Y	287	199	-87	-31%	5.6	Y	N	Y	Y	30	5	-24	-82%	5.9	Y	N	Y	Y	10	1	-8	-85%	3.5	Y	Y	Y	Y
Kathleen Road	*E*	215	593	378	175%	18.8	N	N	N	N	191	566	374	196%	19.2	N	N	N	N	13	17	4	29%	1.0	Y	Y	Y	Y	8	2	-6	-79%	2.8	Y	Y	Y	Y
Burlesdon Road	*S*	773	387	-386	-50%	16.0	N	N	N	N	707	262	-445	-63%	20.2	N	N	N	N	46	9	-37	-80%	7.1	Y	N	Y	Y	19	97	79	424%	10.4	Y	N	N	N
Upper Deacon Road	*N*	213	196	-17	-8%	1.2	Y	Y	Y	Y	202	184	-18	-9%	1.3	Y	Y	Y	Y	9	11	3	29%	0.8	Y	Y	Y	Y	3	-	-3	-100%	2.3	Y	Y	Y	Y
Bitterne Road	*E*	803	1,190	387	48%	12.3	N	N	N	N	747	1,124	377	51%	12.3	N	N	N	N	35	65	31	88%	4.3	Y	Y	Y	Y	21	-	-21	-100%	6.5	Y	N	Y	Y
Shales Road south of Taunton Drive	*N*	101	102	0	0%	0.0	Y	Y	Y	Y	93	99	6	7%	0.6	Y	Y	Y	Y	7	2	-5	-69%	2.2	Y	Y	Y	Y	2	0	-1	-83%	1.4	Y	Y	Y	Y
West End Road	*E*	684	816	132	19%	4.8	N	Y	Y	Y	653	711	58	9%	2.2	Y	Y	Y	Y	23	63	39	170%	6.0	Y	N	Y	Y	7	39	32	430%	6.6	Y	N	Y	Y
Townhill Way	*N*	444	403	-41	-9%	2.0	Y	Y	Y	Y	393	383	-10	-3%	0.5	Y	Y	Y	Y	37	14	-24	-63%	4.7	Y	Y	Y	Y	10	1	-9	-92%	4.0	Y	Y	Y	Y
Wakefield Road north of Cornwall Road	*N*	123	38	-85	-69%	9.5	Y	N	N	Y	107	37	-70	-66%	8.3	Y	N	N	Y	10	1	-10	-92%	4.0	Y	Y	Y	Y	3	0	-3	-99%	2.4	Y	Y	Y	Y
Northfield Road		7	7	-							7	7	-							0	0	-							0	0	-						
Foresthill Drive north of Woodmill Lane	*E*	191	131	-59	-31%	4.7	Y	Y	Y	Y	164	115	-49	-30%	4.1	Y	Y	Y	Y	10	4	-6	-63%	2.4	Y	Y	Y	Y	16	0	-15	-98%	5.4	Y	N	Y	Y
		5,620	**6,118**	**498**	**8.9%**	**6.5**	**43%**	**36%**	**50%**	**57%**	**5,095**	**5,575**	**480**	**9.4%**	**6.6**	**57%**	**43%**	**50%**	**57%**	**357**	**329**	**-28**	**-7.9%**	**1.5**	**100%**	**79%**	**100%**	**100%**	**154**	**156**	**1**	**0.8%**	**0.1**	**100%**	**64%**	**93%**	**93%**

APPENDIX A: LINK VALIDATION SOUTHAMPTON AND NEW FOREST

SRTM 2015 **PM** **PM** **PM** **PM**

CORDONS AND SCREENLINES **VEHICLES** **CAR** **LGV** **HGV**

Site Description	*Dir*	Obs	Model	Diff	% Diff	GEH	WebTAG Within				Obs	Model	Diff	% Diff	GEH	WebTAG Within				Obs	Model	Diff	% Diff	GEH	WebTAG Within				Obs	Model	Diff	% Diff	GEH	WebTAG Within			
							Abs %	GEH5	GEH7.5	GEH10						Abs or %	GEH>5	GEH>7.5	GEH>10						Abs or %	GEH>5	GEH>7.5	GEH>10						Abs or %	GEH>5	GEH>7.5	GEH>10
Westbound																																			
Hamble Lane		960	509	- 451	-47%	16.6	N	N	N	N	816	425	- 392	-48%	15.7	N	N	N	N	96	73	- 23	-24%	2.5	Y	Y	Y	Y	48	10	- 38	-79%	7.0	Y	N	Y	Y
Grange Road South of A3025	*S*	322	151	- 170	-53%	11.1	N	N	N	N	282	137	- 145	-52%	10.0	N	N	N	N	32	15	- 18	-55%	3.7	Y	Y	Y	Y	7	0	- 7	-96%	3.6	Y	Y	Y	Y
Coxs Drive	*W*	4	127	123	3239%	15.2	N	N	N	N	3	121	117	3434%	14.9	N	N	N	N	0	5	5	1759%	3.0	Y	Y	Y	Y	0	0	0	77%	0.2	Y	Y	Y	Y
Portsmouth Road	*W*	844	728	- 116	-14%	4.1	Y	Y	Y	Y	762	659	- 103	-14%	3.9	Y	Y	Y	Y	61	47	- 13	-22%	1.8	Y	Y	Y	Y	20	12	- 8	-40%	2.0	Y	Y	Y	Y
Butts Road	*W*	311	339	28	9%	1.6	Y	Y	Y	Y	279	318	39	14%	2.3	Y	Y	Y	Y	25	12	- 12	-50%	2.9	Y	Y	Y	Y	7	8	1	21%	0.5	Y	Y	Y	Y
Kathleen Road	*W*	241	120	- 121	-50%	9.0	N	N	N	Y	213	106	- 107	-50%	8.4	N	N	N	Y	18	3	- 15	-83%	4.6	Y	Y	Y	Y	8	3	- 6	-66%	2.4	Y	Y	Y	Y
Burlesdon Road	*N*	564	546	- 18	-3%	0.8	Y	Y	Y	Y	504	480	- 24	-5%	1.1	Y	Y	Y	Y	37	19	- 18	-49%	3.4	Y	Y	Y	Y	21	29	7	34%	1.5	Y	Y	Y	Y
Upper Deacon Road	*S*	184	195	11	6%	0.8	Y	Y	Y	Y	169	185	15	9%	1.1	Y	Y	Y	Y	10	11	1	8%	0.2	Y	Y	Y	Y	4	-	- 4	-100%	3.0	Y	Y	Y	Y
Bitterne Road	*W*	527	611	84	16%	3.5	Y	Y	Y	Y	475	571	96	20%	4.2	Y	Y	Y	Y	36	37	1	3%	0.2	Y	Y	Y	Y	16	-	- 16	-100%	5.6	Y	N	Y	Y
Shales Road south of Taunton Drive	*S*	80	130	50	62%	4.8	Y	Y	Y	Y	76	121	45	60%	4.6	Y	Y	Y	Y	4	4	1	22%	0.4	Y	Y	Y	Y	1	3	2	387%	1.7	Y	Y	Y	Y
West End Road	*W*	818	937	118	14%	4.0	Y	Y	Y	Y	745	882	137	18%	4.8	N	Y	Y	Y	54	39	- 16	-29%	2.3	Y	Y	Y	Y	17	15	- 3	-16%	0.7	Y	Y	Y	Y
Townhill Way	*S*	586	374	- 212	-36%	9.7	N	N	N	Y	519	343	- 176	-34%	8.5	N	N	N	Y	42	17	- 25	-60%	4.7	Y	Y	Y	Y	23	1	- 22	-97%	6.4	Y	N	Y	Y
Wakefield Road north of Cornwall Road	*S*	103	49	- 53	-52%	6.1	Y	N	Y	Y	95	44	- 51	-53%	6.1	Y	N	Y	Y	6	1	- 5	-85%	2.8	Y	Y	Y	Y	1	0	- 1	-86%	1.2	Y	Y	Y	Y
Northfield Road		19	19	-							19	19	-							0	0	-							0	0	-						
Foresthill Drive north of Woodmill Lane	*W*	137	64	- 73	-53%	7.2	Y	N	Y	Y	125	63	- 62	-49%	6.3	Y	N	Y	Y	10	1	- 9	-91%	3.9	Y	Y	Y	Y	2	0	- 2	-88%	1.7	Y	Y	Y	Y
		5,699	**4,900**	**- 799**	**-14.0%**	**11.0**	**64%**	**50%**	**64%**	**79%**	**5,083**	**4,474**	**- 609**	**-12.0%**	**8.8**	**57%**	**50%**	**64%**	**79%**	**432**	**285**	**- 147**	**-34.0%**	**7.8**	**100%**	**100%**	**100%**	**100%**	**176**	**81**	**- 95**	**-53.9%**	**8.4**	**100%**	**79%**	**100%**	**100%**
25 Bitterne Southwest to Northeast																																			
Eastbound																																			
Victoria Road		8	8	-							-	-	-							-	-	-							-	-	-						
Archery Road	*N*	288	218	- 70	-24%	4.4	Y	Y	Y	Y	260	207	- 53	-20%	3.5	Y	Y	Y	Y	18	10	- 8	-45%	2.2	Y	Y	Y	Y	9	1	- 9	-91%	3.8	Y	Y	Y	Y
Portsmouth Road	*E*	1,114	1,050	- 64	-6%	1.9	Y	Y	Y	Y	1,054	1,018	- 36	-3%	1.1	Y	Y	Y	Y	41	24	- 17	-42%	3.0	Y	Y	Y	Y	18	1	- 17	-95%	5.6	Y	N	Y	Y
STATION ROAD	*E*	226	415	189	84%	10.6	N	N	N	N	202	403	201	99%	11.5	N	N	N	N	15	3	- 12	-80%	4.0	Y	Y	Y	Y	7	0	- 7	-100%	3.6	Y	Y	Y	Y
South East Road	*E*	415	489	75	18%	3.5	Y	Y	Y	Y	381	478	97	26%	4.7	Y	Y	Y	Y	27	10	- 16	-61%	3.8	Y	Y	Y	Y	7	1	- 6	-89%	3.2	Y	Y	Y	Y
Bursledon Road West of NE Road	*S*	736	575	- 161	-22%	6.3	N	N	Y	Y	670	448	- 222	-33%	9.4	N	N	N	Y	45	11	- 34	-75%	6.4	Y	N	Y	Y	20	98	77	377%	10.0	Y	N	N	N
A334 Thornhill Park Road	*E*	758	1,045	287	38%	9.6	N	N	N	Y	700	976	276	39%	9.5	N	N	N	Y	41	68	28	69%	3.8	Y	Y	Y	Y	17	-	- 17	-100%	5.8	Y	N	Y	Y
Pine Drive	*S*	77	135	57	74%	5.6	Y	N	Y	Y	66	129	62	93%	6.3	Y	N	Y	Y	9	6	- 3	-32%	1.1	Y	Y	Y	Y	2	-	- 2	-100%	2.0	Y	Y	Y	Y
A27 Moorhill Road		677	617	- 60	-9%	2.4	Y	Y	Y	Y	576	522	- 54	-9%	2.3	Y	Y	Y	Y	68	55	- 12	-18%	1.6	Y	Y	Y	Y	34	40	6	18%	1.0	Y	Y	Y	Y
Botley Road	*E*	654	569	- 85	-13%	3.4	Y	Y	Y	Y	606	431	- 175	-29%	7.7	N	N	N	Y	36	80	44	122%	5.8	Y	N	Y	Y	11	55	44	403%	7.7	Y	N	N	Y
		4,953	**5,121**	**168**	**3.4%**	**2.4**	**67%**	**56%**	**78%**	**89%**	**4,515**	**4,612**	**97**	**2.1%**	**1.4**	**56%**	**44%**	**56%**	**89%**	**298**	**268**	**- 30**	**-10.1%**	**1.8**	**100%**	**78%**	**100%**	**100%**	**125**	**195**	**70**	**56.0%**	**5.5**	**100%**	**56%**	**78%**	**89%**
Westbound																																			
Victoria Road		8	8	-							-	-	-							-	-	-							-	-	-						
Archery Road	*S*	434	214	- 220	-51%	12.2	N	N	N	N	385	189	196	-51%	11.6	N	N	N	N	36	22	- 14	-38%	2.6	Y	Y	Y	Y	12	3	- 9	-77%	3.4	Y	Y	Y	Y
Portsmouth Road	*W*	909	963	54	6%	1.8	Y	Y	Y	Y	854	916	62	7%	2.1	Y	Y	Y	Y	41	37	- 4	-10%	0.7	Y	Y	Y	Y	14	3	- 11	-80%	3.9	Y	Y	Y	Y
STATION ROAD	*W*	146	99	- 48	-33%	4.3	Y	Y	Y	Y	125	89	- 35	-28%	3.4	Y	Y	Y	Y	12	1	- 11	-90%	4.2	Y	Y	Y	Y	5	0	- 5	-100%	3.2	Y	Y	Y	Y
South East Road	*W*	285	430	145	51%	7.7	N	N	N	Y	264	414	151	57%	8.2	N	N	N	Y	17	13	- 4	-22%	1.0	Y	Y	Y	Y	4	2	- 2	-46%	1.1	Y	Y	Y	Y
Bursledon Road West of NE Road	*N*	565	535	- 30	-5%	1.3	Y	Y	Y	Y	510	469	- 41	-8%	1.9	Y	Y	Y	Y	35	18	- 17	-48%	3.2	Y	Y	Y	Y	18	29	10	56%	2.1	Y	Y	Y	Y
A334 Thornhill Park Road	*W*	640	676	35	6%	1.4	Y	Y	Y	Y	600	633	33	5%	1.3	Y	Y	Y	Y	30	42	12	39%	2.0	Y	Y	Y	Y	10	-	- 10	-100%	4.5	Y	Y	Y	Y
Pine Drive	*N*	18	81	63	345%	8.9	Y	N	N	Y	17	78	61	361%	8.9	Y	N	N	Y	1	3	2	154%	1.3	Y	Y	Y	Y	0	-	- 0	-100%	0.4	Y	Y	Y	Y
A27 Moorhill Road	*S*	645	938	293	45%	10.4	N	N	N	N	596	863	267	45%	9.9	N	N	N	Y	38	42	4	10%	0.6	Y	Y	Y	Y	10	33	23	226%	4.9	Y	Y	Y	Y
Botley Road	*W*	883	562	- 321	-36%	12.0	N	N	N	N	802	503	- 299	-37%	11.7	N	N	N	N	63	55	- 9	-14%	1.1	Y	Y	Y	Y	16	2	- 15	-91%	5.0	Y	Y	Y	Y
		4,533	**4,506**	**- 28**	**-0.6%**	**0.4**	**56%**	**44%**	**44%**	**67%**	**4,152**	**4,154**	**2**	**0.0%**	**0.0**	**56%**	**44%**	**44%**	**78%**	**274**	**234**	**- 40**	**-14.8%**	**2.5**	**100%**	**100%**	**100%**	**100%**	**90**	**71**	**- 19**	**-21.5%**	**2.2**	**100%**	**100%**	**100%**	**100%**
116 Motorway - M27																																			
Eastbound																																			
J2 to J3	*E*	4,975	4,752	- 223	-4%	3.2	Y	Y	Y	Y	4,340	4,125	- 215	-5%	3.3	Y	Y	Y	Y	271	253	- 18	-7%	1.1	Y	Y	Y	Y	364	374	11	3%	0.5	Y	Y	Y	Y
J3 to J4	*E*	5,734	5,751	17	0%	0.2	Y	Y	Y	Y	5,002	4,990	- 12	0%	0.2	Y	Y	Y	Y	313	334	21	7%	1.2	Y	Y	Y	Y	419	427	8	2%	0.4	Y	Y	Y	Y
J4 to J5	*E*	5,576	5,170	- 406	-7%	5.5	N	N	Y	Y	4,906	4,660	- 246	-5%	3.6	Y	Y	Y	Y	361	297	- 65	-18%	3.6	Y	Y	Y	Y	309	213	- 95	-31%	5.9	Y	N	Y	Y
J5 to J7	*E*	6,425	6,148	- 278	-4%	3.5	Y	Y	Y	Y	5,653	5,432	- 221	-4%	3.0	Y	Y	Y	Y	416	414	- 2	-1%	0.1	Y	Y	Y	Y	356	302	- 54	-15%	3.0	Y	Y	Y	Y
J7 to J8	*E*	5,784	5,746	- 37	-1%	0.5	Y	Y	Y	Y	5,089	5,002	- 87	-2%	1.2	Y	Y	Y	Y	375	439	65	17%	3.2	Y	Y	Y	Y	320	305	- 15	-5%	0.9	Y	Y	Y	Y
Westbound																																			
J8 to J7	*W*	5,612	5,678	66	1%	0.9	Y	Y	Y	Y	4,946	4,947	0	0%	0.0	Y	Y	Y	Y	330	365	35	11%	1.9	Y	Y	Y	Y	336	366	31	9%	1.6	Y	Y	Y	Y
J7 to J5	*W*	5,705	5,674	- 31	-1%	0.4	Y	Y	Y	Y	5,029	5,018	- 10	0%	0.1	Y	Y	Y	Y	335	353	18	5%	1.0	Y	Y	Y	Y	341	302	- 39	-11%	2.2	Y	Y	Y	Y
J5 to J4	*W*	5,040	4,954	- 85	-2%	1.2	Y	Y	Y	Y	4,442	4,370	- 72	-2%	1.1	Y	Y	Y	Y	296	316	20	7%	1.1	Y	Y	Y	Y	301	269	- 33	-11%	1.9	Y	Y	Y	Y
J4 to J3	*W*	6,070	6,309	238	4%	3.0	Y	Y	Y	Y	5,252	5,333	80	2%	1.1	Y	Y	Y	Y	398	480	82	21%	3.9	Y	Y	Y	Y	420	497	76	18%	3.6	Y	Y	Y	Y
J3 to J2	*W*	5,120	5,201	82	2%	1.1	Y	Y	Y	Y	4,430	4,437	7	0%	0.1	Y	Y	Y	Y	335	353	18	5%	0.9	Y	Y	Y	Y	355	412	57	16%	2.9	Y	Y	Y	Y
118 Motorway - M3																																			
Eastbound																																			
J14 to J13	*E*	5,181	5,181	-							4,627	4,627	-							296	296	-							258	258	-						
Westbound																																			
J13 to J14	*W*	2,995	3,143	148	5%	2.7	Y	Y	Y	Y	2,550	2,513	- 37	-1%	0.7	Y	Y	Y	Y	213	350	137	64%	8.2	N	N	N	Y	232	280	48	21%	3.0	Y	Y	Y	Y

APPENDIX B

JOURNEY TIME VALIDATION

Part 1 (Routes Undertaken for Previous 2010 Base and updated to TrafficMaster 2014)

AM

No.	Route	Description	TM Tot.Time(s)	Model Tot.Time(s)	Diff.	%Diff.	WebTAG <=15%	*<=20%*	*<=25%*
1	1EB	A336 RINGWOOD ROAD - A35 BURGESS ROAD	1,509	1,541	32	2%	Y	Y	Y
1	1WB	A35 BURGESS ROAD - A35 WINCHESTER ROAD	1,552	1,470	-82	-5%	Y	Y	Y
2	2EB	A35 MILLBROOK ROAD WEST - A3025 HAMBLE LANE	1,473	1,279	-194	-13%	Y	Y	Y
2	2WB	A3025 HAMBLE LANE - A35 MILLBROOK ROAD WEST	1,539	1,351	-188	-12%	Y	Y	Y
3	3NB	A33 DORSET STREET - A335 TWYFORD ROAD	1,219	1,177	-43	-4%	Y	Y	Y
3	3SB	A335 TWYFORD ROAD - A33 DORSET STREET	1,123	1,215	92	8%	Y	Y	Y
4	4NB	A33 DORSET STREET - A33	545	526	-19	-3%	Y	Y	Y
4	4SB	A33 - A33 DORSET STREET	731	679	-52	-7%	Y	Y	Y
5	5NB	A3024 BURSLEDON ROAD - A33 THE AVENUE	1,513	1,290	-223	-15%	Y	Y	Y
5	5SB	A33 THE AVENUE - A3024 BURSLEDON ROAD	992	1,193	201	20%	N	N	Y
6	6NB	A27 WEST END ROAD - A27 BASSETT GREEN ROAD	965	1,066	101	10%	Y	Y	Y
6	6SB	A27 BASSETT GREEN ROAD - A27 WEST END ROAD	911	990	79	9%	Y	Y	Y
7	7NB	A3024 BRUNSWICK PLACE - A3057 ROMSEY ROAD	1,200	1,132	-68	-6%	Y	Y	Y
7	7SB	A3057 ROMSEY ROAD - A3024 BRUNSWICK PLACE	1,173	1,216	43	4%	Y	Y	Y
8	8NB	A27 WESTERN WAY - A27 BRIDGE ROAD	1,083	1,624	541	50%	N	N	N
8	8SB	A27 BRIDGE ROAD - A27 WESTERN WAY	1,277	1,278	1	0%	Y	Y	Y
9	9NB	A32 MUMBY ROAD - B3334 TITCHFIELD ROAD	1,159	1,310	151	13%	Y	Y	Y
9	9SB	B3334 TITCHFIELD ROAD - A32 MUMBY ROAD	1,138	1,176	38	3%	Y	Y	Y
10	10NB	A32 FAREHAM ROAD - A27 WESTERN ROAD	1,534	1,710	176	11%	Y	Y	Y
10	10SB	A27 WESTERN ROAD - A27 WESTERN ROAD	1,427	1,317	-111	-8%	Y	Y	Y
11	11NB	A397 NORTHERN ROAD - A3 LONDON ROAD	1,024	1,248	224	22%	N	N	Y
11	11SB	A3 LONDON ROAD - A397 NORTHERN ROAD	1,073	1,434	360	34%	N	N	N
12	12NB	B2177 PORTSDOWN HILL ROAD - B2149 HAVANT ROAD	908	1,077	169	19%	N	Y	Y
12	12SB	B2149 HAVANT ROAD - B2177 PORTSDOWN HILL ROAD	835	953	118	14%	Y	Y	Y
13	13NB	A2030 VELDER AVENUE - A2030 EASTERN ROAD	743	607	-136	-18%	N	Y	Y
13	13SB	A2030 EASTERN ROAD - A2030 VELDER AVENUE	631	566	-65	-10%	Y	Y	Y
14	14NB	A288 MILTON ROAD - A288 COPNOR ROAD	456	434	-21	-5%	Y	Y	Y
14	14SB	A288 COPNOR ROAD - A288 MILTON ROAD	527	505	-22	-4%	Y	Y	Y
15	15NB	M275 - - A27	224	242	18	8%	Y	Y	Y
15	15SB	A27 - M275	260	250	-11	-4%	Y	Y	Y
16	16NB	A2047 KINGSTON CRESCENT - A3 SOUTHAMPTON ROAD	882	816	-65	-7%	Y	Y	Y
16	16SB	A3 SOUTHAMPTON ROAD - A2047 KINGSTON CRESCENT	783	749	-34	-4%	Y	Y	Y
17	17NB	A3 MARKETWAY - A27 WESTERN ROAD	757	606	-151	-20%	N	Y	Y
17	17SB	A27 WESTERN ROAD - A3 MARKETWAY	714	768	54	8%	Y	Y	Y
	Total		33,881	34,794	913	3%			

Part 2 (Routes Newly Analysed for 2015 Base)

AM

No.	Route	Description	TM Tot.Time(s)	Model Tot.Time(s)	Diff.	%Diff.	WebTAG <=15%	*<=20%*	*<=25%*
18	1NB	M3J11 - A32	922	952	29	3%	Y	Y	Y
18	1SB	A32 - M3J11	827	811	-16	-2%	Y	Y	Y
19	2NB	M27J2 - A303	1,930	2,039	109	6%	Y	Y	Y
19	2SB	A303 - M27J2	2,010	2,378	368	18%	N	Y	Y
20	3NB	M27J2 - A34	1,937	2,104	167	9%	Y	Y	Y
20	3SB	A34 - M27J2	1,856	1,981	124	7%	Y	Y	Y
21	SEC1EB	Six Dials Jun to Windhover Rbt	689	860	171	25%	N	N	Y
21	SEC1WB	Windhover Rbt to Six Dials Jun	1,021	1,096	75	7%	Y	Y	Y
22	SEC2NB	M27J7 to M3J11	1,344	1,357	13	1%	Y	Y	Y
22	SEC2SB	M3J11 - M27J7	1,309	1,268	-42	-3%	Y	Y	Y
23	SEC3NB	M27J10 - M3J11	1,898	1,763	-135	-7%	Y	Y	Y
23	SEC3SB	M3J11 - M27J10	1,726	1,612	-114	-7%	Y	Y	Y
	Total		17,470	18,220	750	4%			

M27 and M3

AM

No.	Route	Description	TM Tot.Time(s)	Model Tot.Time(s)	Diff.	%Diff.	WebTAG <=15%	*<=20%*	*<=25%*
24		M27 Eastbound	1253	1190	-63	-5%	Y	Y	Y
24		M27 Westbound	1344	1441	97	7%	Y	Y	Y
25		M3 Northbound	1146	1153	7	1%	Y	Y	Y
25		M3 Southbound	1415	1523	109	8%	Y	Y	Y

	Percentage within criteria						**82%**	***90%***	***96%***

APPENDIX B

JOURNEY TIME VALIDATION

Part 1 (Routes Undertaken for Previous 2010 Base and updated to TrafficMaster 2014)

IP

No.	Route	Description	TM Tot.Time(s)	Model Tot.Time(s)	Diff.	%Diff.	WebTAG <=15%	*<=20%*	*<=25%*
1	1EB	A336 RINGWOOD ROAD - A35 BURGESS ROAD	1,479	1,265	-214	-14%	Y	Y	Y
1	1WB	A35 BURGESS ROAD - A35 WINCHESTER ROAD	1,539	1,282	-257	-17%	N	Y	Y
2	2EB	A35 MILLBROOK ROAD WEST - A3025 HAMBLE LANE	1,454	1,149	-305	-21%	N	N	Y
2	2WB	A3025 HAMBLE LANE - A35 MILLBROOK ROAD WEST	1,437	1,157	-280	-19%	N	Y	Y
3	3NB	A33 DORSET STREET - A335 TWYFORD ROAD	1,093	1,006	-87	-8%	Y	Y	Y
3	3SB	A335 TWYFORD ROAD - A33 DORSET STREET	1,090	1,090	0	0%	Y	Y	Y
4	4NB	A33 DORSET STREET - A33	472	424	-48	-10%	Y	Y	Y
4	4SB	A33 - A33 DORSET STREET	487	468	-18	-4%	Y	Y	Y
5	5NB	A3024 BURSLEDON ROAD - A33 THE AVENUE	1,176	1,141	-34	-3%	Y	Y	Y
5	5SB	A33 THE AVENUE - A3024 BURSLEDON ROAD	1,167	1,151	-16	-1%	Y	Y	Y
6	6NB	A27 WEST END ROAD - A27 BASSETT GREEN ROAD	880	902	21	2%	Y	Y	Y
6	6SB	A27 BASSETT GREEN ROAD - A27 WEST END ROAD	902	942	40	4%	Y	Y	Y
7	7NB	A3024 BRUNSWICK PLACE - A3057 ROMSEY ROAD	1,348	1,105	-243	-18%	N	Y	Y
7	7SB	A3057 ROMSEY ROAD - A3024 BRUNSWICK PLACE	1,199	1,122	-77	-6%	Y	Y	Y
8	8NB	A27 WESTERN WAY - A27 BRIDGE ROAD	1,104	1,189	85	8%	Y	Y	Y
8	8SB	A27 BRIDGE ROAD - A27 WESTERN WAY	1,148	1,077	-70	-6%	Y	Y	Y
9	9NB	A32 MUMBY ROAD - B3334 TITCHFIELD ROAD	1,056	1,079	23	2%	Y	Y	Y
9	9SB	B3334 TITCHFIELD ROAD - A32 MUMBY ROAD	1,079	1,011	-68	-6%	Y	Y	Y
10	10NB	A32 FAREHAM ROAD - A27 WESTERN ROAD	1,401	1,314	-87	-6%	Y	Y	Y
10	10SB	A27 WESTERN ROAD - A27 WESTERN ROAD	1,360	1,207	-152	-11%	Y	Y	Y
11	11NB	A397 NORTHERN ROAD - A3 LONDON ROAD	1,107	1,178	71	6%	Y	Y	Y
11	11SB	A3 LONDON ROAD - A397 NORTHERN ROAD	1,133	1,256	123	11%	Y	Y	Y
12	12NB	B2177 PORTSDOWN HILL ROAD - B2149 HAVANT ROAD	946	948	2	0%	Y	Y	Y
12	12SB	B2149 HAVANT ROAD - B2177 PORTSDOWN HILL ROAD	858	910	52	6%	Y	Y	Y
13	13NB	A2030 VELDER AVENUE - A2030 EASTERN ROAD	647	541	-106	-16%	N	Y	Y
13	13SB	A2030 EASTERN ROAD - A2030 VELDER AVENUE	594	533	-61	-10%	Y	Y	Y
14	14NB	A288 MILTON ROAD - A288 COPNOR ROAD	494	420	-74	-15%	Y	Y	Y
14	14SB	A288 COPNOR ROAD - A288 MILTON ROAD	610	478	-132	-22%	N	N	Y
15	15NB	M275 - - A27	224	229	6	3%	Y	Y	Y
15	15SB	A27 - M275	256	197	-58	-23%	N	N	Y
16	16NB	A2047 KINGSTON CRESCENT - A3 SOUTHAMPTON ROAD	778	708	-70	-9%	Y	Y	Y
16	16SB	A3 SOUTHAMPTON ROAD - A2047 KINGSTON CRESCENT	759	646	-113	-15%	Y	Y	Y
17	17NB	A3 MARKETWAY - A27 WESTERN ROAD	672	584	-87	-13%	Y	Y	Y
17	17SB	A27 WESTERN ROAD - A3 MARKETWAY	671	539	-132	-20%	N	Y	Y
	Total		32,617	30,251	-2366	-7%			

Part 2 (Routes Newly Analysed for 2015 Base)

IP

No.	Route	Description	TM Tot.Time(s)	Model Tot.Time(s)	Diff.	%Diff.	WebTAG <=15%	*<=20%*	*<=25%*
18	1NB	M3J11 - A32	775	783	8	1%	Y	Y	Y
18	1SB	A32 - M3J11	790	807	17	2%	Y	Y	Y
19	2NB	M27J2 - A303	2,017	1,960	-57	-3%	Y	Y	Y
19	2SB	A303 - M27J2	2,020	2,344	324	16%	N	Y	Y
20	3NB	M27J2 - A34	1,815	1,964	150	8%	Y	Y	Y
20	3SB	A34 - M27J2	1,825	1,963	138	8%	Y	Y	Y
21	SEC1EB	Six Dials Jun to Windhover Rbt	783	825	41	5%	Y	Y	Y
21	SEC1WB	Windhover Rbt to Six Dials Jun	740	886	147	20%	N	Y	Y
22	SEC2NB	M27J7 to M3J11	1,235	1,166	-69	-6%	Y	Y	Y
22	SEC2SB	M3J11 - M27J7	1,272	1,154	-118	-9%	Y	Y	Y
23	SEC3NB	M27J10 - M3J11	1,710	1,611	-100	-6%	Y	Y	Y
23	SEC3SB	M3J11 - M27J10	1,659	1,590	-68	-4%	Y	Y	Y
	Total		16,640	17,054	413	2%			

M27 and M3

IP

No.	Route	Description	TM Tot.Time(s)	Model Tot.Time(s)	Diff.	%Diff.	WebTAG <=15%	*<=20%*	*<=25%*
24		M27 Eastbound	945	968	23	2%	Y	Y	Y
24		M27 Westbound	956	1001	45	5%	Y	Y	Y
25		M3 Northbound	1092	1117	25	2%	Y	Y	Y
25		M3 Southbound	1081	1165	85	8%	Y	Y	Y

	Percentage within criteria						**80%**	***94%***	***100%***

APPENDIX B

JOURNEY TIME VALIDATION

Part 1 (Routes Undertaken for Previous 2010 Base and updated to TrafficMaster 2014)

PM

No.	Route	Description	TM Tot.Time(s)	Model Tot.Time(s)	Diff.	%Diff.	WebTAG <=15%	*<=20%*	*<=25%*
1	1EB	A336 RINGWOOD ROAD - A35 BURGESS ROAD	1,734	1,353	-382	-22%	N	N	Y
1	1WB	A35 BURGESS ROAD - A35 WINCHESTER ROAD	1,771	1,404	-366	-21%	N	N	Y
2	2EB	A35 MILLBROOK ROAD WEST - A3025 HAMBLE LANE	1,513	1,272	-241	-16%	N	Y	Y
2	2WB	A3025 HAMBLE LANE - A35 MILLBROOK ROAD WEST	1,530	1,274	-256	-17%	N	Y	Y
3	3NB	A33 DORSET STREET - A335 TWYFORD ROAD	1,470	1,065	-406	-28%	N	N	N
3	3SB	A335 TWYFORD ROAD - A33 DORSET STREET	1,469	1,124	-345	-23%	N	N	Y
4	4NB	A33 DORSET STREET - A33	676	529	-147	-22%	N	N	Y
4	4SB	A33 - A33 DORSET STREET	613	581	-32	-5%	Y	Y	Y
5	5NB	A3024 BURSLEDON ROAD - A33 THE AVENUE	1,239	1,283	44	4%	Y	Y	Y
5	5SB	A33 THE AVENUE - A3024 BURSLEDON ROAD	1,589	1,191	-399	-25%	N	N	N
6	6NB	A27 WEST END ROAD - A27 BASSETT GREEN ROAD	915	934	20	2%	Y	Y	Y
6	6SB	A27 BASSETT GREEN ROAD - A27 WEST END ROAD	1,159	962	-196	-17%	N	Y	Y
7	7NB	A3024 BRUNSWICK PLACE - A3057 ROMSEY ROAD	1,516	1,181	-334	-22%	N	N	Y
7	7SB	A3057 ROMSEY ROAD - A3024 BRUNSWICK PLACE	1,221	1,191	-30	-2%	Y	Y	Y
8	8NB	A27 WESTERN WAY - A27 BRIDGE ROAD	1,505	1,388	-117	-8%	Y	Y	Y
8	8SB	A27 BRIDGE ROAD - A27 WESTERN WAY	1,366	1,270	-96	-7%	Y	Y	Y
9	9NB	A32 MUMBY ROAD - B3334 TITCHFIELD ROAD	1,066	1,080	14	1%	Y	Y	Y
9	9SB	B3334 TITCHFIELD ROAD - A32 MUMBY ROAD	1,277	1,180	-98	-8%	Y	Y	Y
10	10NB	A32 FAREHAM ROAD - A27 WESTERN ROAD	1,534	1,406	-128	-8%	Y	Y	Y
10	10SB	A27 WESTERN ROAD - A27 WESTERN ROAD	1,643	1,479	-164	-10%	Y	Y	Y
11	11NB	A397 NORTHERN ROAD - A3 LONDON ROAD	1,102	1,260	157	14%	Y	Y	Y
11	11SB	A3 LONDON ROAD - A397 NORTHERN ROAD	1,118	1,306	188	17%	N	Y	Y
12	12NB	B2177 PORTSDOWN HILL ROAD - B2149 HAVANT ROAD	955	992	36	4%	Y	Y	Y
12	12SB	B2149 HAVANT ROAD - B2177 PORTSDOWN HILL ROAD	889	1,029	140	16%	N	Y	Y
13	13NB	A2030 VELDER AVENUE - A2030 EASTERN ROAD	792	577	-216	-27%	N	N	N
13	13SB	A2030 EASTERN ROAD - A2030 VELDER AVENUE	768	568	-200	-26%	N	N	N
14	14NB	A288 MILTON ROAD - A288 COPNOR ROAD	535	428	-107	-20%	N	Y	Y
14	14SB	A288 COPNOR ROAD - A288 MILTON ROAD	637	541	-96	-15%	N	Y	Y
15	15NB	M275 - - A27	217	264	47	21%	N	N	Y
15	15SB	A27 - M275	247	217	-30	-12%	Y	Y	Y
16	16NB	A2047 KINGSTON CRESCENT - A3 SOUTHAMPTON ROAD	897	842	-55	-6%	Y	Y	Y
16	16SB	A3 SOUTHAMPTON ROAD - A2047 KINGSTON CRESCENT	832	714	-118	-14%	Y	Y	Y
17	17NB	A3 MARKETWAY - A27 WESTERN ROAD	704	611	-93	-13%	Y	Y	Y
17	17SB	A27 WESTERN ROAD - A3 MARKETWAY	731	706	-25	-3%	Y	Y	Y
	Total		37,229	33,202	-4028	-11%			

Part 2 (Routes Newly Analysed for 2015 Base)

PM

No.	Route	Description	TM Tot.Time(s)	Model Tot.Time(s)	Diff.	%Diff.	WebTAG <=15%	*<=20%*	*<=25%*
18	1NB	M3J11 - A32	889	809	-80	-9%	Y	Y	Y
18	1SB	A32 - M3J11	988	881	-108	-11%	Y	Y	Y
19	2NB	M27J2 - A303	1,995	1,959	-36	-2%	Y	Y	Y
19	2SB	A303 - M27J2	1,986	2,613	626	32%	N	N	N
20	3NB	M27J2 - A34	1,924	2,053	129	7%	Y	Y	Y
20	3SB	A34 - M27J2	2,086	2,134	48	2%	Y	Y	Y
21	SEC1EB	Six Dials Jun to Windhover Rbt	902	874	-29	-3%	Y	Y	Y
21	SEC1WB	Windhover Rbt to Six Dials Jun	827	949	123	15%	Y	Y	Y
22	SEC2NB	M27J7 to M3J11	1,315	1,219	-95	-7%	Y	Y	Y
22	SEC2SB	M3J11 - M27J7	1,400	1,198	-202	-14%	Y	Y	Y
23	SEC3NB	M27J10 - M3J11	1,681	1,621	-61	-4%	Y	Y	Y
23	SEC3SB	M3J11 - M27J10	1,736	1,625	-111	-6%	Y	Y	Y
	Total		17,731	17,935	204	1%			

M27 and M3

PM

No.	Route	Description	TM Tot.Time(s)	Model Tot.Time(s)	Diff.	%Diff.	WebTAG <=15%	*<=20%*	*<=25%*
24		M27 Eastbound	1195	1245	51	4%	Y	Y	Y
24		M27 Westbound	1164	1229	65	6%	Y	Y	Y
25		M3 Northbound	1462	1385	-77	-5%	Y	Y	Y
25		M3 Southbound	1093	1216	124	11%	Y	Y	Y

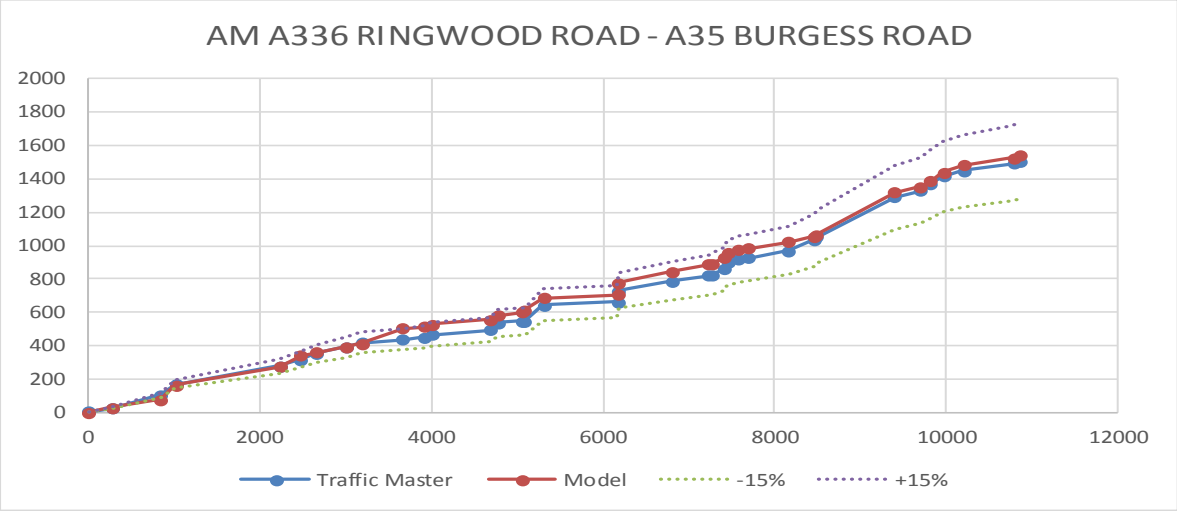
	Percentage within criteria						**64%**	***78%***	***90%***

