

# QUEANBEYAN TRANSPORT PLAN

## 2006 Model Building Report



Prepared by



August 2008

# Queanbeyan Transport Plan

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Prepared by **Matt Ellery**  
Transportation Modeller/Analyst

**Jean-Christophe Roy**  
Transportation Modeller/Analyst

**Eileen Ai**  
Transportation Modeller/Analyst

Reviewed by **David Hunter**  
Senior Transportation Engineer

Approved by **David Hunter**  
Senior Transportation Engineer

Gabites Porter Consultants Ltd  
138 Victoria Street  
P O BOX 25 103  
Christchurch  
New Zealand

Telephone: +64 3 366 9871  
Facsimile: +64 3 366 9870

Date: August 2008  
Reference: 4346  
Status: Final 1

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## 1. EXECUTIVE SUMMARY

In 2008 Queanbeyan Council commissioned Gabites Porter to create a conventional three-step transportation model of the Queanbeyan LGA based on the 2006 Census Land Use and traffic flows. This report details the creation and validation of that model.

The land use and traffic modelling used for this study comprises of four sequential stages. That is, trip generation, trip distribution, trip assignment and evaluation. It models a typical 2006 weekday morning peak and evening peak period.

The 2006 land use model area covers the region contained within the Queanbeyan and Canberra LGAs. Canberra was included in the model to help reproduce the cross border interaction that occurs between Queanbeyan and ACT. The study area however is bordered on the east and south sides by the ACT-NSW border, just below the Monaro Hwy and Old Cooma Rd junction in the south, and in the east as far as the Wanna Wanna Nature Reserve.

The road network used in the study was obtained from QCC and ACT GIS systems and includes all roads within the Queanbeyan study area and all roads of Collector or higher status in the ACT.

The full model zone system covers the entire ACT and Queanbeyan model area. The zone system used within the ACT portion of the model is identical to that used in the existing ACT EMME/2 Model except for the Queanbeyan portion which is detailed in more detail.

The ACT zone system comprises of 744 zones, including 8 externals. Of the 766 internal zones, 681 are designated to zones with established land use with the remaining 85 internal zones distributed in clusters surrounding Queanbeyan as 'spares' to provide for future developments.

The Queanbeyan study area part of the model itself was also divided into sub areas to form a zone system. The study area part of the model consists of a further 255 zones, including 5 externals. Of the 250 internal zones, 200 are designated to zones with established land use with the remaining 50 internal zones distributed in clusters surrounding Queanbeyan as 'spares' to provide for future developments. In total there are 999 zones represented in the model.

For household data the procedure followed was to extract the data at CCD level from the Census Community Profile, and then allocate each CCD to either a single model zone or multiple zones based on CCD size. The following is a summary of the total land use used in the model.

Land use Variable	Model Area Total
Households	134,652
Employees	192,318
Employees per HH	1.428
Vehicles	211,049
Vehicles per HH	1.567
Primary School Roll	29,034

Land use Variable	Model Area Total
Secondary School Roll	35,036
Tertiary Roll	38,350
Retail Jobs	22,401
Finance Jobs	22,378
Community Jobs	20,083
Manufacturing Jobs	22,765
Other Jobs	95,822
Total Jobs	183,255
Special (Airport etc)	8,420

The model operated through the standard trip generation, trip distribution and trip assignment stages until convergence in the operation of the model was achieved. Convergence occurs then the assignment and distribution steps are run iteratively until the totals of both the time and distance matrices between successive runs remain close to each other and relatively constant. Convergence occurred when both models achieved differences between runs of less than 0.05%.

Validation of the model requires that the output traffic volumes from the model approximate what occurs in reality. This was done through checking model flows against actual count flows along a number of screenlines are drawn across the study area to capture the major traffic patterns that are occurring. This validation included seven screenlines and a number of additional miscellaneous count locations.

Required screenline validation criteria were met in most instances for the both model periods except along two screenlines which were significantly affected by CBD parking movements on and around Crawford and Collett Streets. The location of off-street and on-street parking, access to and from parking areas and the build up of parking during the off-peak period (which has not been modelled) greatly affected the level of vehicle movements on these roads.

An additional means of validation used in the model was travel time validation. Travel time validation determines the appropriate link types, or link speed in the modelled network. Link types along all surveyed routes are iteratively selected to consistently produce modelled travel times within the acceptable margin of error as defined by the survey variation.

The majority of travel time routes were within the variation bounds of the surveyed data. Only four instances the modelled journey time were outside the surveyed results but were at maximum 6% outside limits. In all instances, the variance from the surveyed results was due to delays at intersections well within the ACT. Whilst care had been taken to create a reasonable fully functioning ACT model no serious validation of the ACT region had been undertaken and these variances are considered reasonable.

This model has been created to, as closely as possible, replicate the traffic movements within the Queanbeyan LGA during a typical weekday in 2006 based on available traffic data.

Gabites Porter believes that the model building aspect of this project has been done in full accordance with the project brief and satisfies standard model validation criteria.

## 2. INTRODUCTION

### 2.1 Study Approach

In 2008 Queanbeyan Council commissioned Gabites Porter to create a conventional three-step transportation model of the Queanbeyan LGA. This model utilised 2006 Census land use data and a 2006 road network.

The aims of the Queanbeyan Transport Plan were to:

1. To gain a thorough understanding of the Transport systems within the Queanbeyan local government area;
2. To develop a Transport planning model that would:
  - a. Support and enhance the outcomes of the Queanbeyan Tomorrow Community Vision 2021
  - b. Consider land use change as envisaged in the endorsed Queanbeyan Residential and Economic Strategy 2031 and regional and sub-regional influences as envisaged in the Canberra Spatial Plan and as a result of such things as the Defence Headquarters
  - c. Consider potential new major by pass roads.
  - d. Assist with the application of measures to optimise the usage of public transport in a given land use and economic environment.
3. To develop the necessary tools for the management and future planning of the City's transport systems at both the macro and micro level using model that is capable of analysing network issues for both the AM and PM peak periods.

The transportation model developed for this study followed a three-step process of trip generation, distribution and assignment. The generation step used a household category model and regression equations for trip productions, with regression derived equations for attractions. The distribution step used a standard doubly constrained gravity model to distribute trips, with the distribution functions based on time. The assignment step used a capacity restraint technique, with trip paths based on behavioural costs, and delays calculated on links and at intersections.

A fourth step in the process is to use the transportation model to assess and evaluate network and land use options.

A transportation model for a given time period comprises a group of linked mathematical formulae that approximate the traffic network and the general behaviour of drivers using it. It is accepted that the analysis may not take into account extremes of human behaviour, nor will it reflect all the subtle complexities of the transport system. Nevertheless the model that has been developed is capable of identifying the more significant factors and is adequate to test adjustments to the road network and land use system, which are likely to show the greatest benefit in relation to their costs.



The following period models were developed, with the following applications in mind.

<b>Transportation Model</b>	<b>Modelling</b>	<b>Application</b>
<i>Morning Peak</i>	One peak hour Between (0700 – 0900 hrs)	<ul style="list-style-type: none"><li>▪ Peak inbound traffic flows</li><li>▪ Central area access routes</li><li>▪ Intersection performance</li><li>▪ Design issues</li><li>▪ Site specific issues</li></ul>
<i>Evening Peak</i>	One peak hour Between (1600 – 1800 hrs)	<ul style="list-style-type: none"><li>▪ Peak outbound traffic flows</li><li>▪ Central area egress routes</li><li>▪ Intersection performance</li><li>▪ Design issues</li><li>▪ Site specific issues</li></ul>

Modelling necessitates a series of compromises because of the constraints of current techniques, or because data is not available by which to utilise the techniques, or because resources are not available at the time.

Nevertheless, a model is a 'living' tool, which can and should be improved incrementally over the years as needs dictate and resources permit.

## **2.2 Report Content**

This report, as its title suggests is designed as a technical document. It is designed as a reference volume of how the transportation model was built and, we believe, contains all the information necessary to completely build the analytical system. It highlights the assumptions made, the techniques adopted, and the relationships used. It also demonstrates the extent to which the model used was validated in terms of how well it replicates actual traffic flows.

### 3. MODEL DATA

The following sections will detail the data used in the creation of the model. This comprises the land use, which is fundamental to the trip making process of the model, trip generation and attraction components, trip distribution coefficients, assignment parameters and finally the validation flows and speeds.

The majority of this data was taken from standard coefficients and parameters used in all validated TRACKS models based in New South Wales and accepted by the RTA as being suitable for typical model building process. A 1997 ACT Household Interview travel Survey provided valuable data on trip length frequencies within ACT and Queanbeyan for the calibration of the model trip distribution coefficients.

An area where some data deficiency existed was in the data available for model validation. A "Queanbeyan Transport Plan - Data Report" has already been provided which details useful validation flow, intersection and travel time data and where there are gaps in that data. The report highlighted where traffic flows at a number of screenline locations and intersections were required to fill gaps and where travel time routes should be surveyed to ensure correct general network model speeds are used.

These data gaps were filled by data provided by QCC staff.

## 4. MODEL OVERVIEW

### 4.1 Hardware Requirements

The transportation model was developed within the transportation planning package TRACKS, and run on stand-alone PC systems using Windows 98 or greater.

### 4.2 Model Form

Planning of a land use transport system requires that the system can be adequately modelled and the effects of any change can be reliably forecast.

A useful method is to build mathematical models that simulate travel behaviour. The land use and traffic modelling used for this study comprises of four sequential stages. That is, trip generation, trip distribution, trip assignment and evaluation.

#### *Trip End Generation*

The generation of trip ends for each sub area (zone) within the study area. The trip ends were generated according to the pattern of households, schools and employment activity, and then allocated accordingly.

The model was based on vehicle trips rather than person trips. Subsequently the modal split phase was inherent in the trip end generation rather than following the distribution stage.

#### *Trip Distribution*

The conversion of trip ends to trips distributed within the study area according to a function of activity and travel cost.

#### *Trip Assignment*

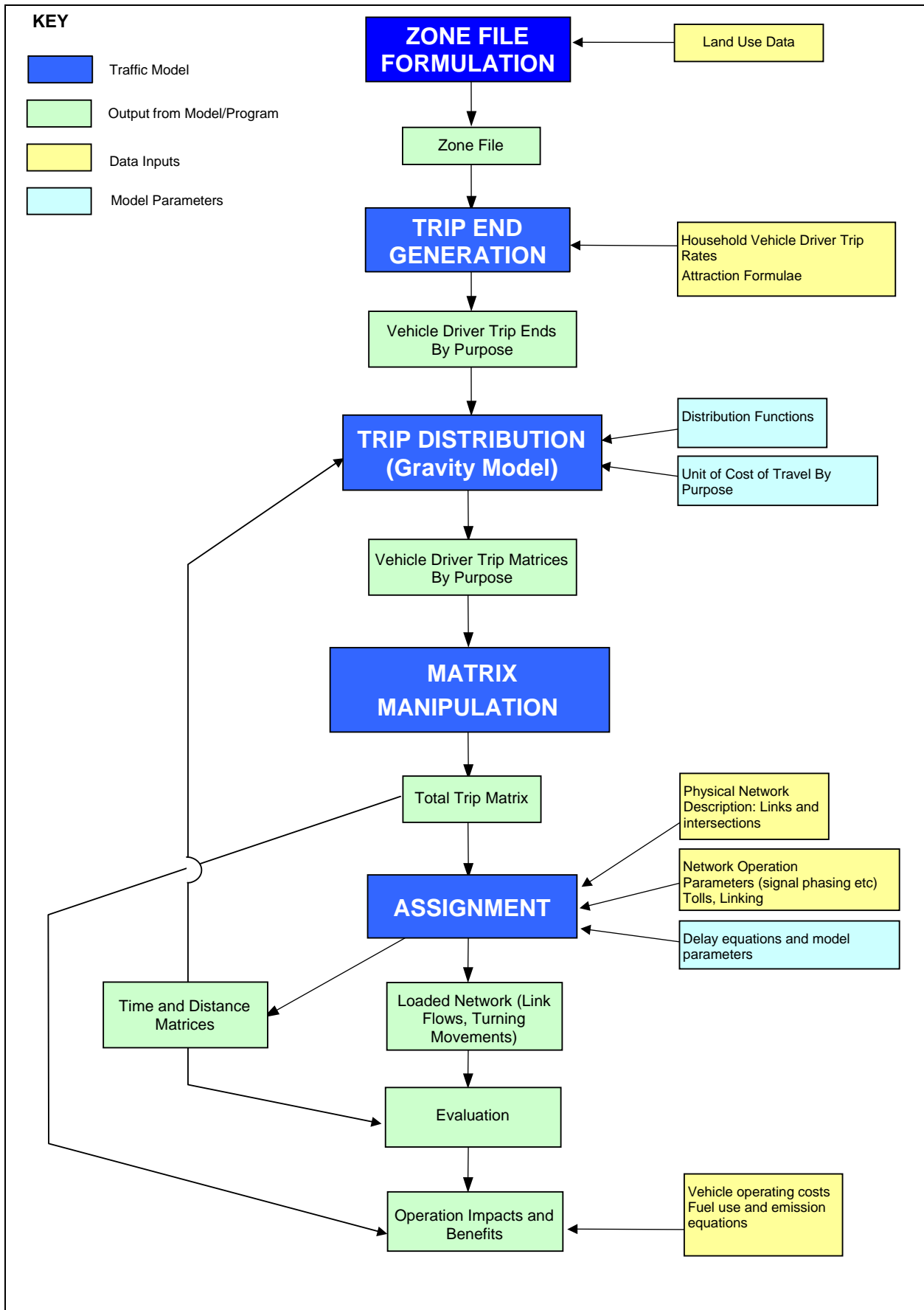
The loading of trips onto the road network as traffic flows between zones.

#### *Evaluation*

The final stage of the process where operational impacts are assessed.

The relationship between the different components are summarised schematically in **Figure 1**.

There is an iteration process where the interzonal times and distances which result from the assignment phase feed back into the trip distribution phase. The process can be started by assuming times and distances as initial impacts to distribution, or by assuming initial trips as the input to the assignment. In any event, the assignment/distribution loop is repeated until there is little or no change in the vehicle hours and vehicle kilometres of travel between iterations. This process is known as 'converging' the network.