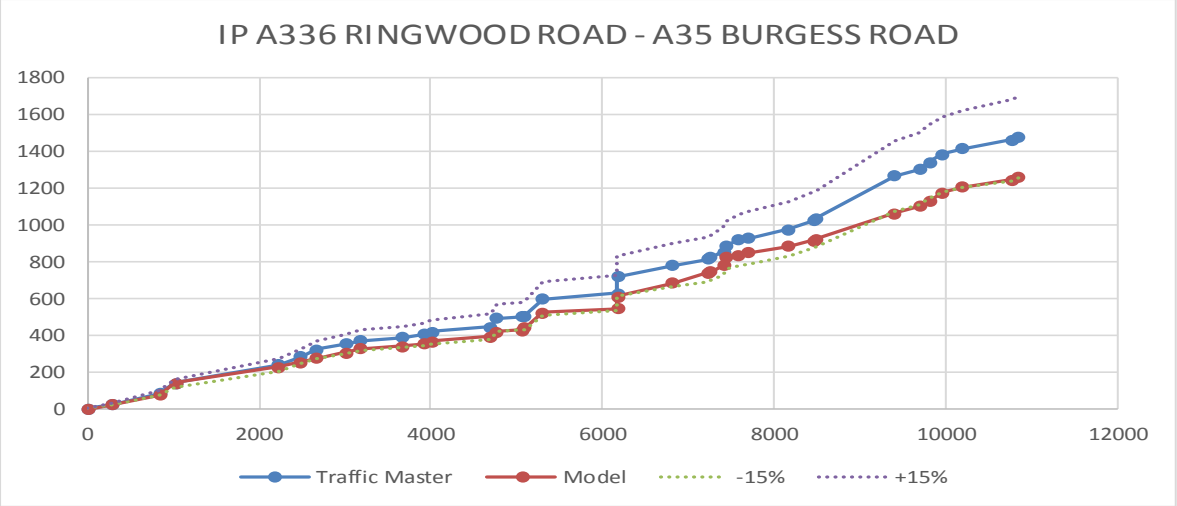
APPENDIX C

TIME-DISTANCE CHARTS

TIME-DISTANCE CHARTS (X-axis distance: meters, Y- axis time: seconds)

Figure 1. 1EB A336 RINGWOOD ROAD - A35 BURGESS ROAD





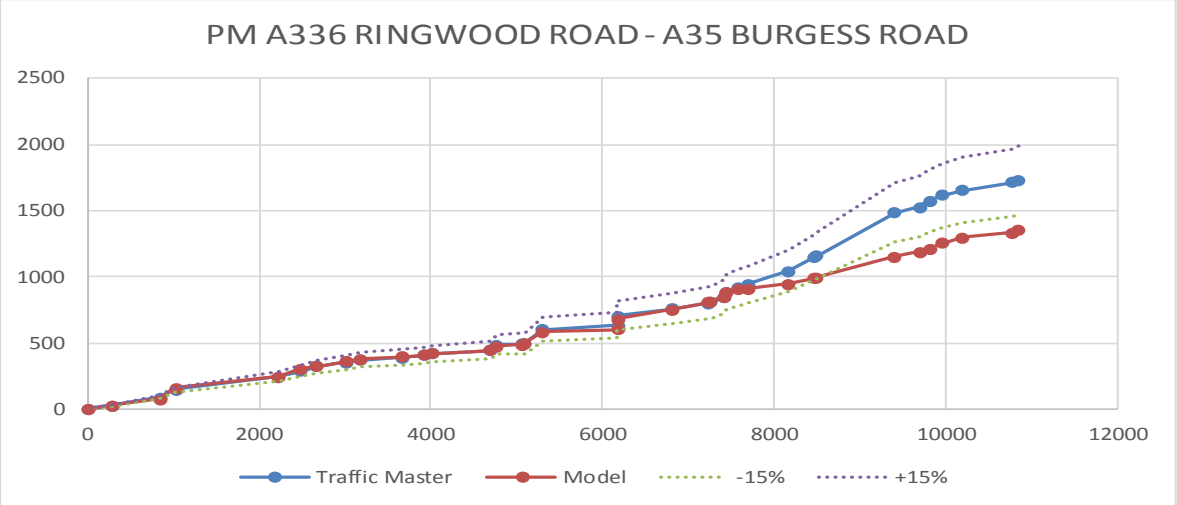
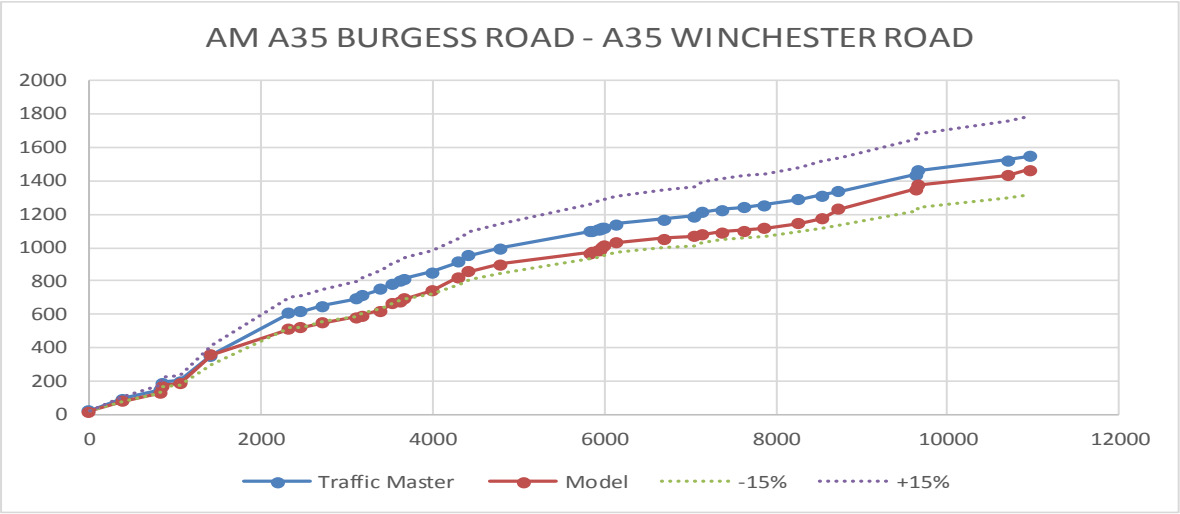
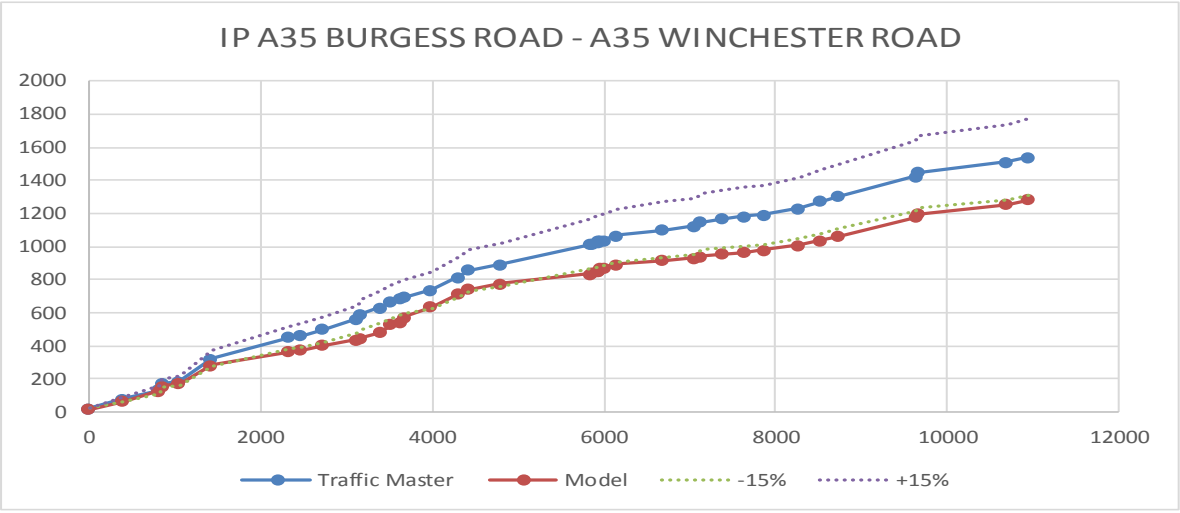


Figure 2. 1WB A35 BURGESS ROAD - A35 WINCHESTER ROAD





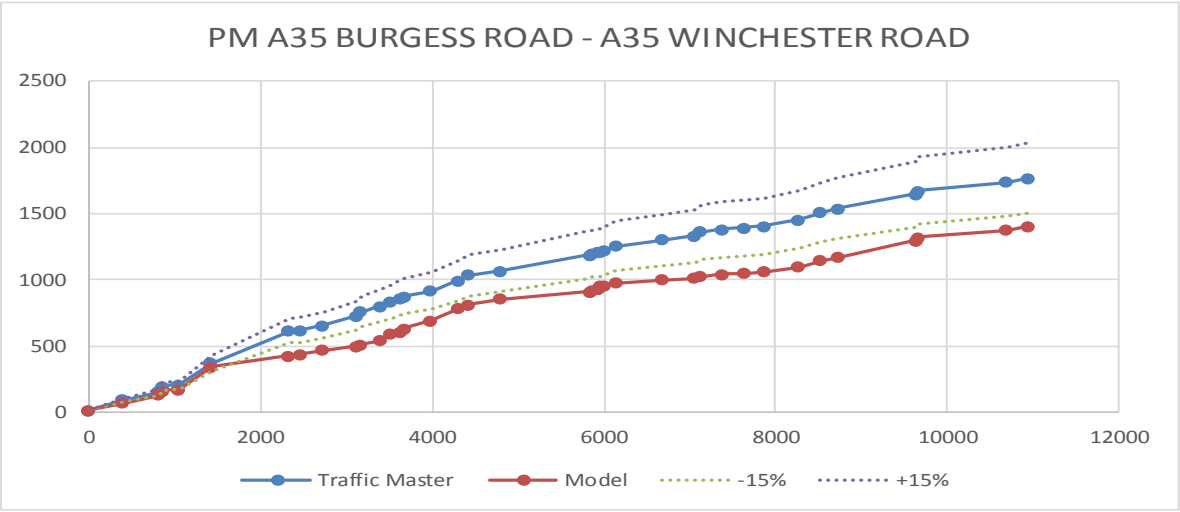
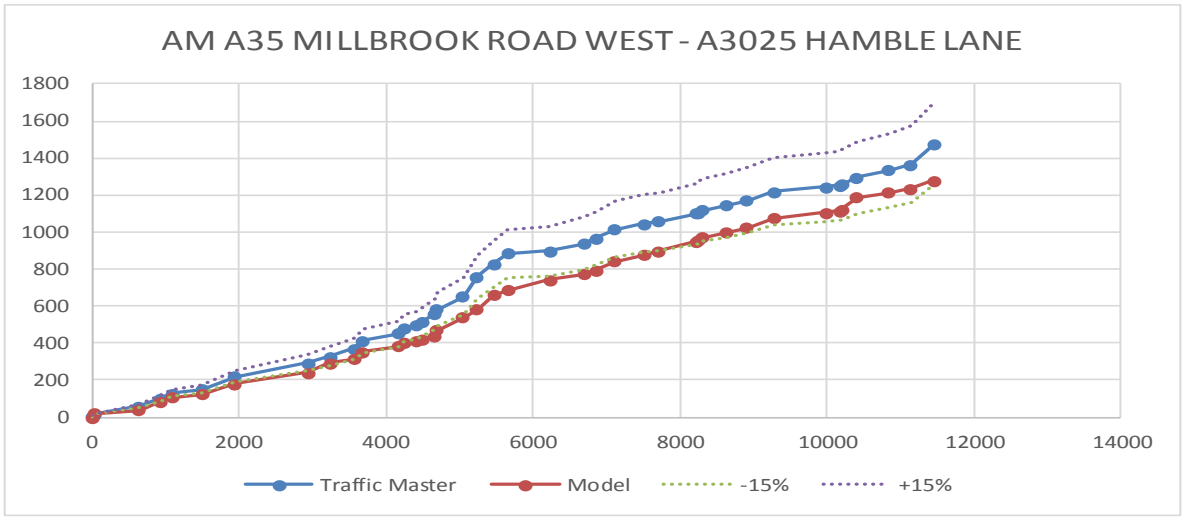
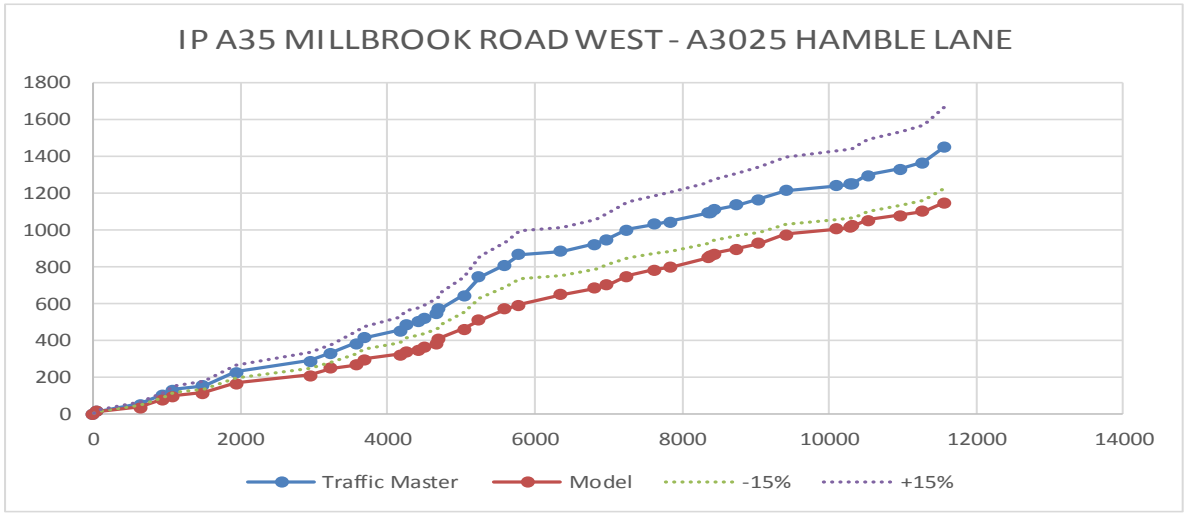


Figure 3. 2EB A35 MILLBROOK ROAD WEST - A3025 HAMBLE LANE





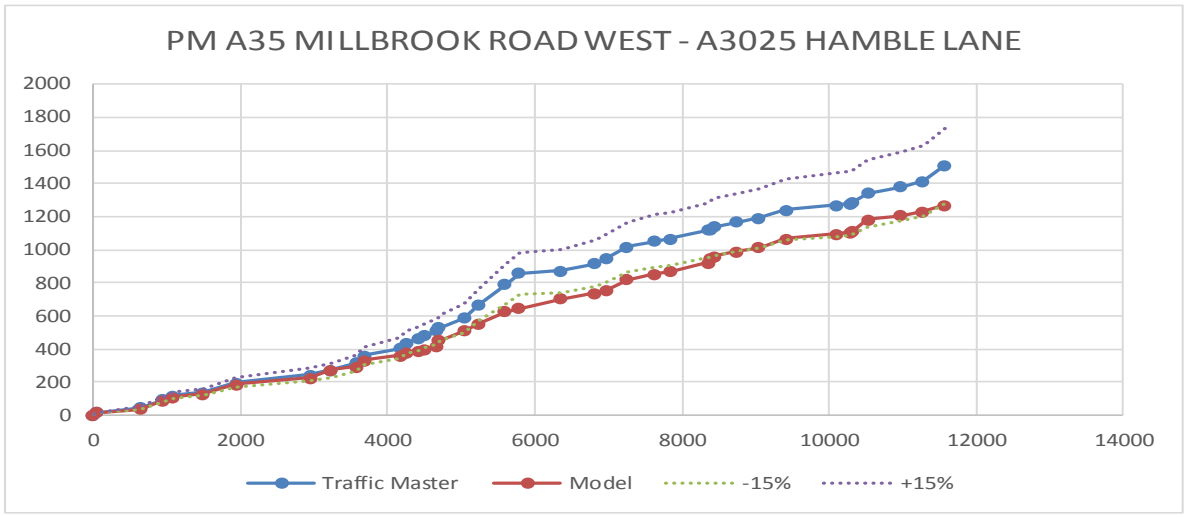
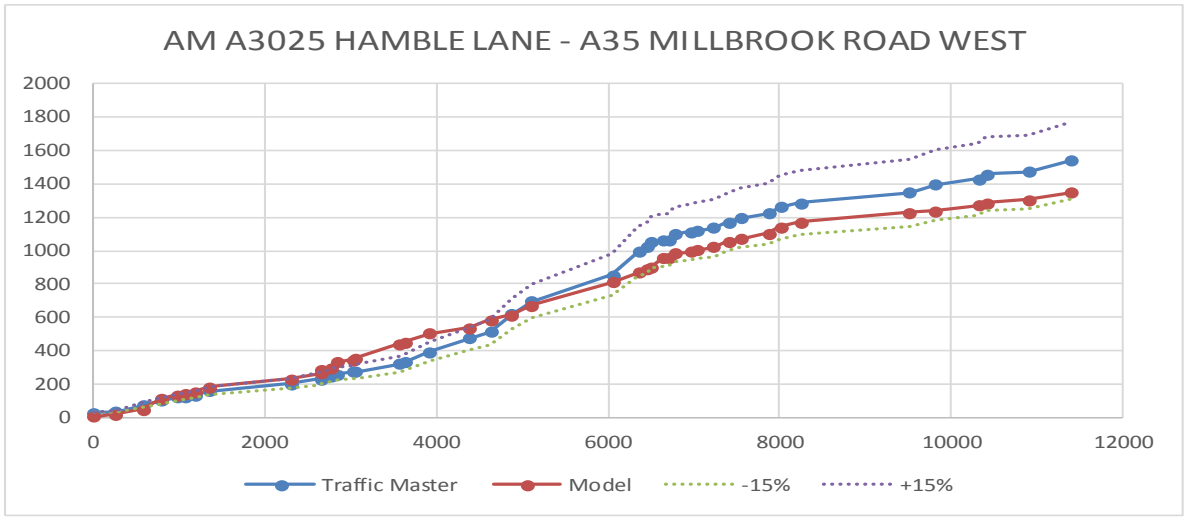
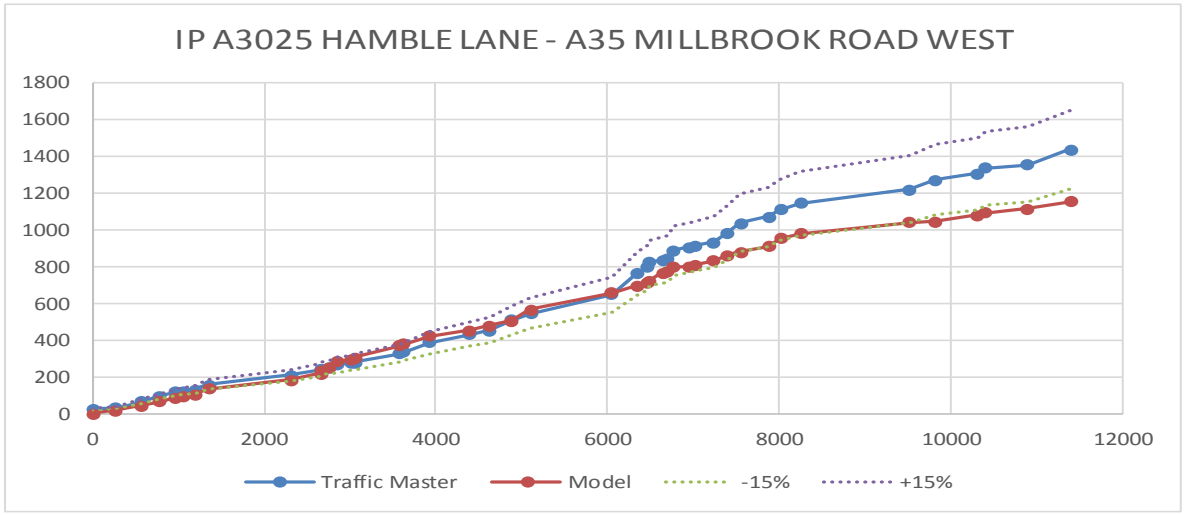


Figure 4. 2WB A3025 HAMBLE LANE - A35 MILLBROOK ROAD WEST





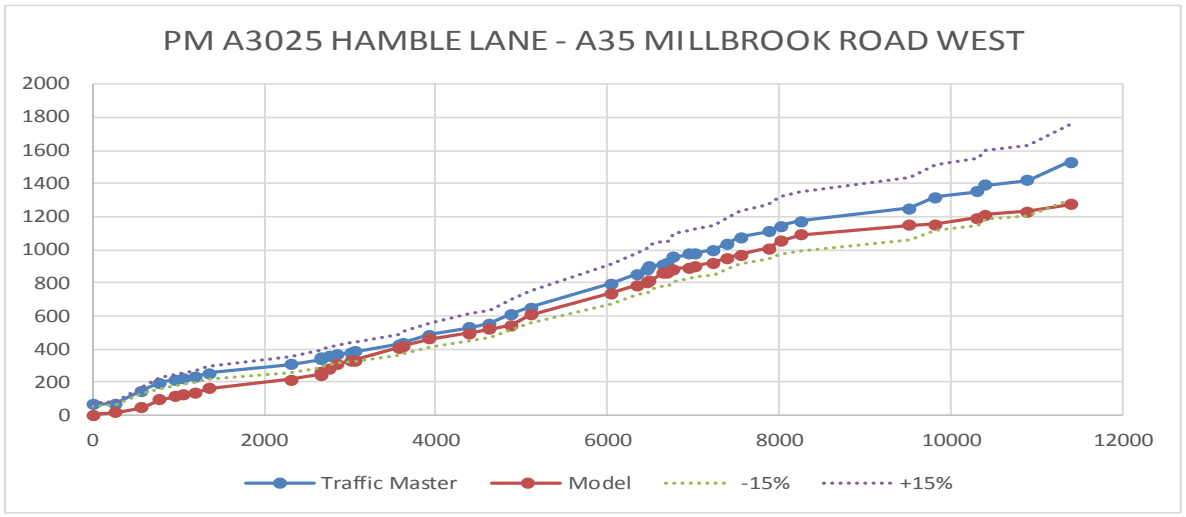
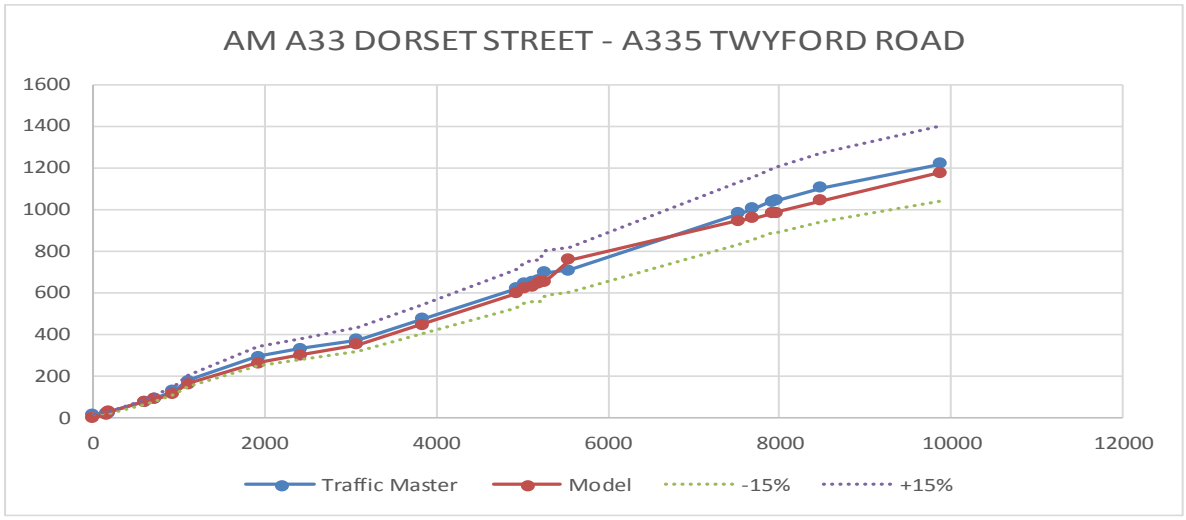
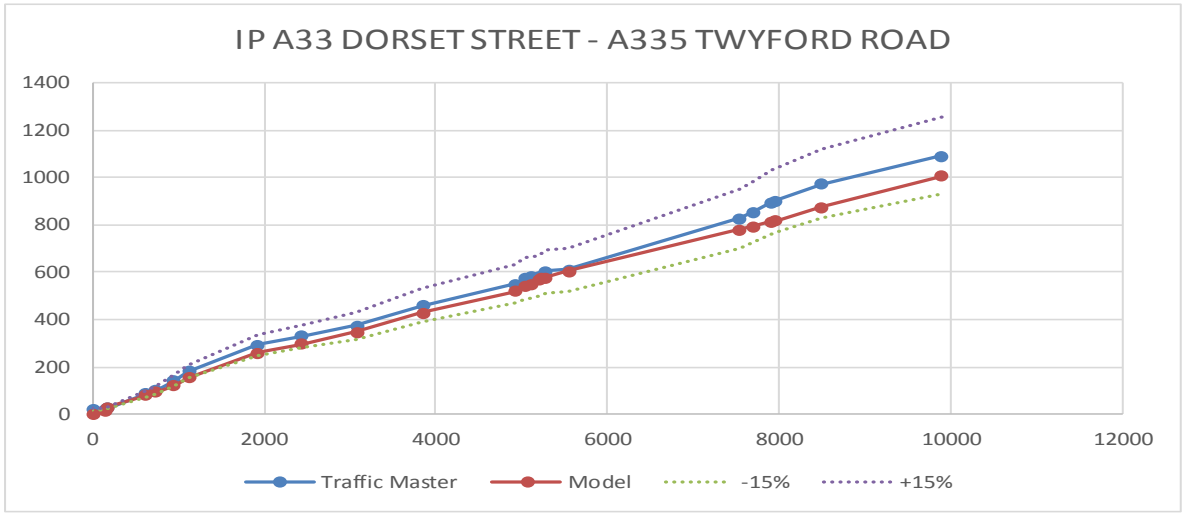


Figure 5. 3NB A33 DORSET STREET - A335 TWYFORD ROAD





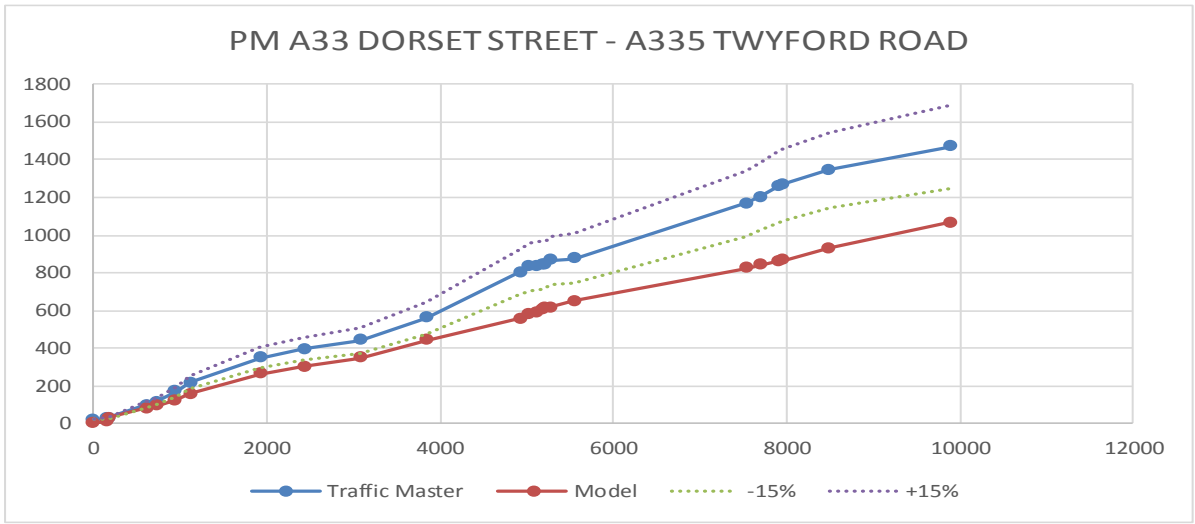
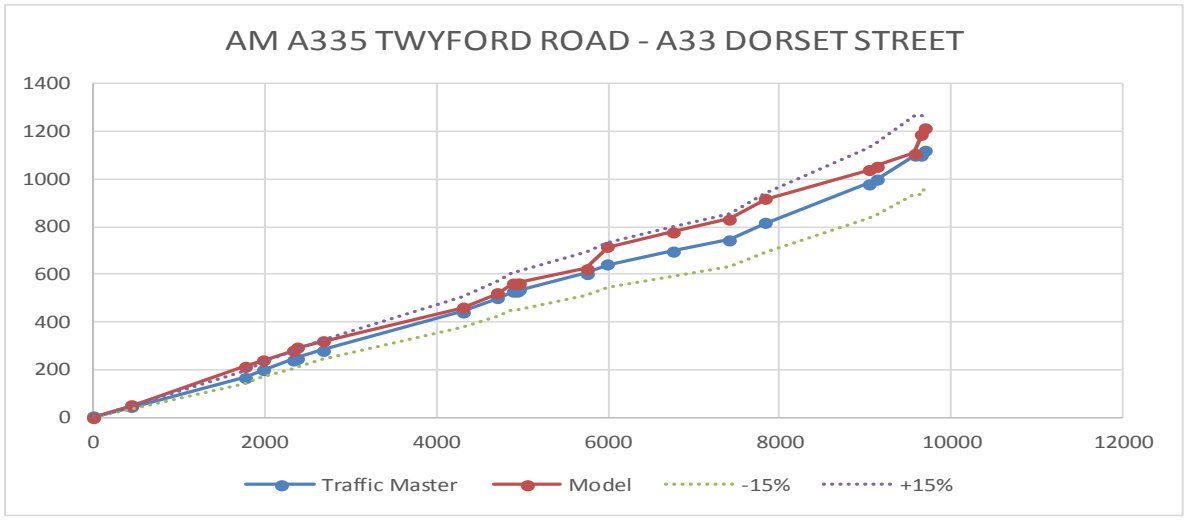
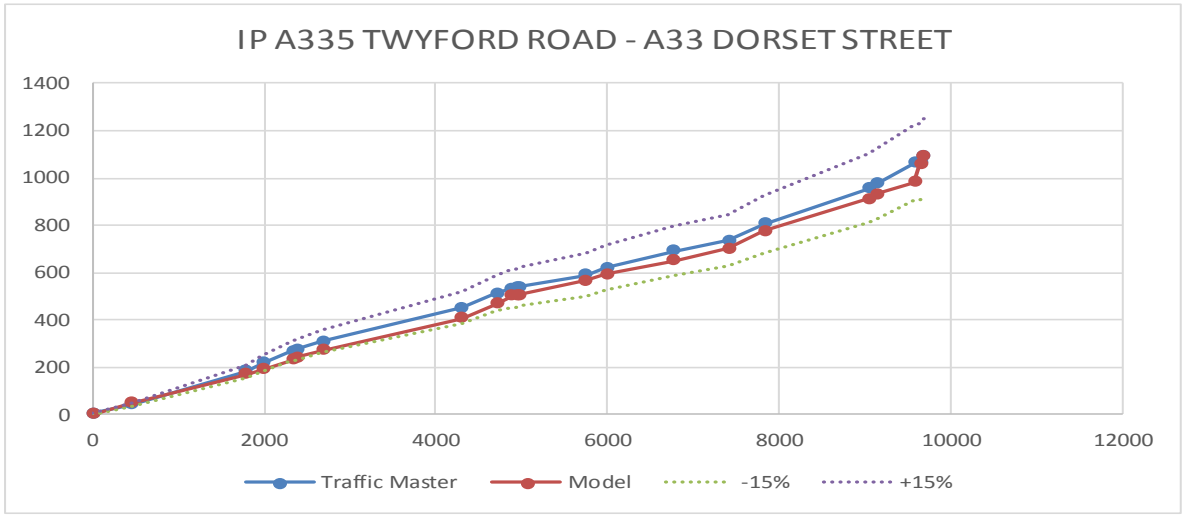


Figure 6. 3SB A335 TWYFORD ROAD - A33 DORSET STREET





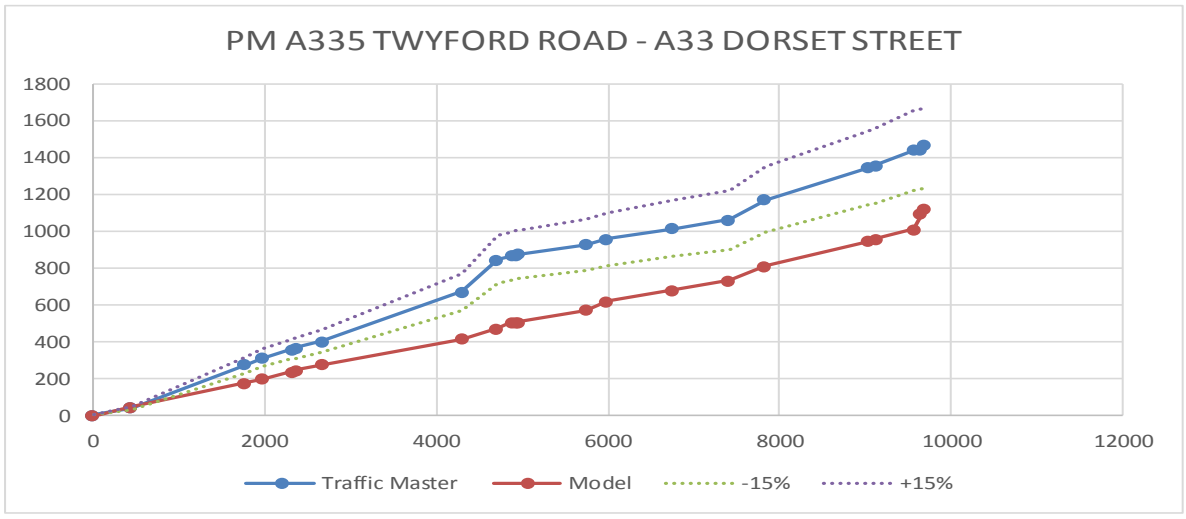
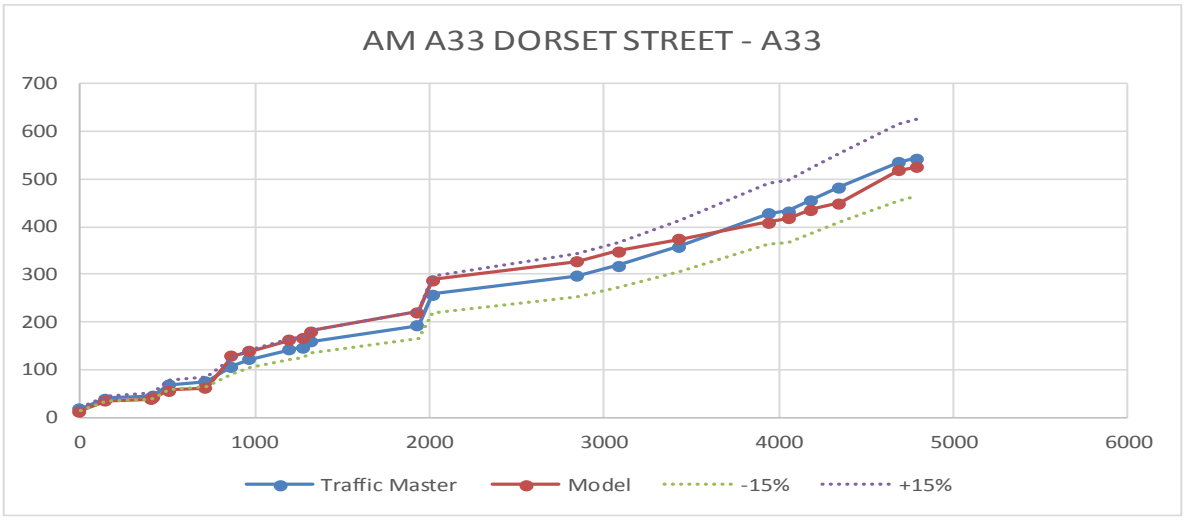
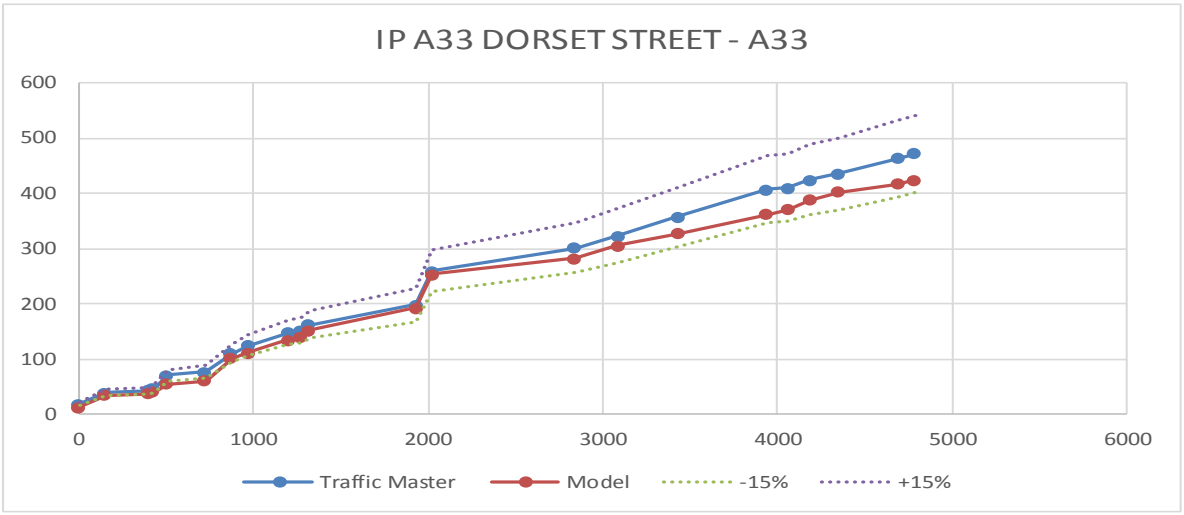


Figure 7. 4NB A33 DORSET STREET - A33





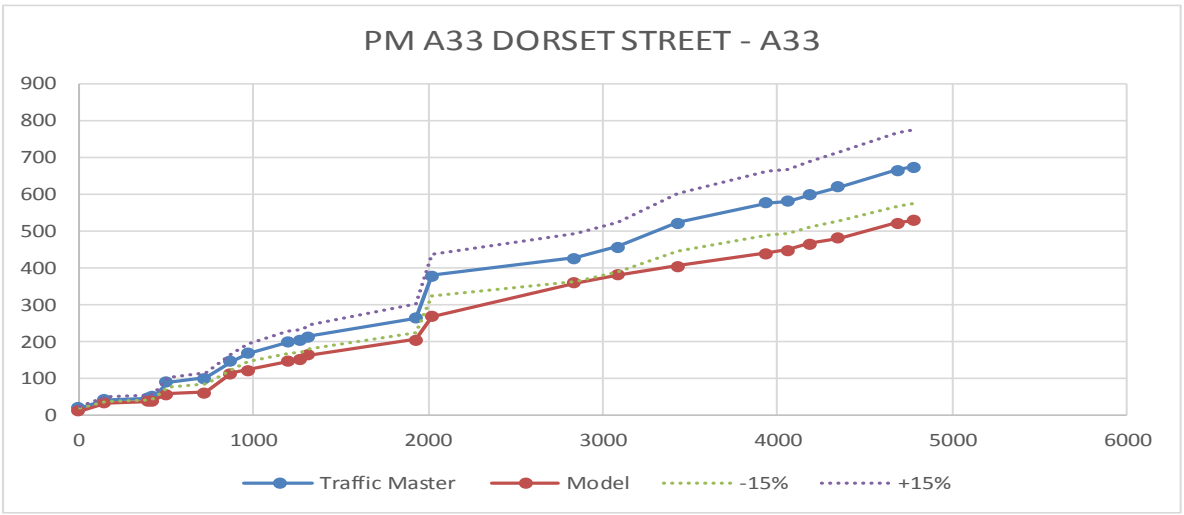
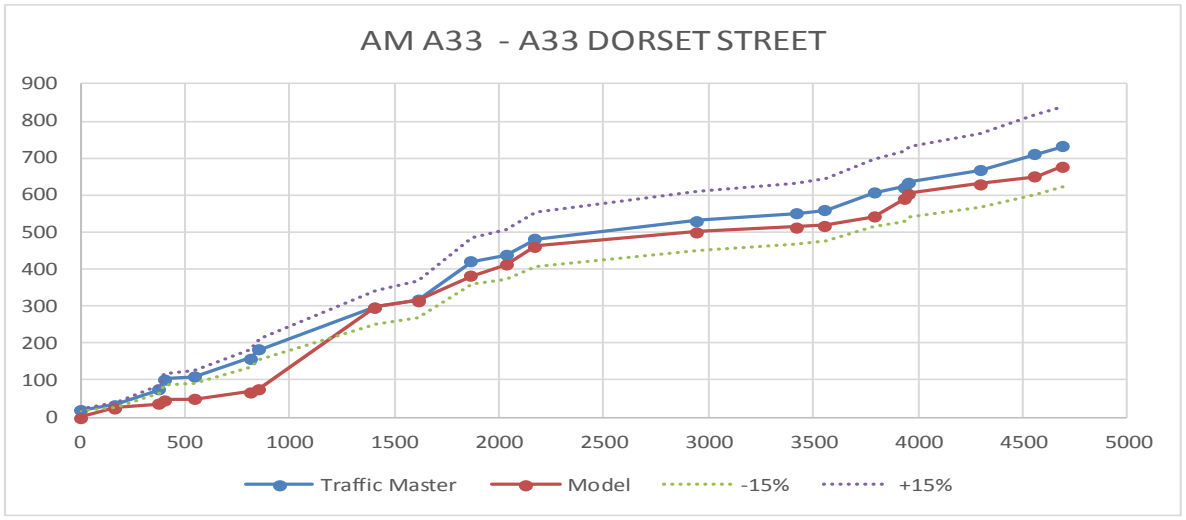
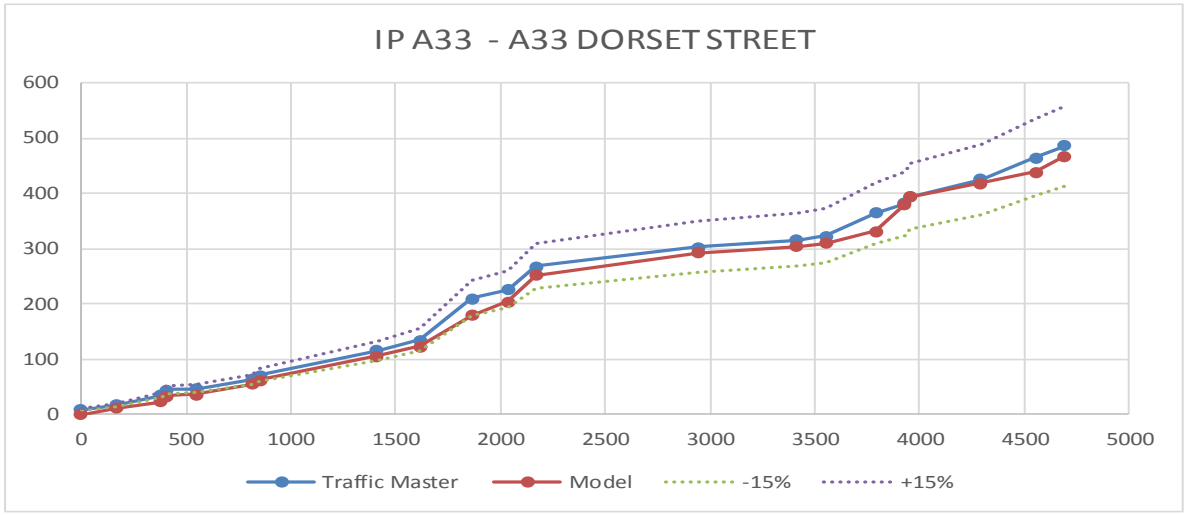