Queanbeyan Transport Plan	<b>Vehicle Driver Model Components</b>	<b>Figure 1</b>
Gabites Porter		

### 4.3 The Model Area

The 2006 land use model area covers the region contained within the Queanbeyan and Canberra LGAs. Canberra was included in the model to help reproduce the cross border interaction that occurs between Queanbeyan and ACT.

The study area however is bordered on the east and south sides by the ACT-NSW border, just below the Monaro Hwy and Old Cooma Rd junction in the south, and in the east as far as the Wanna Wanna Nature Reserve. Development in Queanbeyan occurs mainly in the Northwestern area, as evident by the higher population and road density in the town proper.

### 4.4 The Road Network

The road network used in the study was obtained from QCC and ACT GIS systems and includes all roads within the Queanbeyan study area and all roads of Collector or higher status in the ACT. The road network for the entire model area is shown in **Figure 2** and within the Queanbeyan Study area in **Figure 3**.

Each link in the network was allocated a specific volume delay curve to reflect the nature of the link and the way in which traffic behaves as flows increase. A more detailed discussion of the use of these is in **Section 6** of this report.

### 4.5 The Zone System

The full model zone system covers the entire ACT and Queanbeyan model area. The zone system used within the ACT portion of the model is identical to that used in the existing ACT EMME Model except for the Queanbeyan portion which is detailed below in more detail.

The ACT zone system comprises of 744 zones, including 8 externals. Of the 736 internal zones, 681 are designated to zones with established land use with the remaining 85 internal zones distributed in clusters surrounding Queanbeyan as 'spares' to provide for future developments. This model area zone system is shown in **Figure 4**.

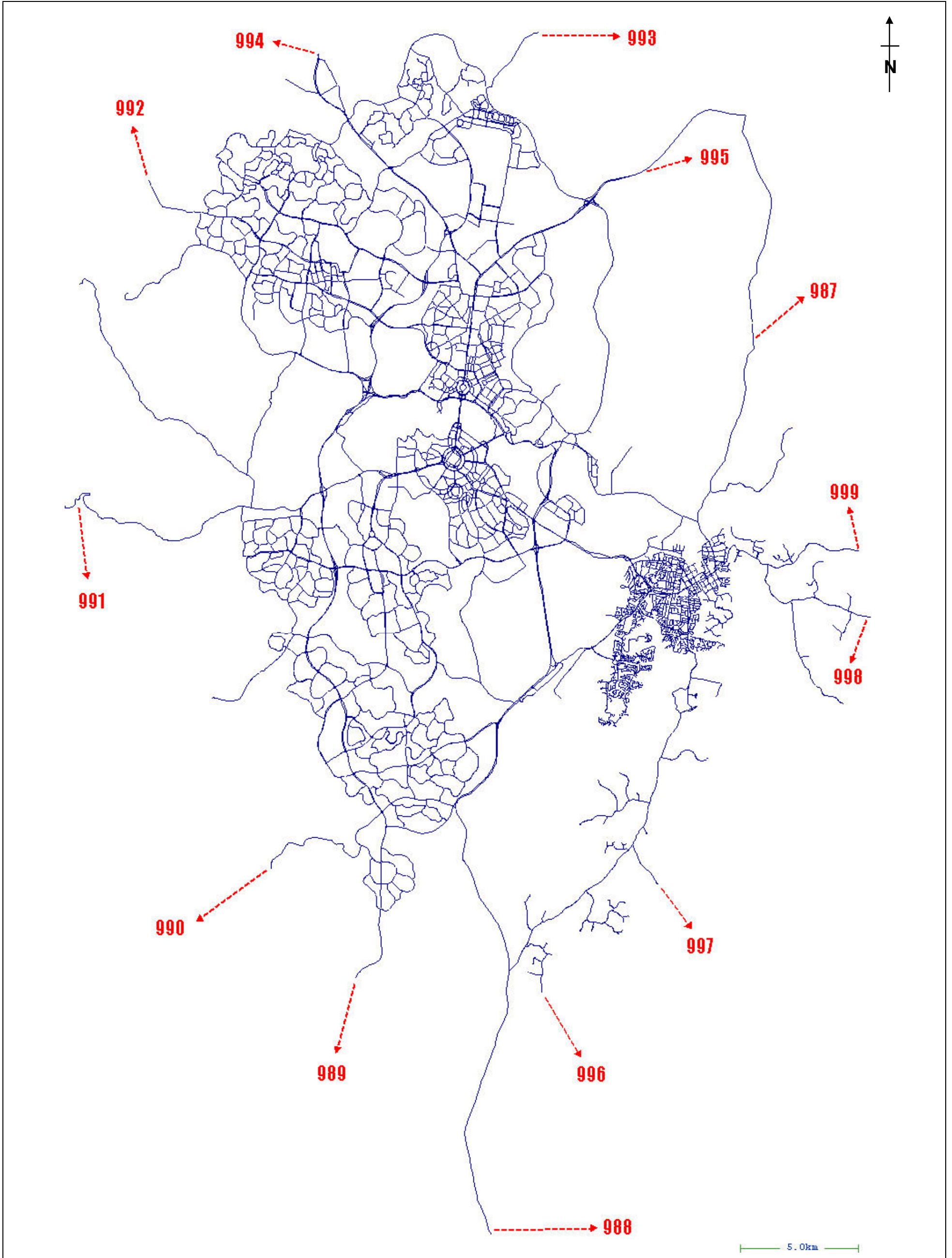
The Queanbeyan study area part of the model itself was also divided into sub areas to form a zone system. The study area part of the model consists of a further 255 zones, including 5 externals. Of the 250 internal zones, 200 are designated to zones with established land use with the remaining 50 internal zones distributed in clusters surrounding Queanbeyan as 'spares' to provide for future developments. This study area zone system is shown in **Figure 5** and **Figure 6**.

The model zone system adopted was based upon other systems for which land use data was available. The main source of land use data was the 2006 Census carried out by the Australian Bureau of Statistics (ABS).

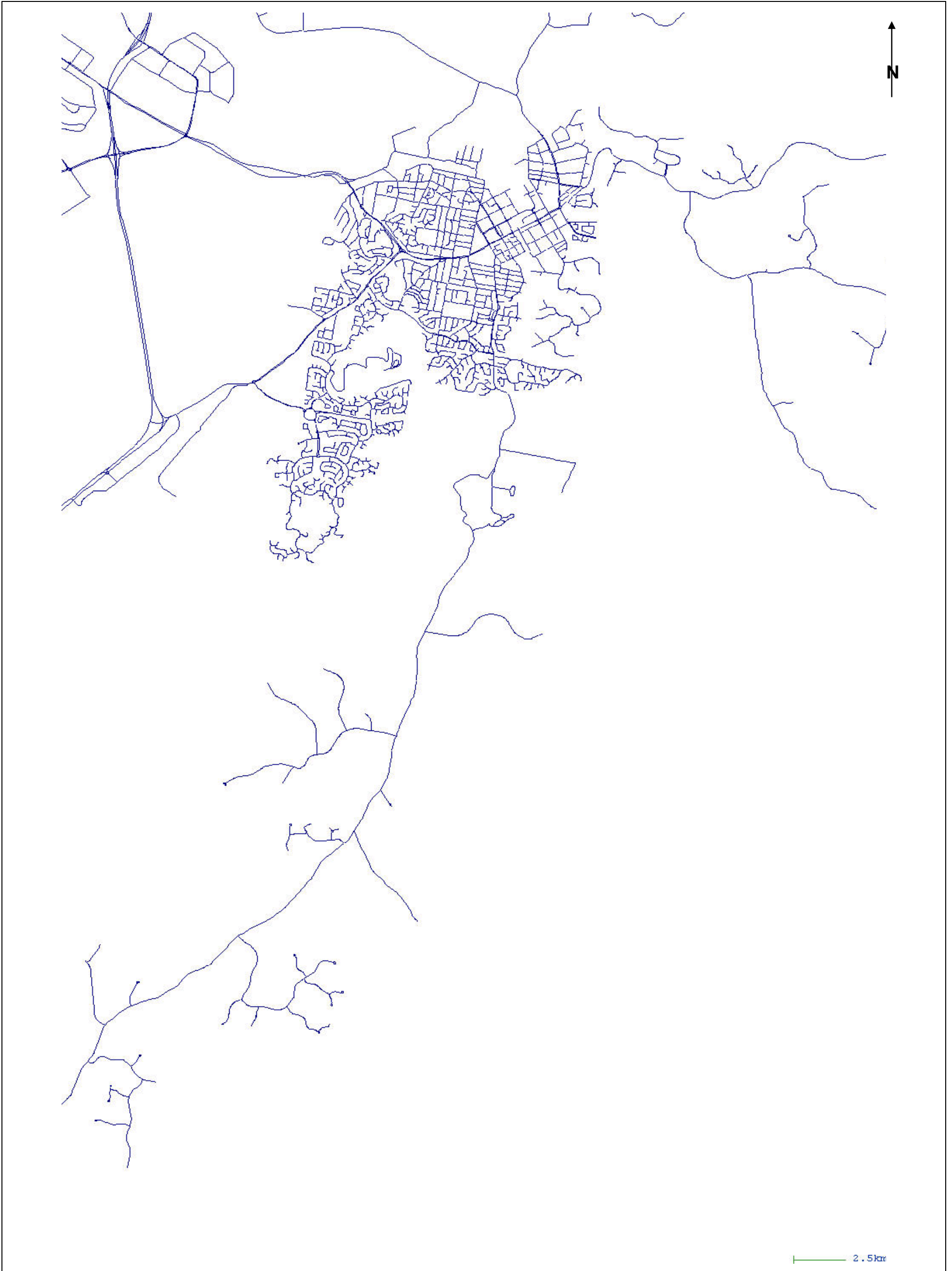
Amalgamation of the Census data was based upon one of the following (from broadest to finest): -

Census Zone Systems		Table 1
SLA (Statistical Local Area)	Journey to Work destination zone	
TDC (Transport Data Centre Zone)	Journey to Work origin/destination and industrial standard job data	
ABS Origin Zone (similar to TSZ, some numbers different)	Journey to Work origin zone	
CCD (Census Collector District)	Community Profile Household Data (number of employees, vehicles, persons)	

Due to the relatively large size of the individual CCD areas, it was necessary to refine them into smaller traffic zone areas for use in the model. On average each CCD was split into three traffic zones, some CCD areas only being split once while others may have been split more than five times.