Figure 8. 4SB A33 - A33 DORSET STREET





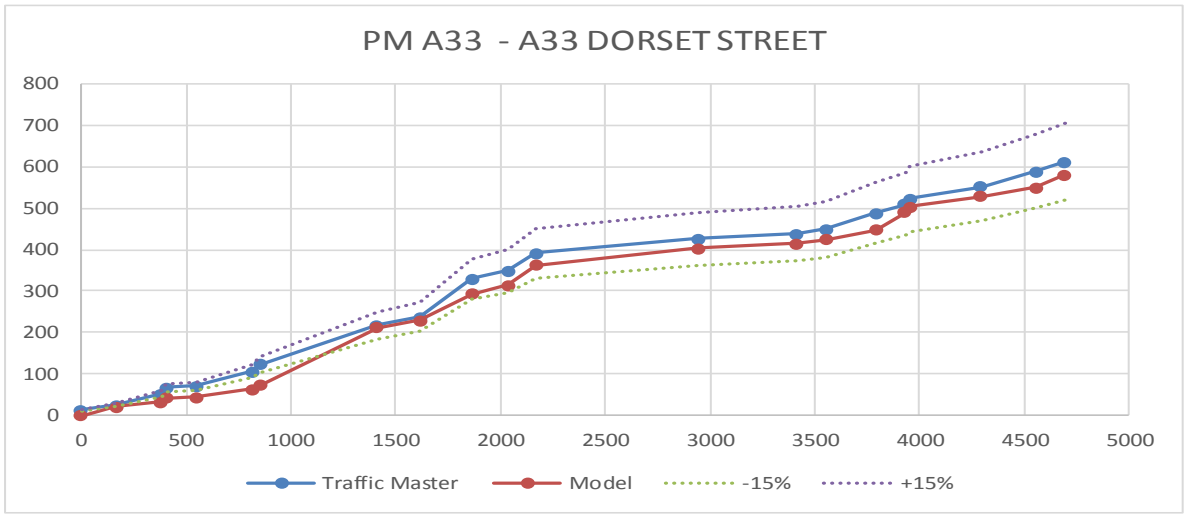
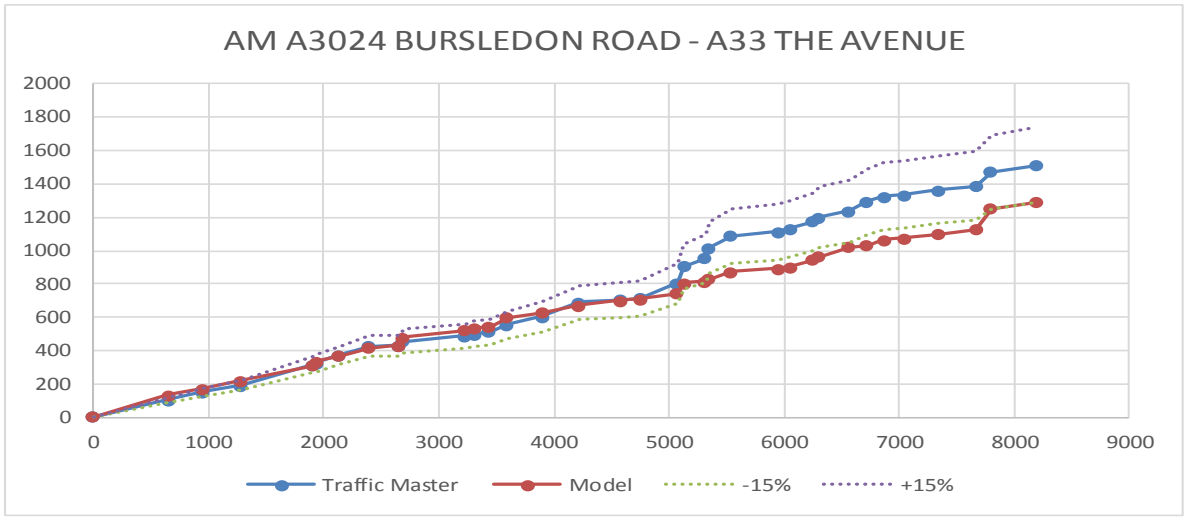
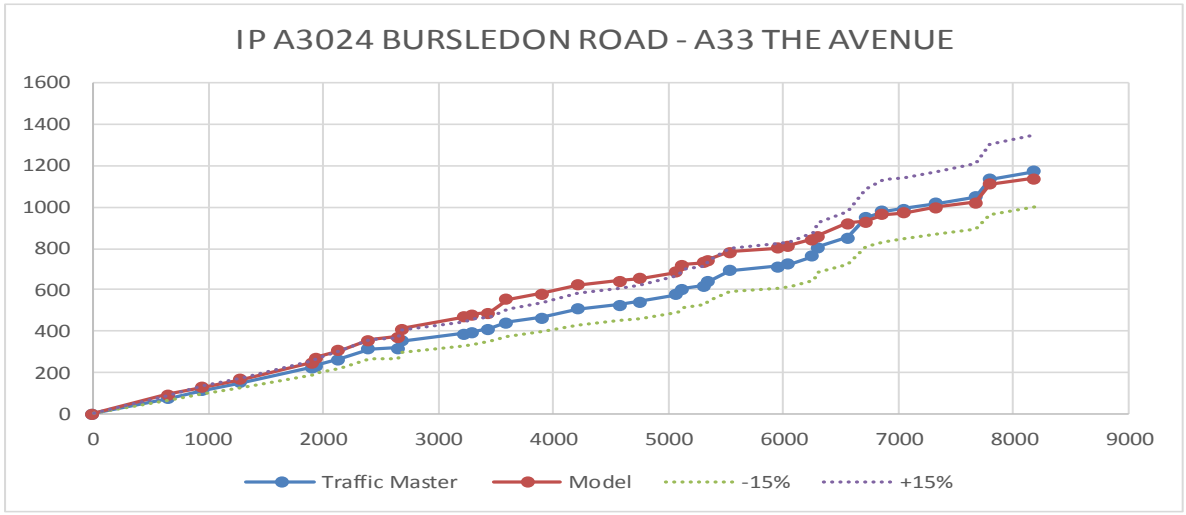


Figure 9. 5NB A3024 BURSLEDON ROAD - A33 THE AVENUE





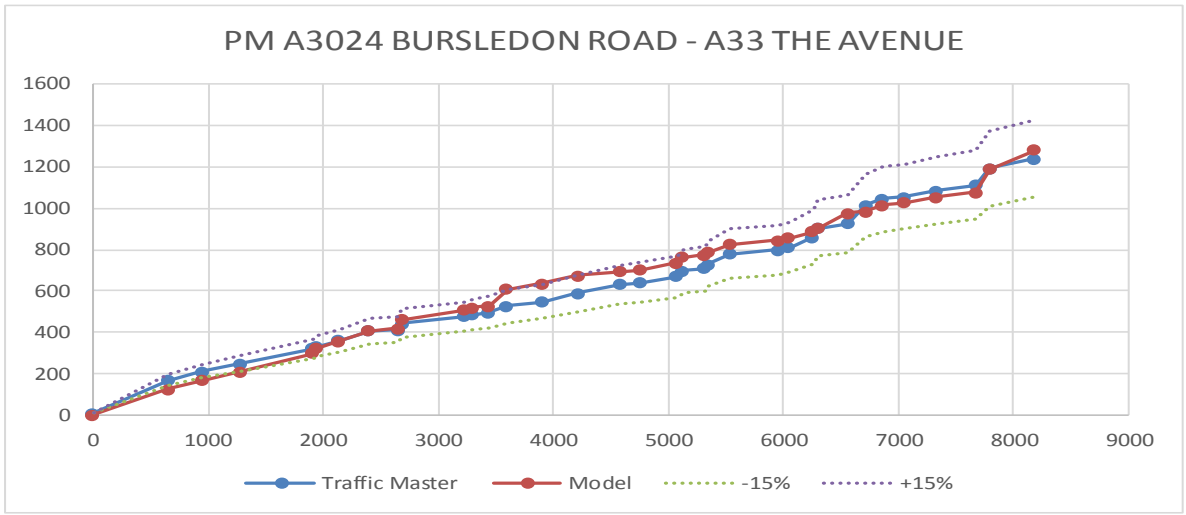
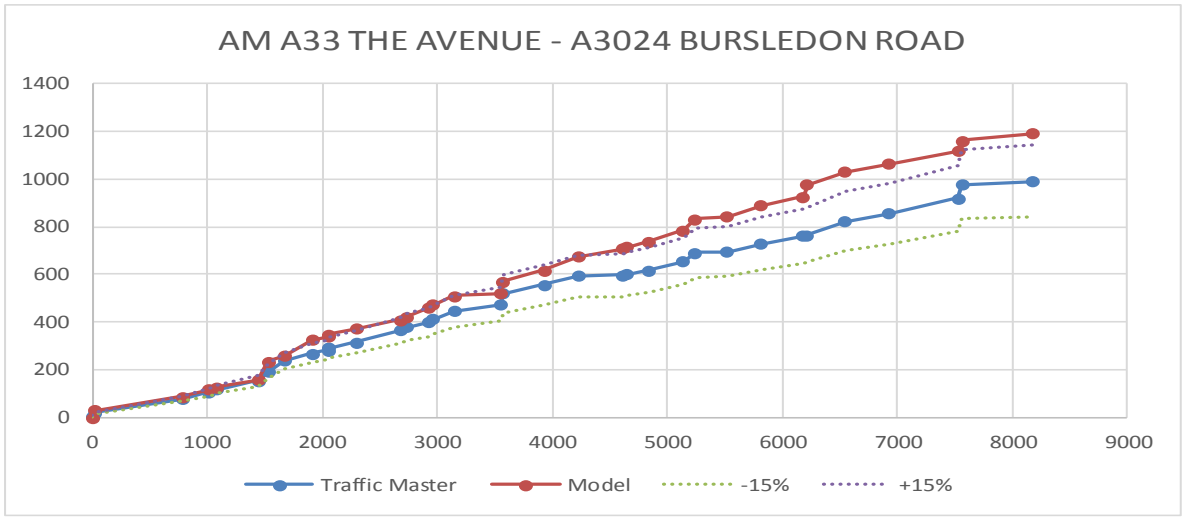
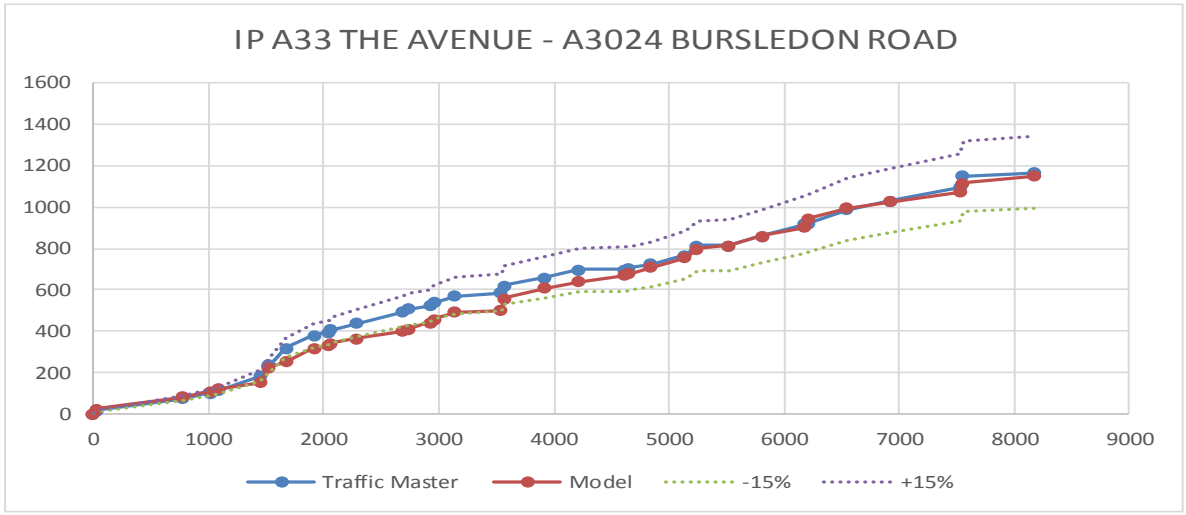


Figure 10. 5SB A33 THE AVENUE - A3024 BURSLEDON ROAD





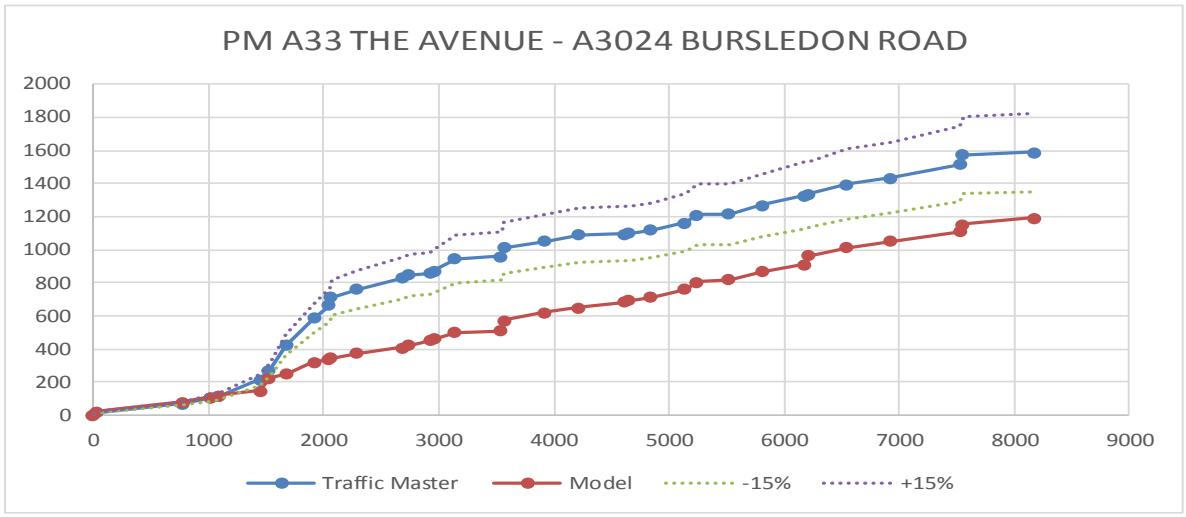
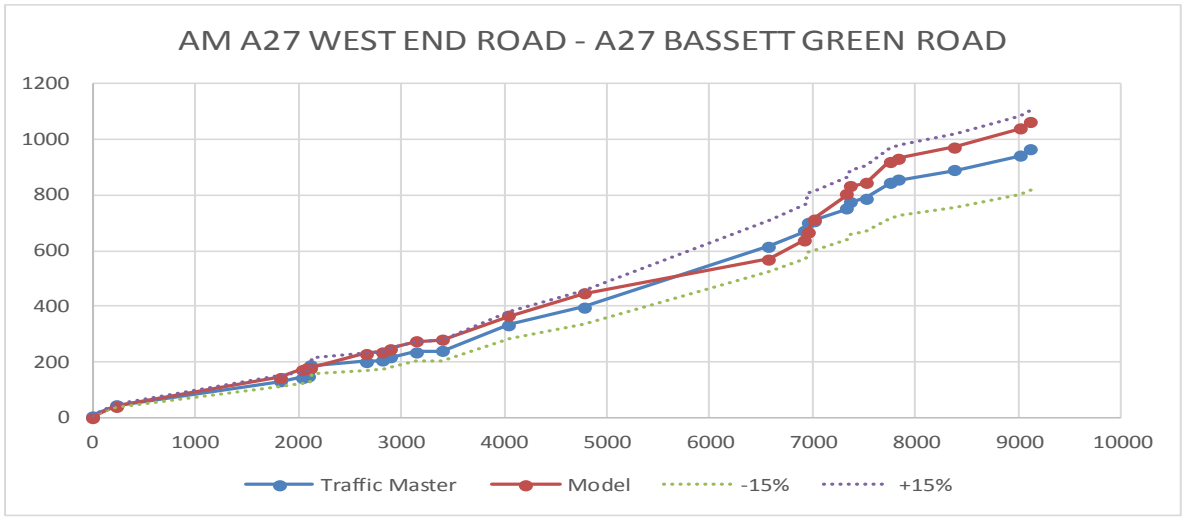
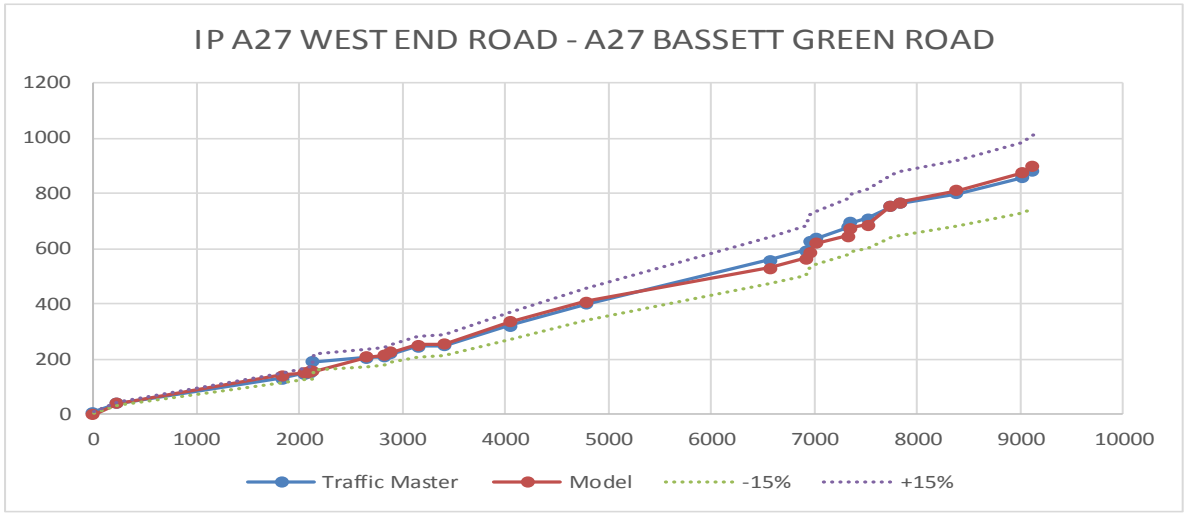


Figure 11. 6NB A27 WEST END ROAD - A27 BASSETT GREEN ROAD





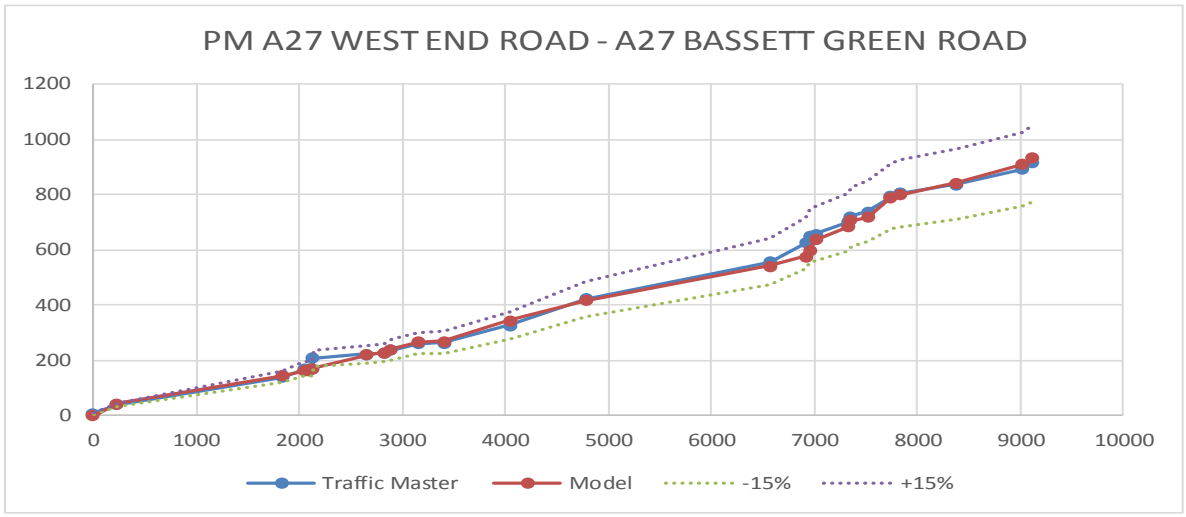
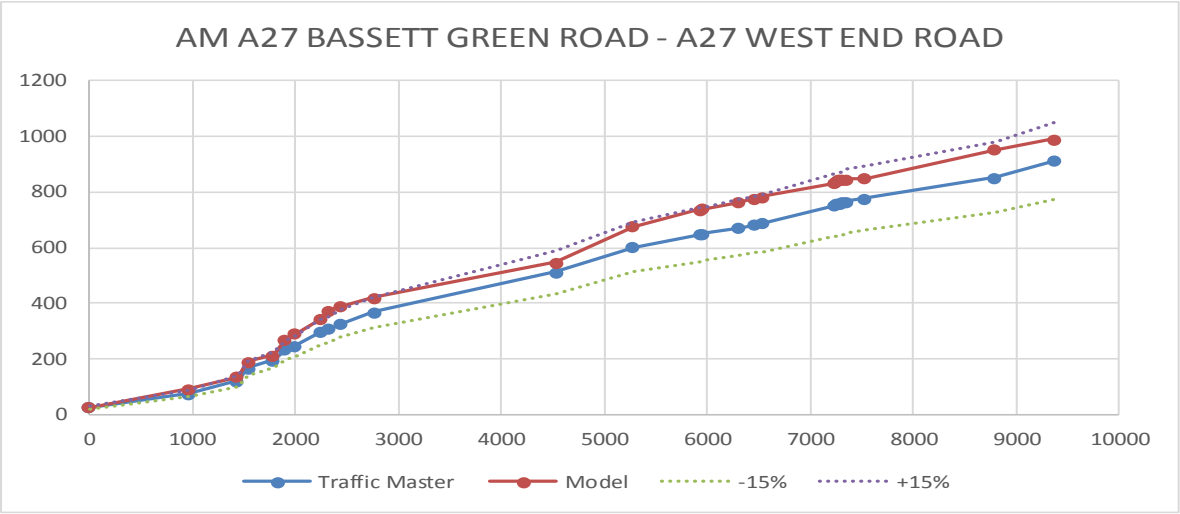
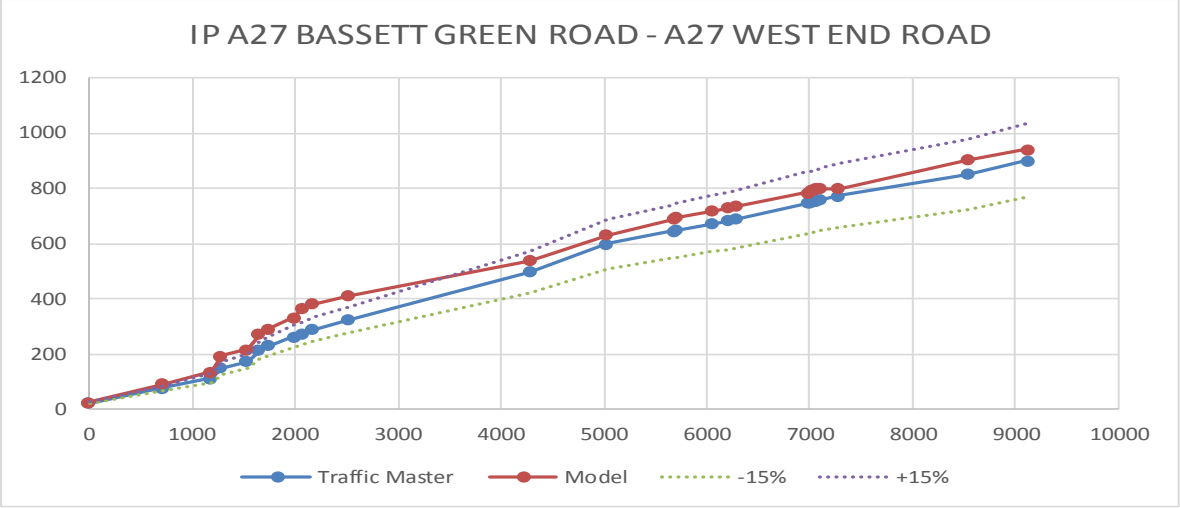


Figure 12. 6SB A27 BASSETT GREEN ROAD - A27 WEST END ROAD





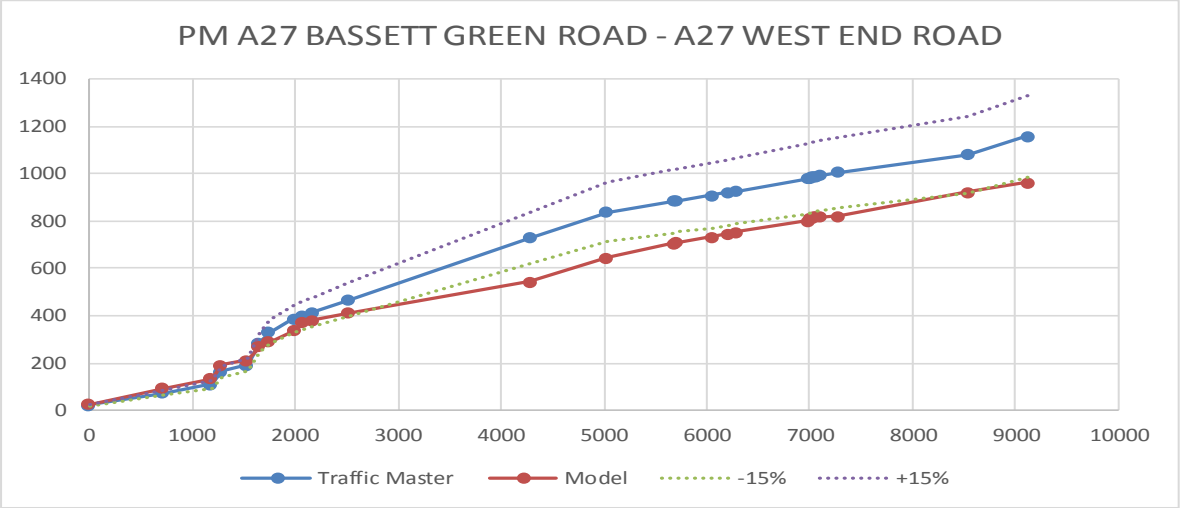
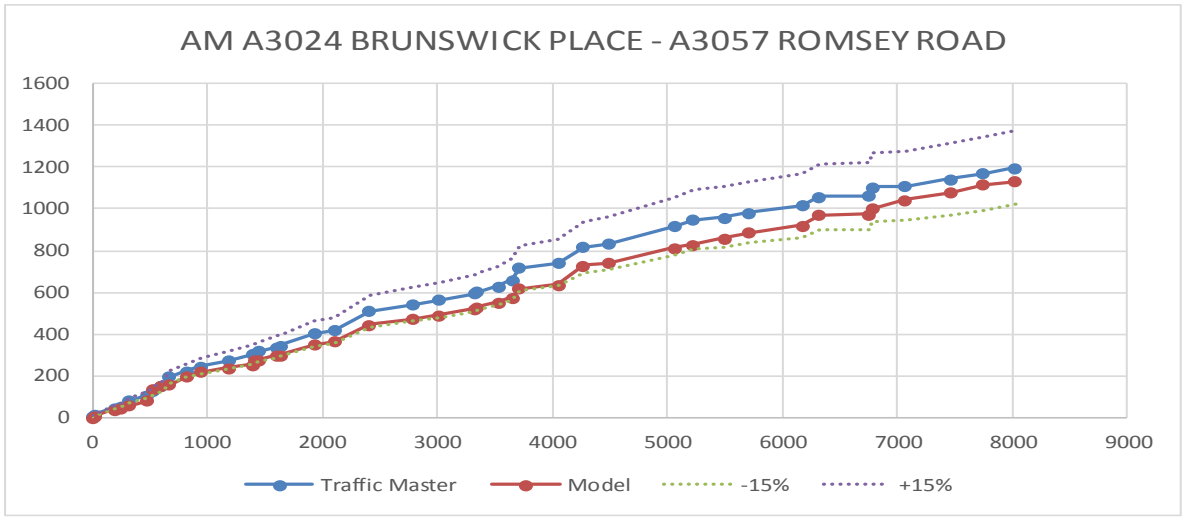
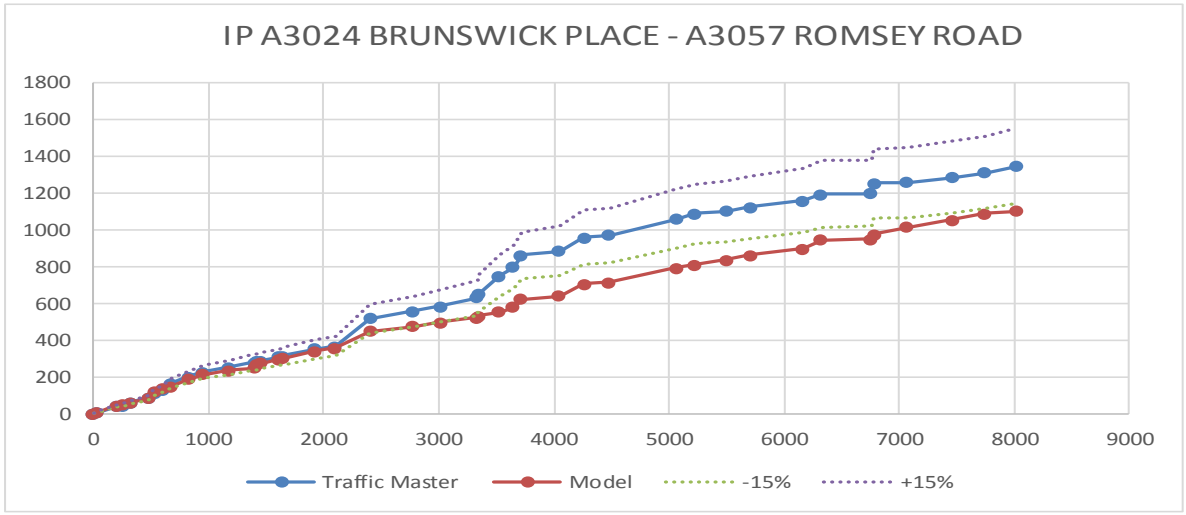


Figure 13. 7NB A3024 BRUNSWICK PLACE - A3057 ROMSEY ROAD





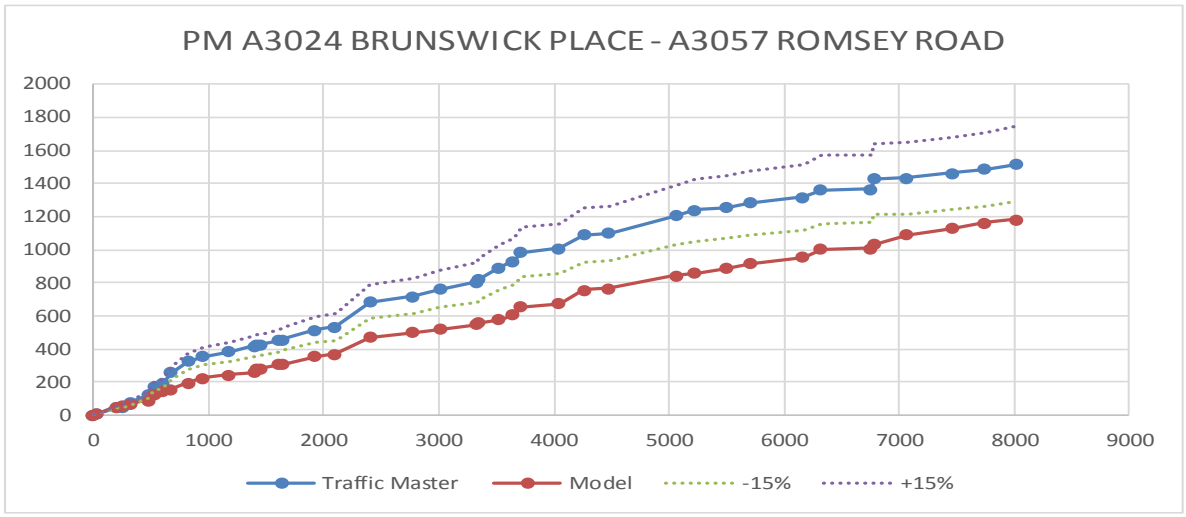
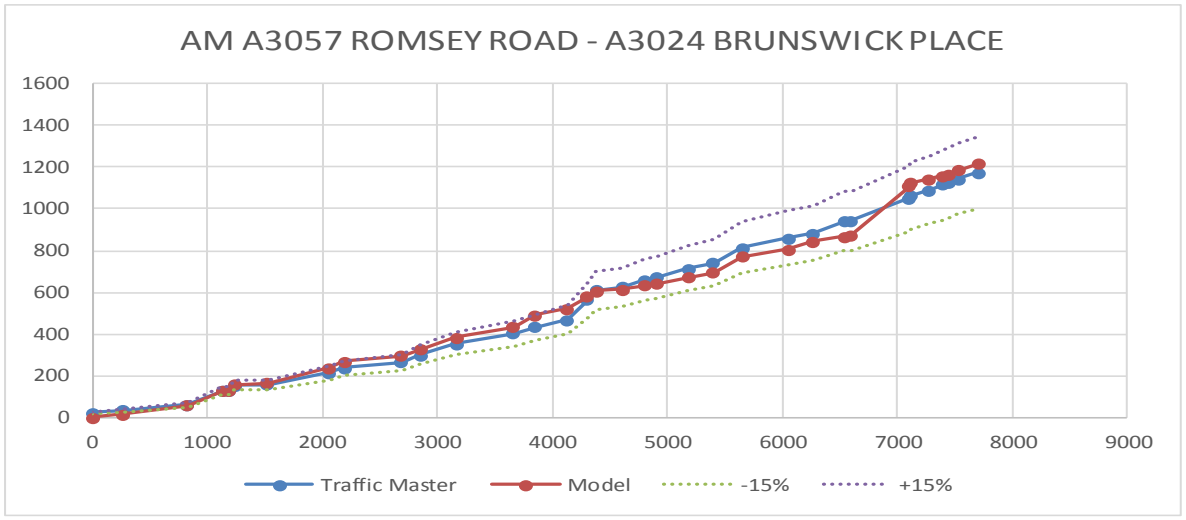
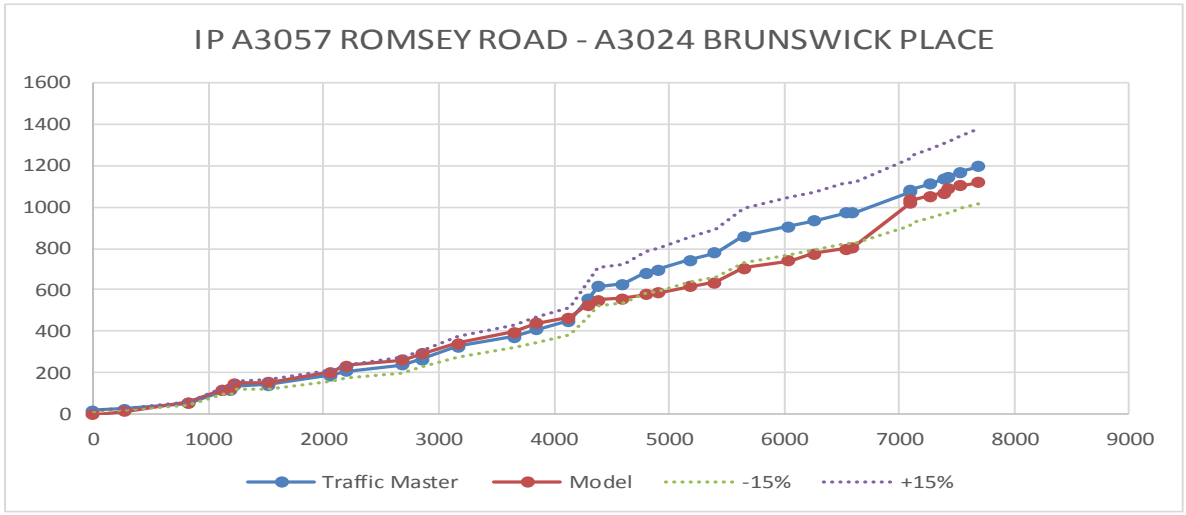


Figure 14. 7SB A3057 ROMSEY ROAD - A3024 BRUNSWICK PLACE





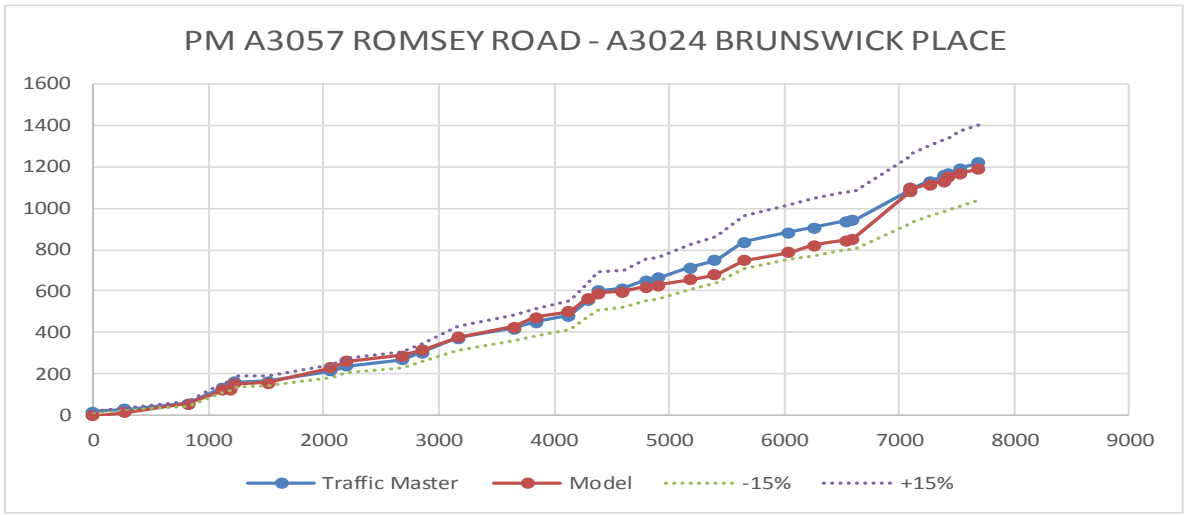
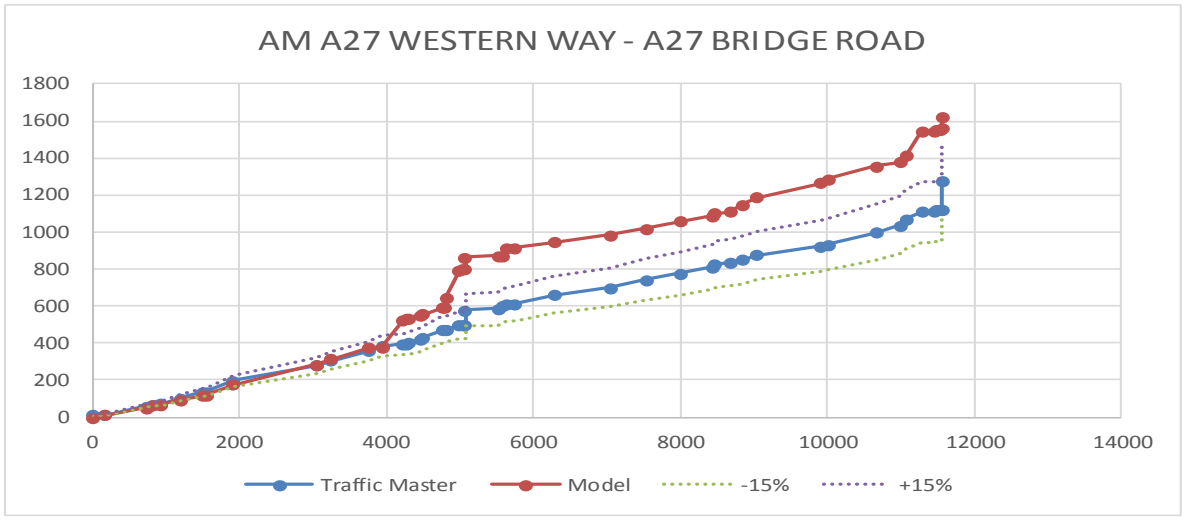
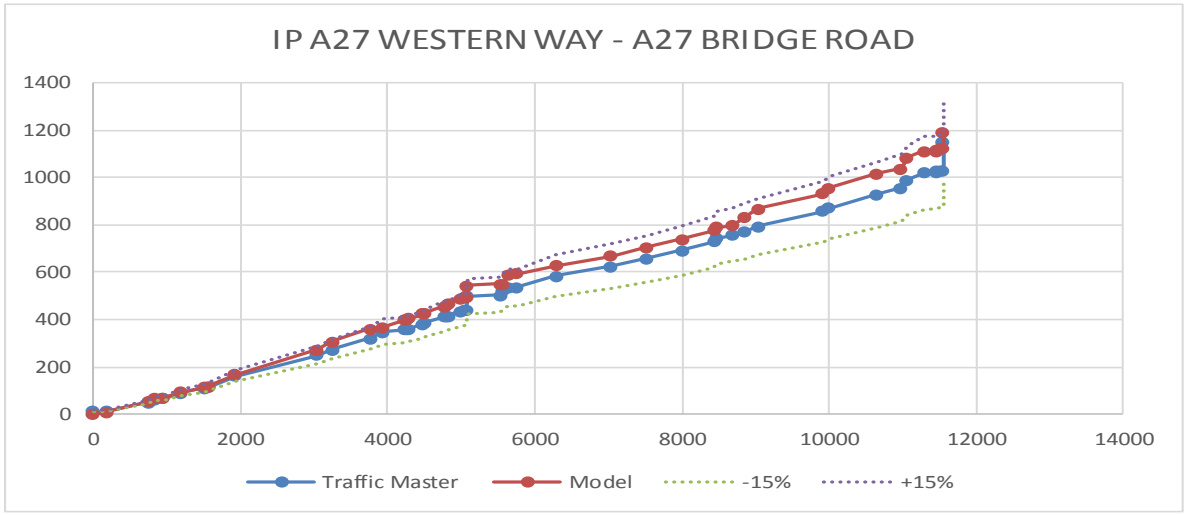


Figure 15. 8NB A27 WESTERN WAY - A27 BRIDGE ROAD





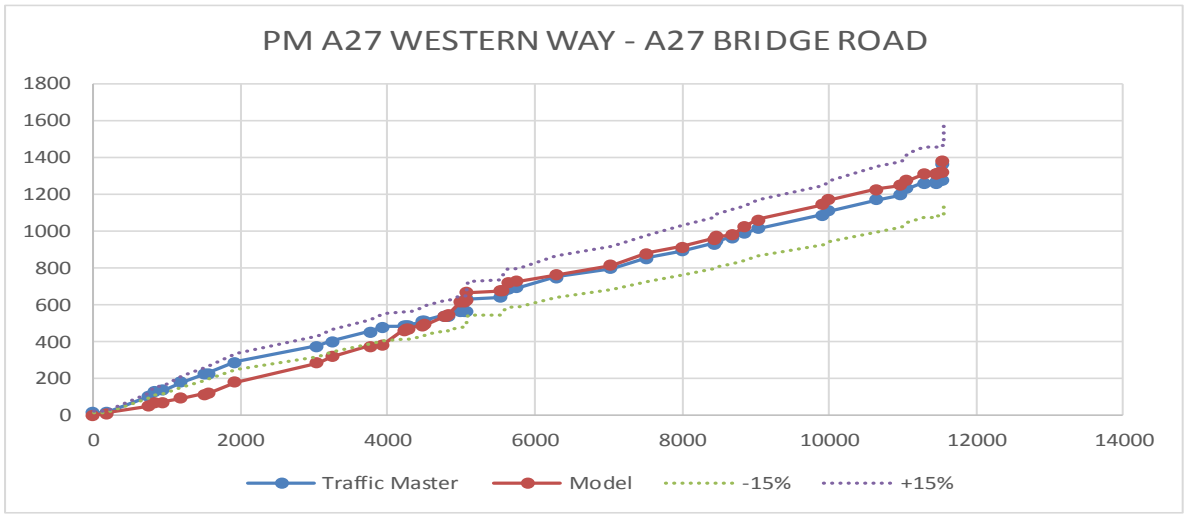
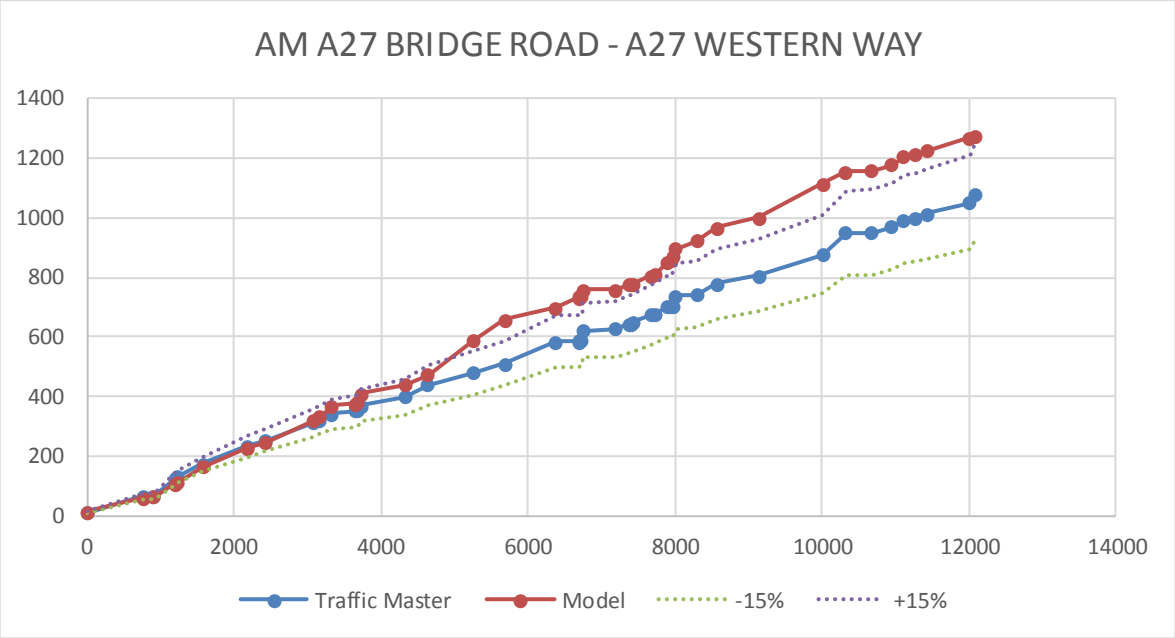
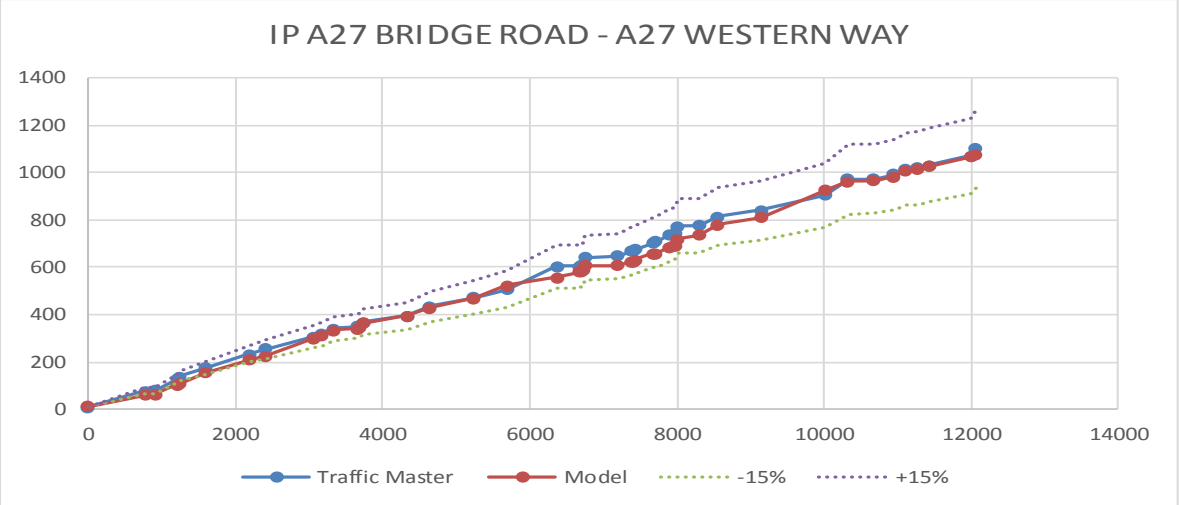


Figure 16. 8SB A27 BRIDGE ROAD - A27 WESTERN WAY





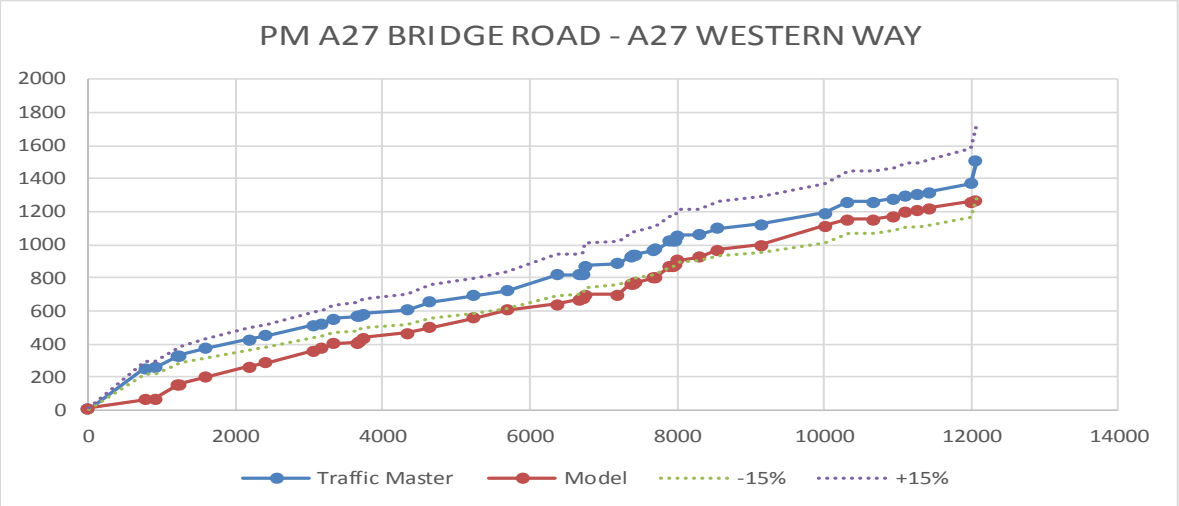
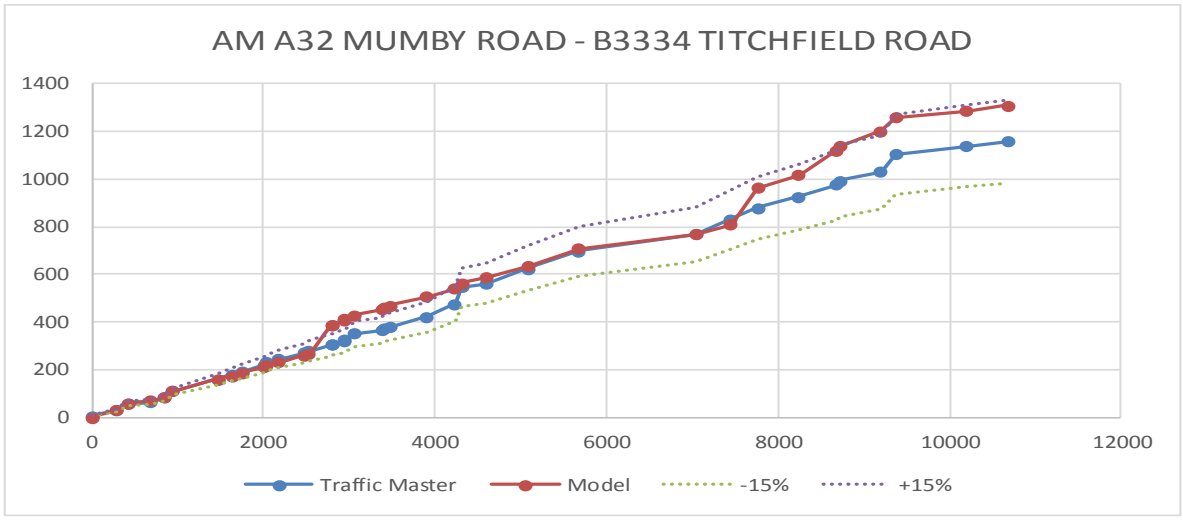
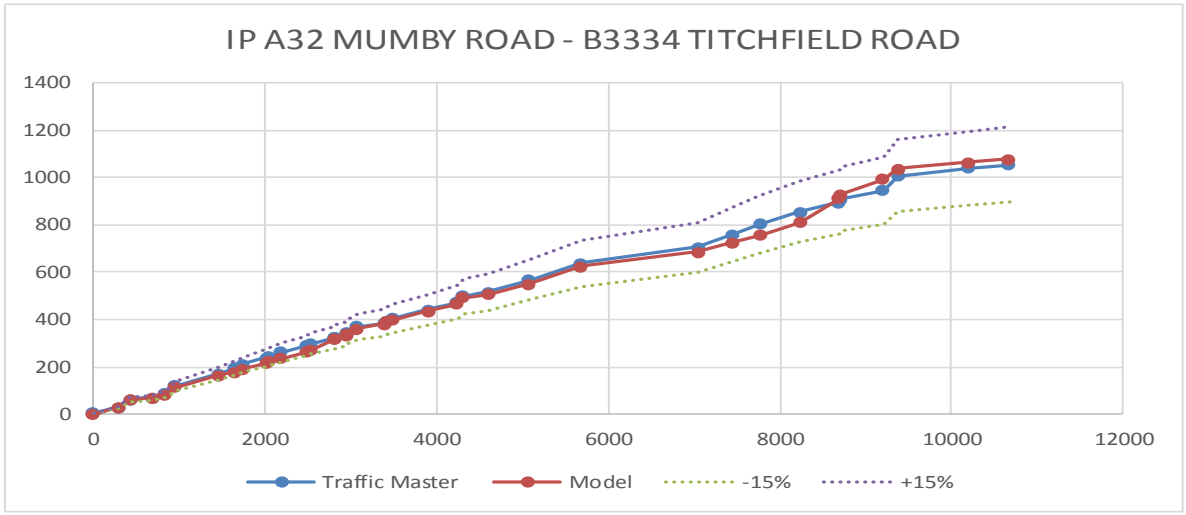


Figure 17. 9NB A32 MUMBY ROAD - B3334 TITCHFIELD ROAD





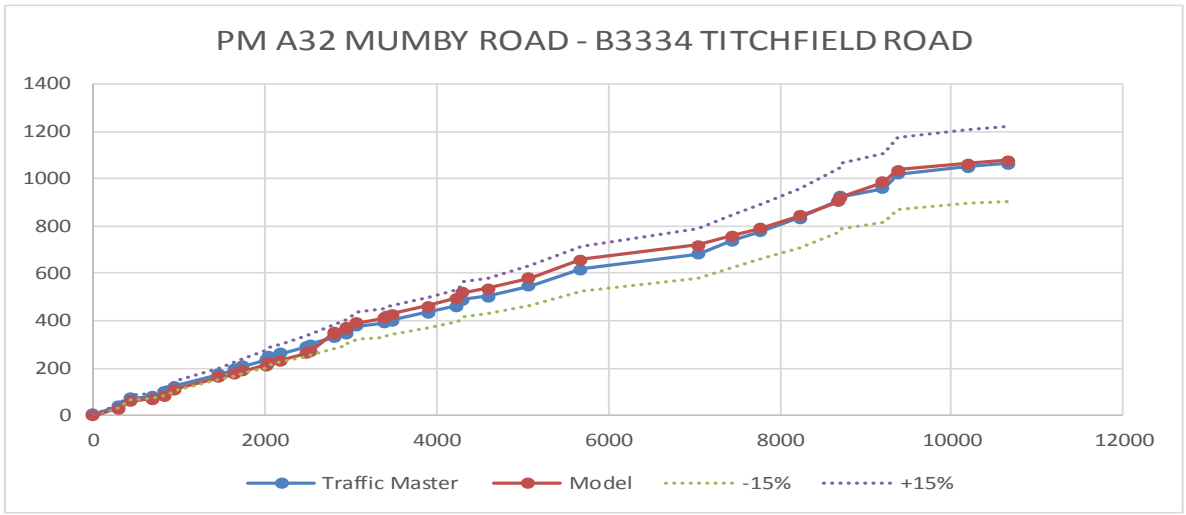
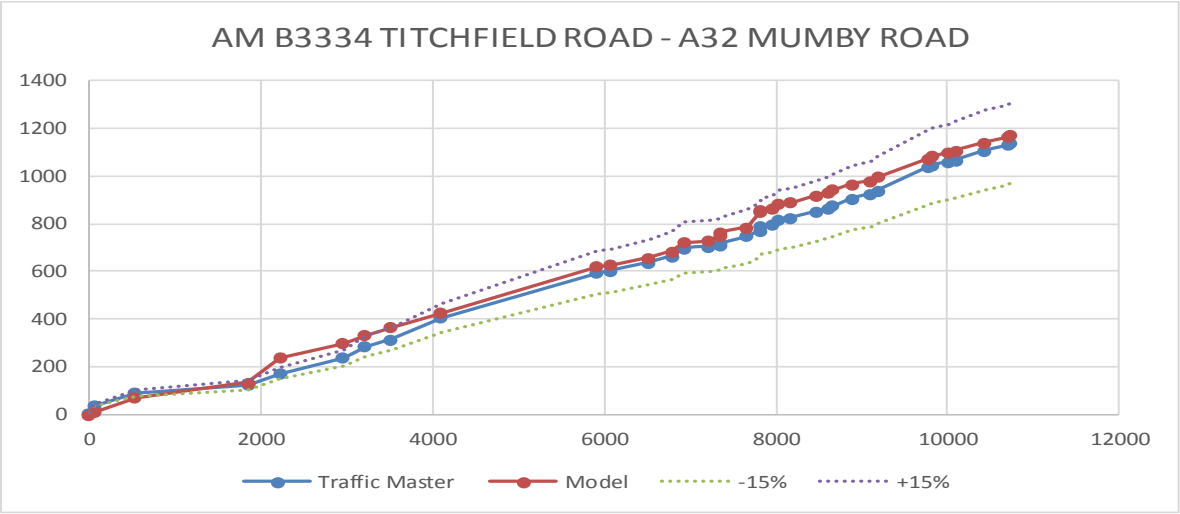
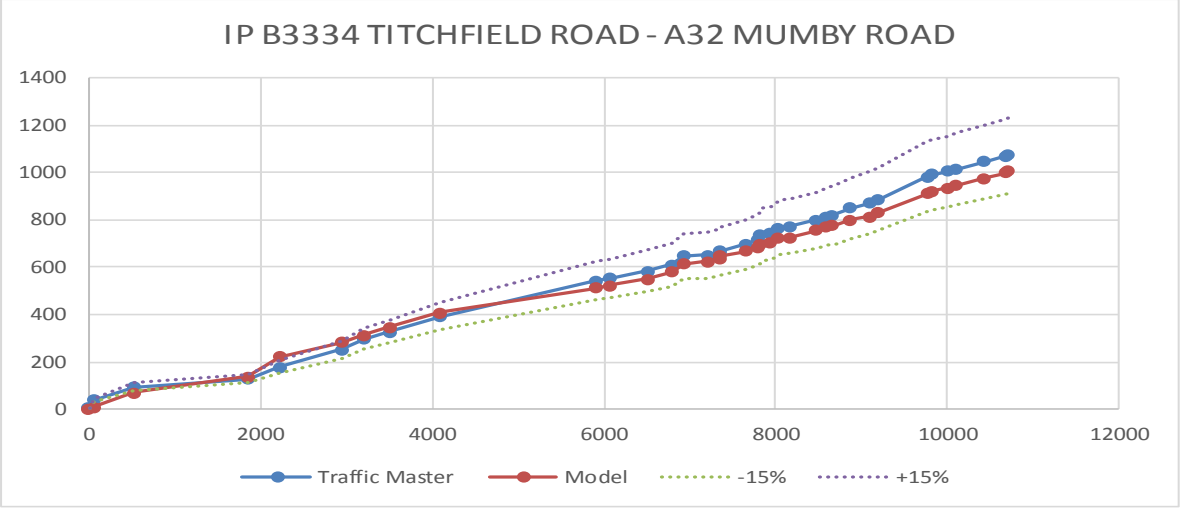


Figure 18. 9SB B3334 TITCHFIELD ROAD - A32 MUMBY ROAD





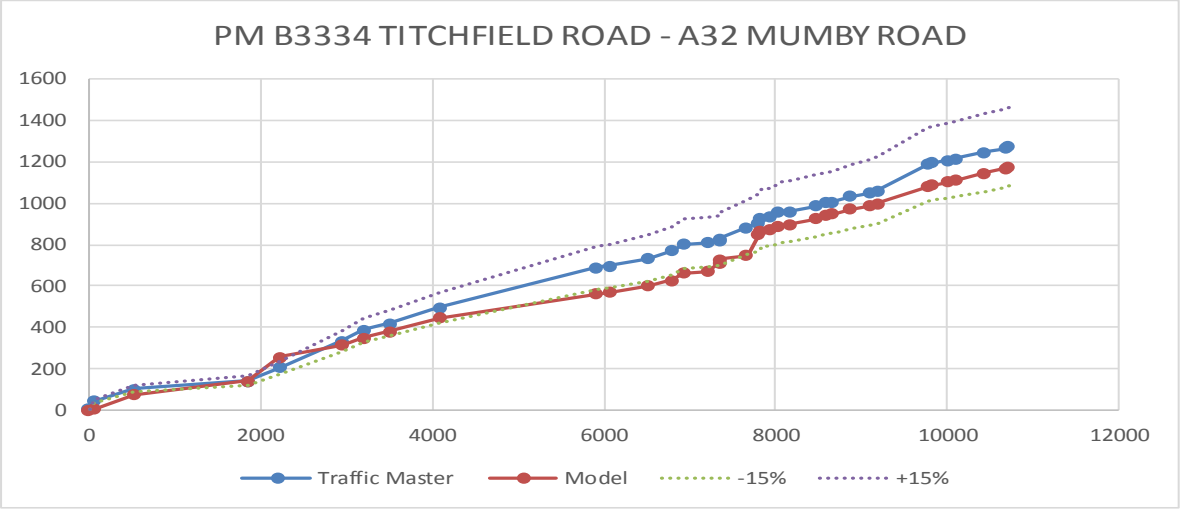
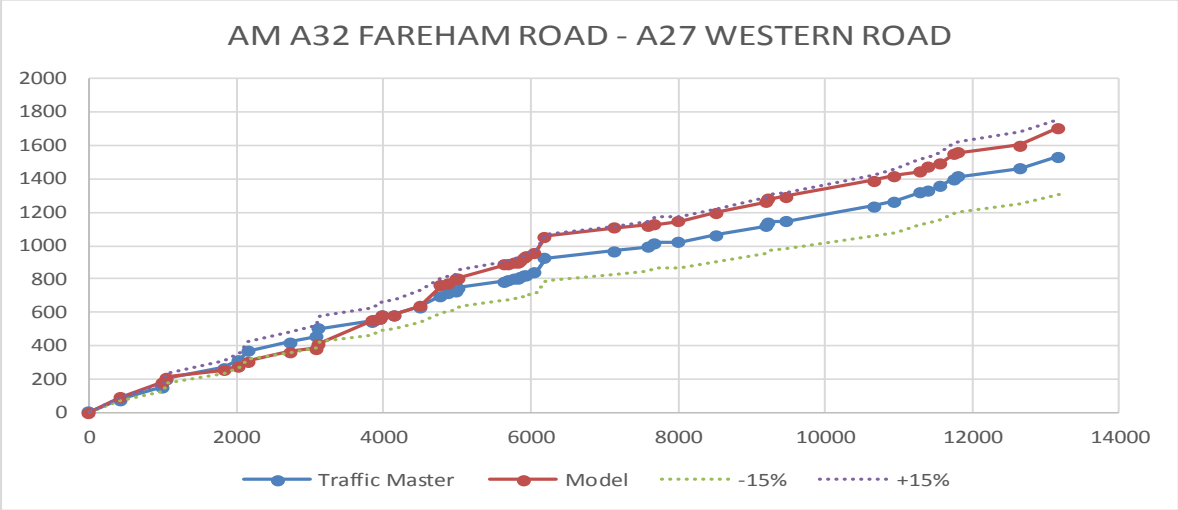
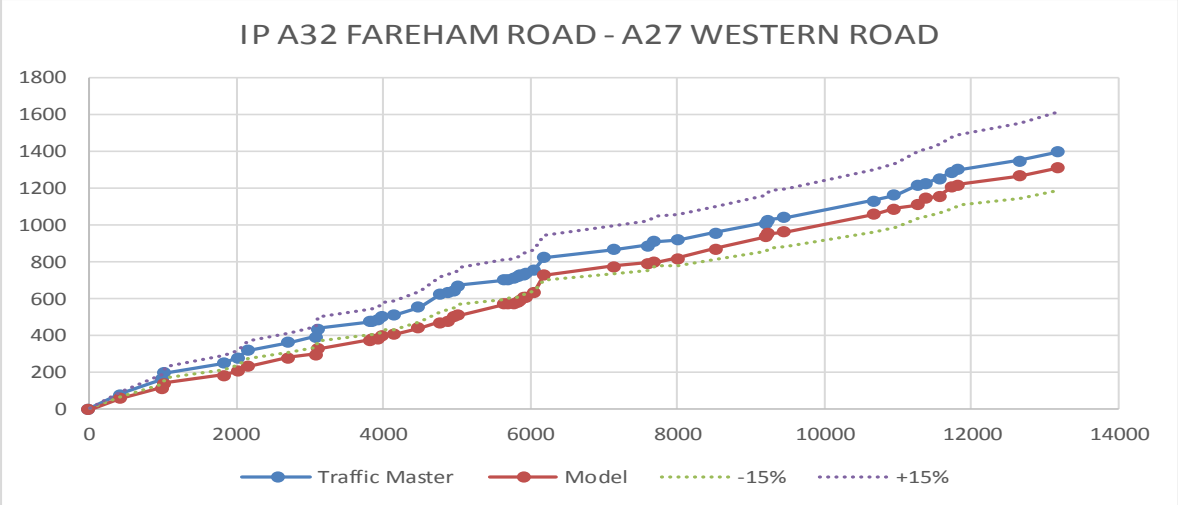


Figure 19. 10NB A32 FAREHAM ROAD - A27 WESTERN ROAD





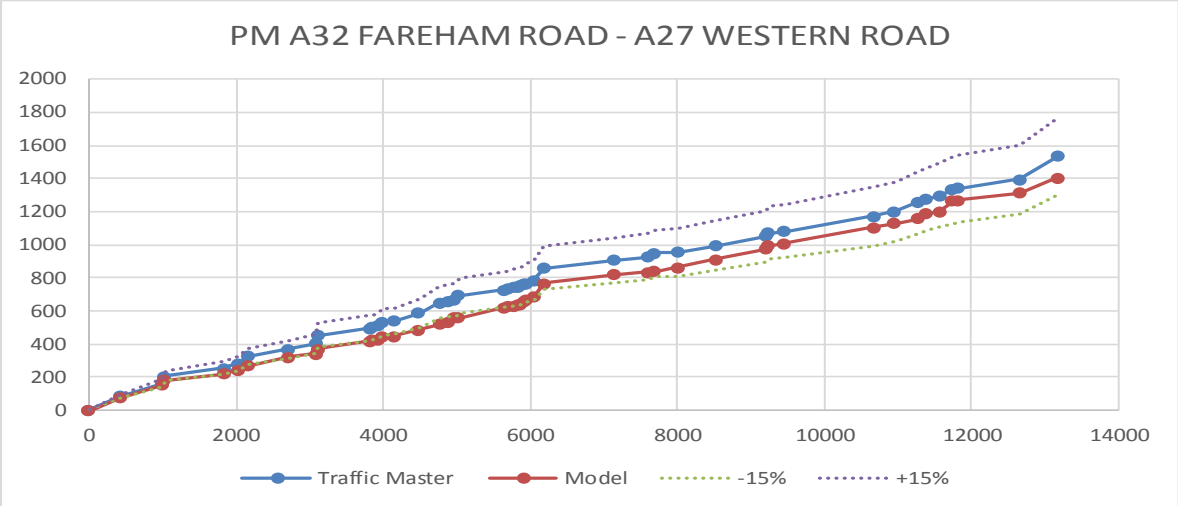
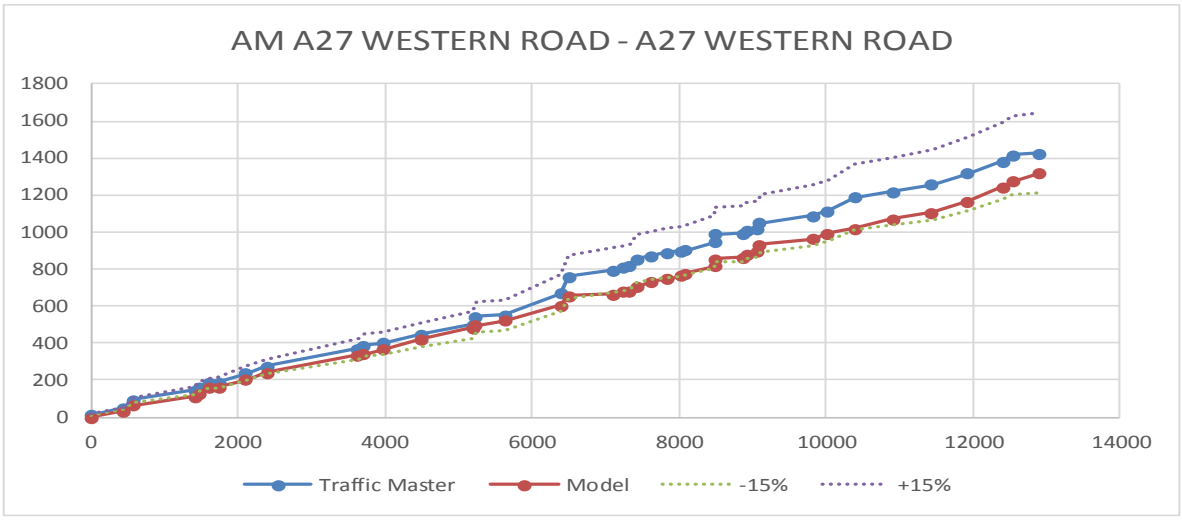
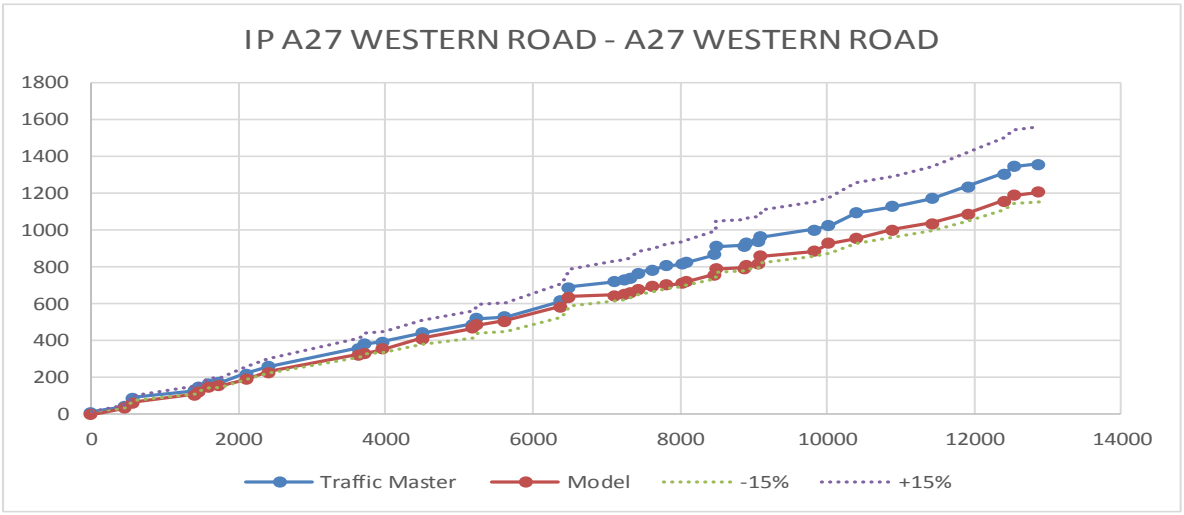


Figure 20. 10SB A27 WESTERN ROAD- A27 WESTERN ROAD





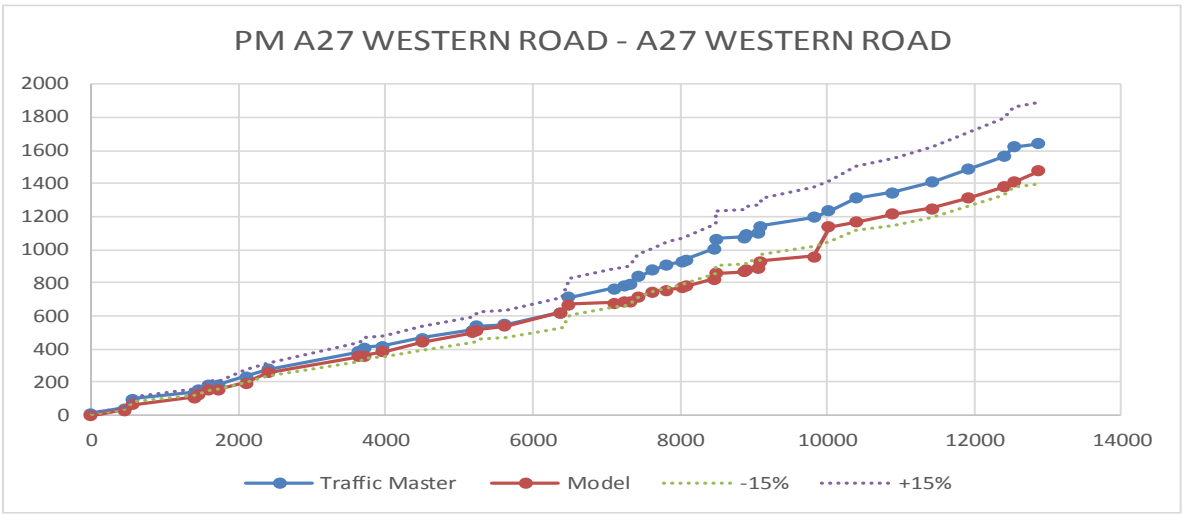
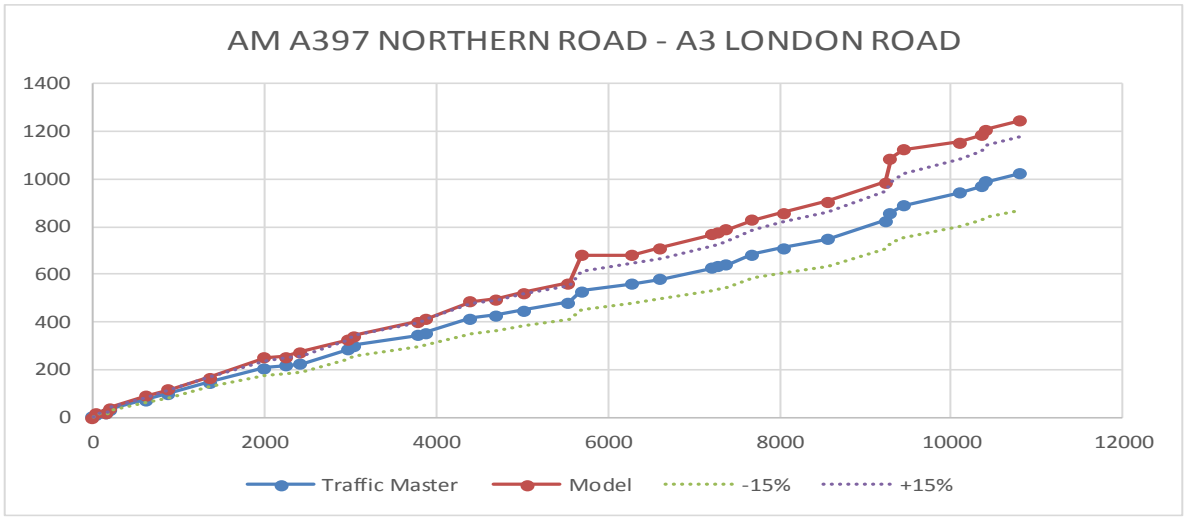
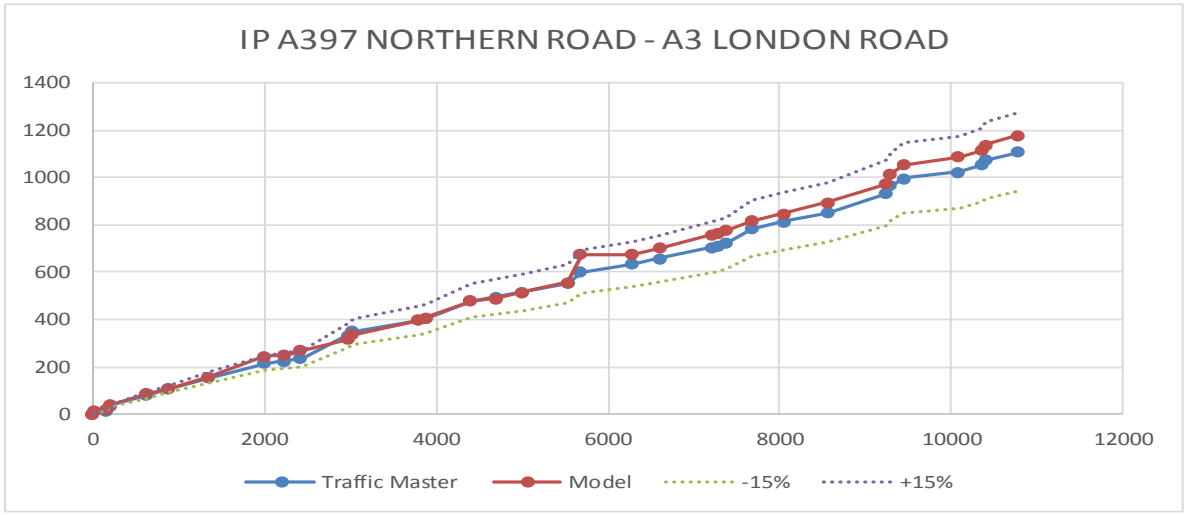