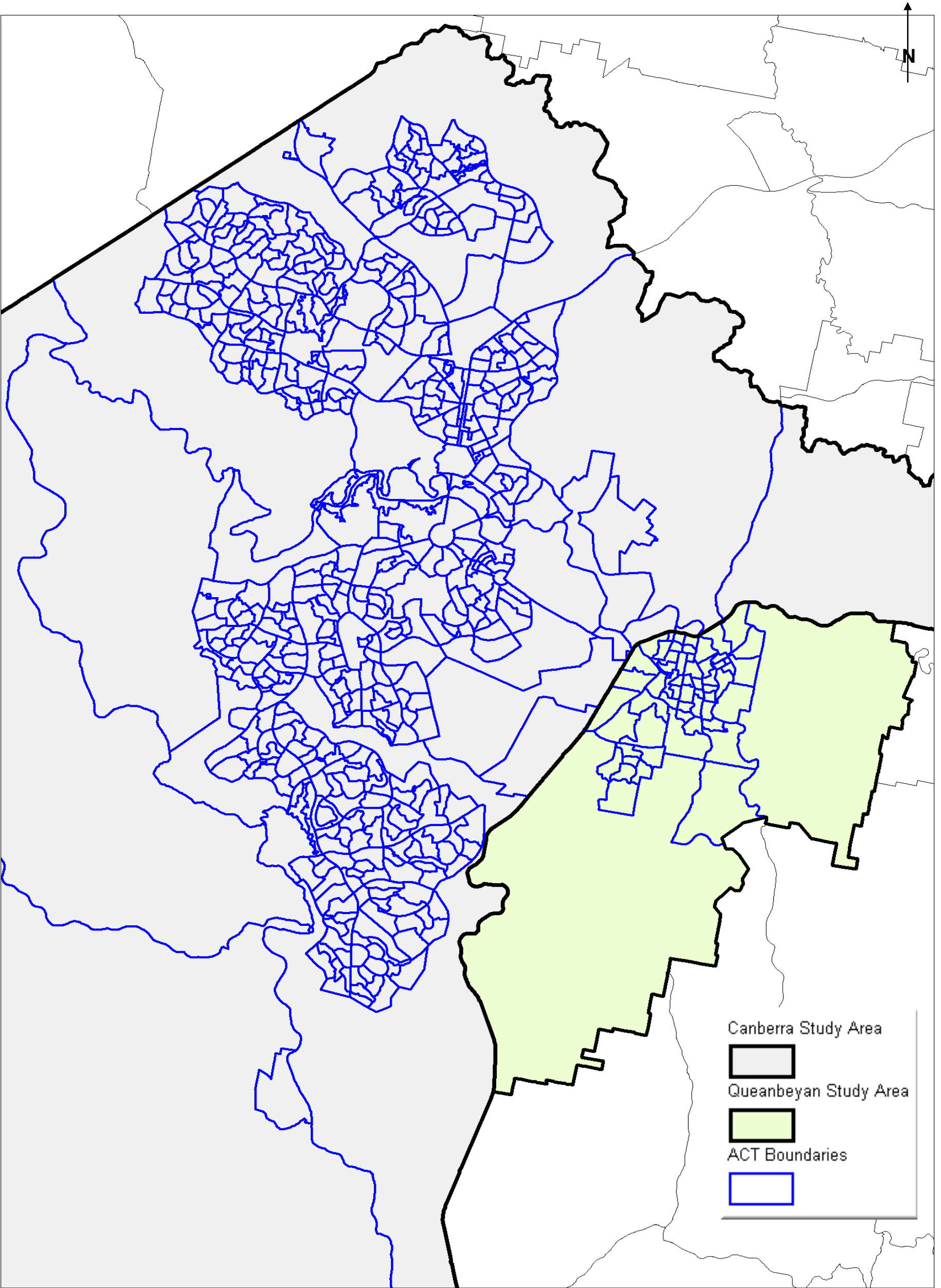


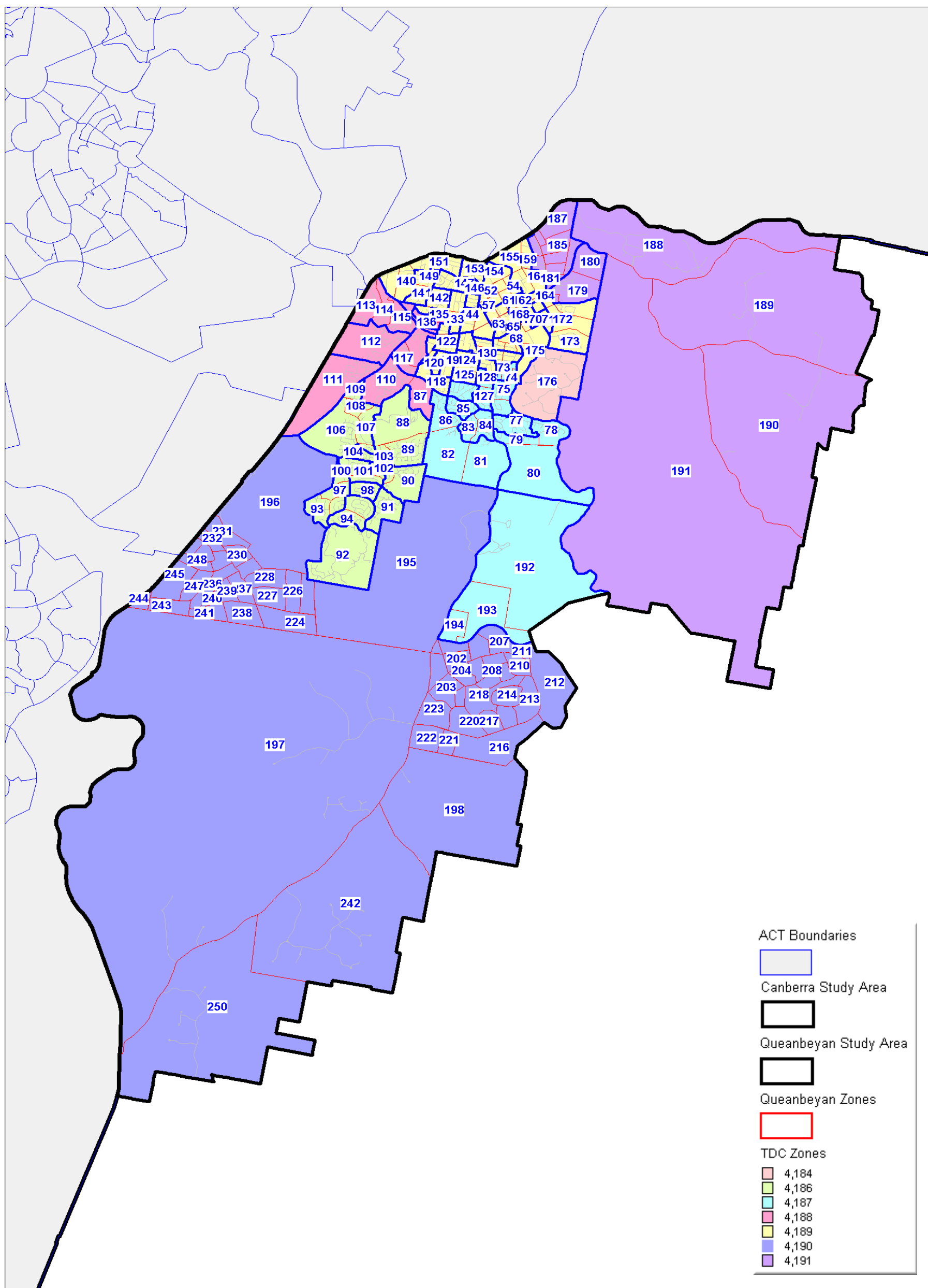
Queanbeyan Transport Plan	Model Road Network	Figure 2
Gabites Porter		

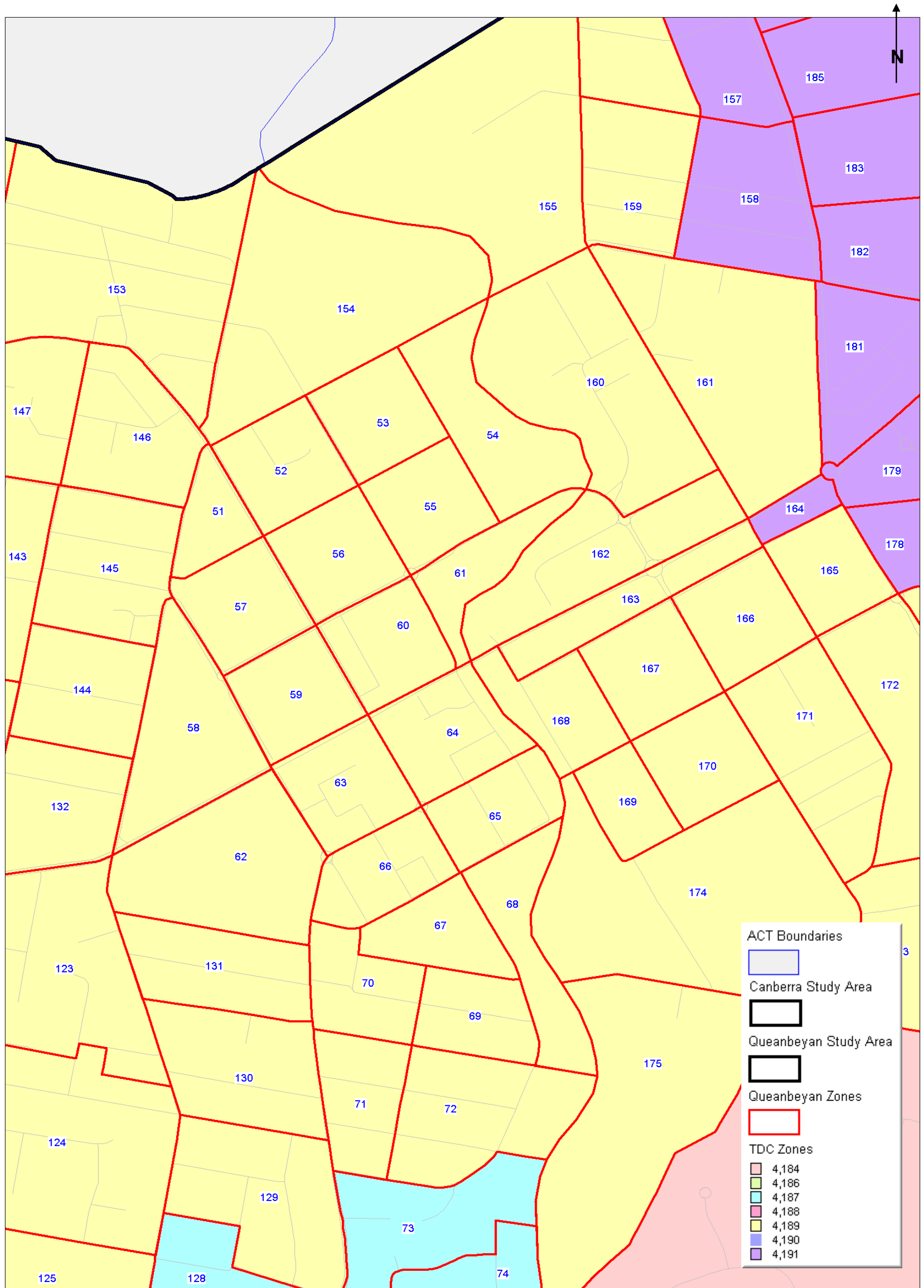


Queanbeyan Transport Plan	<b>Queanbeyan Study Area Road Network</b>	<b>Figure 3</b>
Gabites Porter		









## 5. LAND USE DATA

### 5.1 Existing (2006) Land Use

The 2006 land use information was used for the creation of the base network.

Queanbeyan household data was based on CCD ex 2006 ABS census data:

- Households (number occupied on census night)
- Average vehicles available/household
- Average number of employees/household

ACT household data was taken directly from the land use data provided by the ACT Office of Transport, Territory and Municipal Services. This data was used as input into the ACT EMME/2 model of Canberra and contained land use details for all Canberra zones.

At the workplace location jobs have been identified and located using 2006 ABS census data placed according to the Transport Data Centre Zone system and using the Australian New Zealand Standard Industry Classifications (ANZSIC) Major Divisions for all full time + part time jobs (i.e. number of people employed):

- Division C - Manufacturing
- Division F – Wholesale Trade
- Division G - Retail Trade
- Division K – Finance and Insurance
- Division O – (Health and) Community Services
- Total Jobs

Education school roll data was obtained from the rolls of private and public schools.

### 5.2 Household Data

For household data the procedure followed was to extract the data at CCD level from the Census Community Profile, and then allocate each CCD to either a single model zone or multiple zones based on CCD size. From these files, the software disaggregated CCD data to the zone system level.

The correlation of TRACKS zone to CCD zone and TDC zone is listed in **Appendix 1**. This appendix also contains the correlation between TRACKS zone and ACT EMME/2 model zone.

### 5.3 Land use Summary

**Table 2** and **Table 3** summarises the 2006 land use totals that apply to the model and study areas.

2006 Entire Model Land use Data		Table 2
Land use Variable	Model Area Total	
Households	134,652	
Employees	192,318	
Employees per HH	1.428	
Vehicles	211,049	
Vehicles per HH	1.567	
Primary School Roll	29,034	
Secondary School Roll	35,036	
Tertiary Roll	38,350	
Retail Jobs	22,401	
Finance Jobs	22,378	
Community Jobs	20,083	
Manufacturing Jobs	22,765	
Other Jobs	95,822	
Total Jobs	183,255	
Special (Airport etc)	8,420	

2006 Queanbeyan Study Area Land use Data		Table 3
Land use Variable	Study Area Total	
Households	14,131	
Employees	19,072	
Employees per HH	1.350	
Vehicles	22,365	
Vehicles per HH	1.583	
Primary School Roll	2,645	
Secondary School Roll	1,415	
Tertiary Roll	300	
Retail Jobs	2,120	
Finance Jobs	1,848	
Community Jobs	1,658	
Manufacturing Jobs	2,532	
Other Jobs	1,422	
Total Jobs	9,610	
Special (Airport etc)	1,920	

Land use by zone is included in **Appendix 2**.

## 6. TRIP END GENERATION

### 6.1 General

When producing a traffic model, one is concerned specifically with vehicle driver trips. These trips can be broken down into a number of purposes depending upon what activity or type of land use was involved at the origin and destination. Such activities may be:

- Own Home
- Own Workplace
- Education
- Shopping
- Employer's Business
- Personal Business
- Changing Travel Mode
- Social/recreation etc.
- Collect/Deliver Passenger (Serve Passenger)

Private trips can then be defined as one of five trip purposes described below depending on the land use and activity at the trip ends.

Home Based Work	(HBW)	All trips with one end at home and the other at own work place.
Home Based Business	(HBB)	All trips with one end at home and the other an activity of Shopping or Personal or Employer's Business.
Home Based Education	(HBE)	All trips with one end at home and the other at a school or other centre for education.
Home Based Other	(HBO)	All trips with one end at home and the other an activity of Social/Recreation or any other purpose.
Non Home Based	(NHB)	All trips with neither end at home.

Private trip data is derived from Sydney Household Interview Surveys (HIS). This determines the proportion of trips in each purpose and the time period in which each trip was made. Checks against available ACT HIS results were made to ensure that generation rates were compatible.

The other trip purposes used for the study were:

Light Goods Vehicles	(LGV)	
Heavy Goods Vehicles	(HGV)	
External Traffic	(EXT)	Through traffic (external to external); Internally generated private trips (internal to external); Other internally generated trips and externally generated (external to internal) trips.

## 6.2 Household Interview Survey

### *Background*

The Queanbeyan Transport Plan Model uses the results derived from the Sydney HIS survey carried out in 1991/92 by the Transport Study Group (TSG). The HIS consisted of a household personal interview survey in Sydney of which the Illawarra household data was used by Gabites Porter to develop the Illawarra transport model. It sought to capture information on all travel undertaken for a nominated 24-hour period by all members of each selected household.

A comparison of the Sydney HIS 24hr trip generation rates with the 1997 ACT HIS reported 24hr generation rates indicate close compatibility. The ACT HIS reported a 24hr vehicle trip generation rate of 8.2 road vehicle trips per day per household. This is very close agreement with the Sydney HIS rate of 8.16 road vehicle trips per day per household.

### *Vehicle Driver Trip rates*

Data from the HIS was used to generate vehicle driver trips made within the Illawarra study area. The data is therefore the most applicable to the local environs of Illawarra however the data is likely to closely model driver trip rates and behaviour in the Queanbeyan LGA. The Traffic Data Centre were asked to provide vehicle driver trip rates by household categories of the following trip purposes:

Home to Work	Work to Home
Home to Education	Education to Home
Home to Shopping	Shopping to Home
Home to Employer Business	Employer Business to Home
Home to Personal Business	Personal Business to Home
Home to Recreation	Recreation to Home
Home to Other	Other to Home
Non Home Based	

The household categories were:

Vehicles per Household	Employees per Household
0	0
1	1
2+	2+

For modelling, the trip purposes were combined to match those used for other studies. The adopted trip purposes and their constituents are as follows:

<b>Model Trip Purpose</b>	<b>HIS Purposes</b>
Home Based Work	Work
Home Based Business	Shopping, Employers Business, Personal Business
Home Based Education	Education
Home Based Other	Social, Recreation, Other
Non Home Based	Non Home Based

## Trip End Generation

Based upon sound transportation planning techniques and models, a category model approach to trip end generation was adopted. For the category model the two variables of employees per household and vehicle availability per household were used to determine the total number of vehicle trips made within the study area on an average weekday. Nine categories were used - three employee categories by three vehicle availability categories. The curves describing the percentage of households within each category for a specific household composition are shown in **Figure 7**.

The AM (7-9AM) and PM (4-6pm) Peak trip rates (i.e. number of vehicle trips per household within these time periods) are displayed in the following sections for the private purposes shown below where trip generation was based on the category model.

Note that the NHB trips have been separated into two purposes such that half of the trips are short NHB and the other half are long NHB trips. This has been done to more closely model traffic behaviour in the study area by allowing two different attraction equations and generalised cost coefficients for the NHB private trip purposes as detailed in the following sections of this report.

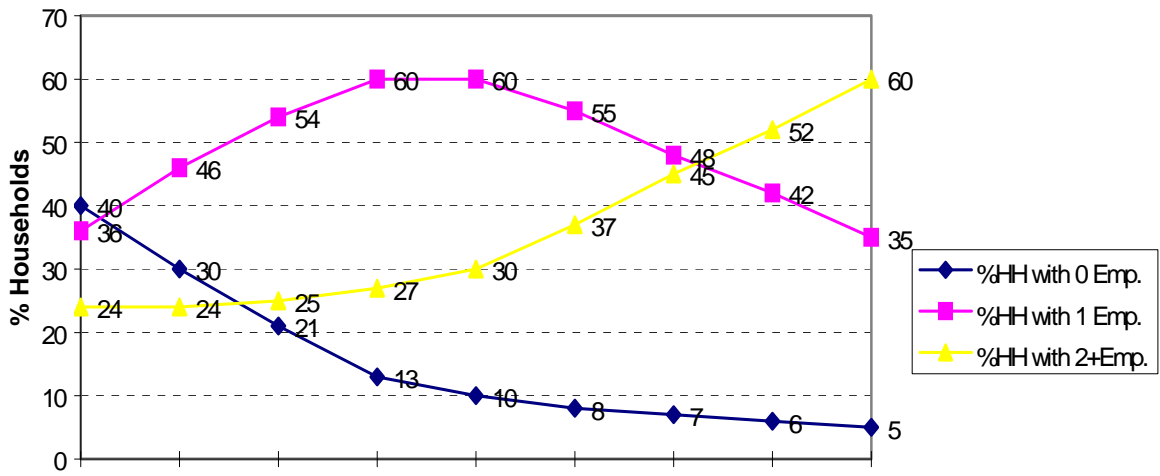
Home Based Education trips are not isolated in either the Evening Peak period as there are very few generated in the periods modelled. Instead these few trips are incorporated into the Home Based Other trip purpose for these periods.

Experience has shown that where possible 'from home' and 'to home' trips should be modelled separately in order to preserve the directionality of the trips. This is particularly important in the evening peak, which is more diverse than the morning peak. The private trips were consequently divided into the following separate purposes:

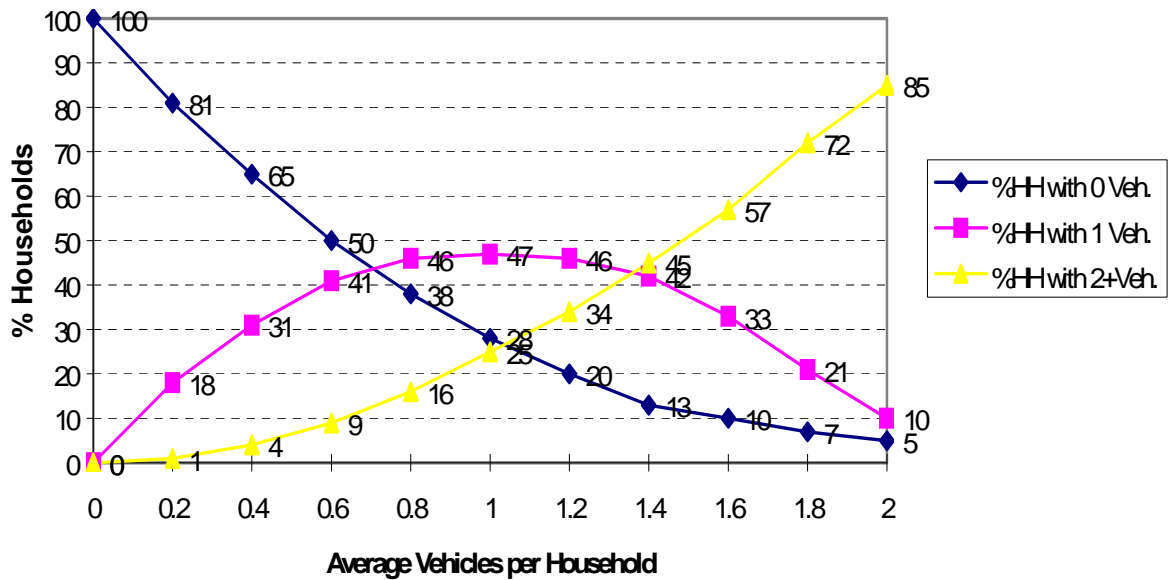
HTW	=	Home to Work
WTH	=	Work to Home
HTB	=	Home to Business
BTH	=	Business to Home
HTE	=	Home to Education
HTO	=	Home to Other
OTH	=	Other to Home
NHB-S	=	Non Home Based (Short Trips)
NHB-L	=	Non Home Based (Long Trips)



### EMPLOYEE CATEGORY CURVES



### VEHICLE OWNERSHIP CATEGORY CURVES



Queanbeyan LGA

Gabites Porter

Household Category Curves

Figure 7

## 6.2.1 Morning Peak Private Trip End Productions

Private car driver trip ends were produced by using the 'category model' derived from the TSG Home Interview Survey (HIS) data. The morning peak period generation is for the two hours for trips beginning between 7am and 9am. Generation was carried out as 'Home to' and 'to Home' purposes to reflect the tidal movement of trips.

Note that the resulting two-hour trip matrix is later converted to a one-hour matrix when the total trip matrix is formed for assignment to the modelled road network using a factor derived from representative vehicles counts in the study area. For the morning peak hour this factor was 0.600. This factor represents an average over the whole study area and therefore will not equate exactly will all parts of the network because traffic origins at different times depending on location.

The trip rates used are shown in **Table 4** and **Table 5** below.

Morning Peak Period 'Home To' Trip End Production Rates by Purpose and Category									Table 4
Category	Employee/ HH	Car/ HH	Trip Purpose						
			HTW	HTB	HTS	HTO	NHB-S	NHB-L	
1	0	0	0	0	0	0	0	0	
2	0	1	0.010	0.070	0.010	0.010	0.003	0.003	
3	0	2+	0.048	0.123	0.046	0.046	0.027	0.027	
4	1	0	0.000	0.000	0.000	0.000	0.070	0.070	
5	1	1	0.335	0.056	0.072	0.072	0.102	0.102	
6	1	2+	0.429	0.190	0.145	0.145	0.172	0.172	
7	2+	0	0.000	0.000	0.000	0.000	0.075	0.075	
8	2+	1	0.424	0.080	0.140	0.140	0.176	0.176	
9	2+	2+	0.493	0.310	0.130	0.130	0.207	0.207	

Morning Peak Period 'To Home' Trip End Production Rates by Purpose and Category						Table 5
Category	Employees /HH	Cars/ HH	Trip Purpose			
			WTH	BTH	OTH	
1	0	0	0	0	0	
2	0	1	0.000	0.054	0.024	
3	0	2+	0.000	0.056	0.033	
4	1	0	0.000	0.000	0.000	
5	1	1	0.032	0.018	0.007	
6	1	2+	0.038	0.038	0.085	
7	2+	0	0.000	0.000	0.000	
8	2+	1	0.078	0.110	0.000	
9	2+	2+	0.024	0.100	0.055	

## 6.2.2 Evening Peak Private Trip End Productions

Private car driver trip ends were similarly produced for the evening peak. The evening peak period generation is for trips which began between the two hours from 4pm to 6pm. Generation was carried out as 'Home to' and 'to Home' purposes to reflect the tidal movement of trips.

Note that the resulting two-hour trip matrix is later converted to a one-hour matrix when the total trip matrix is formed for assignment to the modelled road network using a factor derived from representative vehicles counts in the study area. For the morning peak hour this factor was 0.601. This factor represents an average over the whole study area and therefore will not equate exactly will all parts of the network because traffic origins at different times depending on location.

The trip rates used are shown in **Table 6** and **Table 7** below.

Evening Peak Period 'Home To' Trip End Production Rates by Purpose and Category							Table 6
Category	Employees /HH	Cars/ HH	Trip Purpose				
			HTW	HTB	HTO	NHB-S	NHB-L
1	0	0	0	0	0	0	0
2	0	1	0	0.041	0.078	0.065	0.065
3	0	2+	0	0.077	0.1	0	0
4	1	0	0	0	0	0	0
5	1	1	0.043	0.066	0.094	0.123	0.123
6	1	2+	0.034	0.137	0.106	0.242	0.242
7	2+	0	0	0	0	0	0
8	2+	1	0	0.049	0.149	0.251	0.251
9	2+	2+	0	0.167	0.246	0.356	0.356

Evening Peak Period 'To Home' Trip End Production Rates by Purpose and Category						Table 7
Category	Employees /HH	Cars/ HH	Trip Purpose			
			WTH	BTH	OTH	
1	0	0	0	0	0	
2	0	1	0.012	0.066	0.143	
3	0	2+	0.046	0.13	0.222	
4	1	0	0	0	0	
5	1	1	0.128	0.206	0.16	
6	1	2+	0.233	0.293	0.328	
7	2+	0	0	0	0	
8	2+	1	0.355	0.127	0.374	
9	2+	2+	0.265	0.403	0.408	

For any particular zone the average number of vehicles per household and number of employees per household were provided in the land use zone files. The proportion of

households in each category was established from the combined probability curves shown in **Figure 7**.

When the above generation rates are applied to the full Model area a total of **151619** private trips in the AM Peak period and **183780** private trips in the PM Peak period are generated. These are summarised by purpose in **Table 8**.

Model Area Private Vehicle Trip Productions				Table 8
	AM (0700-0900) Trips	% of AM Private Trips	PM (1600-1800) Trips	% of PM Private Trips
HTW	46984	31.0%	2295	1.2%
WTH	4240	2.8%	26385	14.4%
HTB	20622	13.6%	13437	7.3%
BTH	7398	4.9%	31774	17.3%
HTO	13991	9.2%	17365	9.4%
HTS	13992	9.2%	-	-
OTH	5408	3.6%	37154	20.2%
NHB-S	19492	12.9%	27685	15.1%
NHB-L	19492	12.9%	27685	15.1%
<b>Total Private Trips</b>	<b>151619</b>	<b>100.0%</b>	<b>183780</b>	<b>100.0%</b>

When the above generation rates are applied to the Queanbeyan LGA Study Area household land use data a total of **14926** private trips in the AM Peak period and **18367** private trips in the PM Peak period are generated. These are summarised by purpose in **Table 8**.

Queanbeyan Study Area Private Vehicle Trip Productions				Table 9
	AM (0700-0900) Trips	% of AM Private Trips	PM (1600-1800) Trips	% of PM Private Trips
HTW	4537	30.4%	203	1.1%
WTH	387	2.6%	2540	13.8%
HTB	2157	14.5%	1374	7.5%
BTH	773	5.2%	3210	17.5%
HTO	1349	9.0%	1794	9.8%
HTS	1349	9.0%	-	-
OTH	556	3.7%	3746	20.4%
NHB-S	1909	12.8%	2750	15.0%
NHB-L	1909	12.8%	2750	15.0%
<b>Total Private Trips</b>	<b>14926</b>	<b>100.0%</b>	<b>18367</b>	<b>100.0%</b>

## 6.2.3 Private Trip End Attractions

### *Home Based Trips*

The preceding section determined the number of trips being produced by each household. Those trip ends generated then need to be allocated to destinations. To do this, regression equations were used based upon the land uses available. Without survey data to derive regression equations specific to the Queanbeyan LGA, attractions equations have been imported from other studies. These equations have come from the validated Wollondilly Transportation Model (2004), Wingecarribee Transportation Model (2007) and West Dapto Traffic Model (2008). These attraction equations have been tuned in the validation process to assist in modelling travel behaviour specific to the Queanbeyan Study Area.

The attraction equations used in the AM peak model are as follows:

$$\begin{aligned} \text{HTW} &= 0.251\text{RET} + 0.251\text{FIN} + 0.170\text{TOT} \\ \text{WTH} &= 0.251\text{RET} + 0.251\text{FIN} + 0.170\text{TOT} \\ \text{HTB} &= 0.184\text{RET} + 0.184\text{FIN} + 0.032\text{TOT} \\ \text{BTH} &= 0.184\text{RET} + 0.184\text{FIN} + 0.032\text{TOT} \\ \text{HTO} &= 0.043\text{COM} + 0.043\text{MAN} + 0.011\text{OTH} \\ \text{OTH} &= 0.025\text{PRI} + 0.025\text{SEC} + 0.043\text{COM} + 0.043\text{MAN} + 0.011\text{OTH} \\ \text{HTS} &= 0.025\text{PRI} + 0.025\text{SEC} + 0.025\text{TER} + 0.043\text{COM} \end{aligned}$$

The PM peak attraction equations are as follows:

$$\begin{aligned} \text{HTW} &= 0.251\text{RET} + 0.251\text{FIN} + 0.170\text{TOT} \\ \text{WTH} &= 0.251\text{RET} + 0.251\text{FIN} + 0.170\text{TOT} \\ \text{HTB} &= 0.184\text{RET} + 0.184\text{FIN} + 0.092\text{MAN} + 0.184\text{OTH} + 0.032\text{TOT} \\ \text{BTH} &= 0.184\text{RET} + 0.184\text{FIN} + 0.092\text{MAN} + 0.184\text{OTH} + 0.032\text{TOT} \\ \text{HTO} &= 1.32\text{HH} + 0.680\text{RET} + 1.920\text{COM} + 1.920\text{MAN} + 2.920\text{OTH} + 0.61\text{TOT} \\ \text{OTH} &= 1.32\text{HH} + 0.680\text{RET} + 1.920\text{COM} + 1.920\text{MAN} + 2.920\text{OTH} + 0.61\text{TOT} \end{aligned}$$

where:

HH	=	Households
PRI	=	Primary School Roll
SEC	=	Secondary School Roll
TER	=	Tertiary Roll
RET	=	Retail Employment
FIN	=	Finance Employment
COM	=	Community Employment
MAN	=	Manufacturing Employment
OTH	=	Other Employment
TOT	=	Total Employment

## *Non-Home Based*

Non-home based trips from the category model have been evenly separated into either long trips (NHB-L) or short trips (NHB-S) with the following attraction equations:

AM Peak

$$\text{NHB-L} = 0.018\text{HH} + 0.184\text{SEC} + 0.184\text{RET} + 0.032\text{TOT}$$

$$\text{NHB-S} = 0.018\text{HH} + 0.184\text{SEC} + 0.184\text{RET} + 0.032\text{TOT}$$

PM Peak

$$\text{NHB-L} = 0.740\text{HH} + 4.668\text{RET} + 1.310\text{COM}$$

$$\text{NHB-S} = 0.740\text{HH} + 4.668\text{RET} + 1.310\text{COM}$$

Note that for home based trips, (HBW, HBB, HBO, HBE) attractions were scaled to equal productions, with the trip end distribution staying the same as that generated at each zone by the category model. NHB-L and NHB-S attractions were also scaled to equal total productions, however as is typical with NHB trip making, the scaled attraction distribution was accepted for both ends of the trip.