Figure 21. 11NB A397 NORTHERN ROAD- A3 LONDON ROAD





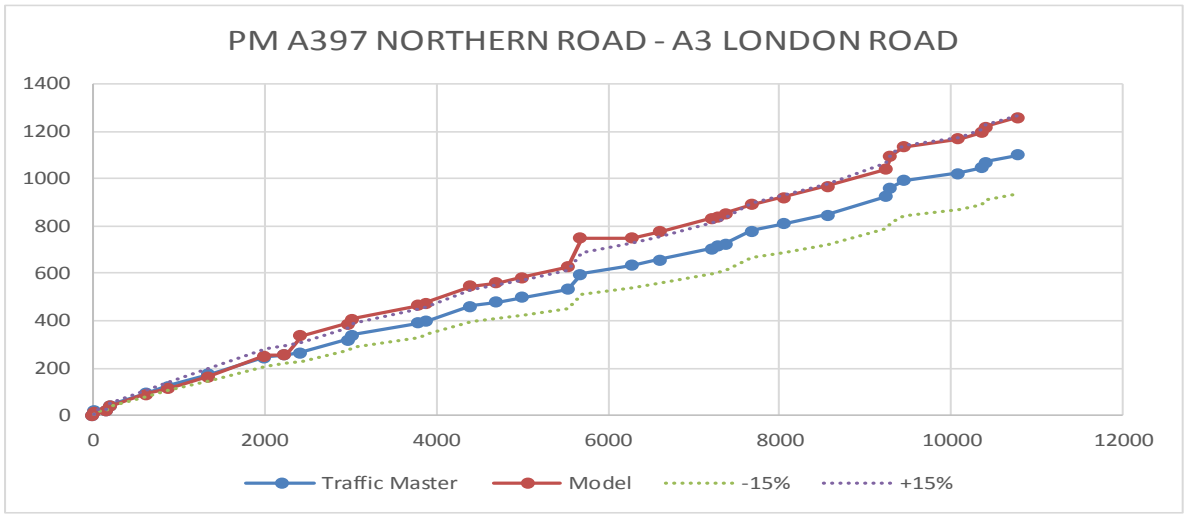
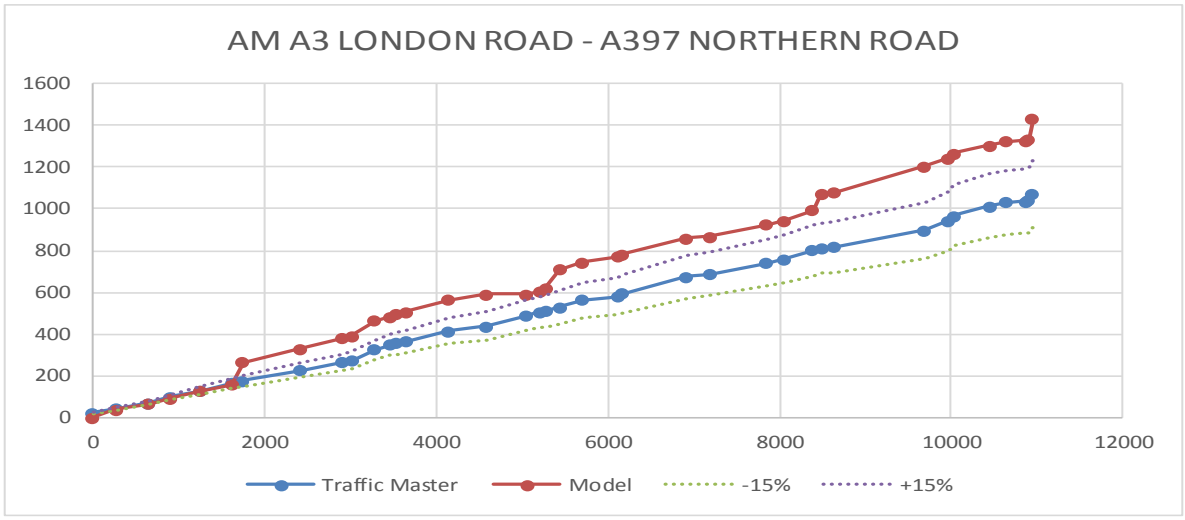
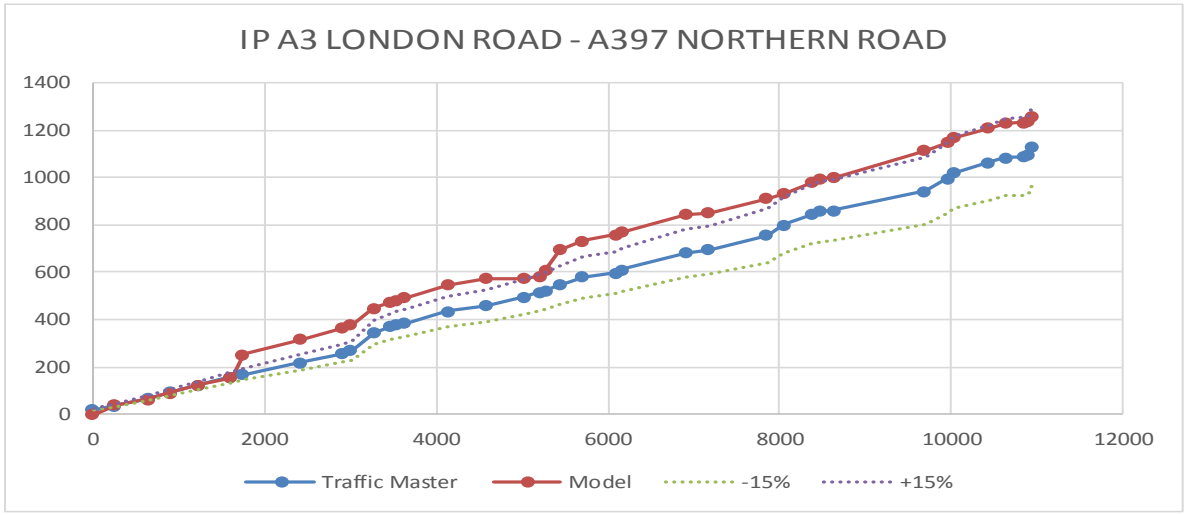


Figure 22. 11SB A3 LONDON ROAD- A397 NORTHERN ROAD





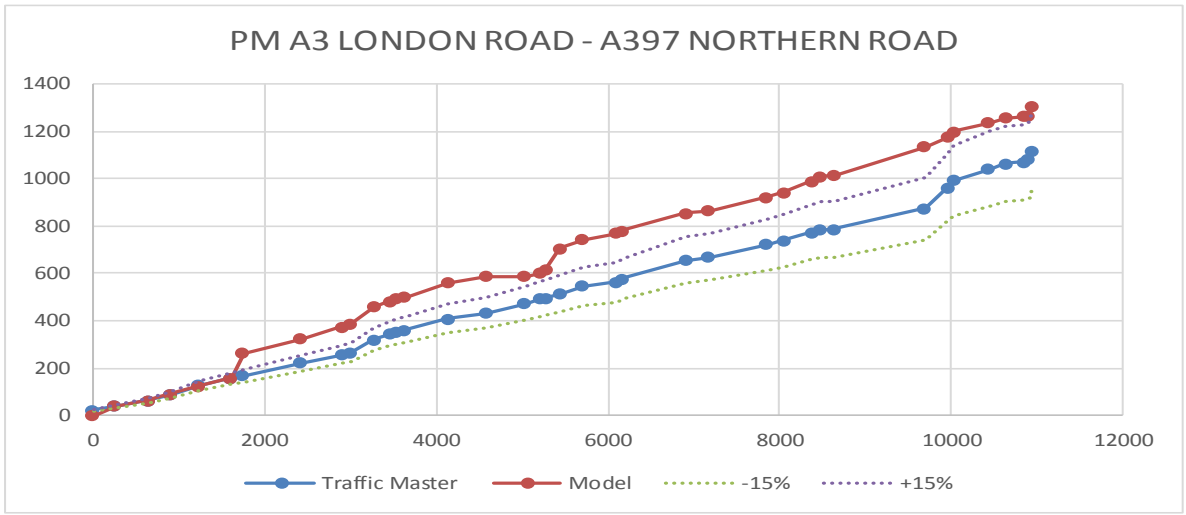
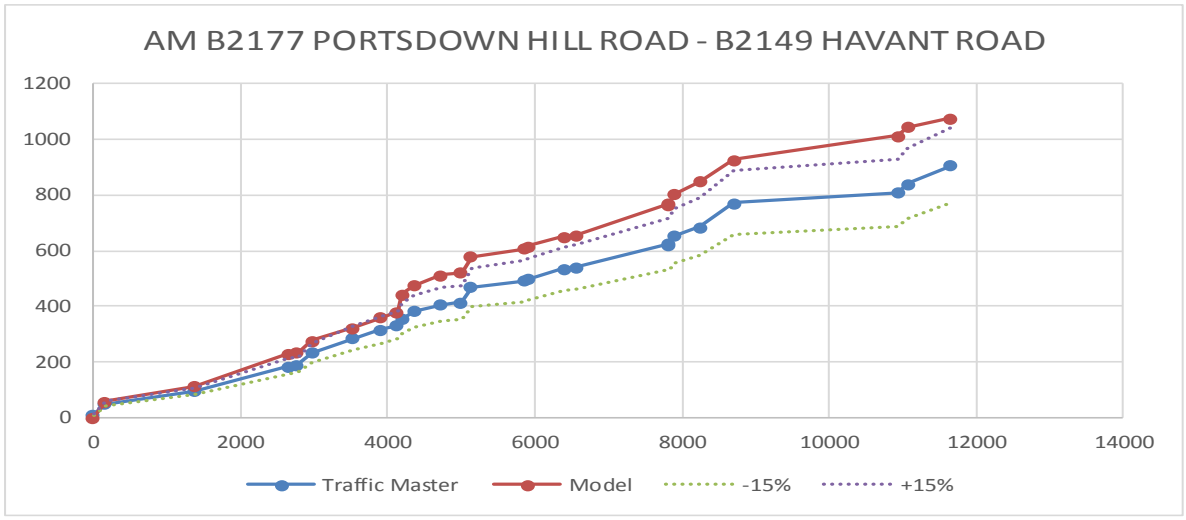
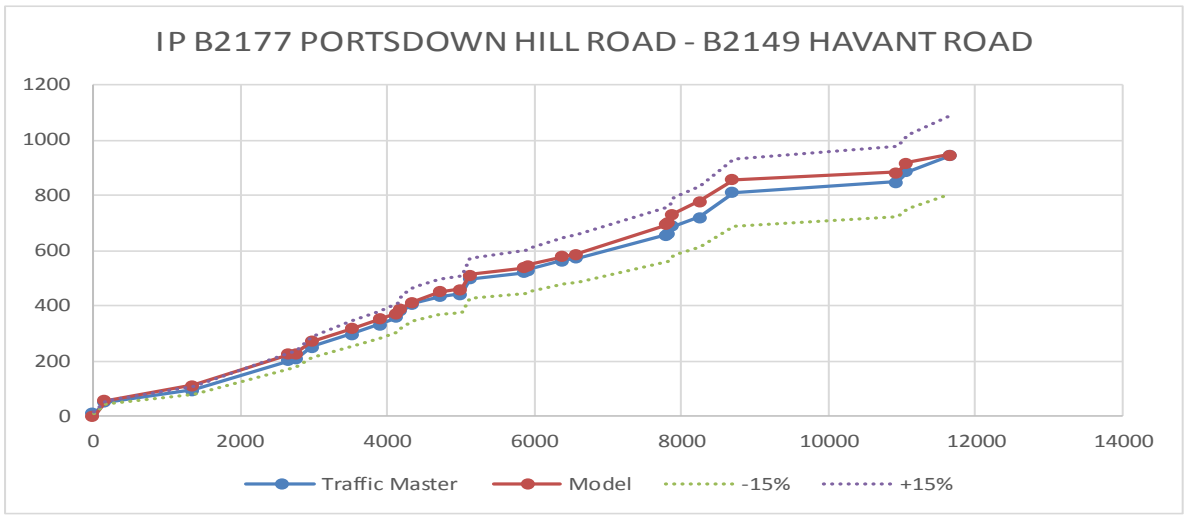


Figure 23. 12NB B2177 PORTSDOWN HILL ROAD – B2149 HAVANT ROAD





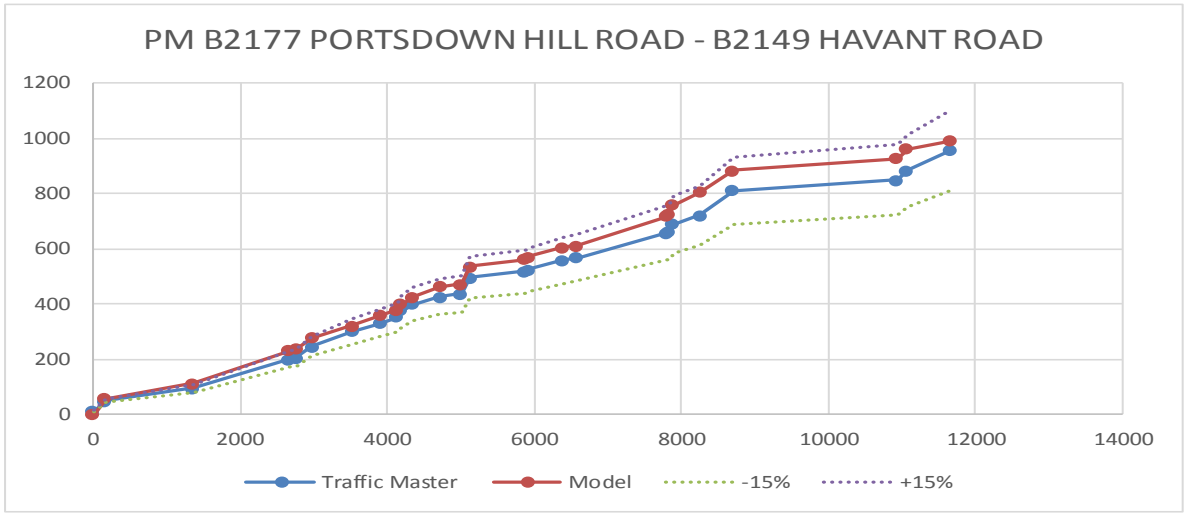
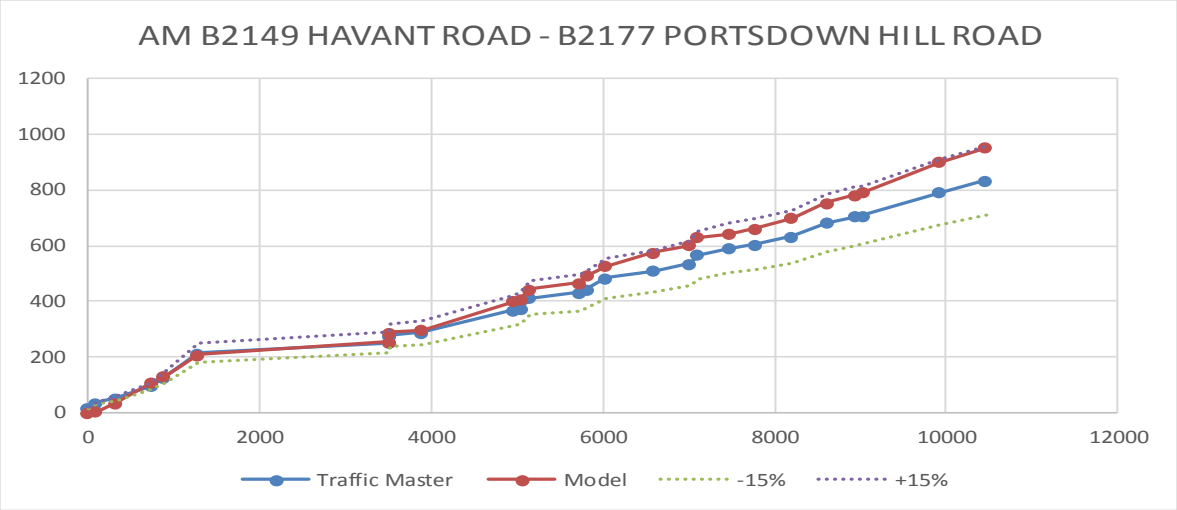
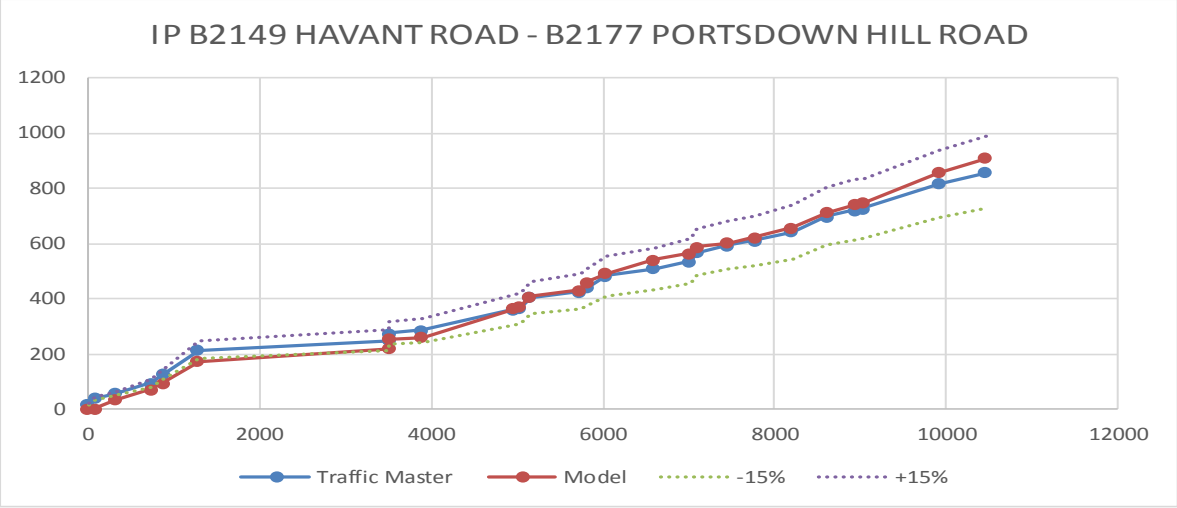


Figure 24. 12SB B2149 HAVANT ROAD – B2177 PORTSDOWN HILL ROAD





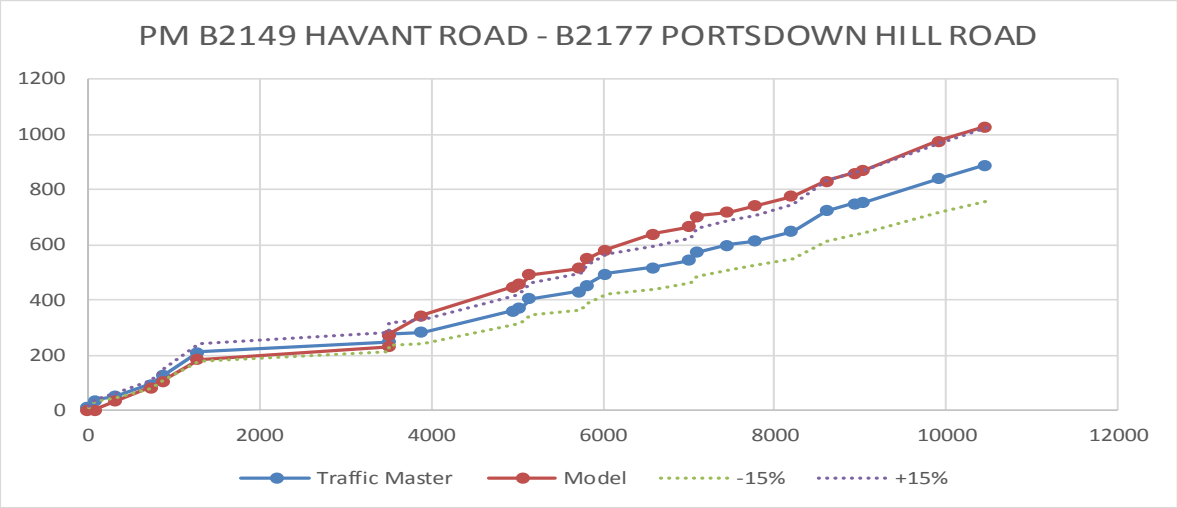
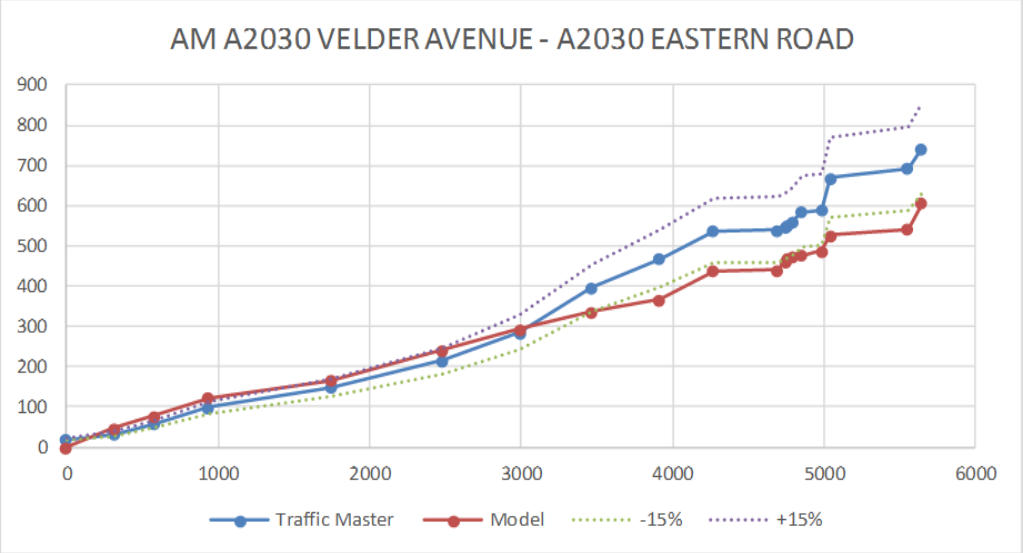
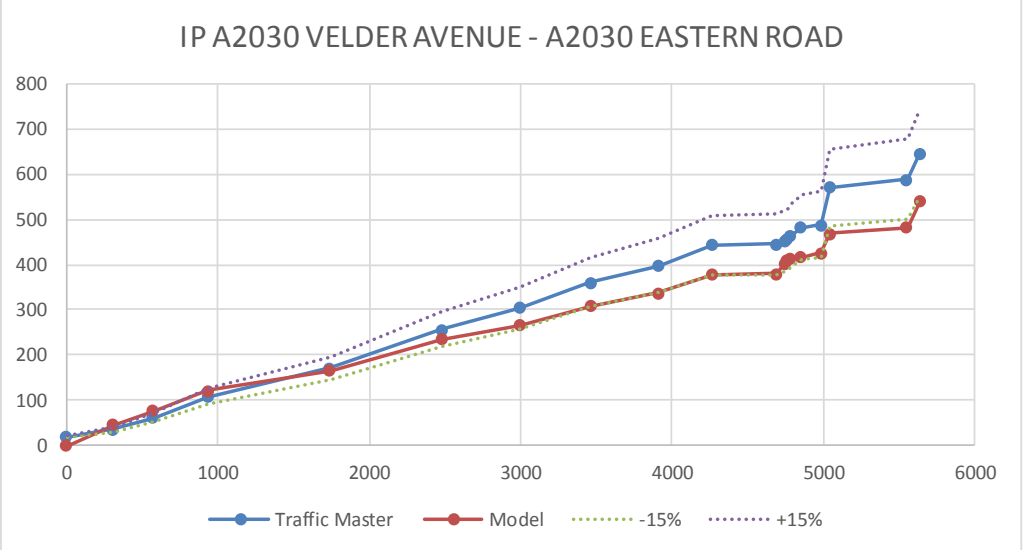


Figure 25. 13NB A2030 VELDER AVENUE- A2030 EASTERN ROAD





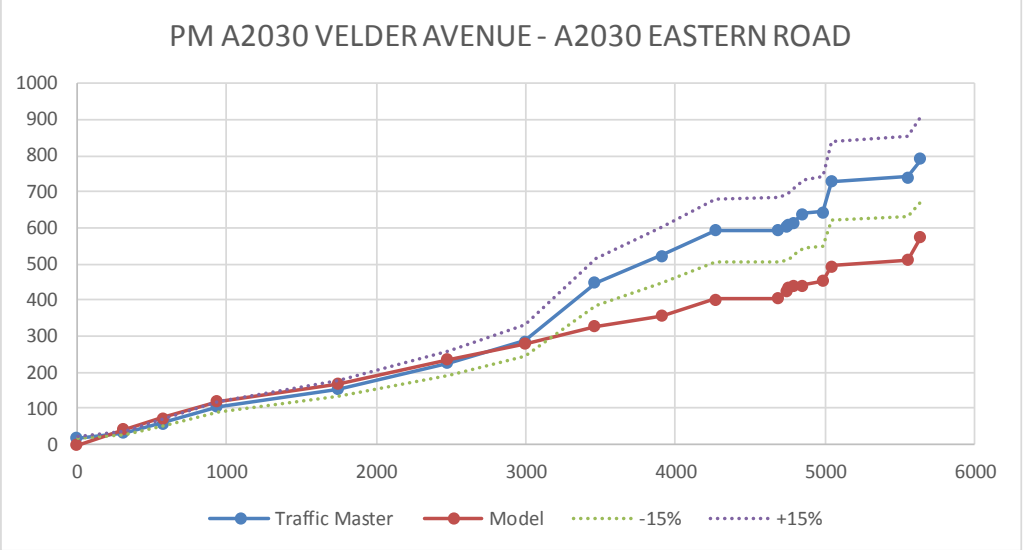
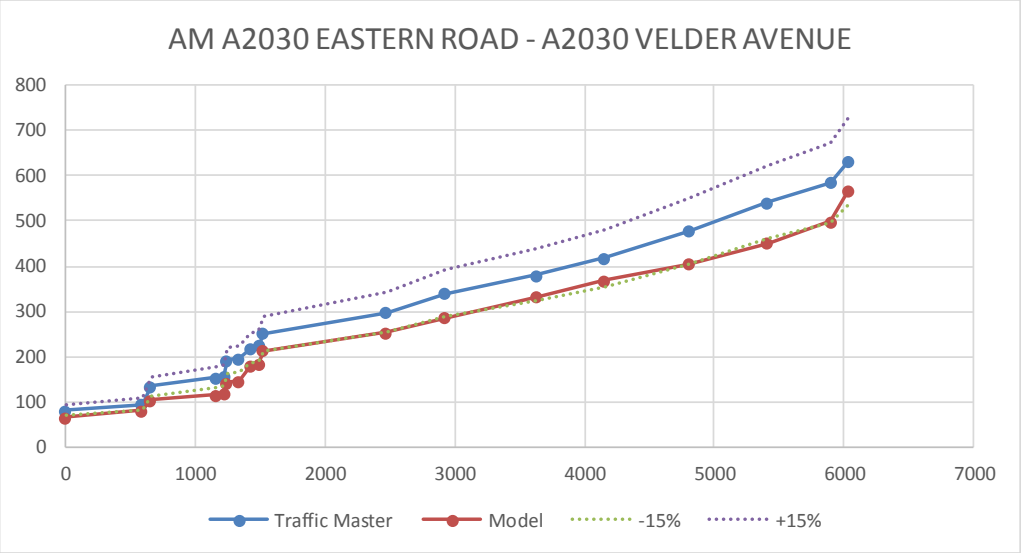
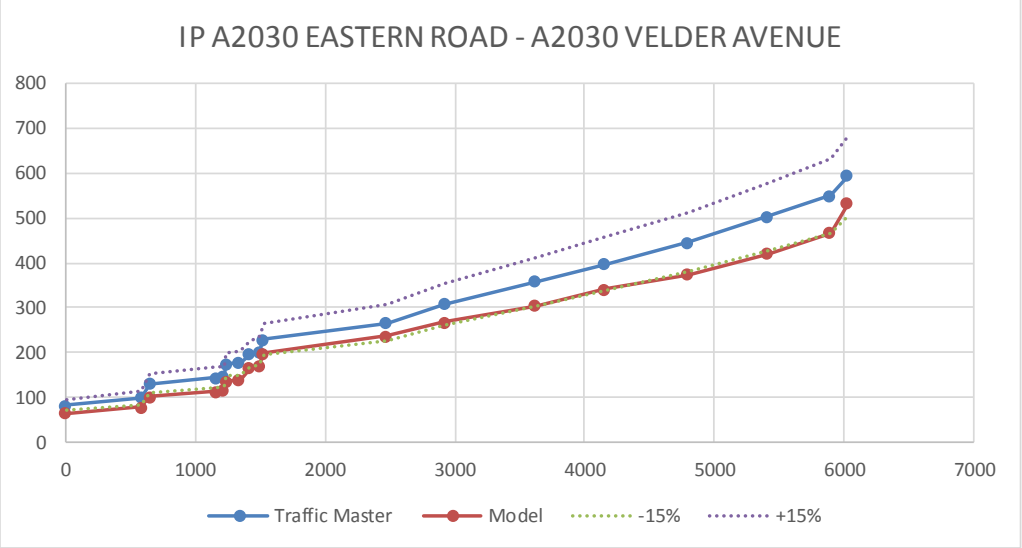


Figure 26. 13SB A2030 EASTERN ROAD – A2030 VELDER AVENUE





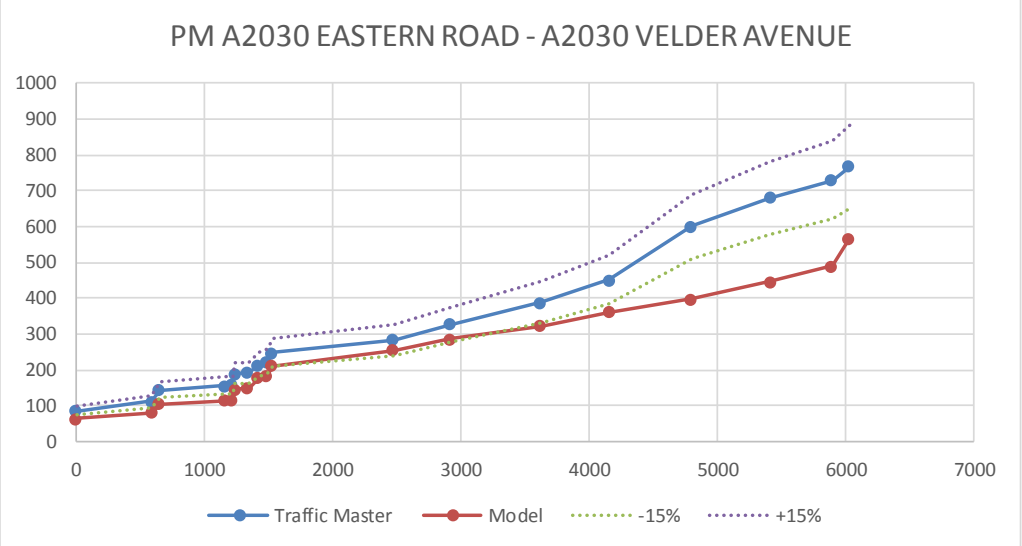
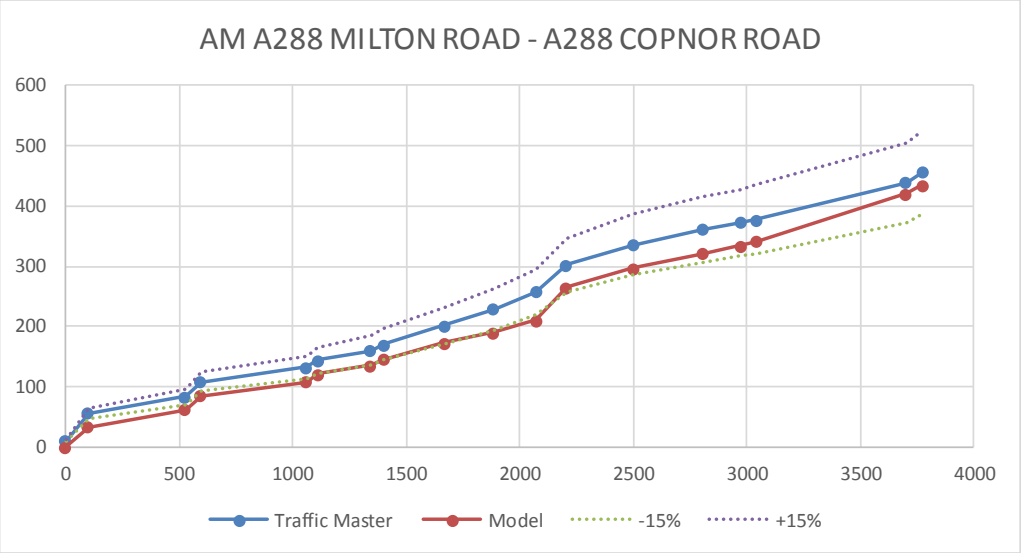
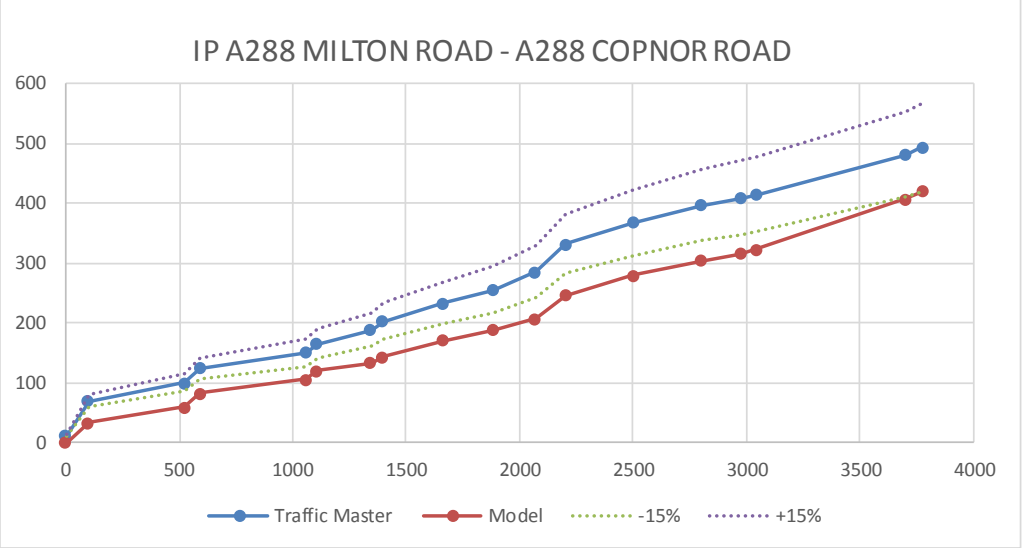


Figure 27. 14NB A288 MILTON ROAD – A288 COPNOR ROAD





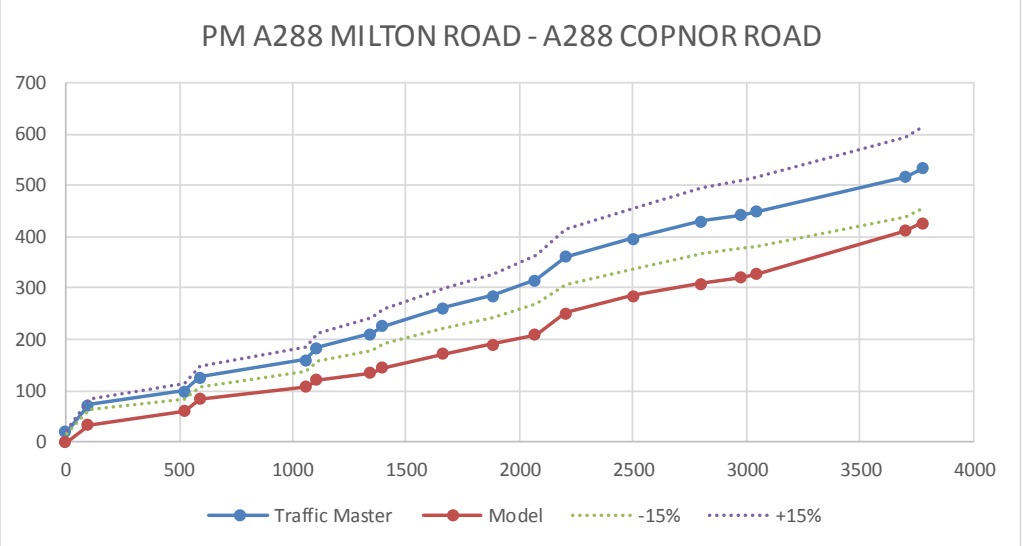
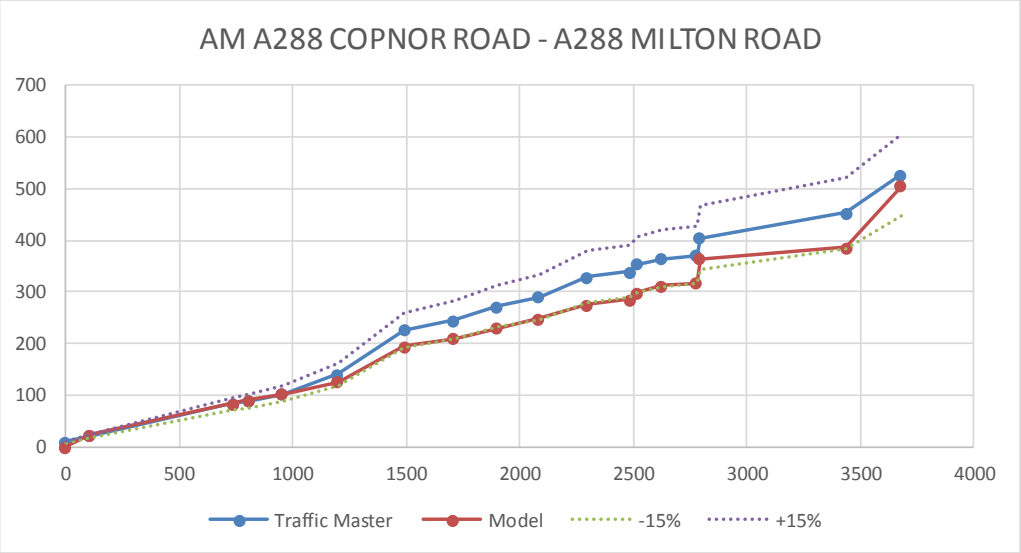
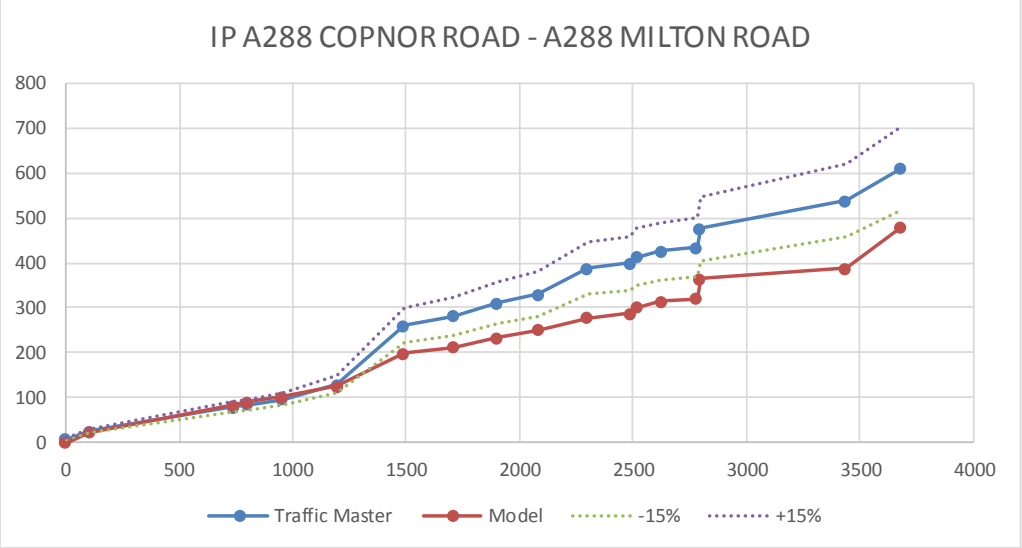