### **6.2.4 Goods Vehicle Trips**

Light and Heavy Goods Vehicle movements are important components of transport models. This study has incorporated a general background level of goods vehicle activity by modelling these trips as two separate purposes.

Regression equations were used to provide both productions and attractions for goods vehicles. For internal to internal trips it is difficult to determine whether the origin or destination generates the demand for the trip. Hence the same equation is used to generate both the productions and attractions.

The LGV and HGV equations are the same as those used in the Illawarra models and originate from the Christchurch Commercial Vehicle Survey (1993). The equations used were:

AM Peak

$$\text{LGV} = 0.011\text{HH} + 0.521\text{MAN} + 0.171\text{TOT}$$

$$\text{HGV} = 0.012\text{HH} + 0.063\text{RET} + 0.016\text{COM} + 0.071\text{MAN}$$

PM Peak

$$\text{LGV} = 0.070\text{HH} + 0.528\text{FIN}$$

$$\text{HGV} = 0.015\text{HH} + 0.078\text{RET} + 0.019\text{COM} + 0.088\text{MAN}$$

### **6.2.5 External Trips**

For vehicle trips entering or leaving the study area there are 13 external cordon stations (see **Figure 2** to **Figure 3**). The Airport has been considered as an external for the purposes of replicating passenger movement.

Traffic entering the study area via roads crossing the study area boundary is called external traffic. External traffic consists of trips travelling through the study area and trips

with an origin or destination within the model area. All external trips have been generated as only the peak one hour traffic as opposed to the internal trips which have been generated for two hours so as to replicate more correctly movements during the peak hour.

**Through Trips**

Through trips are those travelling through the model area without stopping. All external trips have been assumed to have a stop somewhere inside the model area and therefore there are no through trips.

However, there are trips that could be considered through trips within the Queanbeyan Study area. The Queanbeyan area was ringed by a cordon that recorded the origin and destination of trips crossing the cordon. The results of the modelling of these “through” trips showed that in the AM Peak hour 904 vehicles travelled through Queanbeyan out of a total of 15311 vehicles (5.9%). In the PM Peak hour 870 vehicles out of a total of 16396 vehicles passed through Queanbeyan (5.3%).

**Other External Trips**

The remaining external traffic where generated by using available traffic count data at each model external location. Those locations are shown in **Figure 2** to **Figure 3**.

The attraction equations were specific for each modelled period and were as follows:

$$\begin{aligned} \text{Inbound AM Peak Attractions} &= 0.070\text{SEC} + 0.251\text{RET} + 0.170\text{TOT} \\ \text{Outbound AM Peak Attractions} &= 0.036\text{HH} + 0.184\text{RET} + 0.032\text{TOT} \\ \\ \text{Inbound PM Peak Attractions} &= 0.036\text{HH} + 0.184\text{RET} + 0.032\text{TOT} \\ \text{Outbound PM Peak Attractions} &= 0.251\text{RET} + 0.170\text{TOT} \end{aligned}$$

where:

- HH = Households
- PRI = Primary School Roll
- SEC = Secondary School Roll
- TER = Tertiary Roll
- RET = Retail Employment
- FIN = Finance Employment
- COM = Community Employment
- MAN = Manufacturing Employment
- OTH = Other Employment
- TOT = Total Employment

The traffic flows used are shown in **Table 10** and **Table 11**.

AM Peak External Traffic Flows – 1 Hour

Table 10

Zone	Description	Inbound 1hr Flow	Outbound 1hr Flow
987	Airport	500	500
988	Monaro Hwy	20	70
989	Tharwa Rd	0	0
990	Point Hut Rd	0	0
991	Cotter Rd	0	0
992	Parkwood Rd	0	0
993	Gundaroo Rd	0	0
994	Barton Hwy	420	20
995	Federal Hwy	850	400
996	Thoroughbred Dr	26	2
997	Burra Rd	123	10
998	Captains Flat Rd	344	56
999	Kings Hwy	421	182
<b>ALL EXTERNAL STATIONS</b>		2704	1240

PM Peak External Traffic Flows – 1 Hour

Table 11

Zone	Description	Inbound 1hr Flow	Outbound 1hr Flow
987	Airport	500	500
988	Monaro Hwy	56	32
989	Tharwa Rd	0	0
990	Point Hut Rd	0	0
991	Cotter Rd	0	0
992	Parkwood Rd	0	0
993	Gundaroo Rd	0	0
994	Barton Hwy	20	420
995	Federal Hwy	400	850
996	Thoroughbred Dr	13	1
997	Burra Rd	20	184
998	Captains Flat Rd	97	353
999	Kings Hwy	177	370
<b>ALL EXTERNAL STATIONS</b>		1283	2710



### 6.3 Total Model Area Trip End Generation

Total trip productions are summarised in **Table 12** and **Table 13**. These are based on the relationships given in the preceding sections.

Model Area Total AM Peak (7-9am) Trip Matrix		Table 12
Private		151619
LGV		44678
HGV		4965
External		3944
TOTAL TRIPS		205206

Model Area Total PM Peak (4-6PM) Trip Matrix		Table 13
Private		183780
LGV		21241
HGV		6152
External		3993
TOTAL TRIPS		215166

## 7. TRIP DISTRIBUTION AND THE COSTS OF TRAVEL

### 7.1 The Gravity Distribution Model

The gravity model form chosen for this work was

$$T_{ij} = P_i \cdot K_i \cdot A_j \cdot L_j \cdot f(c_{ij})$$

subject to the double constraints of

$$K_i = \frac{P_i}{\sum_j T_{ij}}$$

$$L_j = \frac{A_j}{\sum_i T_{ij}}$$

Where:

$T_{ij}$  = Trips between zones i and j

$P_i$  = Productions at zone i

$A_j$  = Attractions at zone j

$f(c_{ij})$  = Function of the travel cost between zones i and j

$K_i L_j$  = Balancing factors

The balancing factors are successively applied until there is convergence. Some 30 iterations were used, and all purposes converged so that there was no difference between iterations to five decimal places.

The derivation of  $P_i$  and  $A_j$  has been discussed earlier. This section will deal with the distribution function  $f(c_{ij})$  and the costs of travel.

### 7.2 The Distribution Function

Trip distribution is time only based. A time-based distribution was found to give a better fit than using a generalised cost derived from both time and distance costs.

The time only distribution function can be approximated to an exponential line of the form:

$$f(c_{ij}) = e^{-\alpha t_{ij}}$$

Where:

$f(c_{ij})$  = function of time only cost of travel between zone i and zone j

$t_{ij}$  = time between zone i and zone j

$\alpha$  = exponent

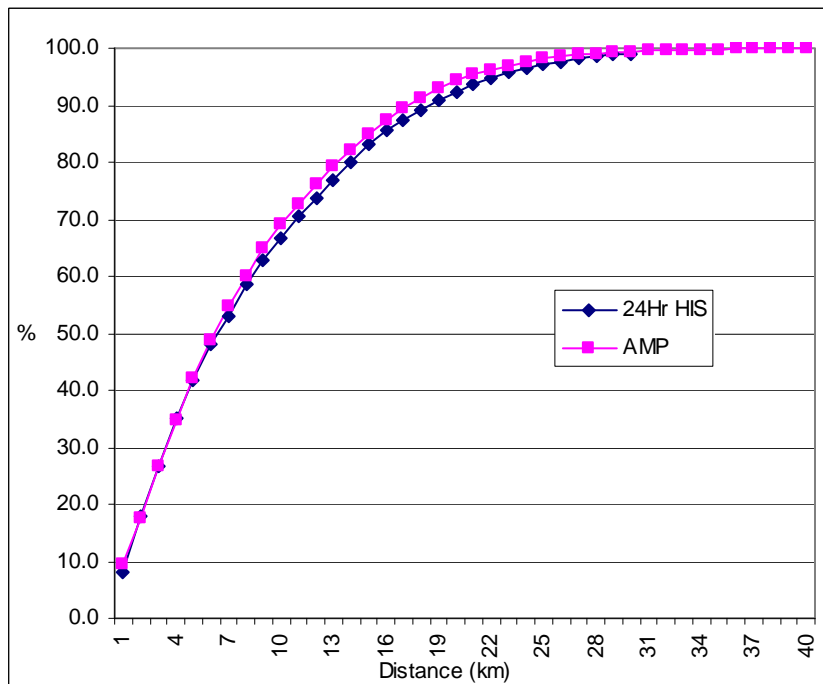
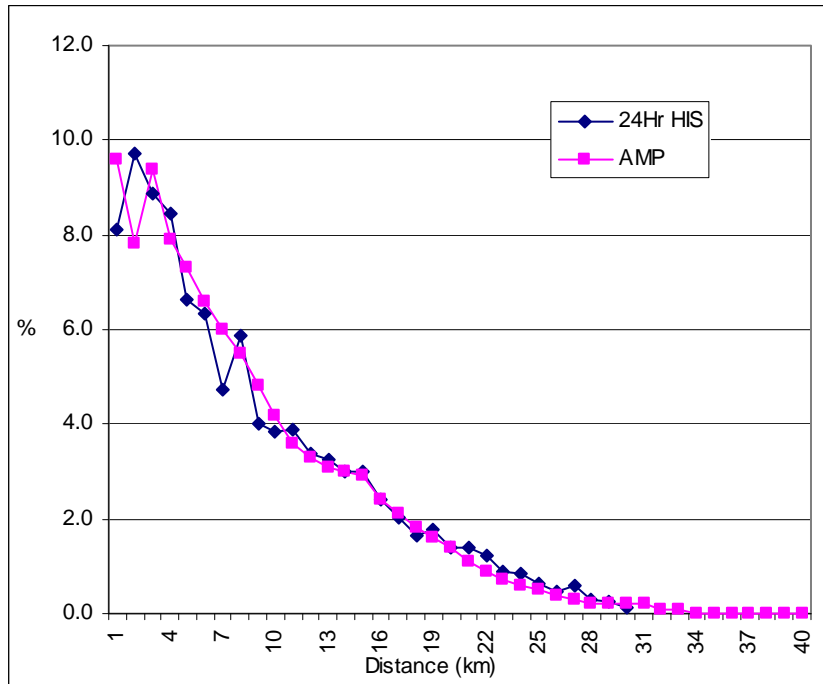
The distribution function values used ( $\alpha$ ) are shown in **Table 14**. It should be noted that the alpha values are the same for 'from home' and 'to home' purposes.

Time Based Distribution Function Exponents		Table 14
Trip Purpose	Morning Peak	Evening Peak
Home Based Work	0.20	0.20
Home Based School	0.64	-
Home Based Business	0.26	0.26
Home Based Other	0.26	0.26
Non Home Based -Long	0.26	0.26
Non Home Based - Short	0.38	0.38
Light Goods Vehicles	0.26	0.26
Heavy Goods Vehicles	0.11	0.11
Externals Inbound	0.12	0.13
Externals Outbound	0.12	0.13

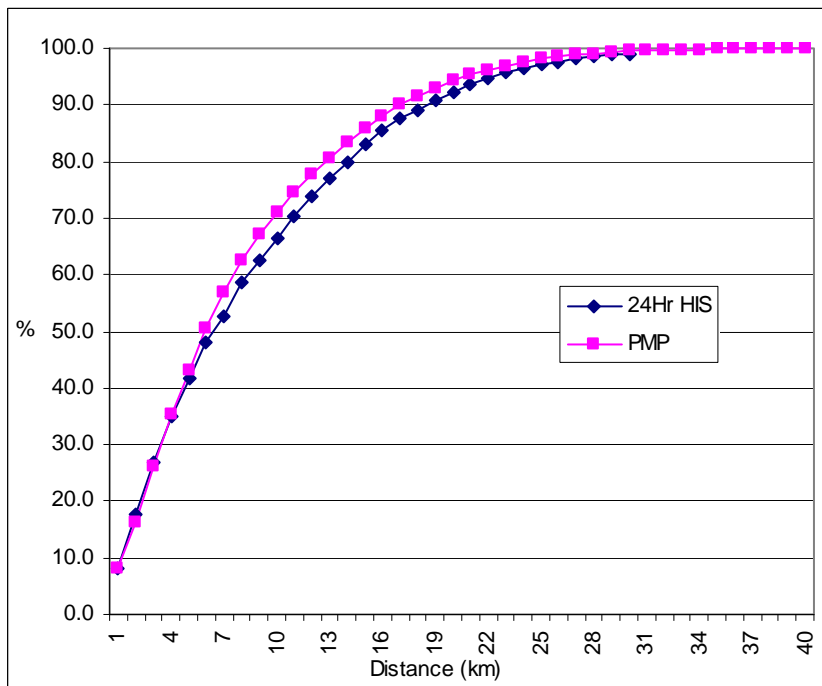
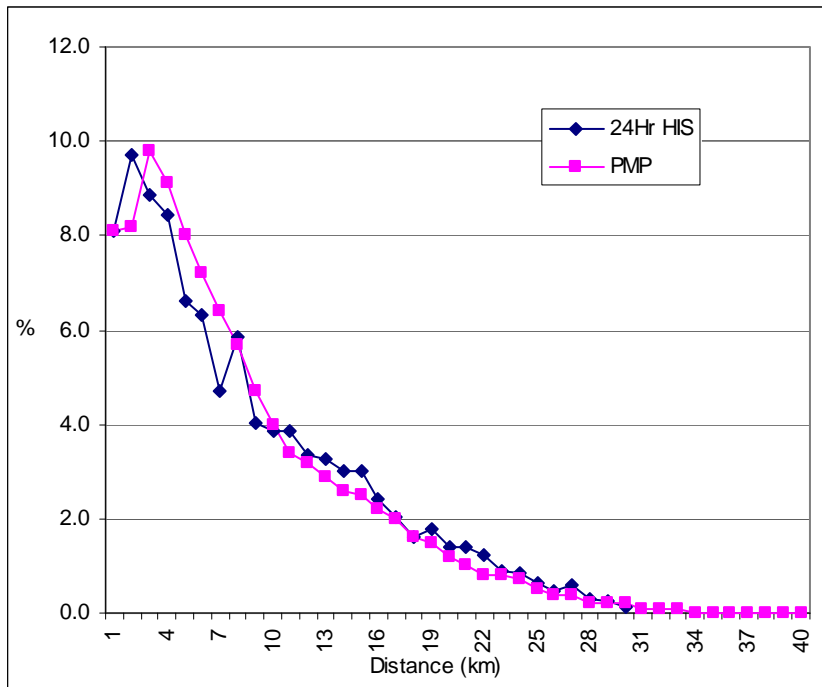
As mentioned in the Trip Generation section of this report, the Non Home Based trips have been split such that 50% are “short” trips and 50% are “long” trips. By applying a larger exponent to the Non Home Based Short trip purpose the trip lengths are shortened.