Figure 28. 14SB A288 COPNOR ROAD -A288 MILTON ROAD





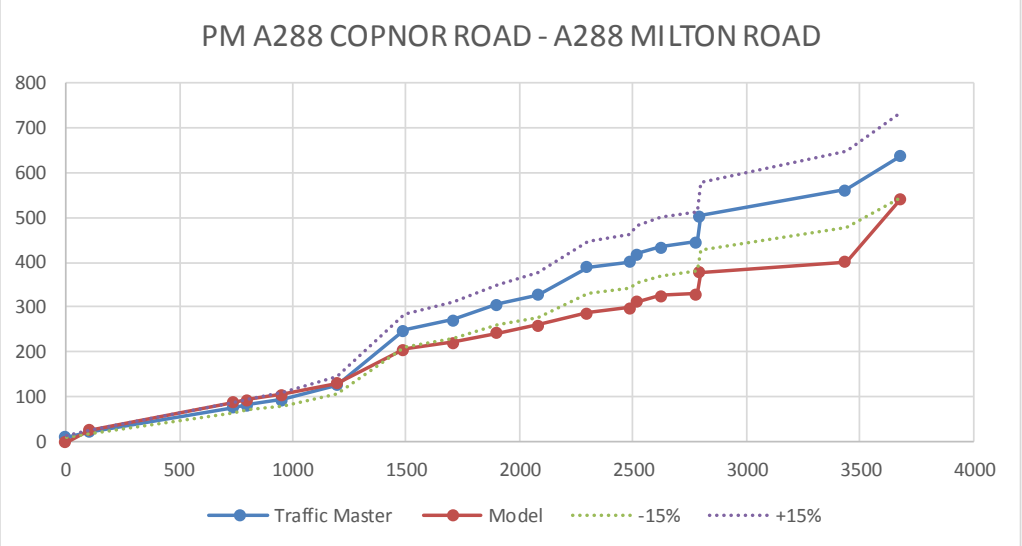
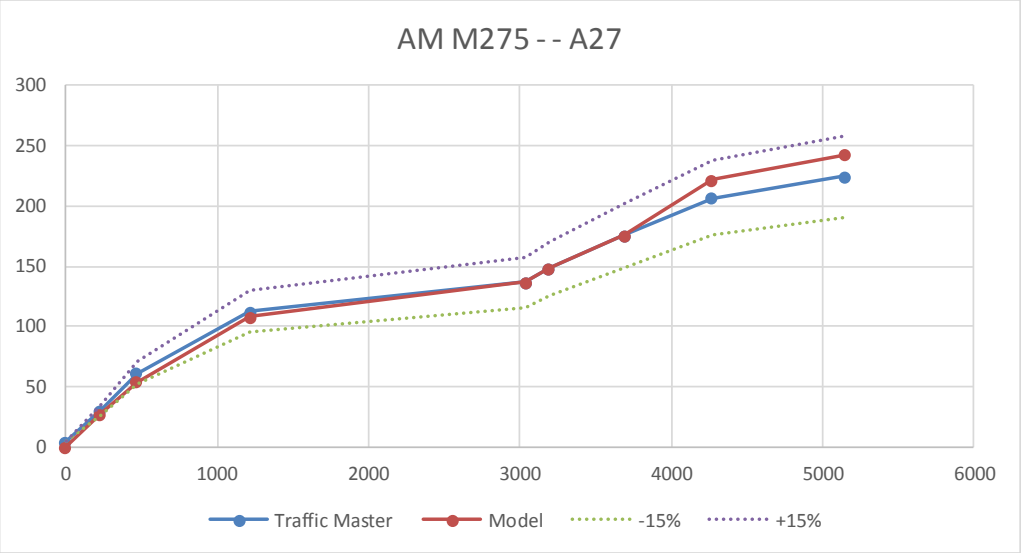
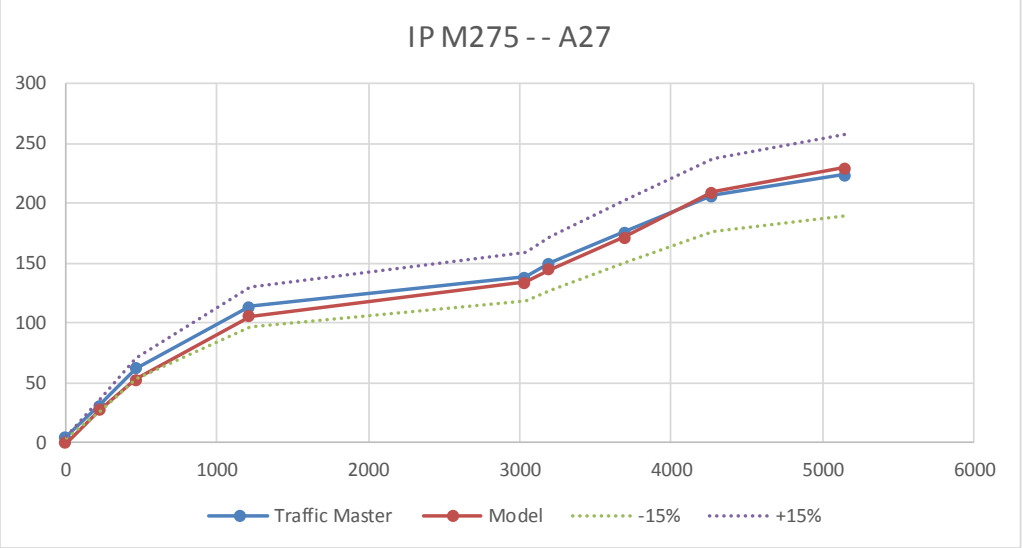


Figure 29. 15NB M275- A27





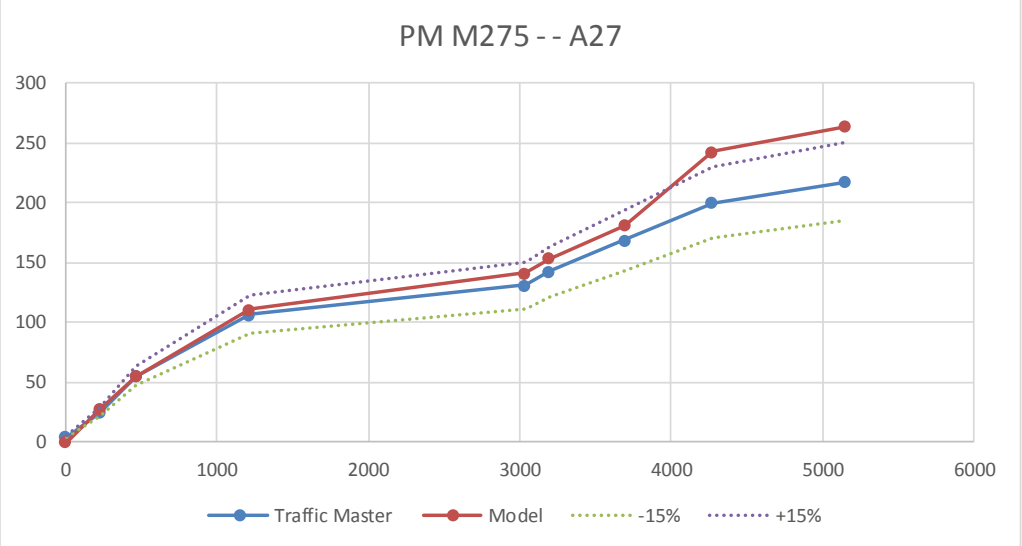
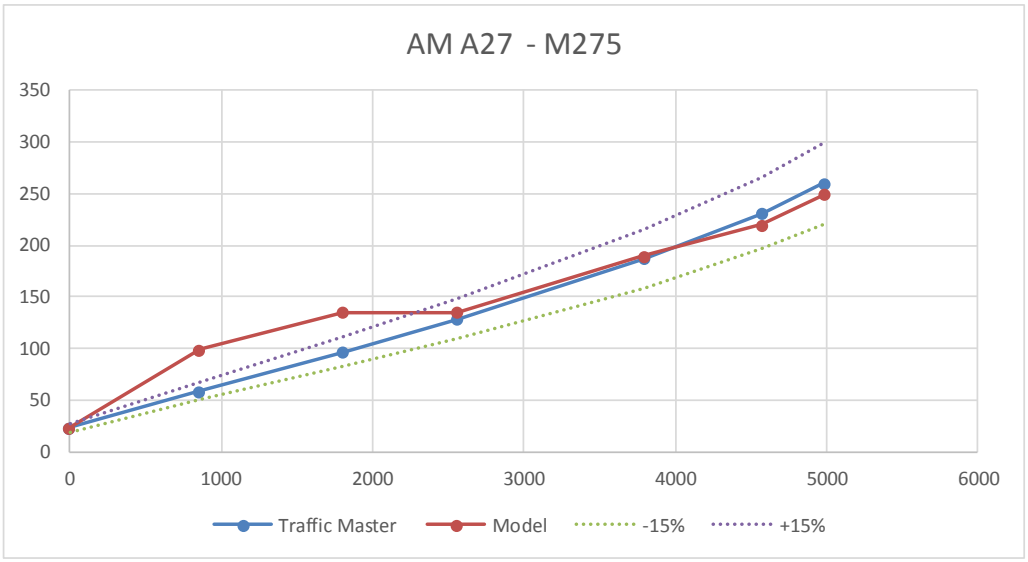
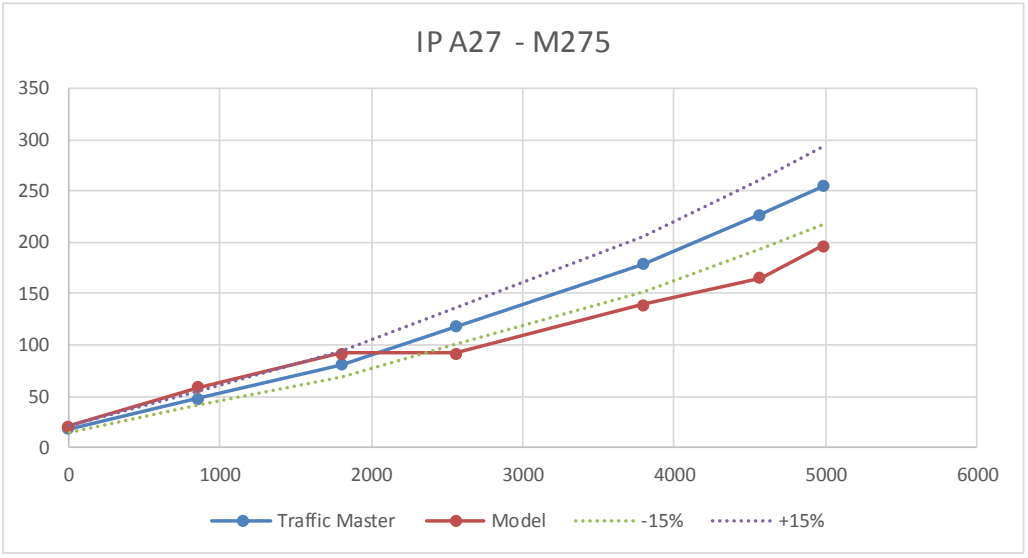


Figure 30. 15SB A27 – M275





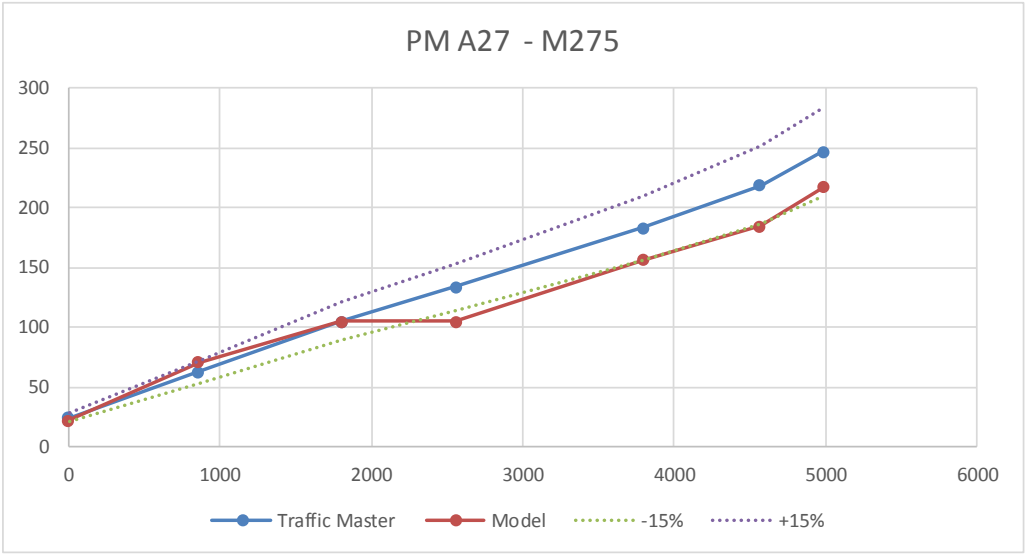
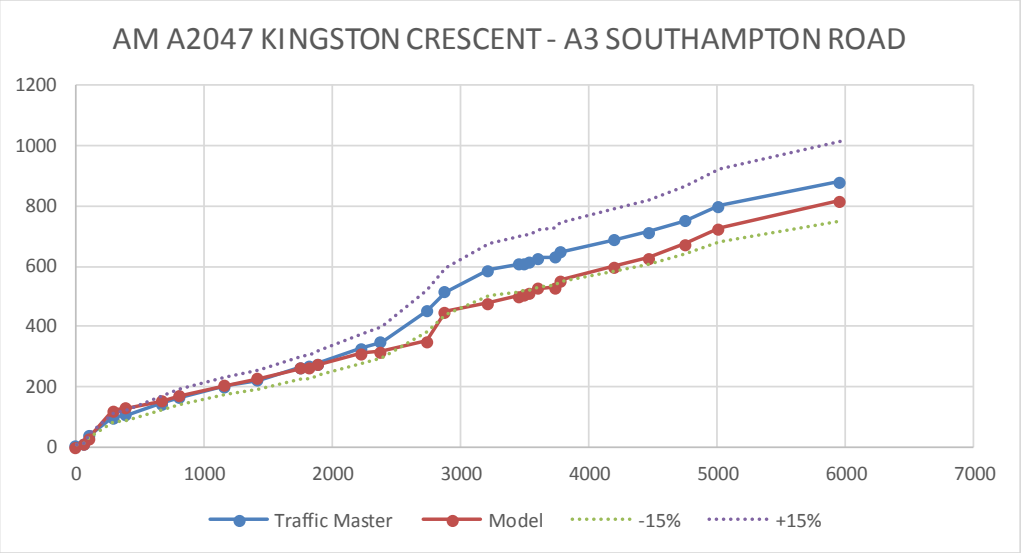
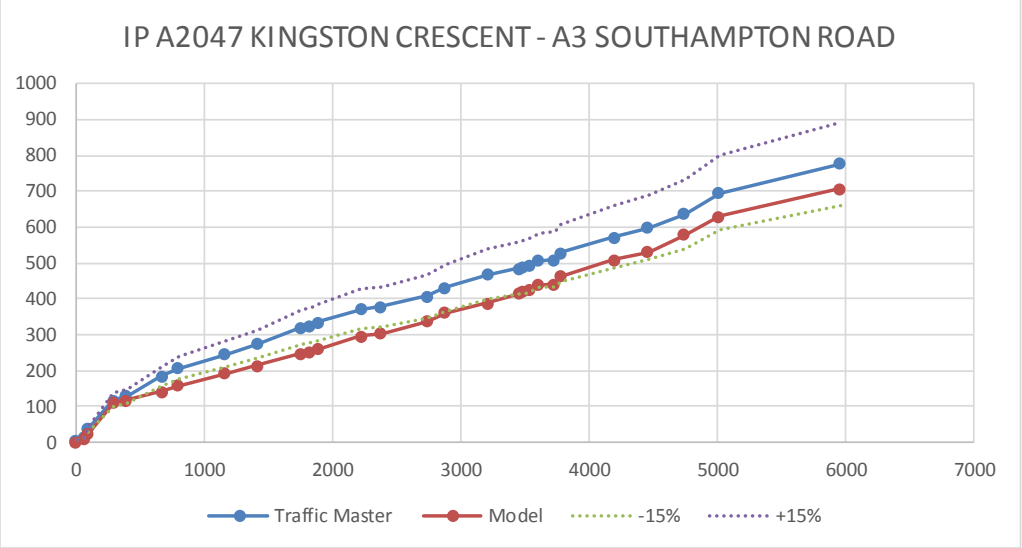


Figure 31. 16NB A2047 KINGSTON CRESCENT – A3 SOUTHAMPTON ROAD





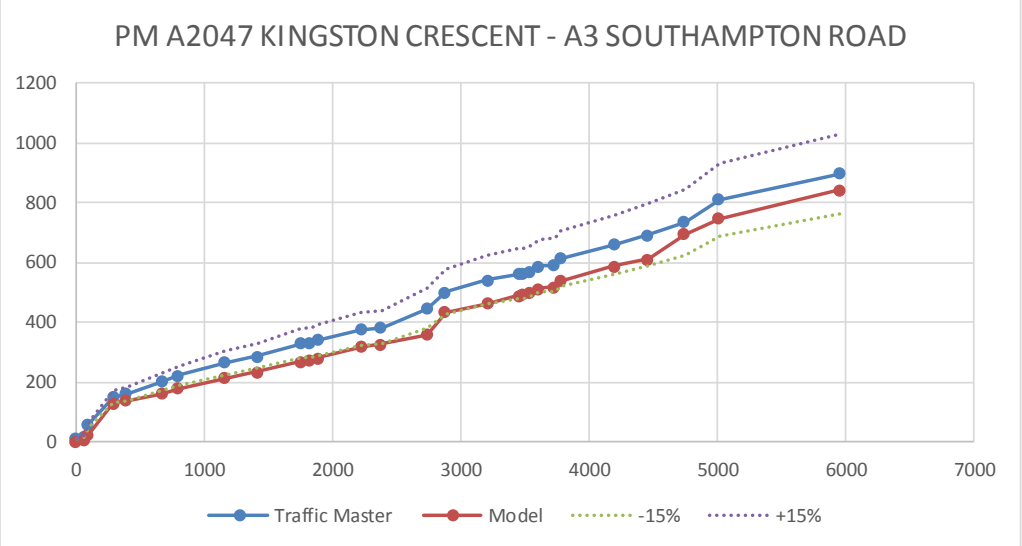
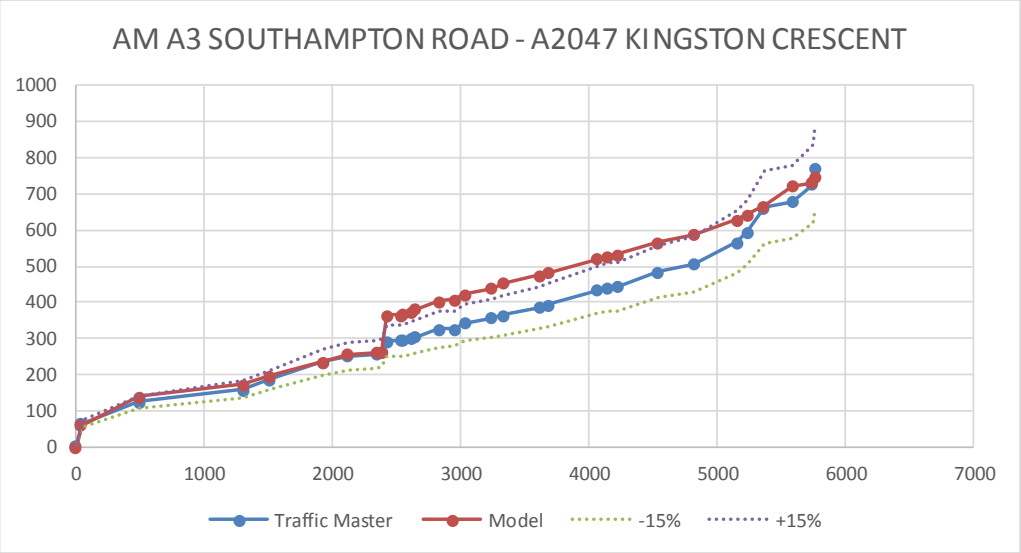
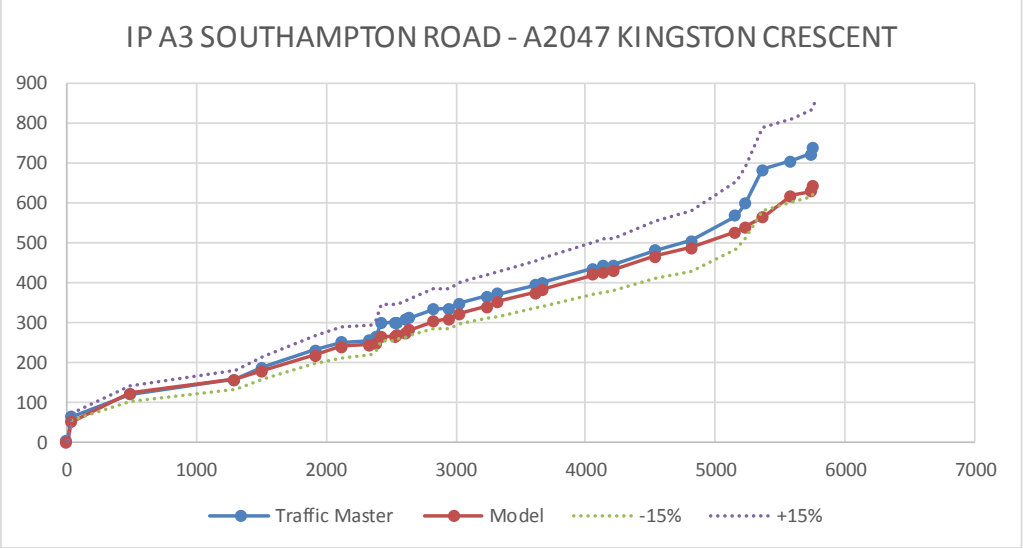


Figure 32. 16SB A3 SOUTHAMPTON ROAD – A2047 KINGSTON CRESCENT





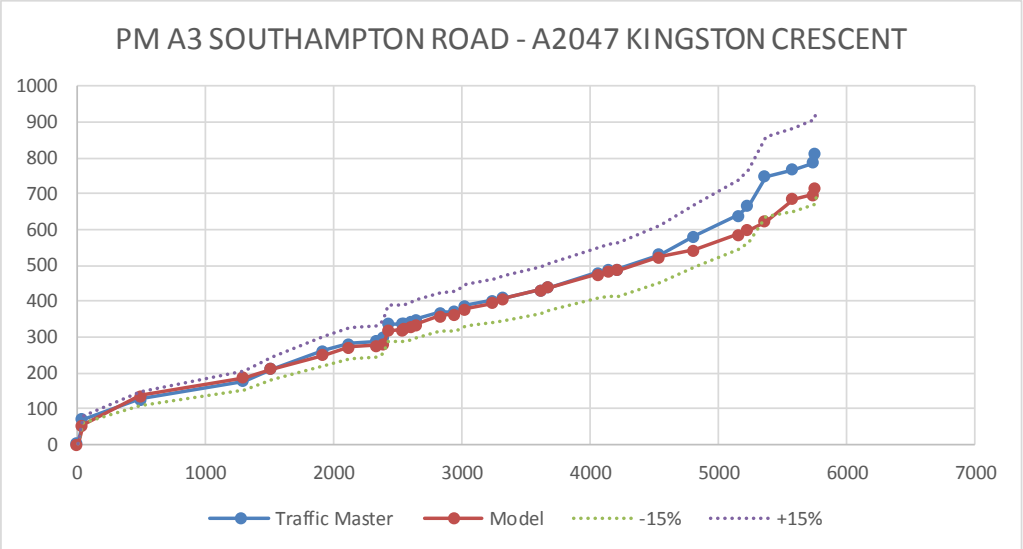
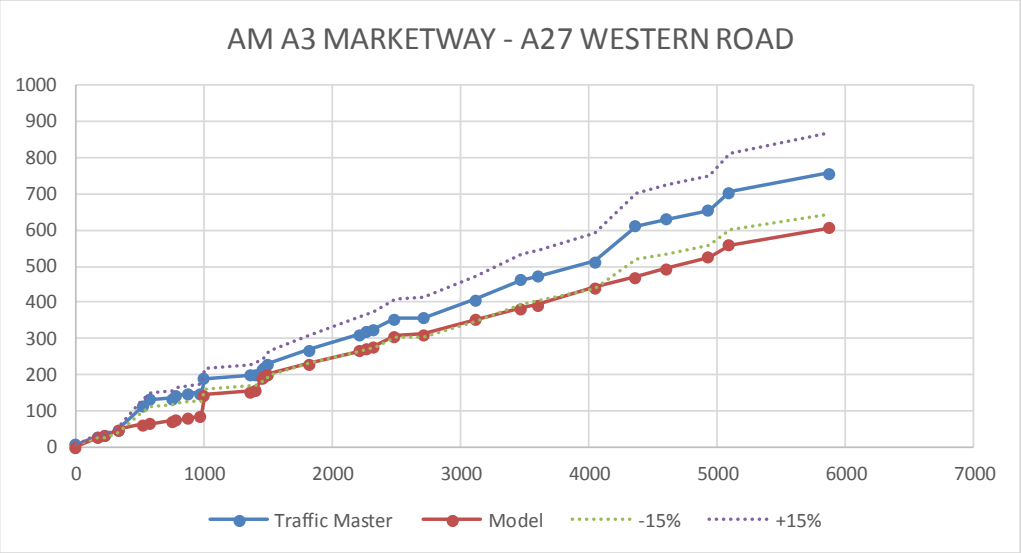
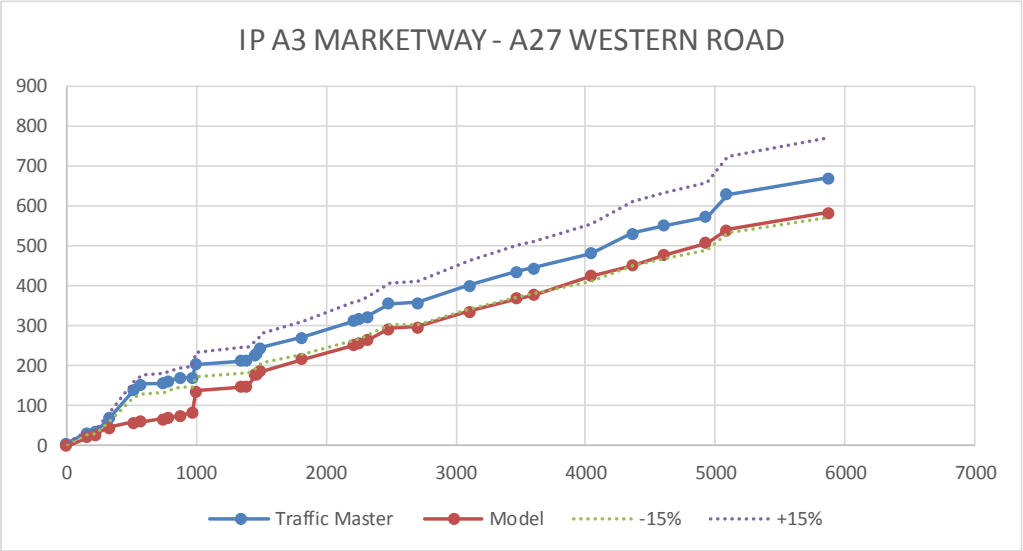


Figure 33. 17 NB A3 MARKETWAY – A27 WESTERN ROAD





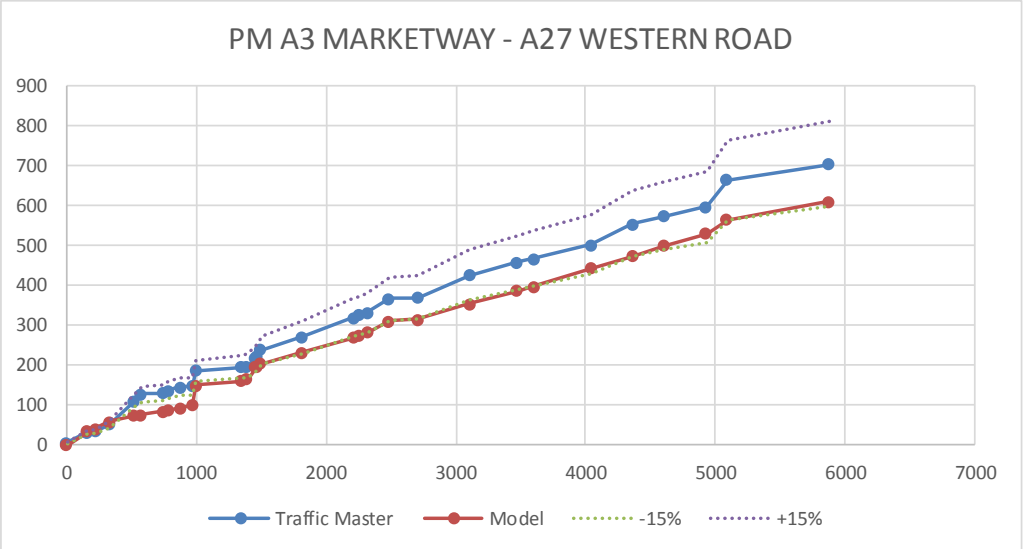
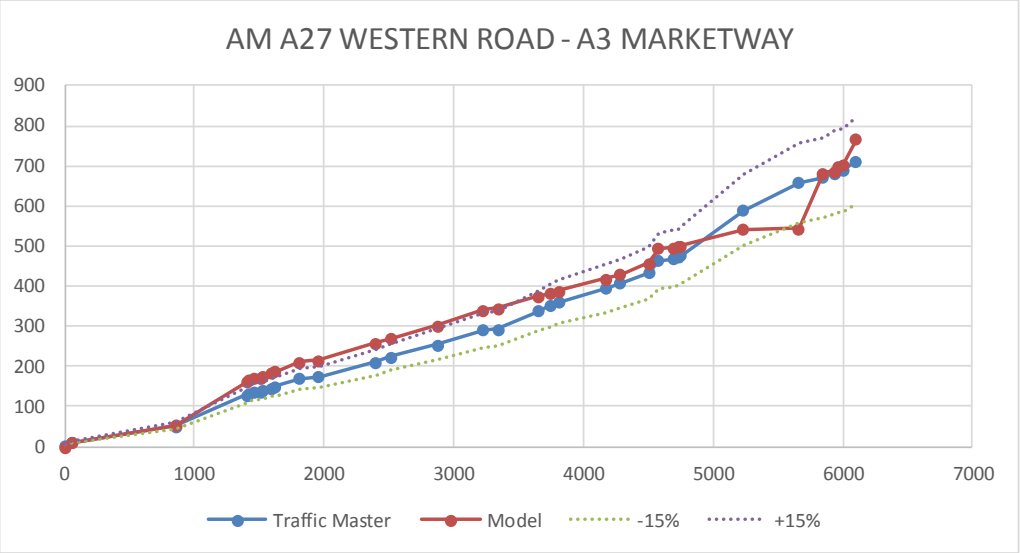
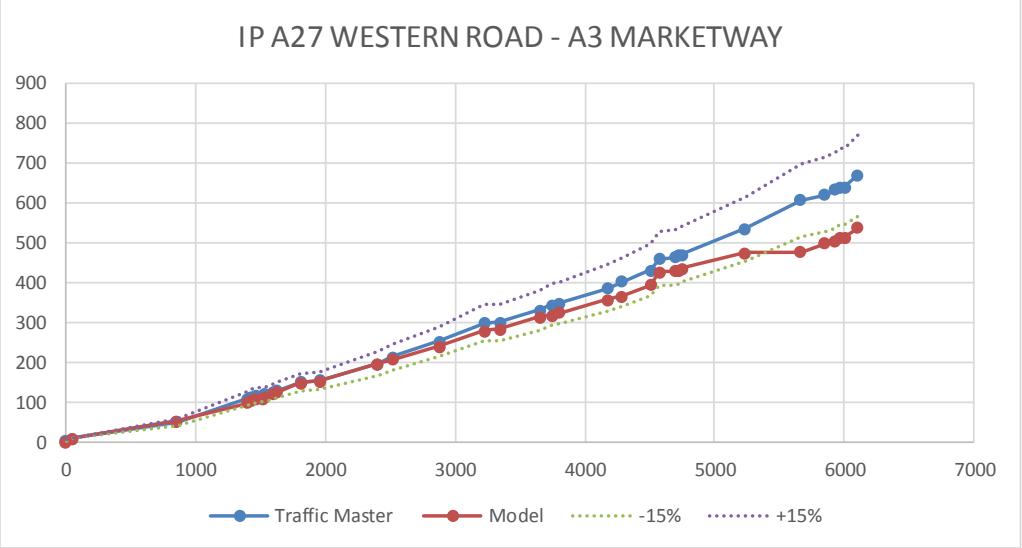


Figure 34. 17SB A27 WESTERN ROAD- A3 MARKETWAY





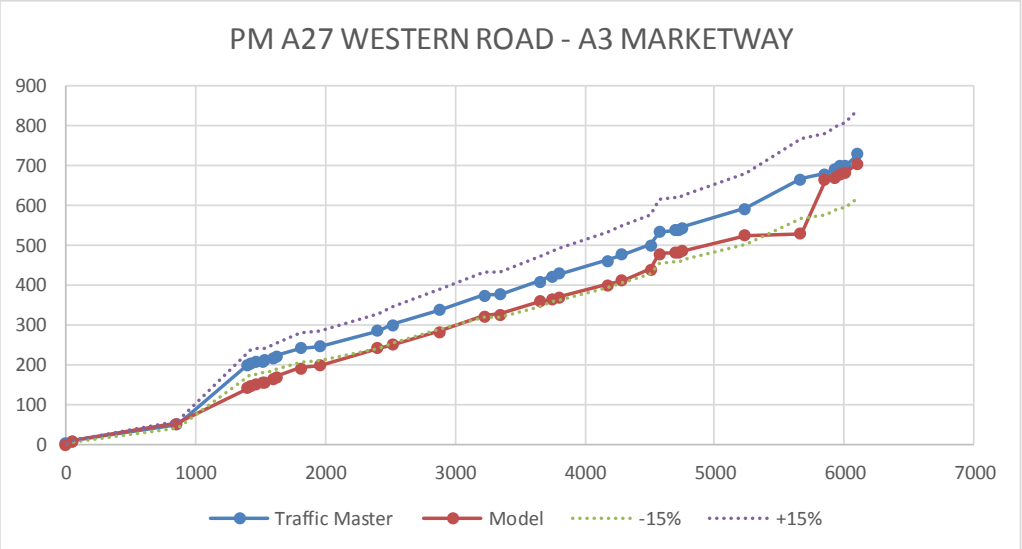
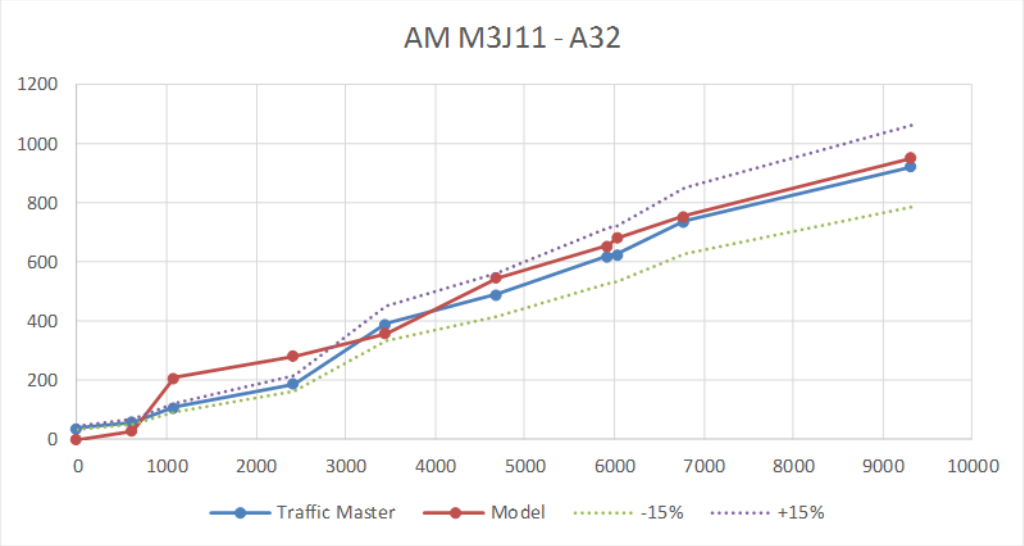
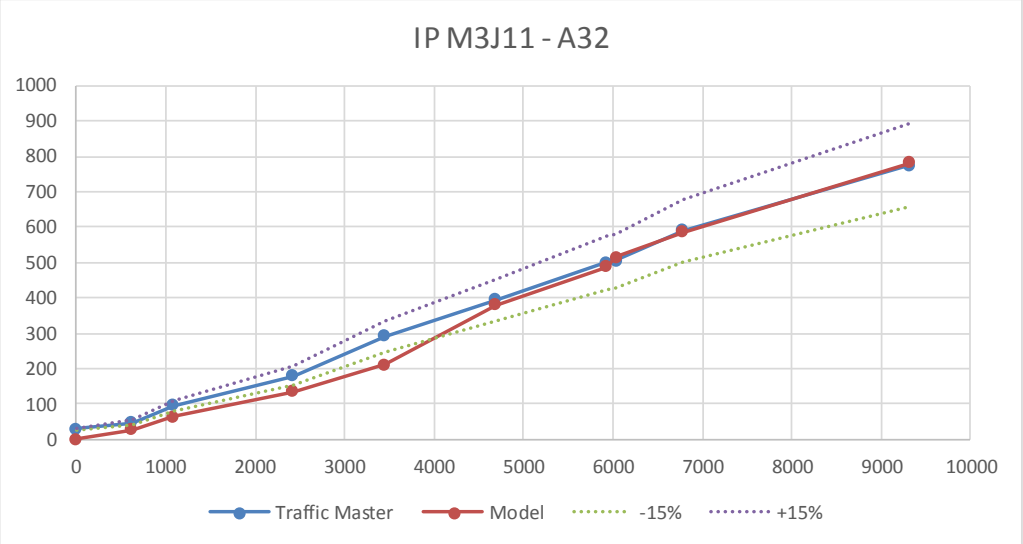


Figure 35. 18NB M3J11- A32





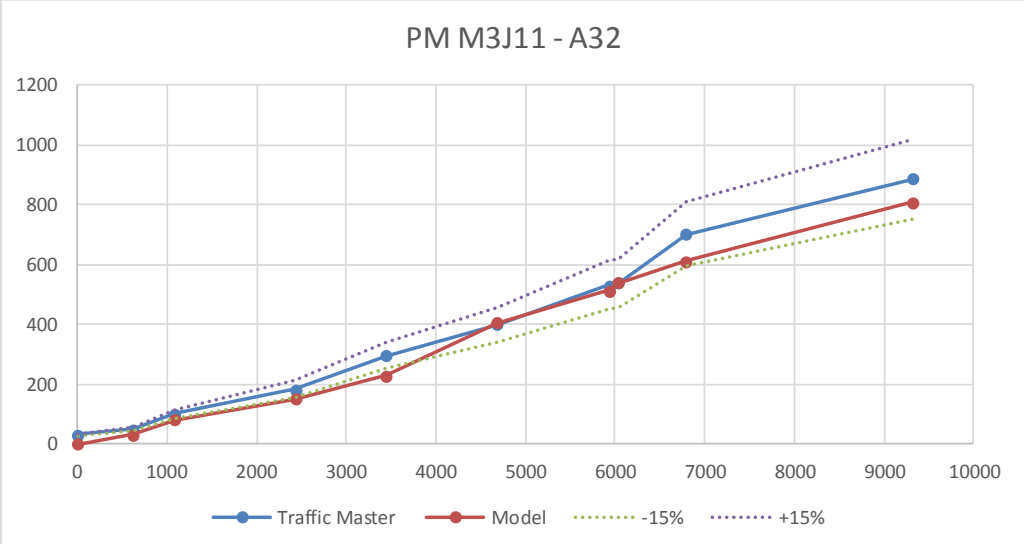
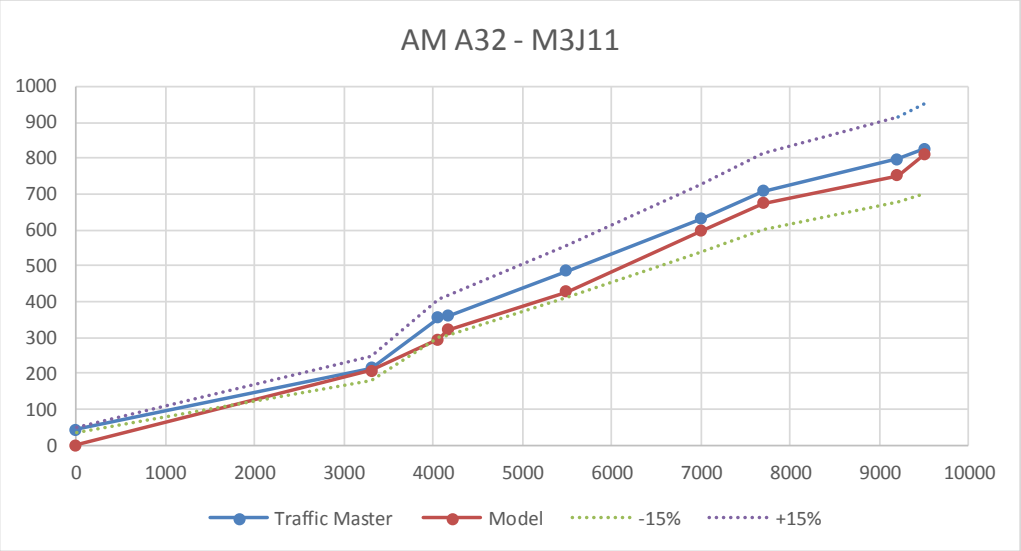
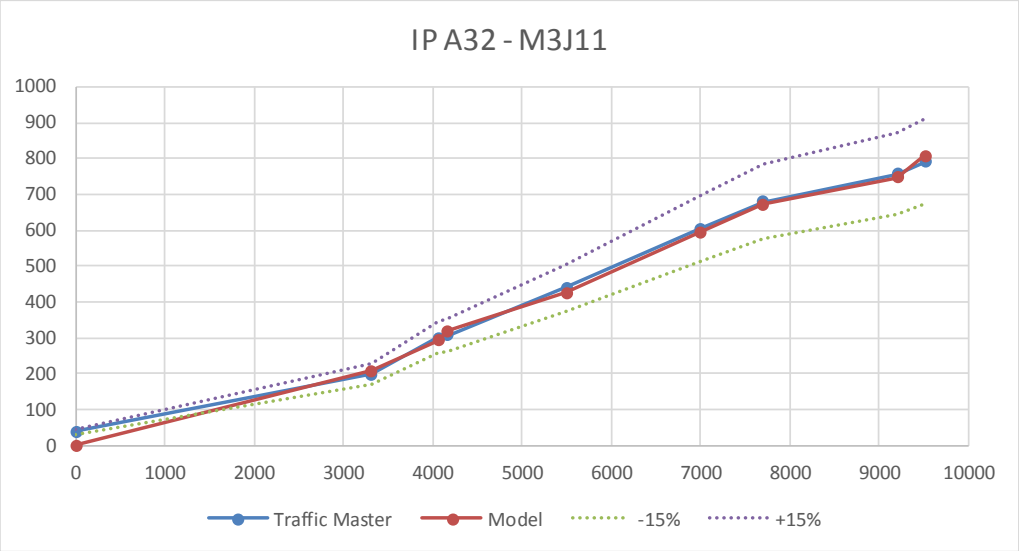