A trip length frequencies analysis for the total number of trips has been undertaken, for which results are shown in the following **Figure 8** to **Figure 9**.

The model AMP and PMP Distance Trip Length Frequencies have been compared to the ACT HIS All Day Distance Frequencies to ensure that the model’s response is consistent with the HIS results. Model results cannot reflect surveyed results exactly as they are peak hour distributions and therefore not exactly equivalent to the HIS all day distributions.



Queanbeyan LGA	<b>AM Peak Trip Length Frequencies</b>	<b>Figure 8</b>
Gabites Porter		



Queanbeyan LGA	PM Peak Trip Length Frequencies	Figure 9
Gabites Porter		

## 8. TRIP ASSIGNMENT

### 8.1 General

An incremental assignment procedure was followed using multiple iterations and a loading profile for the AM and PM Peak periods are shown in **Table 15** and **Table 16** respectively.

Interzonal time and distance matrices were extracted during the assignment process and are a weighted sum corresponding to the points on the loading profile.

AM Peak Assignment Parameters				Table 15
Assignment Increment	% Trip Matrix Loaded	Load Profiles % of Hourly Flow Rate	Steady State Time Period (Minutes)	Perceived Assignment Costs
1	15			23.44 20.51 c/min c/km
2	15			
3	15			
4	15			
5	15			
6	5.6	80.6	15	
7	4.2			
8	4.3	89.1	15	
9	2.7			
10	2.7			
11	2.7	97.2	15	
12	1.4			
13	1.4	100.0	15	

PM Peak Assignment Parameters				Table 16
Assignment Increment	% Trip Matrix Loaded	Load Profiles % of Hourly Flow Rate	Steady State Time Period (Minutes)	Perceived Assignment Costs
1	12			23.44 20.51 c/min c/km
2	12			
3	12			
4	12			
5	12			
6	12			
7	12			
8	4.2	88.2	15	
9	3.9			
10	3.9	96	15	
11	2.5	98.5	15	
12	1.5	100	15	

## 8.2 Network Links

Journey times were established by a combination of link times and delays at intersections. The simplest form of calculating journey times used in New Zealand in the 1960's and 1970's attributes all delay (link and intersection) to links in the road network. Speed/flow, or volume/delay relationships were derived for various types of road. Selection of the appropriate curve was made on the basis of a number of variables, which physically described the road.

Results from surveys in the 1988 Wellington GATS Study first allowed link only delays to be empirically separated. The volume delay relationships used in this study were for delays on links only and were based on those analytically derived by Akcelik: 1 using a time dependent Davidson model.

Each link in the network is given a volume delay curve depending of the speed limit, function and characteristic of the road the link represents. A steady state period of one hour was used.

The volume/delay curves used for this study are shown in **Figure 10**. The link type refers to the number code allocated to each road link. The numbers loosely follow the free flow speed on a link where:

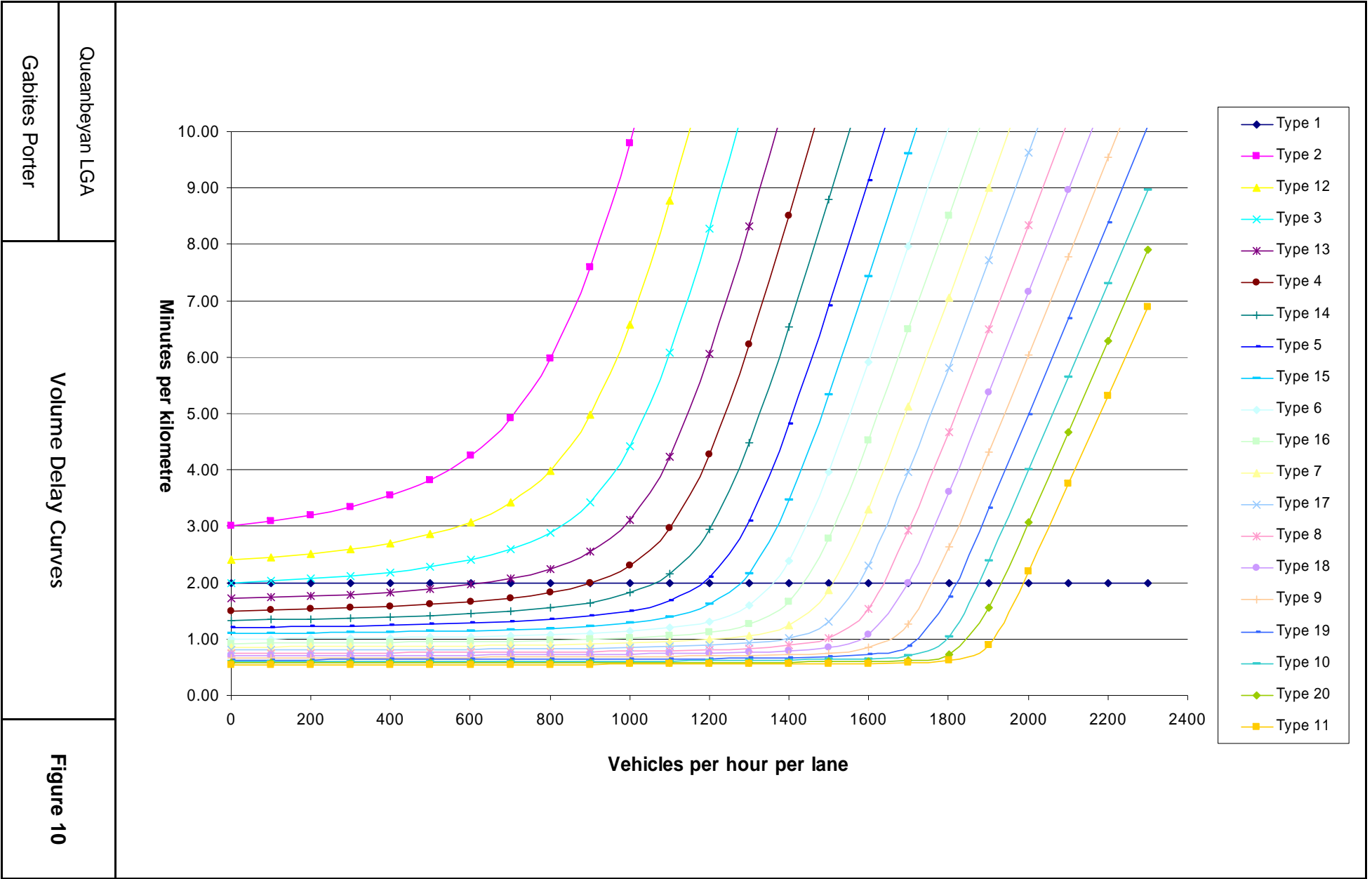
5 = 50 km/hr free flow speed

6 = 60 km/hr free flow speed

Where 10 is added to the link type it represents the free flow speed plus 5 km/hr, i.e.

16 = 65 km/hr free flow speed

Link type 1 is used for all centroid connectors and hence has a flat profile.





## 8.3 Network Intersections

The coding adopted in TRACKS to represent the different types of intersections were:

Type 0	-	Not controlled, has priority
Type 1	-	No controls marked, non priority
Type 2	-	Merge
Type 3	-	Roundabout
Type 4	-	Give Way
Type 5	-	Stop
Types 6,7	-	Signals
Types 8,9	-	Signals

### 8.3.1 Priority Intersections

Delays at priority intersections are calculated at the movement level. That is, left, right and through movements on all legs have delays calculated specifically.

The approach lanes at each intersection are coded as one of eight movement types as shown below. From the intersection geometry, determined from the link coordinates, the opposing traffic flows are calculated.

1. Left, Through and Right
2. Left and Right
3. Left
4. Left free
5. Left and Through
6. Through
7. Through and Right
8. Right

The way each lane type was treated came from the publication titled, "Performance Analysis of Priority Intersections - A Practitioner's Guide" by Gabites Porter: (1991).

A queuing theory model determined the delays. The queuing theory formulation adopted is that described by Fisk:(1989), which uses an M/M/1 model (indicates a queuing system with negative exponential distributions for arrival headway and service times, with one service channel) and a coordinate transformation approximation to allow for over saturated conditions.

The formulation is:

$$d = \frac{r/\mu (1 - r)}{(r - 1) t/2}$$

steady state conditions,  $r < 1$   
deterministic conditions,  $r > 1$

Where:

$$r = q_2 / \mu$$

$$\mu = \frac{q_1 e^{-q_1 t}}{1 - e^{-q_1 b}}$$

$t$  = duration of time period over which a steady state is assumed

$q_1$  = major road flow rate

$q_2$  = minor road flow rate, always defined as approach being delayed

$t$  = critical gap

$b$  = move-up time for minor road traffic.

$\mu$  = mean service rate

$r$  = traffic intensity

Fisk shows that the delay equation can be written:-

$$d = \frac{-(2 + \mu t - r\mu t) + \sqrt{(2 + \mu t - r\mu t)^2 + 8r\mu t}}{4\mu} + \frac{1}{\mu}$$

when the coordinate transform is included and this formulation is used in the assignment model.

The following critical gaps and move-up times were used:

Critical gap and move up time values		Table 17
Lane Type	Critical Gap (sec)	Move-up Time (sec)
Left turn-non-priority	5.0	3.0
Left turn-priority	5.0	3.0
Thru/Right-non-priority	5.0	3.0
Thru/Right-priority	5.0	3.0
Merge	3.0	2.0
Roundabout	4.0	2.5
Bottleneck	3.0	2.0

Other parameters used include:

Tracking Headway	1.2 seconds
Lane Sharing Convergence Parameter	0.01
Number of external iterations	50
Number of internal iterations (lane sharing algorithm)	200

### 8.3.2 Signalised Intersections

Movement using the formulations in ARR123, including eqn 6.4, 6.3 and 6.1 shown below, calculates delays at signalised intersections. While ARR123 is the basis for SIDRA it does not give exactly the same results, especially for the more recent versions of SIDRA.

A general formula for the average delay per vehicle,  $d$  (in seconds) is

$$d = D/q \quad \text{eqn (6.4)}$$

$D$  = total delay (veh/hr/hr)

$q$  = flow rate (veh/s)

$$D = \frac{qc(1-u)^2}{2(1-y)} + N_0x \quad \text{eqn (6.3)}$$

Where:

$qc$  = average number of arrivals in vehicles/cycle

$q$  = flow (veh/sec)

$c$  = cycle time (sec)

$u$  = green time ratios =  $g/c$

$y$  = flow ratio =  $q/s$

$s$  = saturation flow (veh/sec)

$N_0$  = average overflow queue (vehicles)

$x$  =  $q/Q$  = degree of saturation

$$N_0 = \begin{cases} \frac{QT_f}{4} \left[ z + \sqrt{z^2 + \frac{12(x-x_0)}{QT_f}} \right] & \text{for } x > x_0 \\ 0 & \text{for } x \leq x_0 \end{cases} \quad \text{eqn (6.1)}$$

Where:

$Q$  = capacity (veh/hr)

$T_f$  = flow period (hours)

$z$  =  $x - 1$

$x_0$  = degree of saturation below which the average overflow queue is approximately zero =  $0.67 + sg/600$

Signalised intersections were modelled specifically and each required a SIDRA input data file.

### 8.3.3 Geometric Delays

The delays calculated above are the stopped delays for vehicles. As vehicles decelerate to stop or negotiate a corner a geometric delay is encountered. The geometric delay is calculated from the formulations in Gabites Porter: (1991).

where:

- Q = capacity (veh/hr)
- Tf = flow period (hours)
- z =  $x - 1$
- xo = degree of saturation below which the average overflow queue is approximately zero =  $0.67 + sg/600$

## 9. MODEL CONVERGENCE

### 9.1 Assignment and Distribution Loop

Time and distance matrices are required as inputs for trip distribution. As assigning the trips to the network generates these matrices, after each assignment the trip distribution needs to be re-run and the trips re-assigned until the time and distances matrices converge.

In practice, it is unlikely that absolute convergence occurs. The assignment and distribution steps are run iteratively until the totals of both the time and distance matrices between successive runs remain close to each other and relatively constant.

The totals for the time and distance matrices for successive runs are shown below in **Table 18** where:

TVM = Total Vehicle Minutes

TVK = Total Vehicle Kilometres

Model Convergence Results				Table 18
PERIOD	AM Peak Kilometres	AM Peak Minutes	PM Peak Kilometres	PM Peak Minutes
Previous Run	987916	1313230	1014529	1315466
Final Run	987542	1313710	1014233	1315589
Difference	374	480	296	123
% Difference	0.04%	0.04%	0.03%	0.01%

The percentage change in generalised user cost between consecutive loops should be less than 1%. As the total vehicle minutes and total vehicle kilometres change less than 1% between runs (shown above), and unit time and distance costs are constant between runs, generalised user cost also changes less than 1% between runs.