Figure 36. 18SB A32- M3J11





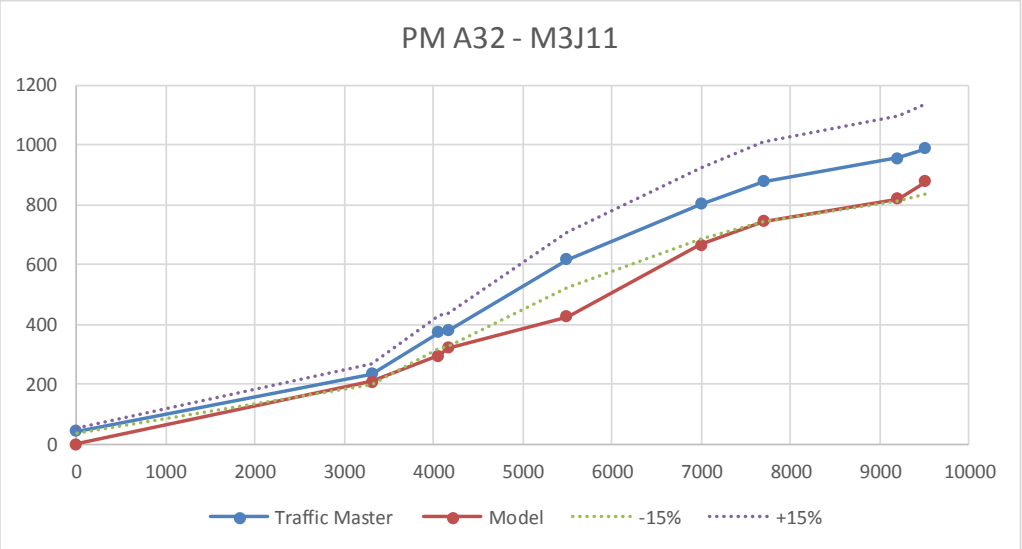
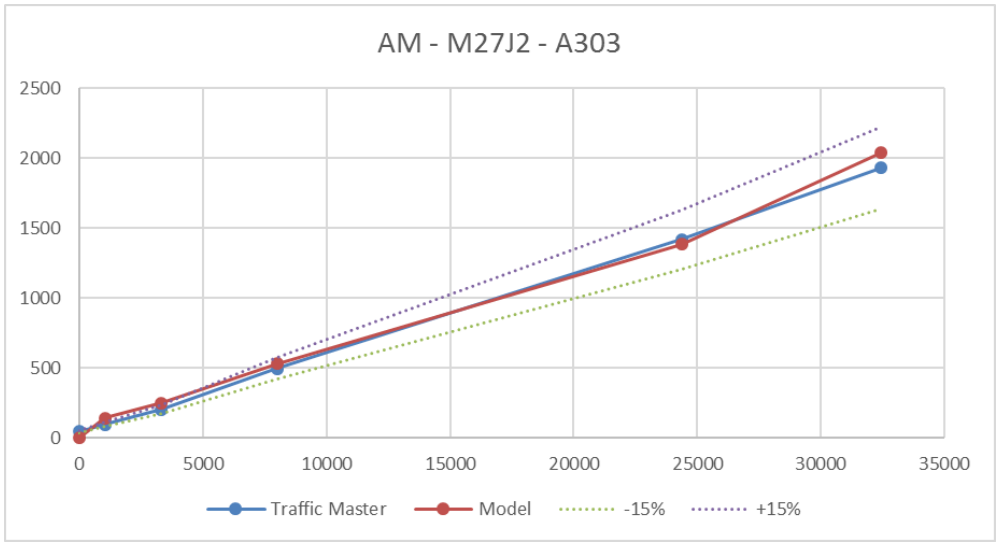
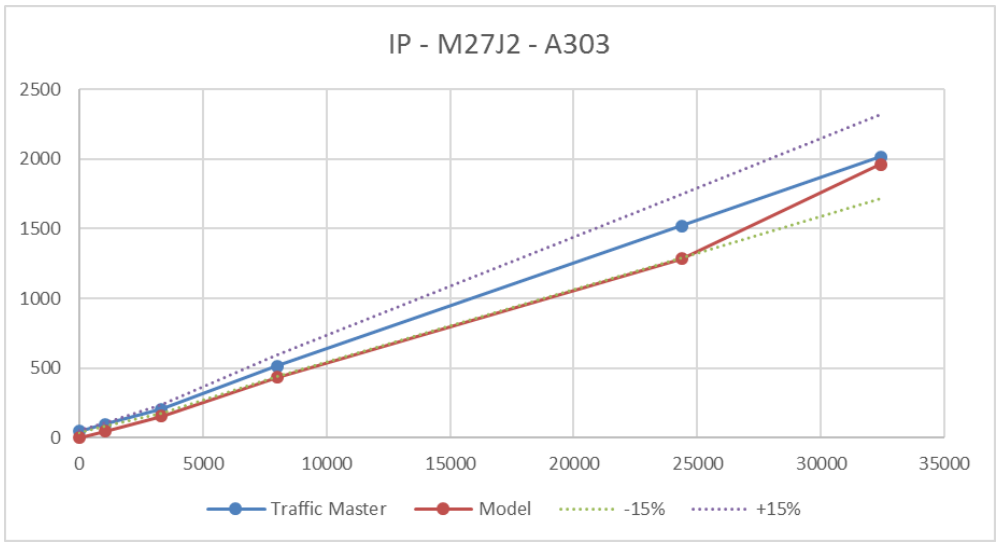


Figure 37. 19NB M27J2 – A303





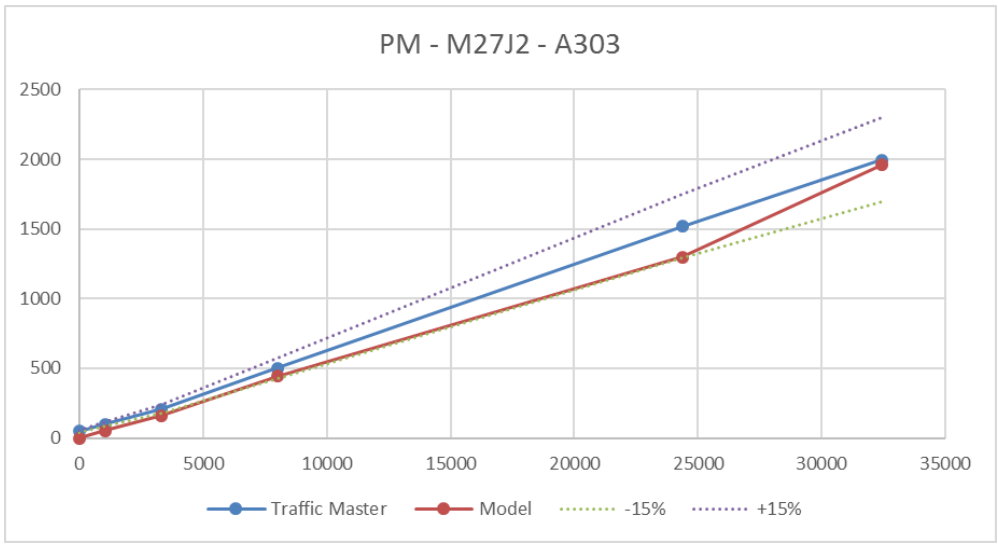
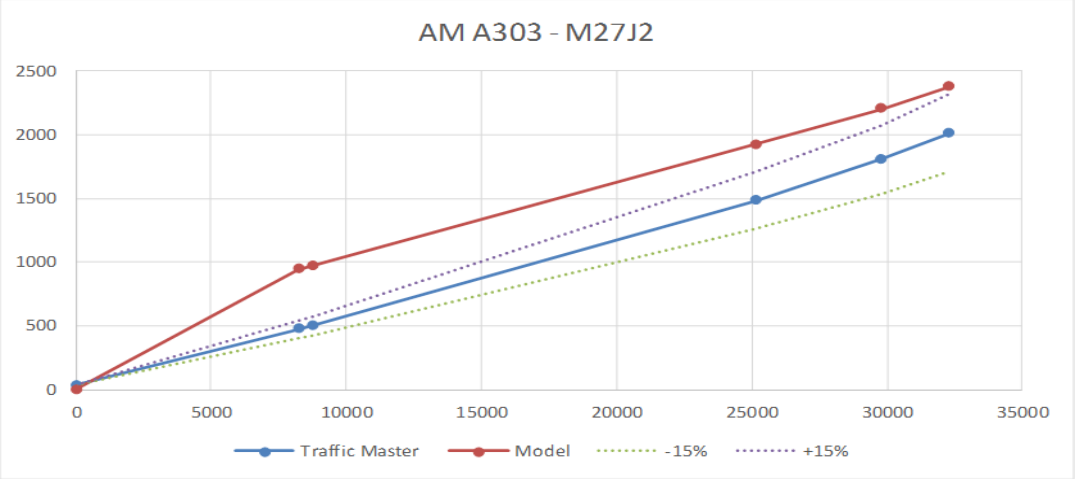
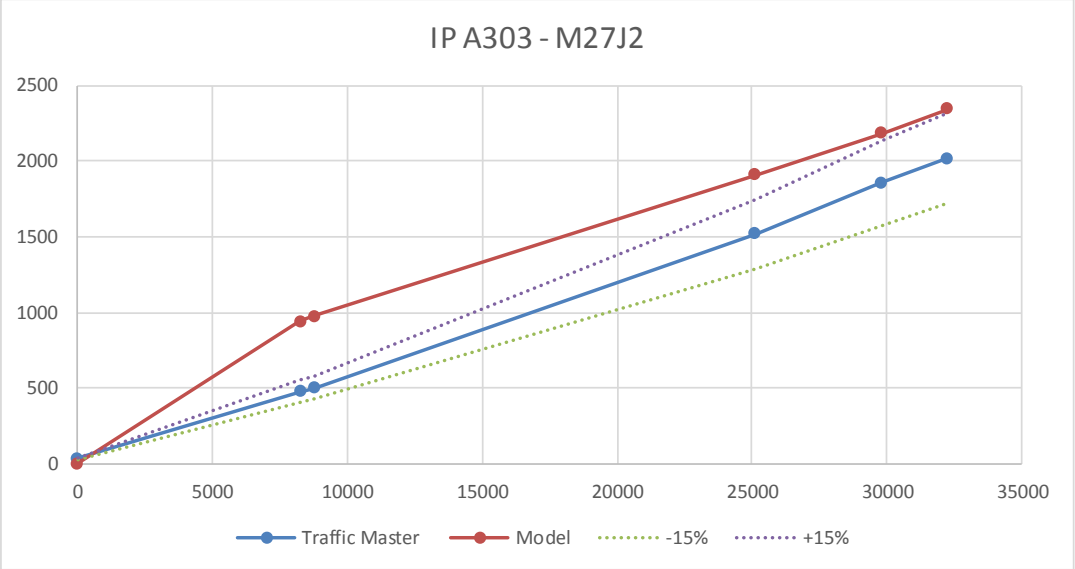


Figure 38. 19SB A303 – M27J2





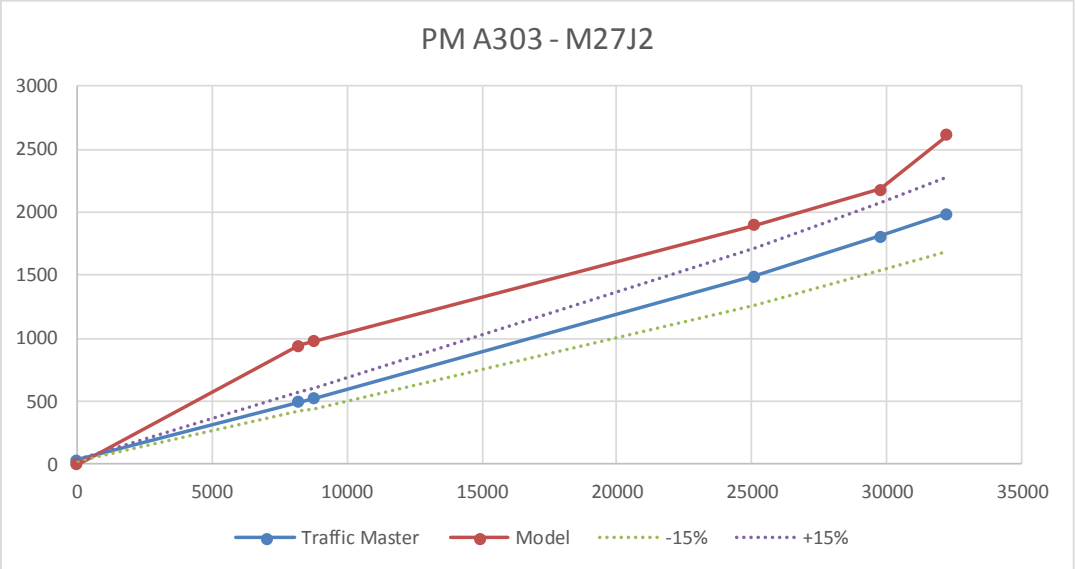
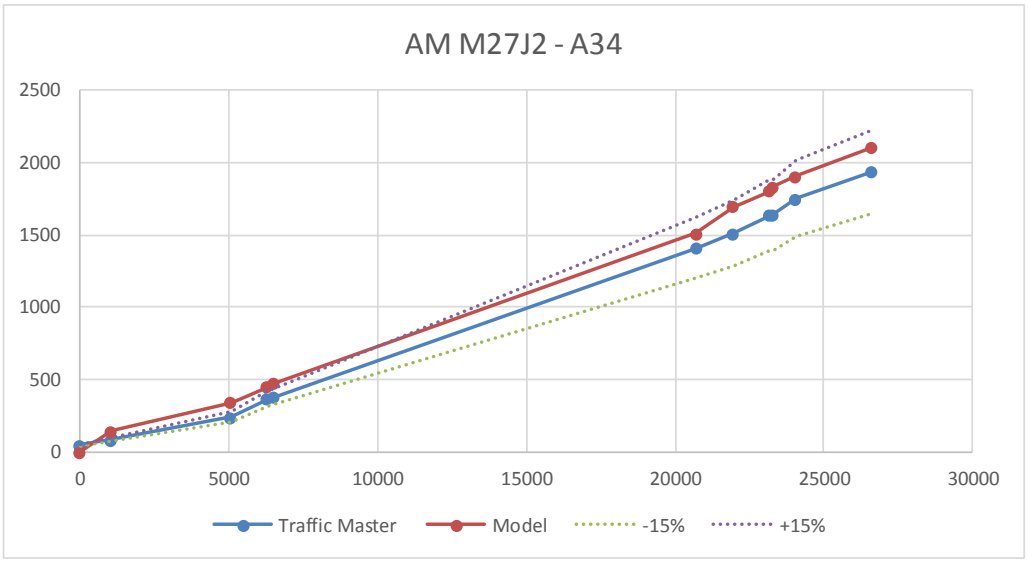
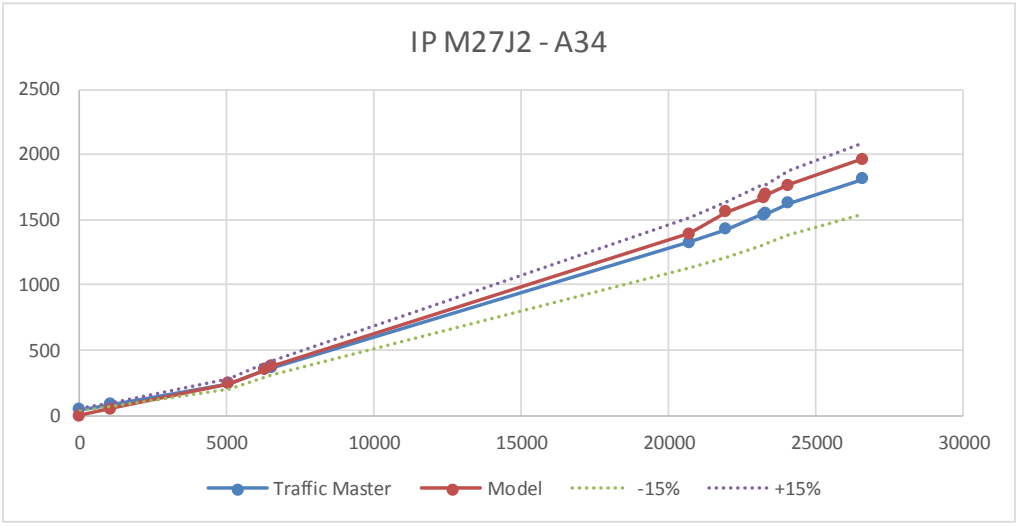


Figure 39. 20NB M27J2 – A34





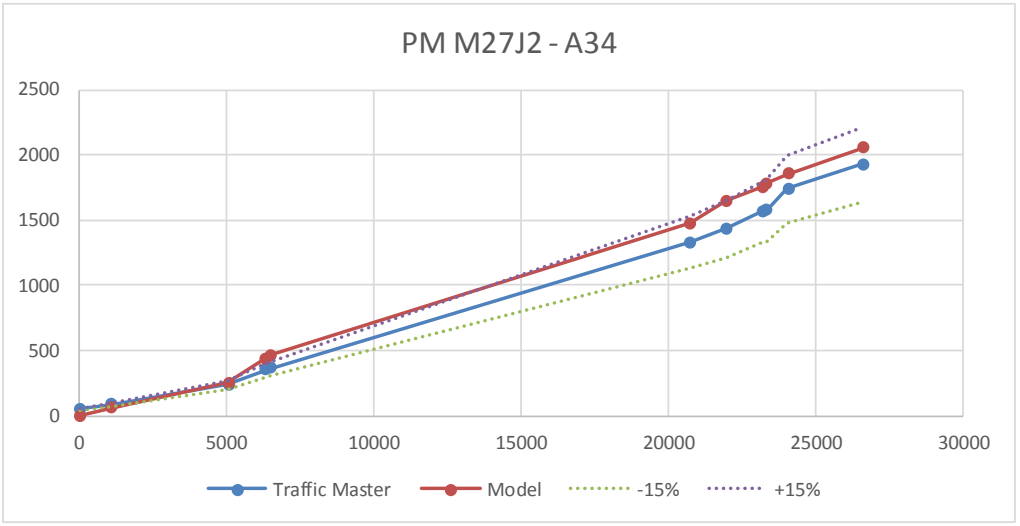
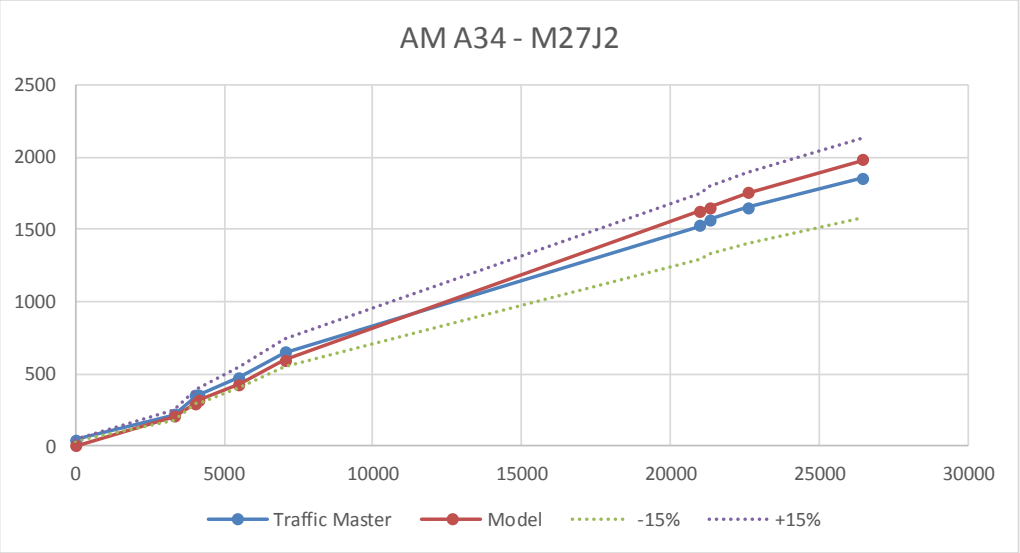
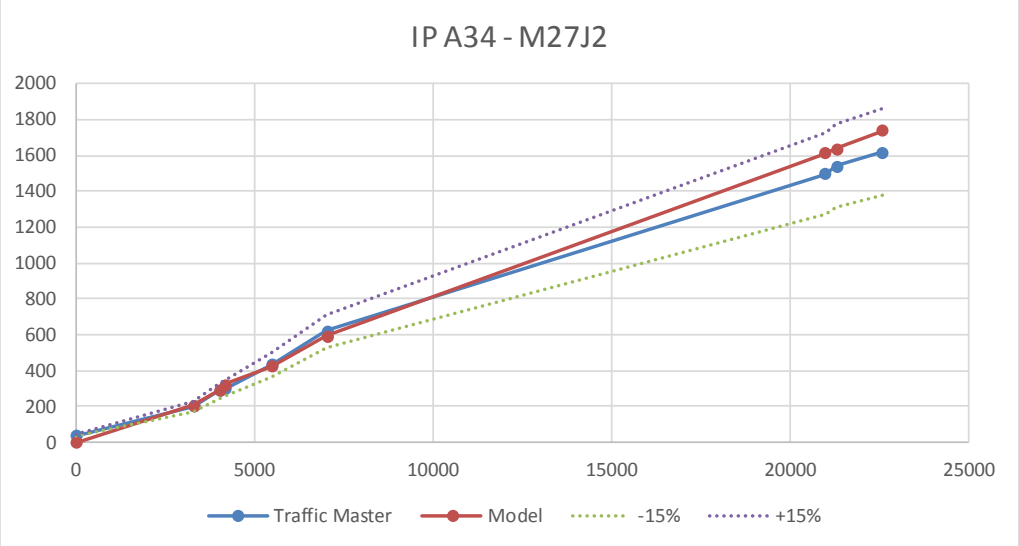


Figure 40. 20SB A34 – M27J2





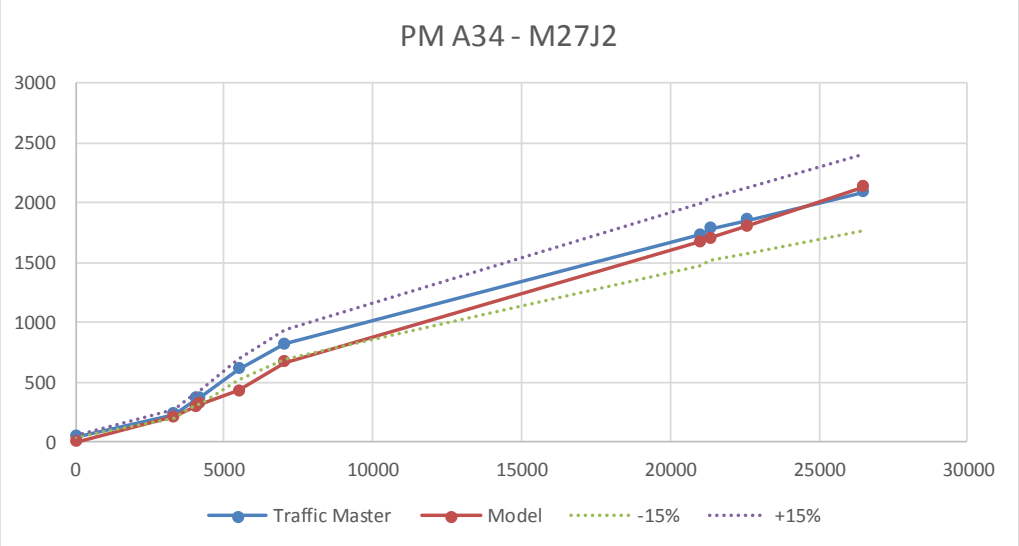
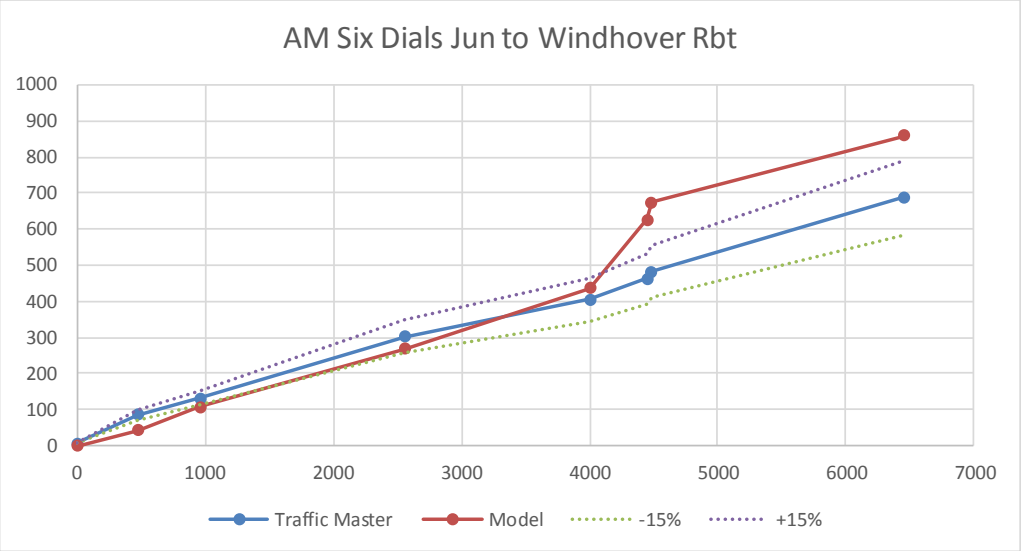
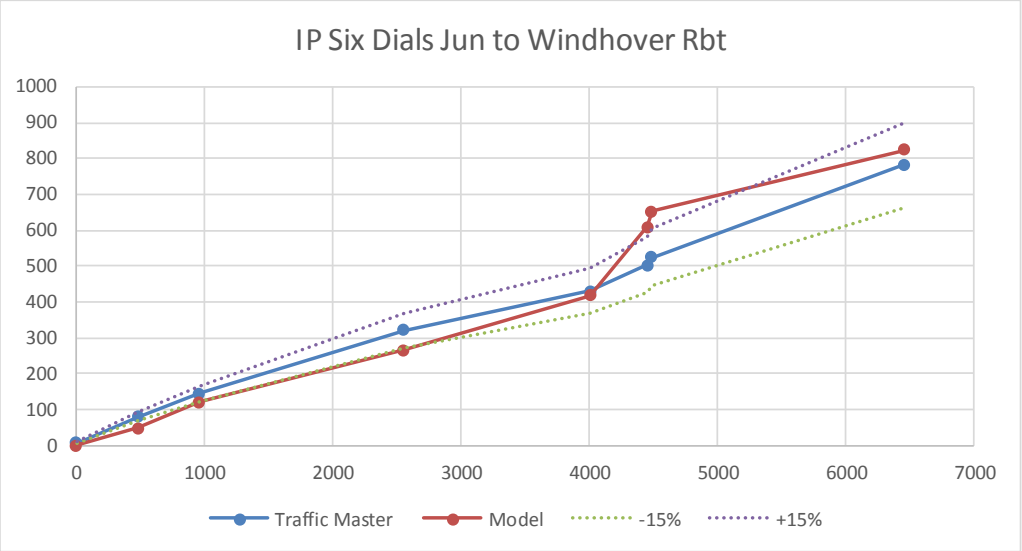


Figure 41. 21NB Six Dials Jum to Windover Rbt





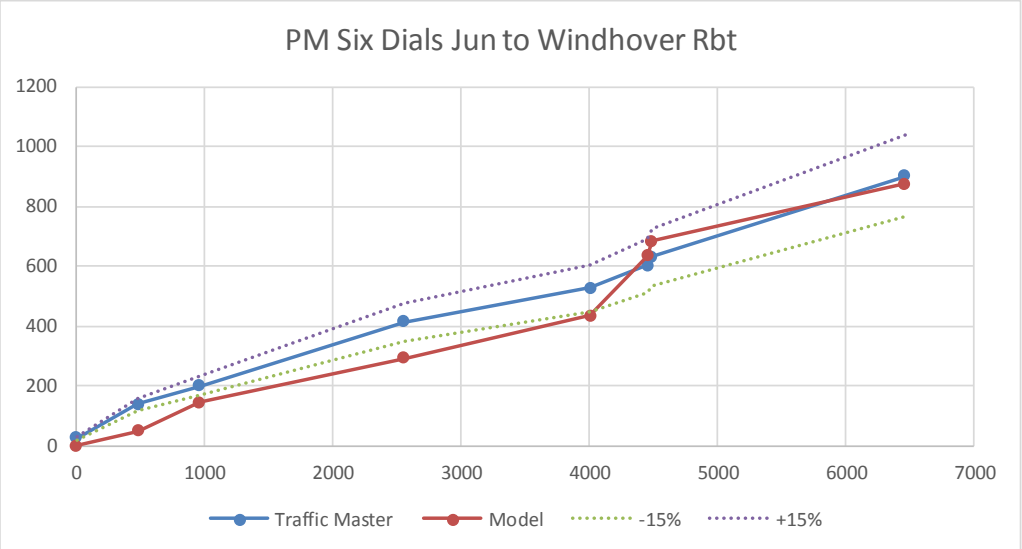
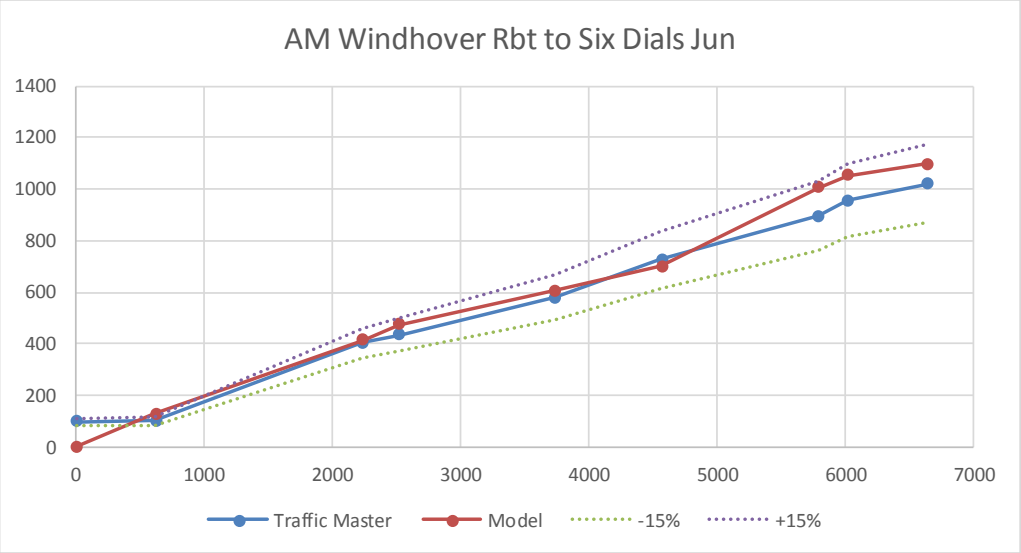
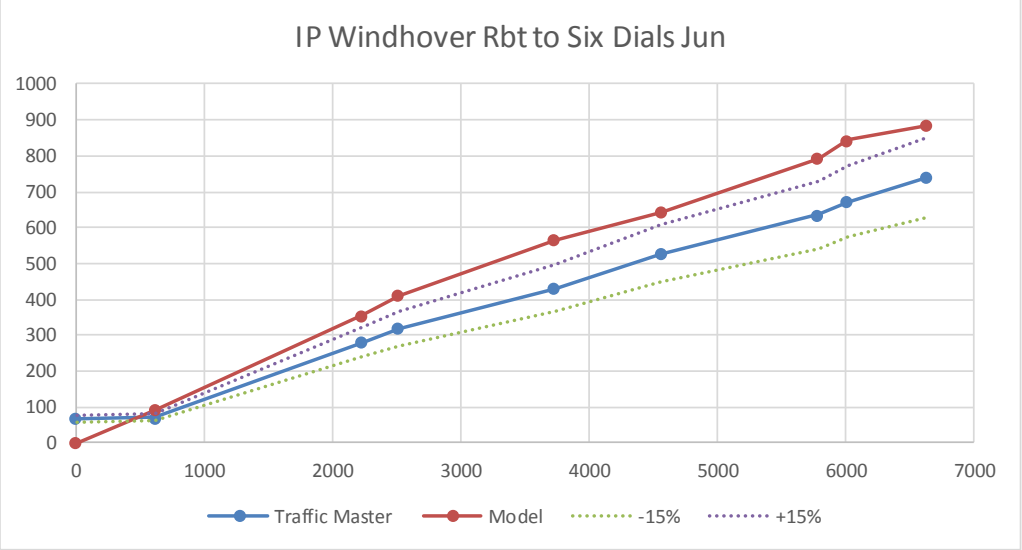


Figure 42. 21SB Windhover Rbt to Six Dials Jun





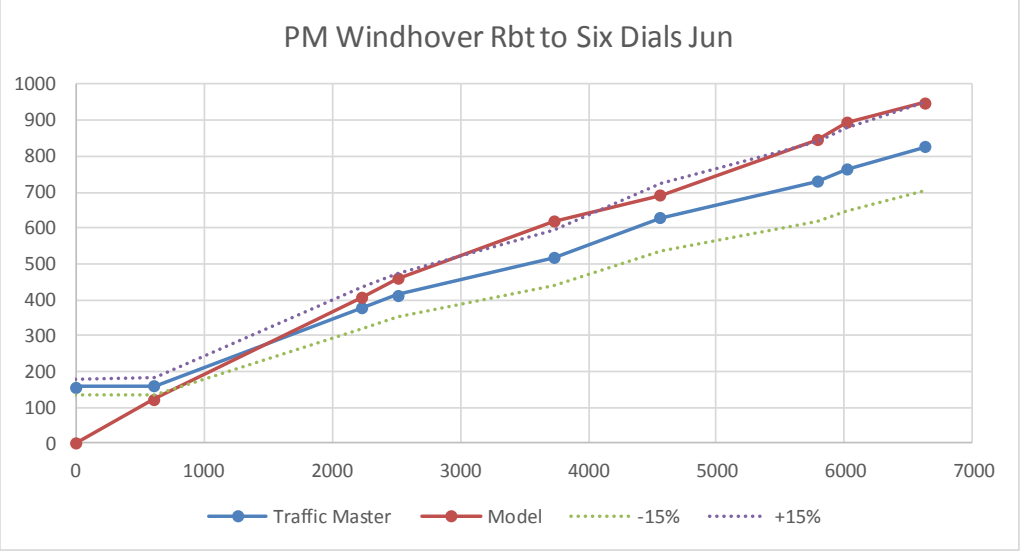
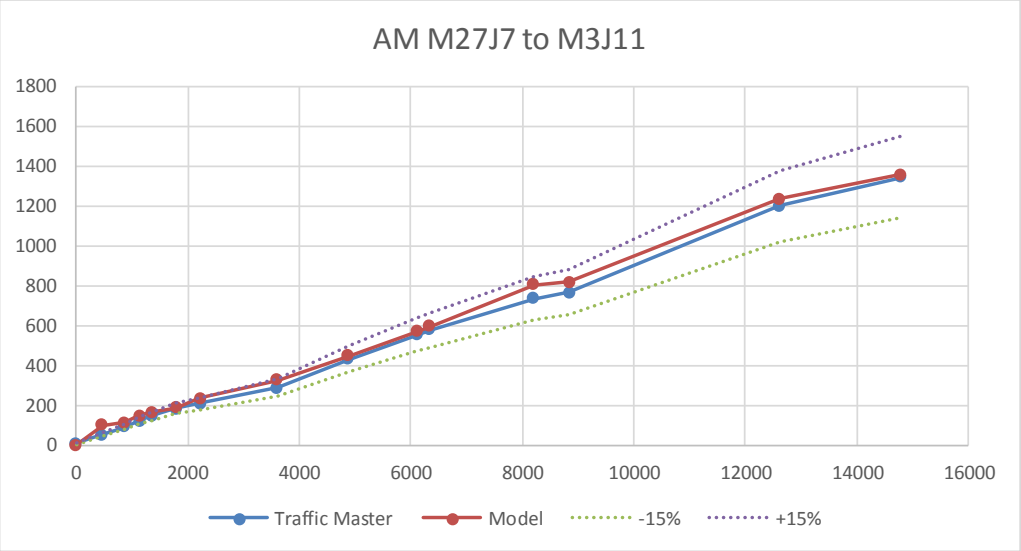
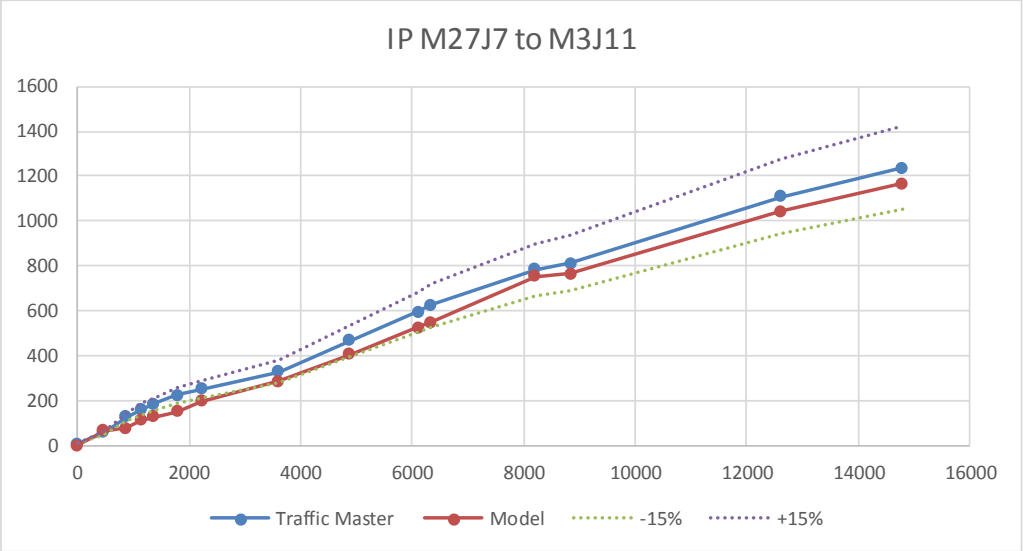


Figure 43. 22NB M27J7 to M3J11





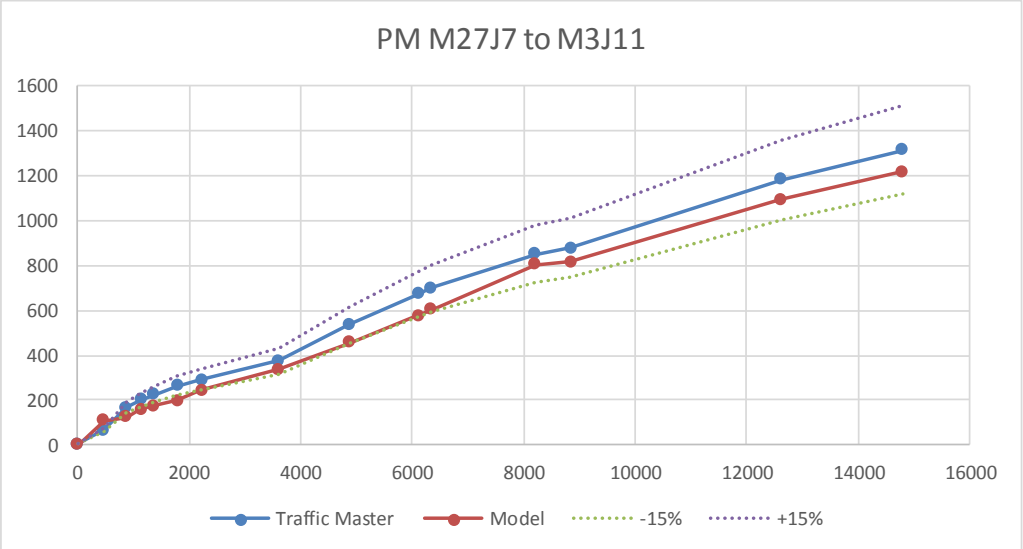
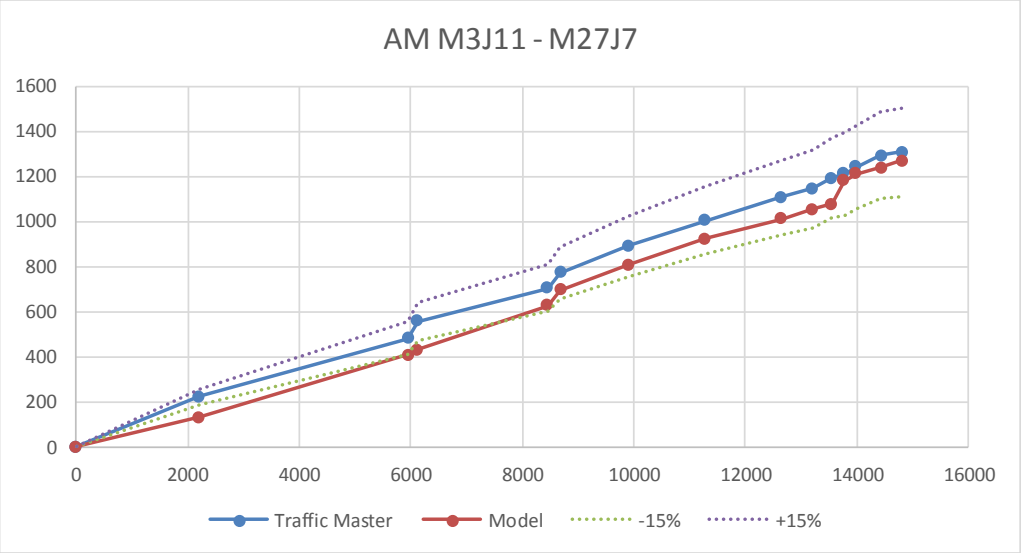
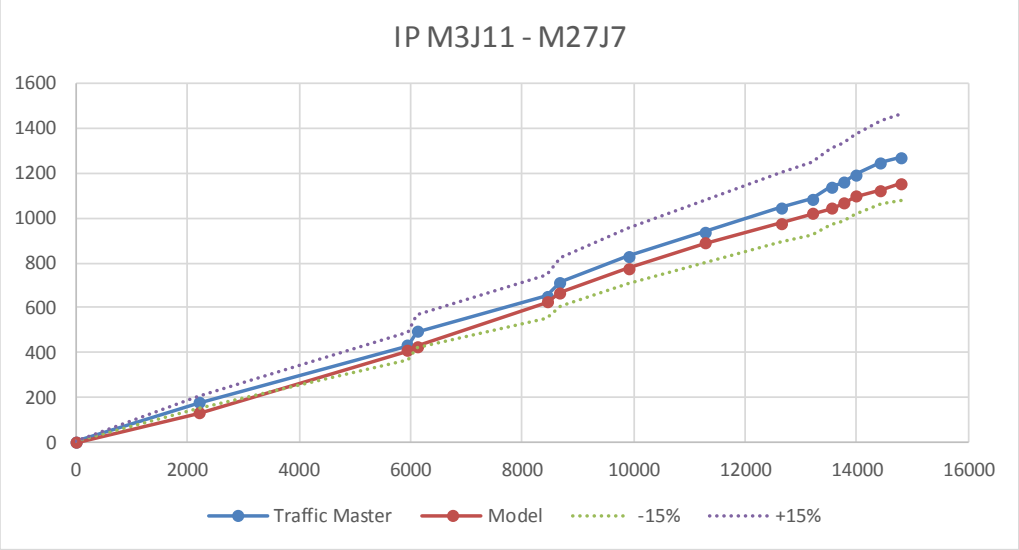


Figure 44. 22SB M3J11 – M27J7





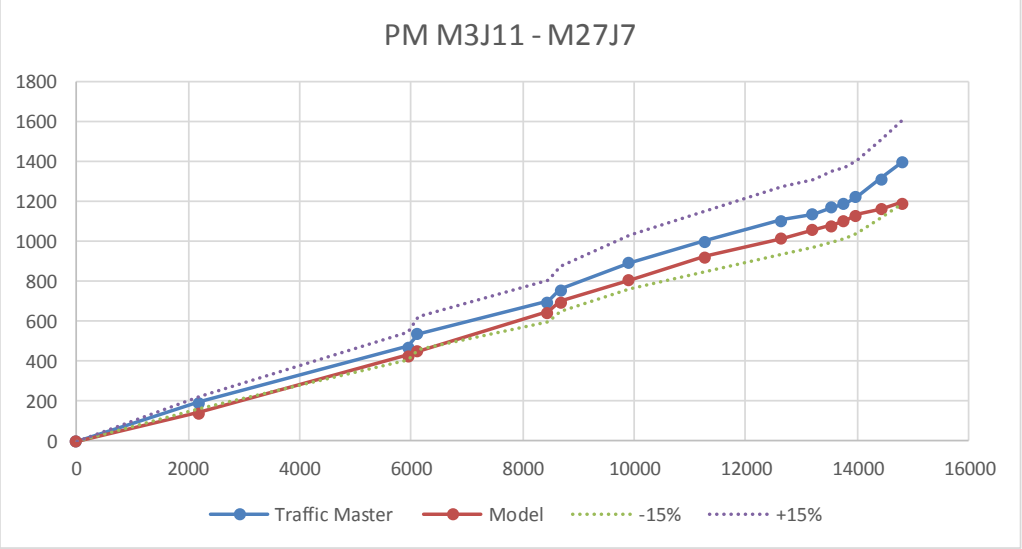
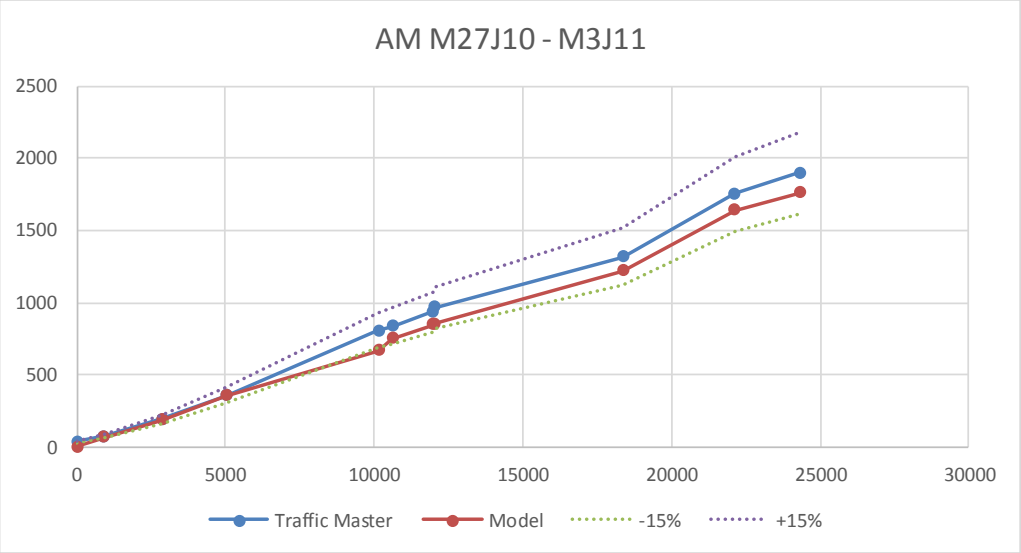
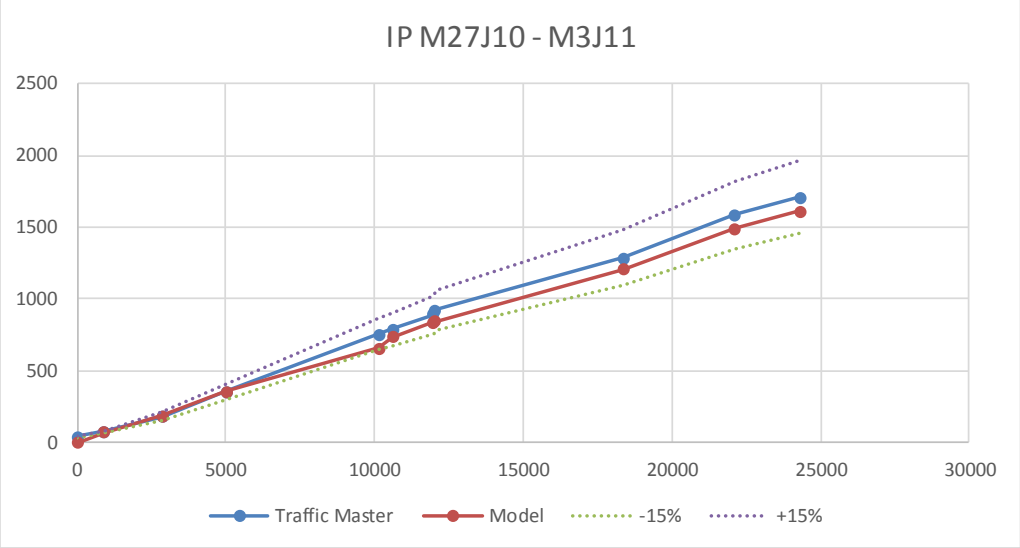


Figure 45. 23NB M27J10 – M3J11





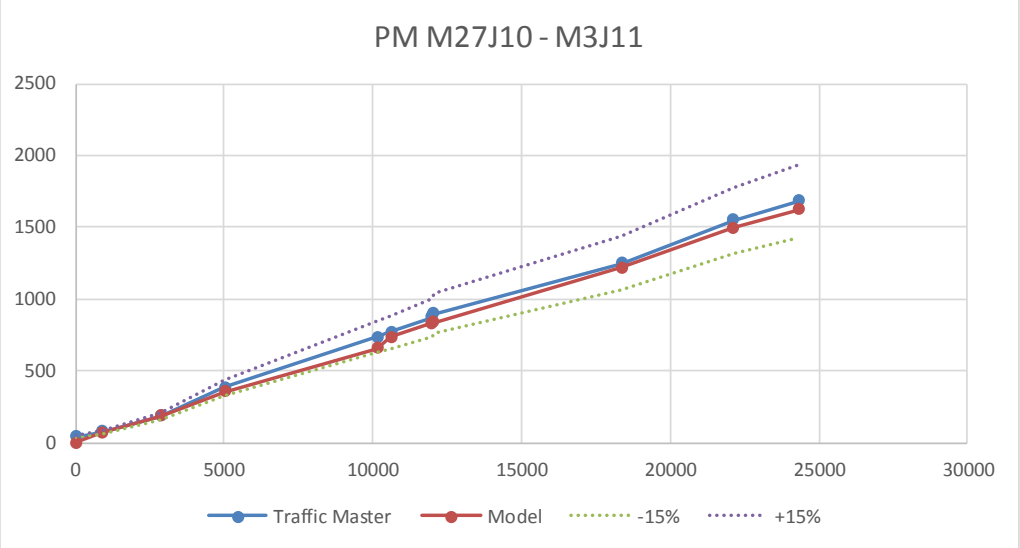
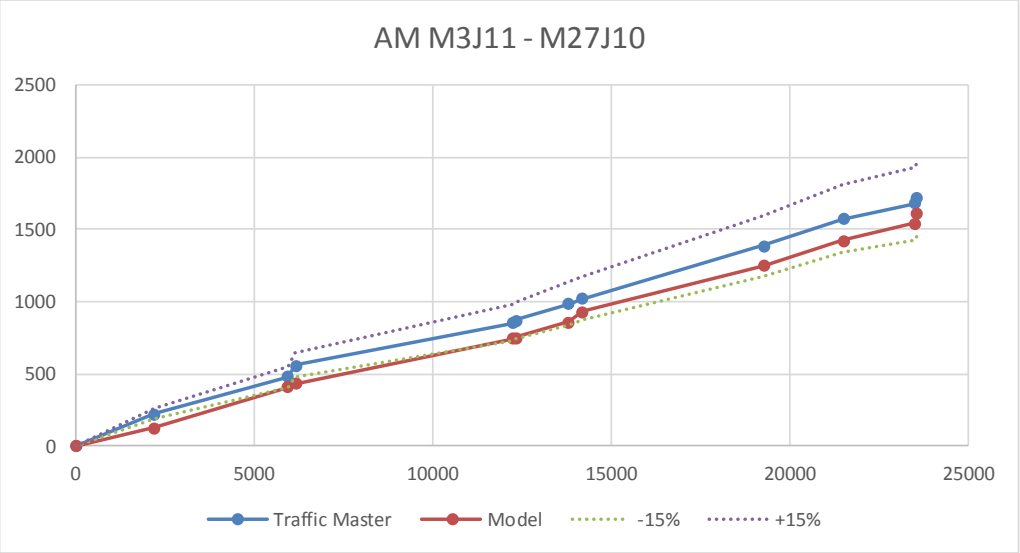
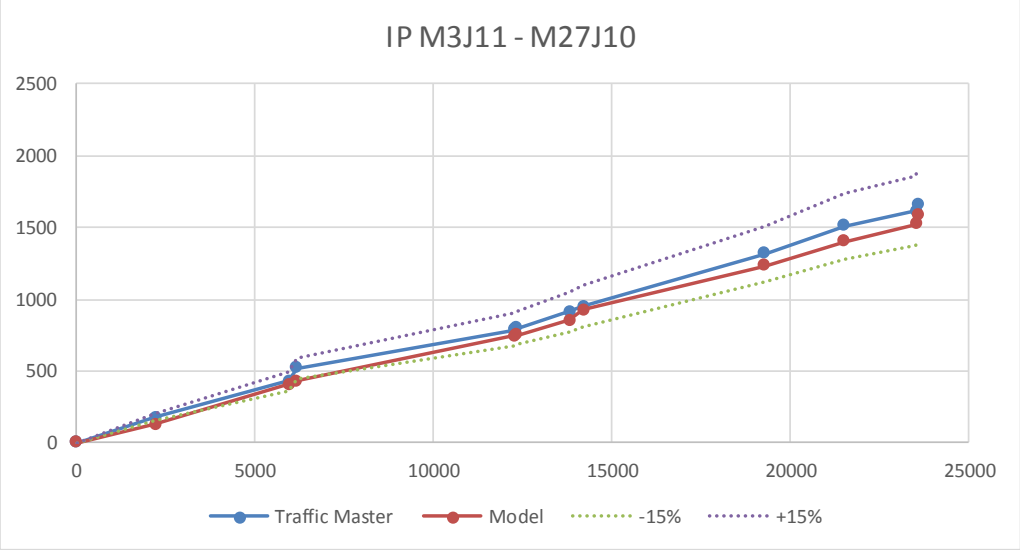


Figure 46. 23SB M3J11 – M27J10





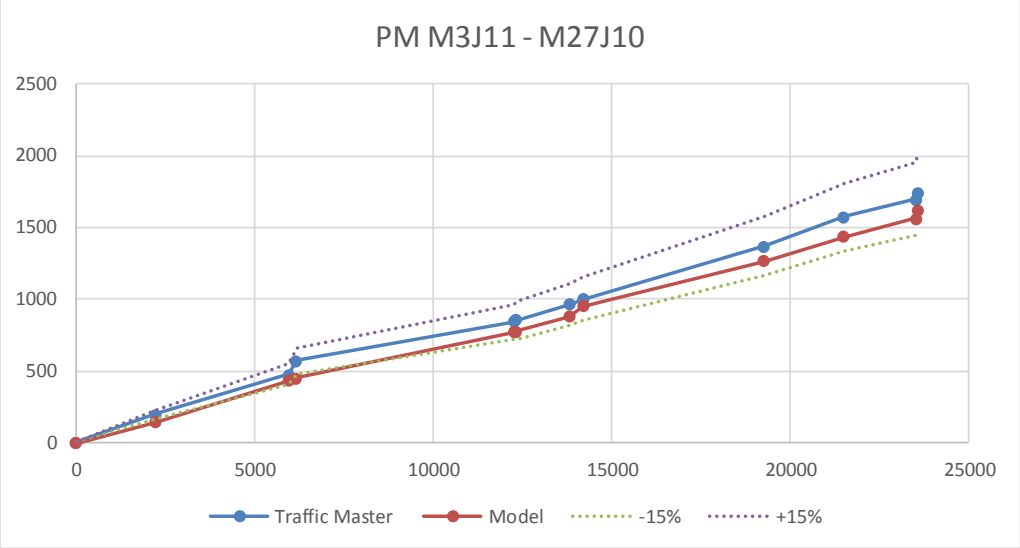


Figure 47. AM M27 Eastbound

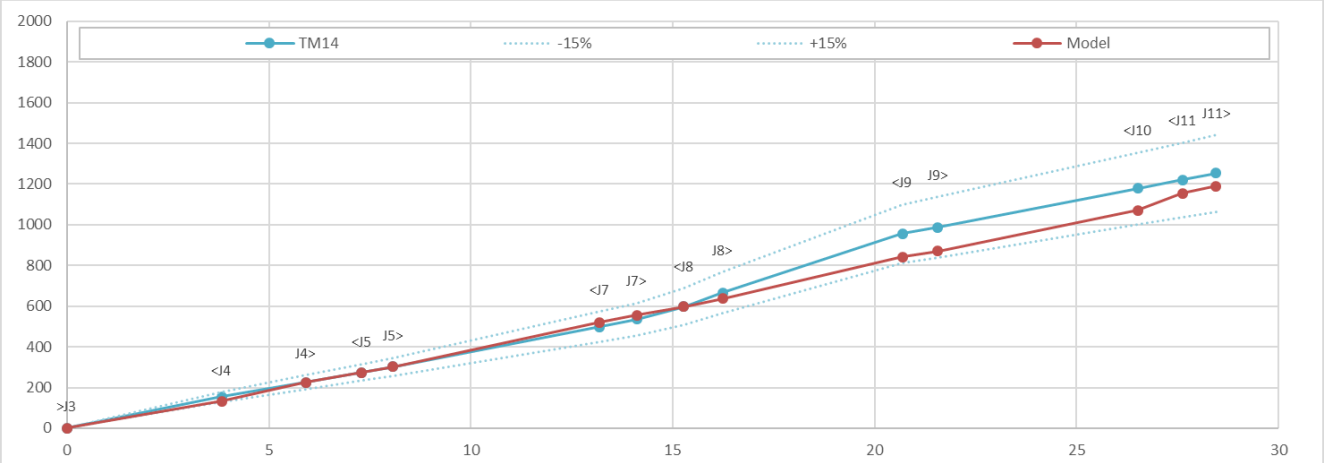


Figure 48. IP M27 Eastbound

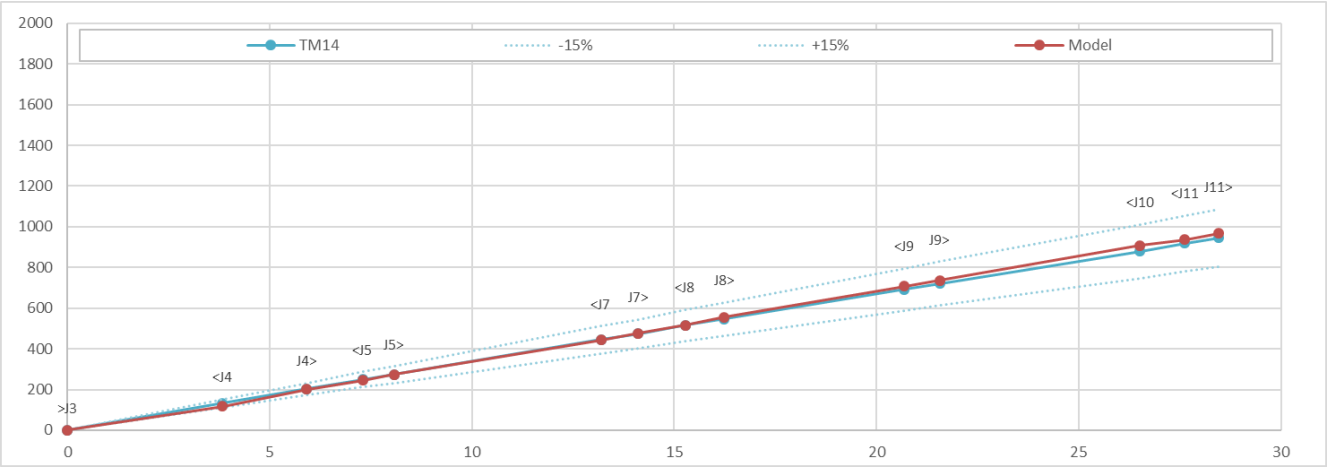


Figure 49. PM M27 Eastbound

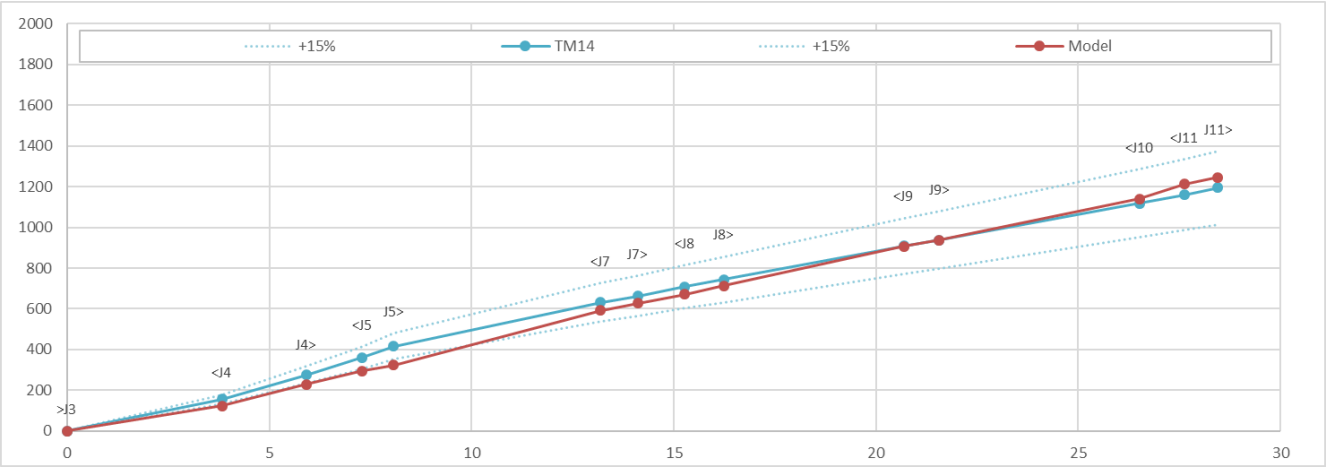


Figure 50. AM M27 Westbound

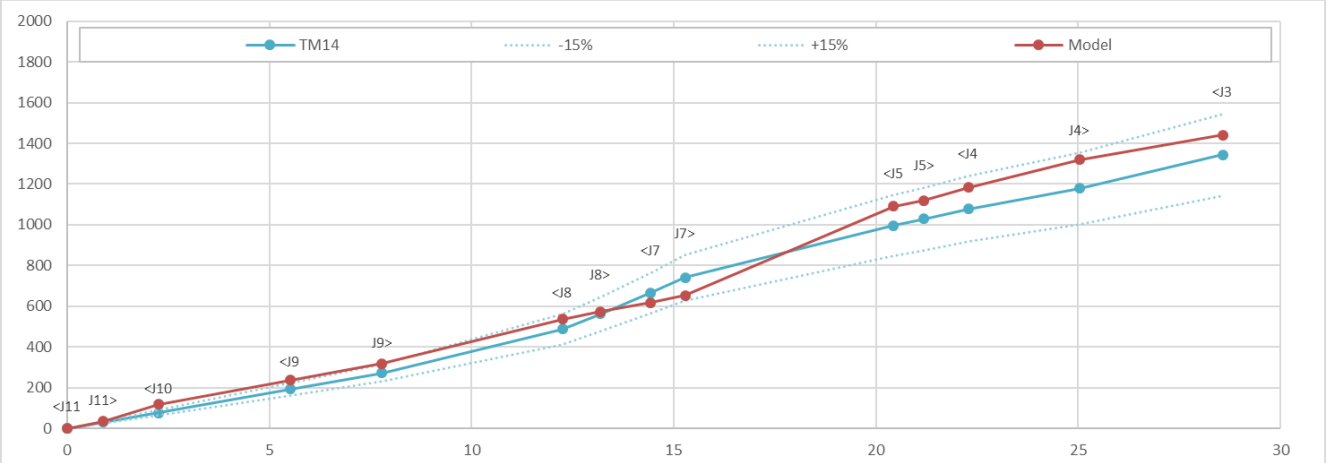


Figure 51. IP M27 Westbound

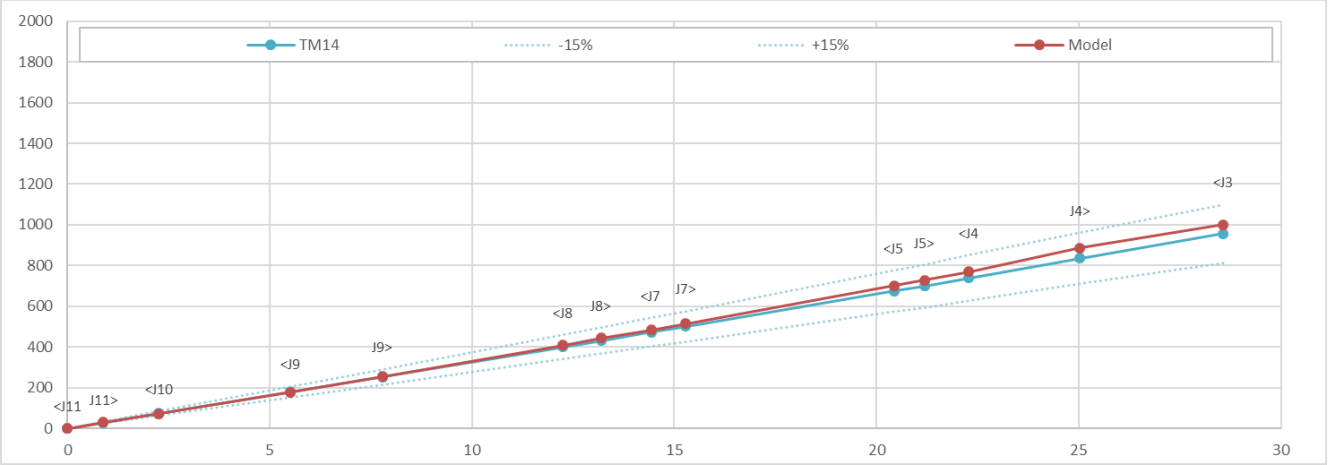


Figure 52. PM M27 Westbound

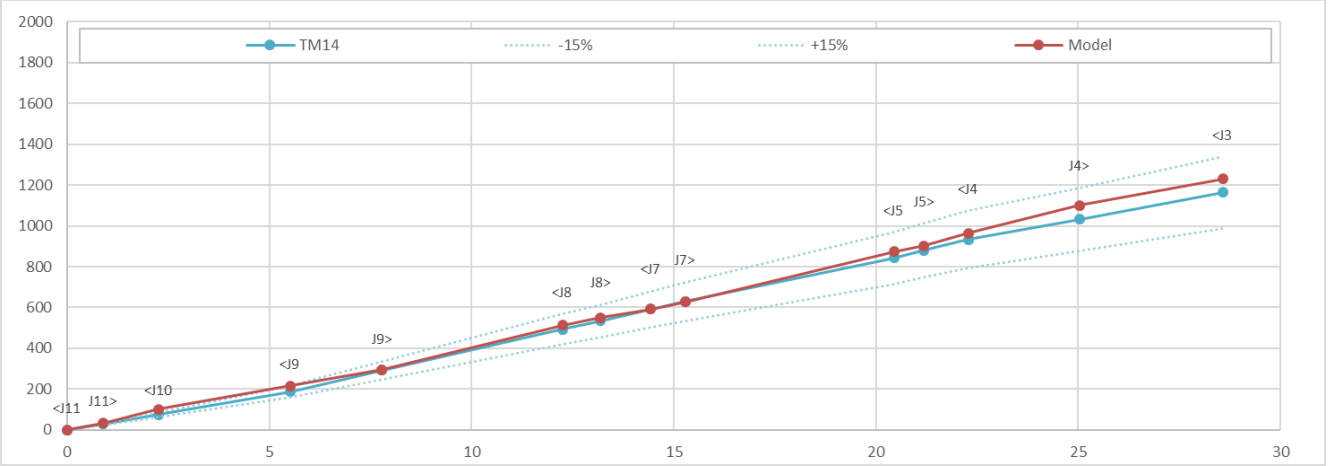


Figure 53. AM M3 Eastbound

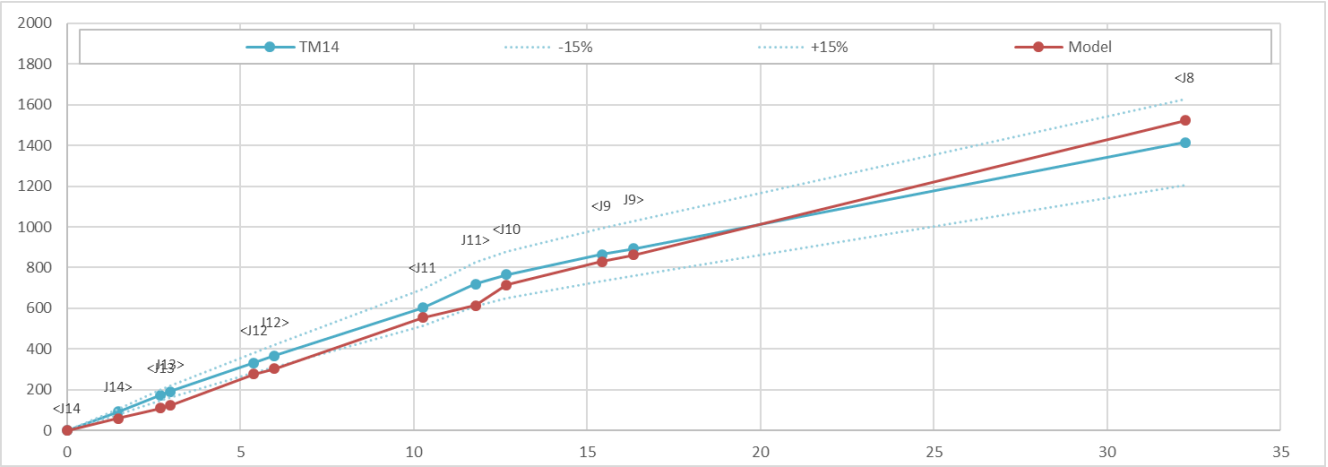


Figure 54. IP M3 Eastbound

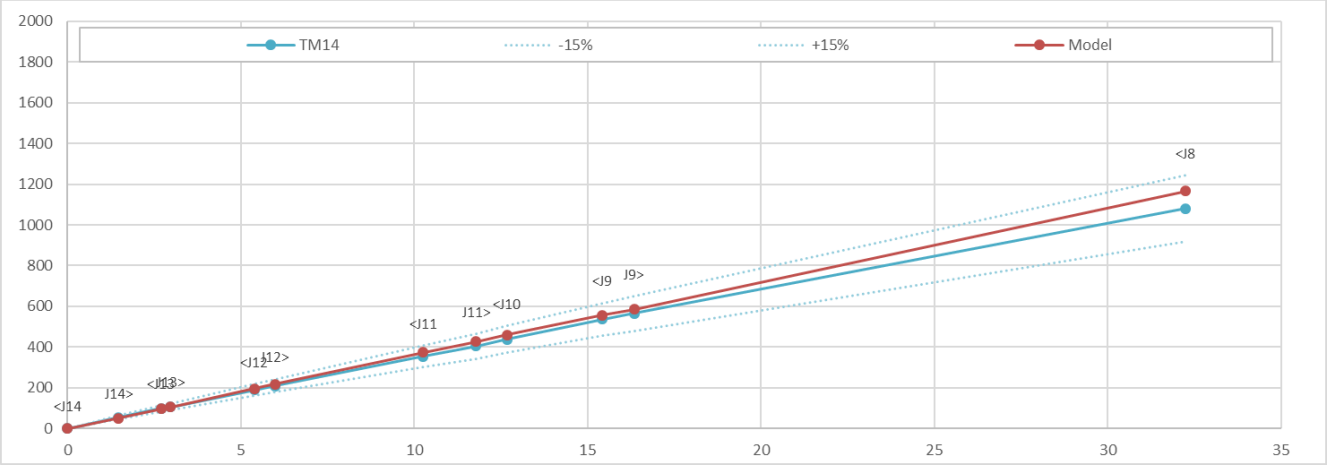


Figure 55. PM M3 Eastbound

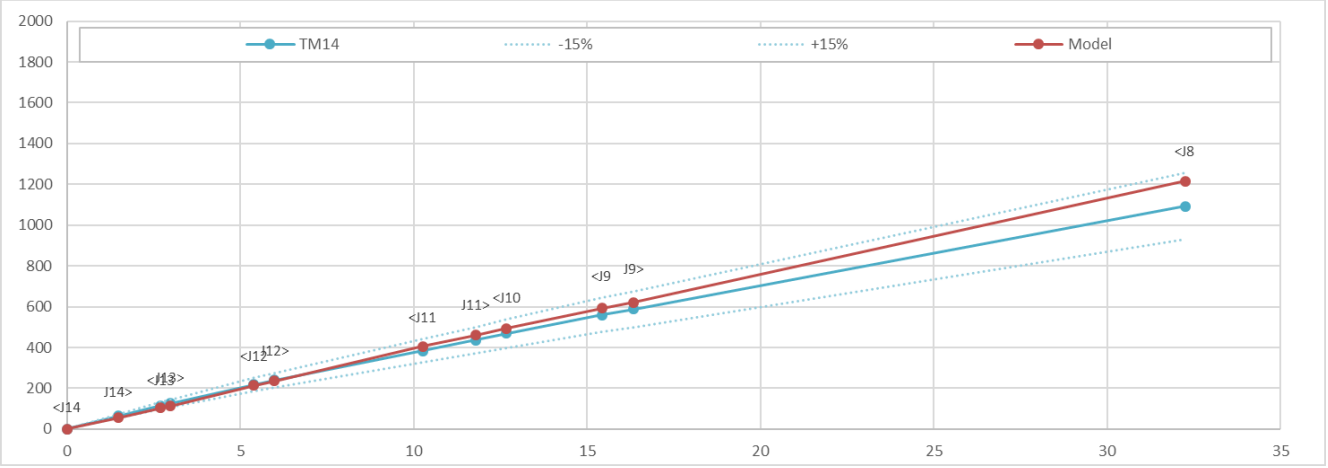


Figure 56. AM M3 Westbound

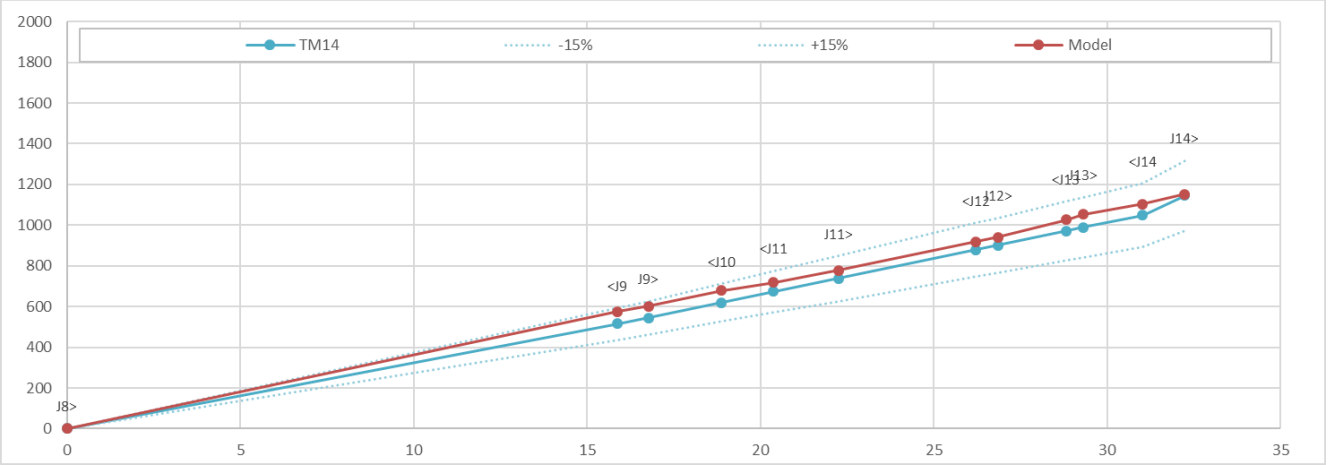


Figure 57. IP M3 Westbound

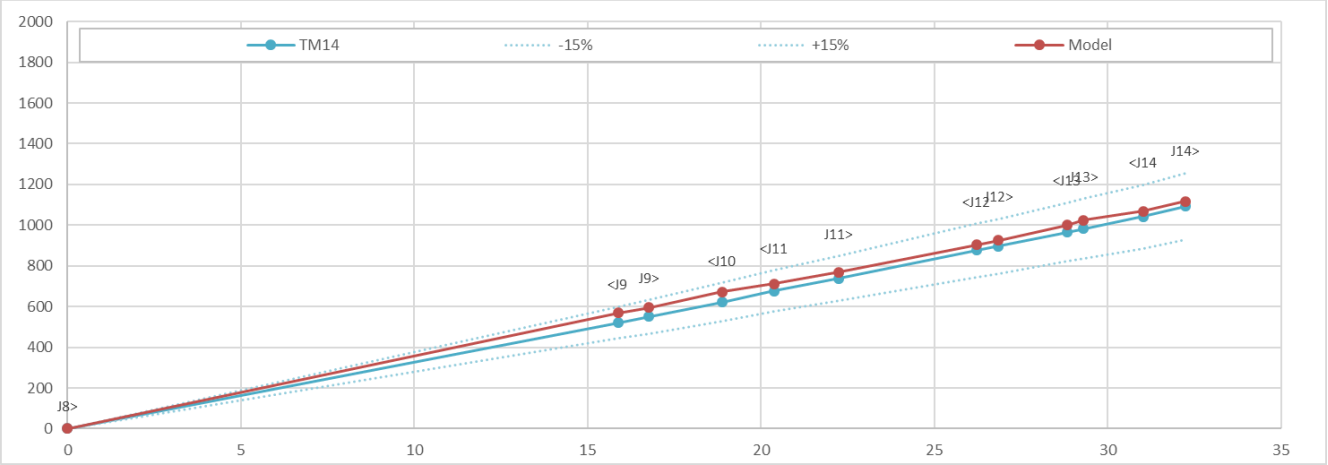
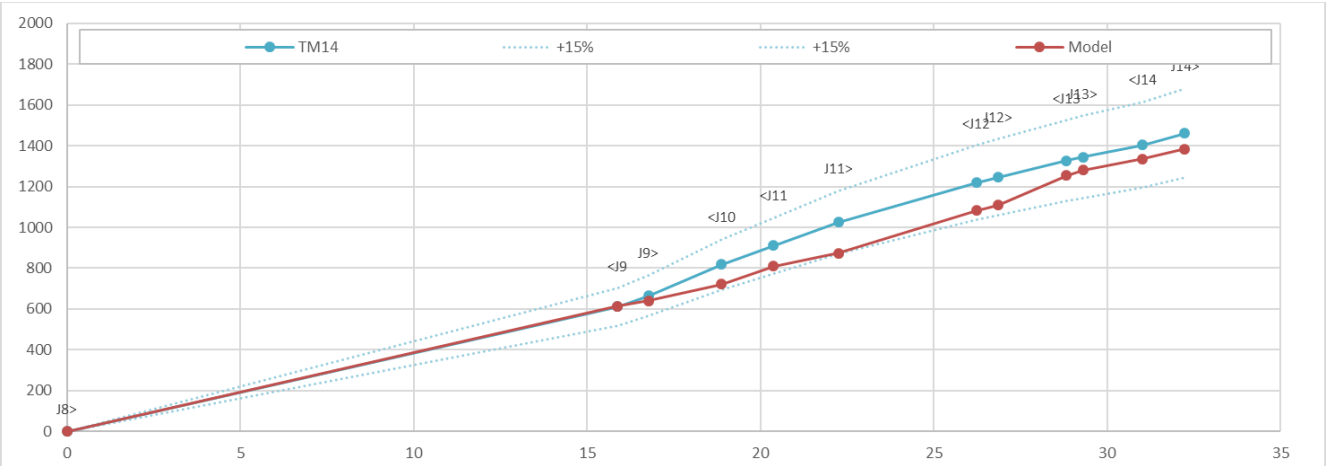


Figure 58. PM M3 Westbound



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For more information visit www.systra.co.uk

Birmingham – Newhall Street
5th Floor, Lancaster House, Newhall St,
Birmingham, B3 1NQ
T: +44 (0)121 233 7680 F: +44 (0)121 233 7681

Birmingham – Innovation Court
Innovation Court, 121 Edmund Street, Birmingham B3 2HJ
T: +44 (0)121 230 6010

Bristol
10 Victoria Street, Bristol, BS1 6BN
T: +44 (0)117 922 9040

Dublin
2nd Floor, Riverview House, 21-23 City Quay
Dublin 2,Ireland
T: +353 (0) 1 905 3961

Edinburgh – Thistle Street
Prospect House, 5 Thistle Street, Edinburgh EH2 1DF
United Kingdom
T: +44 (0)131 220 6966

Edinburgh – Manor Place
37 Manor Place, Edinburgh, EH3 7EB
Telephone +44 (0)131 225 7900 Fax: +44 (0)131 225 9229

Glasgow – St Vincent St
Seventh Floor, 124 St Vincent Street
Glasgow G2 5HF United Kingdom
T: +44 (0)141 225 4400

Glasgow – West George St
250 West George Street, Glasgow, G2 4QY
T: +44 (0)141 221 4030 F: +44 (0)800 066 4367

Leeds
100 Wellington Street, Leeds, LS1 1BA
T: +44 (0)113 397 9740 F: +44 (0)113 397 9741

Liverpool
Cotton Exchange, Bixteth Street, Liverpool, L3 9LQ
T: +44 (0)151 230 1930

London
3rd Floor, 5 Old Bailey, London EC4M 7BA United Kingdom
T: +44 (0)203 714 4400

Manchester – 16th Floor, City Tower
16th Floor, City Tower, Piccadilly Plaza
Manchester M1 4BT United Kingdom
T: +44 (0)161 831 5600

Newcastle
PO Box 438, Newcastle upon Tyne, NE3 9BT
United Kingdom
T: +44 (0)191 2136157

Perth
13 Rose Terrace, Perth PH1 5HA
T: +44 (0)1738 621 377 F: +44 (0)1738 632 887

Reading
Soane Point, 6-8 Market Place, Reading,
Berkshire, RG1 2EG
T: +44 (0)118 334 5510

Woking
Dukes Court, Duke Street
Woking, Surrey GU21 5BH United Kingdom
T: +44 (0)1483 728051 F: +44 (0)1483 755207

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