When validating the model it is difficult to get a long series of runs prior to convergence because of the continual changing of the model components to get a better fit, even though these changes were often small. In general the model re-converged after two or three iterations. The periods were then run several times after convergence and remained stable.

For any model, if the network is heavily congested, convergence may not occur. Although the network is currently stable, when any changes are made to the network (e.g. option testing or land use), then convergence must be checked to ensure the network is still stable. In the unlikely event of the network not stabilising, modifications will have to be made to the network so that it will converge. These modifications should then be incorporated into the option or year being tested.

## 10. VALIDATION

### 10.1 General

The fundamental purpose of a transportation model is to simulate what is actually happening on the road network. Hence the model validation must illustrate that the output traffic flows and speeds reflect "reality" within the margins of error of the model. The fact that "reality" is a surveyed entity of only a sample of the annual travel pattern introduces further margins of error to be considered. The following criteria have been adapted for the purposes of this study.

### 10.2 Traffic Volumes

Validation of the model requires that the output traffic volumes from the model approximate what occurs in reality.

To check this a number of screenlines are drawn across the study area to capture the major traffic patterns that are occurring. Each Screenline contains a number of traffic counts, which are then compared to the modelled flows to check that the model is representing the observed traffic flows realistically. To compare the modelled traffic volumes against actual traffic counts the TRACKS program CORDON is used.

It is intended that the sum of the traffic at each cordon or Screenline should closely match the observed totals. It is preferred that each individual link within a cordon closely matches the counts but this is less likely as individual counts are highly variable and do not all occur at the same time. Individual links are more affected by local conditions such as:

1. Speed and capacity (link specific)
2. Intersection delays
3. Zone Centroid locations
4. Special generators (near specific link)
5. Local network configuration

In some situations these factors cannot be avoided and must be considered when assessing individual link comparisons. Where the traffic volume on a link is low it does not take a very big difference between counted and modelled flows to show a large percentage difference. Where traffic flows are low the significance of the link and the absolute volume difference must be considered.

#### 10.2.1 Measures of Validity

Network flow comparisons are tested using a number of statistical measures. Traffic counts were grouped into cordons, or screenlines, and the following measures calculated:

- Comparisons of individual links
- Comparisons of total trips over each group
- Percentage difference
- Correlation coefficient
- % Root mean square
- GEH.

Guidelines for each of the above criteria were obtained from Transfund NZ Project Evaluation Manual and listed in **Table 19**. An intermediate GEH criteria for screenlines has been added by Gabites Porter for instances where the GEH falls between 5 and 10. This is to give a better understanding of individual screenline validation especially where a screenline has only just failed to meet the <5 criteria.

The correlation coefficient is a first order measure of the co-relation, using the formula:

$$P_{x,y} = \frac{\frac{1}{n} \sum (x_i - \bar{x}_i) (y_i - \bar{y}_i)}{\sigma_x \sigma_y}$$

Where:

- Σ = Sum of...
- x = Variable X (observed traffic)
- x<sub>i</sub> = The mean of variable x (observed traffic)
- y = Variable y (modelled traffic)
- y<sub>i</sub> = The mean of y (modelled traffic)
- σ<sub>x</sub> = The standard deviation of x (observed traffic)
- σ<sub>y</sub> = The standard deviation of y (modelled traffic)
- n = Number in sample

The *GEH* is a form of the Chi-squared statistic that incorporates both relative and absolute errors. It is designed to be more tolerant of the large percentage differences in lower flows. The form of the statistic is:

$$GEH = \sqrt{\frac{2(m - o)^2}{m + o}}$$

Where m is the modelled flow and o is the observed count.

Peak Hour Model Validation Guidelines			Table 19	
<b>Screenline Totals</b>				
Traffic Flow	± 10%			
R <sup>2</sup>	Generally >0.85 but Preferably >0.95			
Correlation Coefficient	>0.8			
GEH	Generally <4			
Individual Links (vpd)				
0-10,000	± 60%	± 300		
10-20,000	± 40%	± 400		
20-30,000	± 30%	± 600		
30-50,000	± 20%	± 750		
50,000 +	± 20%	± 1,000		
% RMS	Generally <30			
GEH	<5	<7**	<10	<12
(modified for 1hr flows only)	60%	80%	95%	100%

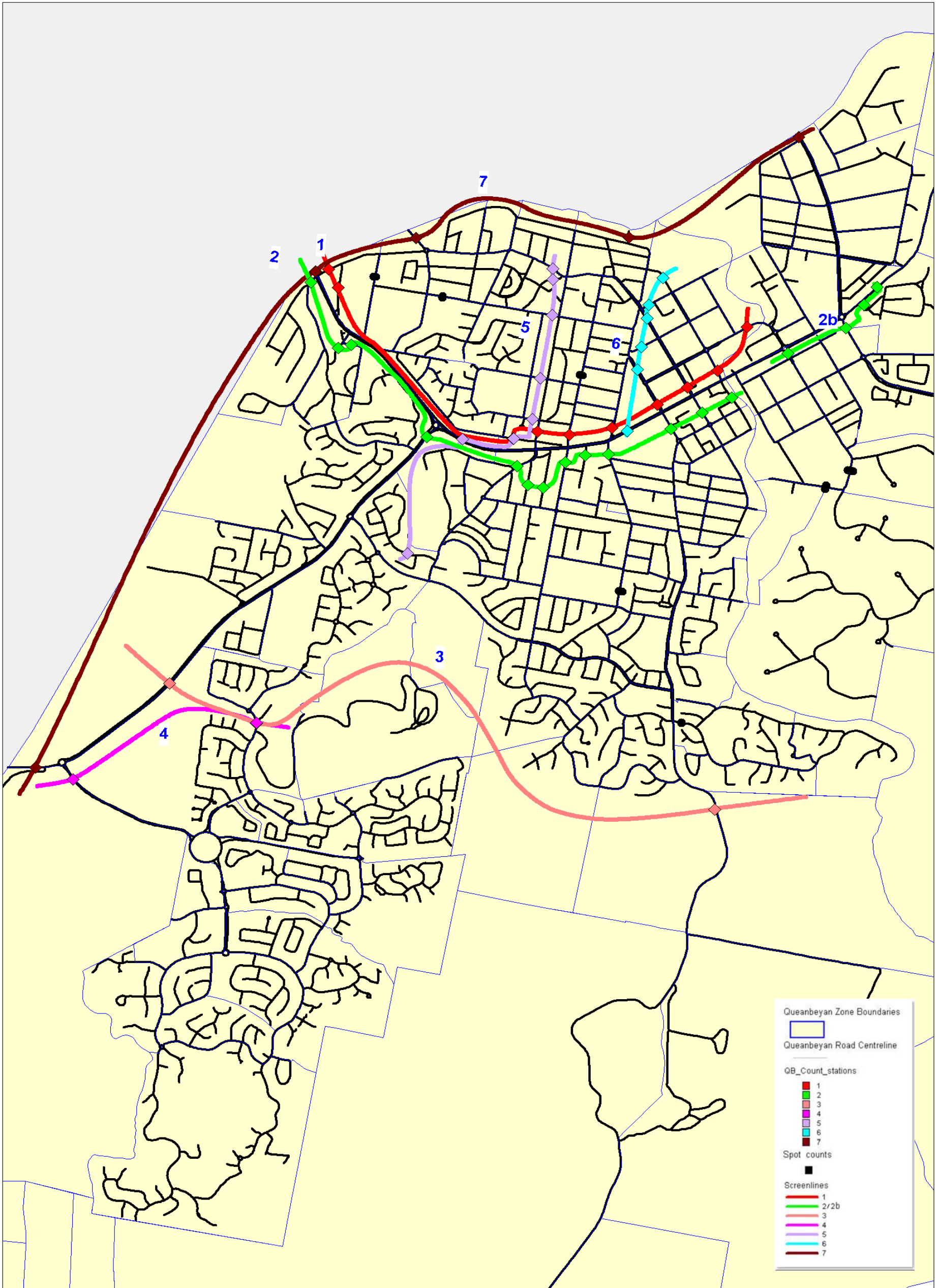
\*\*Gabites Porter intermediate guideline

The screenlines used in the validation of the model are shown in **Figure 11**.

The counts and volumes of these screenlines are summarised below in **Table 20** and **Table 21** with full cordon output files included with this report as **Appendix 3**.

Scatterplots for all links in each period are shown in **Figure 12**.





AM Peak Network Validation

Table 20

<b>Group 1 – North of Canberra Ave*****1</b>				
Count	3102			
Volume	2740			
Change	-362			
%	88			
Correlation Coefficient	0.917			
%RMS	26.39			
GEH Total	6.7			
GEH Link Grouping	<5	<7	<10	<12
% in GEH Group	72.9	90.9	100.0	100.0
<b>Group 2a – South of Canberra Ave*****1</b>				
Count	5645			
Volume	5776			
Change	131			
%	102			
Correlation Coefficient	0.941			
%RMS	31.48			
GEH Total	1.6			
GEH Link Grouping	<5	<7	<10	<12
% in GEH Group	57.1	71.4	78.6	92.9
<b>Group 2b – South of Canberra Ave</b>				
Count	1928			
Volume	1966			
Change	38			
%	102			
Correlation Coefficient	0.988			
%RMS	15.44			
GEH Total	0.9			
GEH Link Grouping	<5	<7	<10	<12
% in GEH Group	80.0	100.0	100.0	100.0
<b>Group 3 – South Queanbeyan</b>				
Count	2392			
Volume	2373			
Change	-19			
%	99			
Correlation Coefficient	0.994			
%RMS	6.44			
GEH Total	0.4			
GEH Link Grouping	<5	<7	<10	<12
% in GEH Group	100.0	100.0	100.0	100.0

Table 20 Continued

<b>Group 4 – Jerrabomberra South</b>				
Count	1909			
Volume	1885			
Change	-24			
%	99			
Correlation Coefficient	0.985			
%RMS	27.70			
GEH Total	0.6			
GEH Link Grouping	<5	<7	<10	<12
% in GEH Group	33.3	66.7	100.0	100.0
<b>Group 5 – East / West Queanbeyan</b>				
Count	4136			
Volume	4087			
Change	-49			
%	99			
Correlation Coefficient	0.995			
%RMS	11.75			
GEH Total	0.8			
GEH Link Grouping	<5	<7	<10	<12
% in GEH Group	100.0	100.0	100.0	100.0
<b>Group 6 – West of CBD</b>				
Count	4254			
Volume	4149			
Change	-105			
%	98			
Correlation Coefficient	0.969			
%RMS	21.45			
GEH Total	1.6			
GEH Link Grouping	<5	<7	<10	<12
% in GEH Group	75.0	75.0	87.5	100.0
<b>Group 7 – ACT Border</b>				
Count	7327			
Volume	7754			
Change	427			
%	106			
Correlation Coefficient	0.983			
%RMS	15.21			
GEH Total	4.9			
GEH Link Grouping	<5	<7	<10	<12
% in GEH Group	85.7	85.7	85.7	100.0

Table 20 Continued

Group 8 – Miscellaneous				
Count				1198
Volume				1324
Change				126
%				111
Correlation Coefficient				0.976
%RMS				20.91
GEH Total				3.5
GEH Link Grouping	<5	<7	<10	<12
% in GEH Group	100.0	100.0	100.0	100.0
All Counts *****1				
Count				30289
Volume				30089
Change				-200
%				99
Correlation Coefficient				0.982
%RMS				18.54
GEH Total				1.2
GEH Link Grouping	<5	<7	<10	<12
% in GEH Group	78.5	87.7	93.8	98.5

**Note \*\*\*\*\*1**

These screenlines were significantly affected by CBD parking movements on and around Crawford and Collett Streets. The location of off-street and on-street parking, access to and from parking areas and the build up of parking during the off-peak period (which has not been modelled) greatly affected the level of vehicle movements on these roads.

PM Peak Network Validation

Table 21

<b>Group 1 – North of Canberra Ave*****1</b>				
Count	3781			
Volume	3028			
Change	-753			
%	80			
Correlation Coefficient	0.836			
%RMS	36.89			
GEH Total	12.9			
GEH Link Grouping	<5	<7	<10	<12
% in GEH Group	63.6	72.7	81.8	90.9
<b>Group 2a – South of Canberra Ave*****1</b>				
Count	5978			
Volume	6161			
Change	183			
%	103			
Correlation Coefficient	0.947			
%RMS	27.88			
GEH Total	2.3			
GEH Link Grouping	<5	<7	<10	<12
% in GEH Group	28.6	57.1	78.6	100.0
<b>Group 2b – South of Canberra Ave</b>				
Count	2192			
Volume	2394			
Change	202			
%	109			
Correlation Coefficient	0.933			
%RMS	24.93			
GEH Total	4.2			
GEH Link Grouping	<5	<7	<10	<12
% in GEH Group	60.0	80.0	100.0	100.0
<b>Group 3 – South Queanbeyan</b>				
Count	2335			
Volume	2373			
Change	38			
%	102			
Correlation Coefficient	0.960			
%RMS	13.74			
GEH Total	0.8			
GEH Link Grouping	<5	<7	<10	<12
% in GEH Group	75.0	100.0	100.0	100.0

Table 21 Continued

<b>Group 4 – Jerrabomberra South</b>				
Count				2169
Volume				2310
Change				141
%				107
Correlation Coefficient				0.971
%RMS				28.28
GEH Total				3.0
GEH Link Grouping	<5	<7	<10	<12
% in GEH Group	66.7	66.7	66.7	100.0
<b>Group 5 – East / West Queanbeyan</b>				
Count				4493
Volume				4570
Change				77
%				102
Correlation Coefficient				0.972
%RMS				29.97
GEH Total				1.1
GEH Link Grouping	<5	<7	<10	<12
% in GEH Group	55.6	55.6	100.0	100.0
<b>Group 6 – West of CBD</b>				
Count				4821
Volume				4709
Change				-112
%				98
Correlation Coefficient				0.955
%RMS				24.14
GEH Total				1.6
GEH Link Grouping	<5	<7	<10	<12
% in GEH Group	50.0	87.5	100.0	100.0
<b>Group 7 – ACT Border</b>				
Count				7690
Volume				7940
Change				250
%				103
Correlation Coefficient				0.980
%RMS				14.30
GEH Total				2.8
GEH Link Grouping	<5	<7	<10	<12
% in GEH Group	84.7	100.0	100.0	100.0

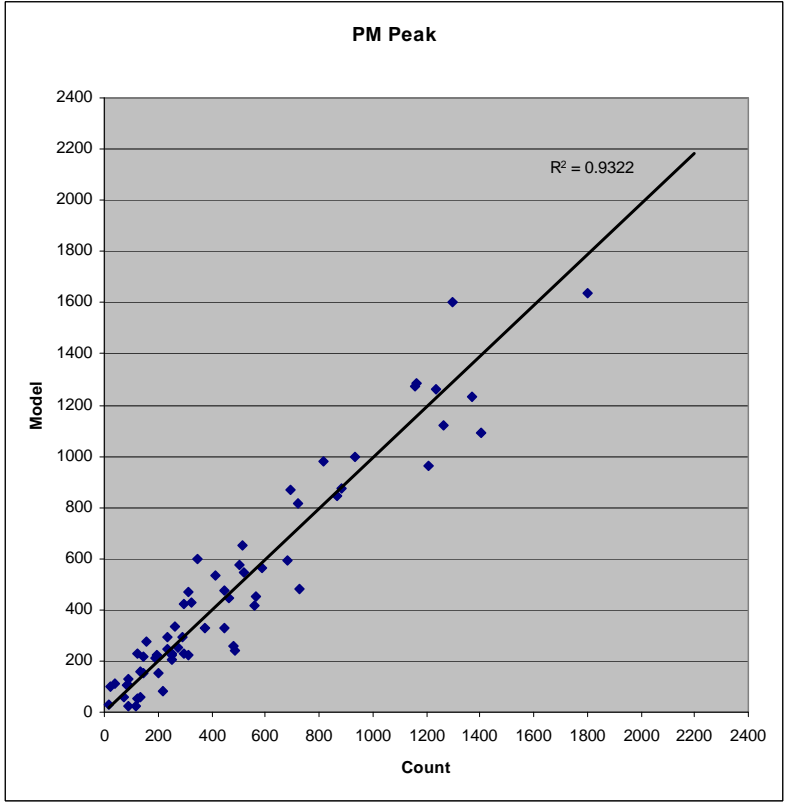
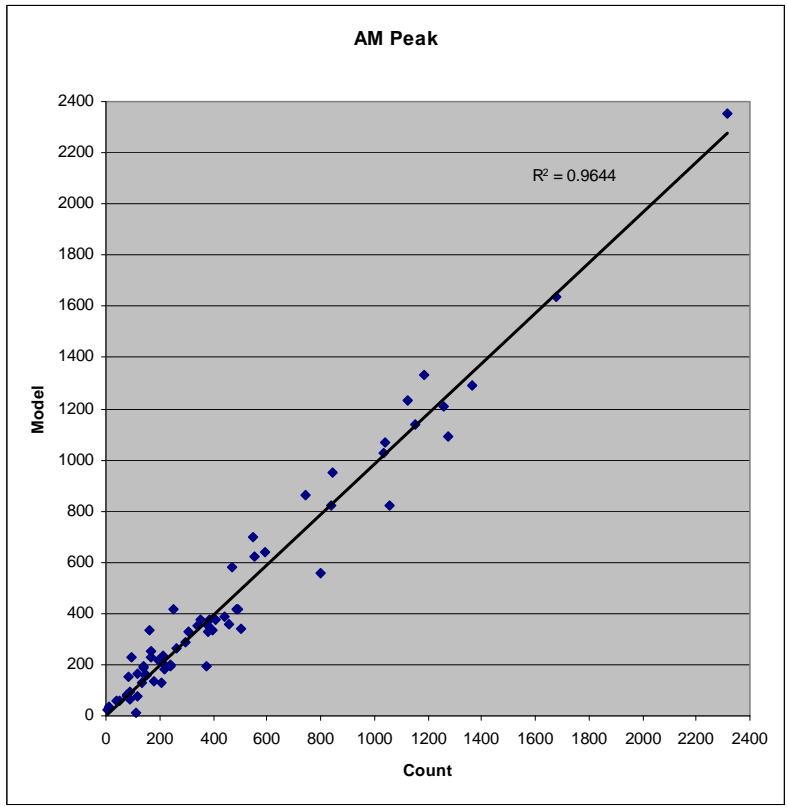
Table 21 Continued

Group 8 – Miscellaneous				
Count				1449
Volume				1572
Change				123
%				108
Correlation Coefficient				0.963
%RMS				25.35
GEH Total				3.2
GEH Link Grouping	<5	<7	<10	<12
% in GEH Group	85.7	85.7	100.0	100.0
All Counts *****1				
Count				33132
Volume				33118
Change				-14
%				100
Correlation Coefficient				0.966
%RMS				24.15
GEH Total				0.1
GEH Link Grouping	<5	<7	<10	<12
% in GEH Group	56.9	73.8	90.8	98.5

**Note \*\*\*\*\*1**

These screenlines were significantly affected by CBD parking movements on and around Crawford and Collett Streets. The location of off-street and on-street parking, access to and from parking areas and the build up of parking during the off-peak period (which has not been modelled) greatly affected the level of vehicle movements on these roads.

The ability to redistribute trips according to parking destination and modelling of an interpeak parking period would improve flow validation in the PM Peak period in the CBD area.



Queanbeyan LGA

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**All Counts Scatterplots**

**Figure 12**



### 10.3 Flows Diagrams

The **Figure 13** to **Figure 16** below show the traffic flows given by the model for the three periods.



Figure 13

AMP South Queanbeyan Volume Comparison Plots

Queanbeyan LGA

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AMP Queanbeyan CBD Volume Comparison Plots

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Figure 14



PMP South Queanbeyan Volume Comparison Plots	
Queanbeyan LGA	Gabites Porter

Figure 15



Figure 16

PMP Queanbeyan CBD Volume Comparison Plots

Queanbeyan LGA

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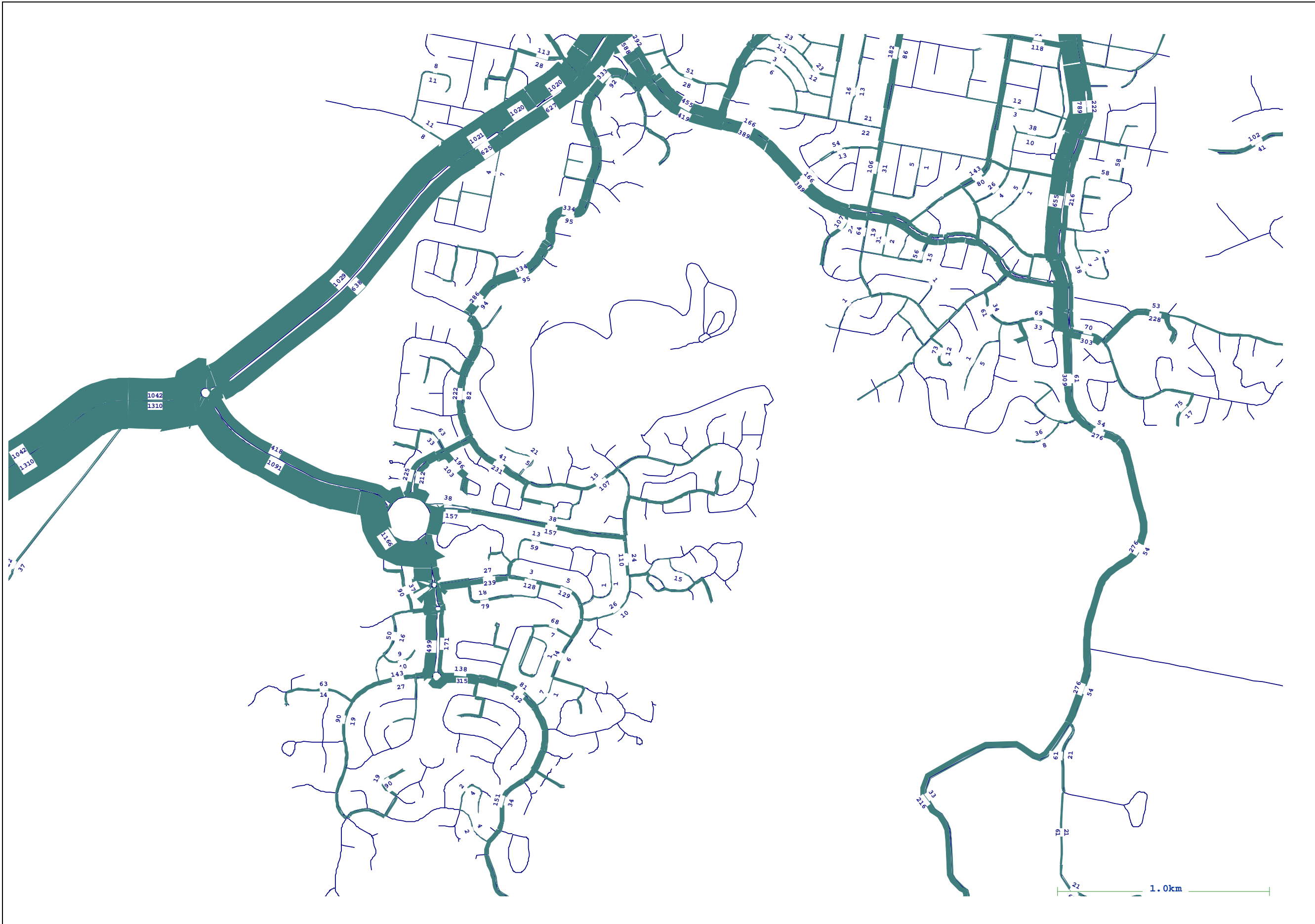


Queanbeyan LGA

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AMP South Queanbeyan Volume Plots

Figure 17

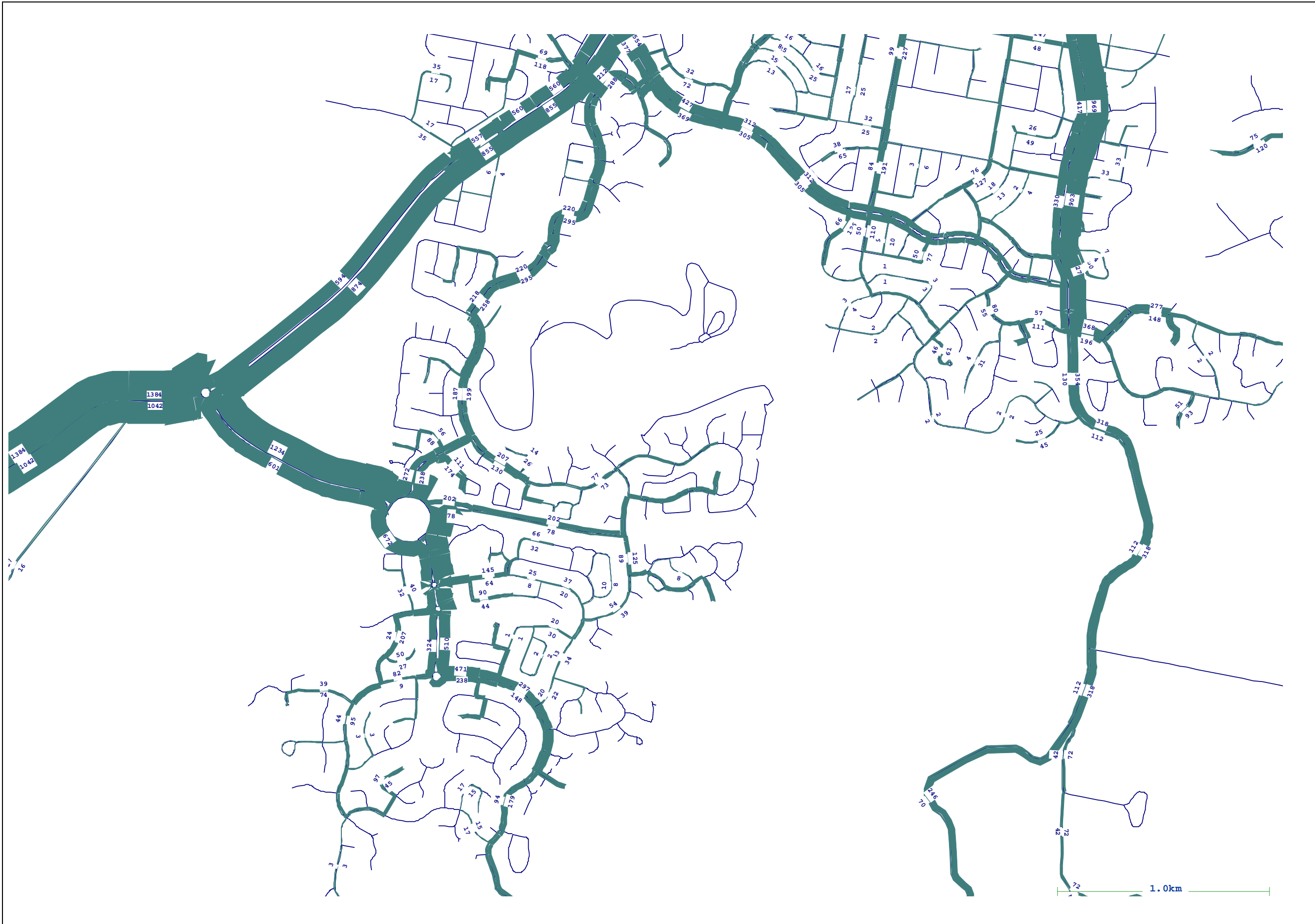


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AMP North Queanbeyan Volume Plots

Figure 18



Queanbeyan LGA

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PMP South Queanbeyan Volume Plots

Figure 19





Figure 20

PMP North Queanbeyan Volume Plots

Queanbeyan LGA

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### 10.3.1 Travel Time Calibration and Validation

The travel time validation determines the appropriate link types, or link speed in the modelled network. Link types along all surveyed routes are iteratively selected to consistently produce modelled travel times within the acceptable margin of error as defined by the survey variation. The routes taken are shown in **Figure 21** to **Figure 24**.

The difference between surveyed times and modelled times for the morning peak and evening peak are summarised in **Table 22** and **Table 23** respectively. The model data can be compared to the Upper and Lower interval figures. All data shown were obtained from the list files attached as **Appendix 4** of this report.

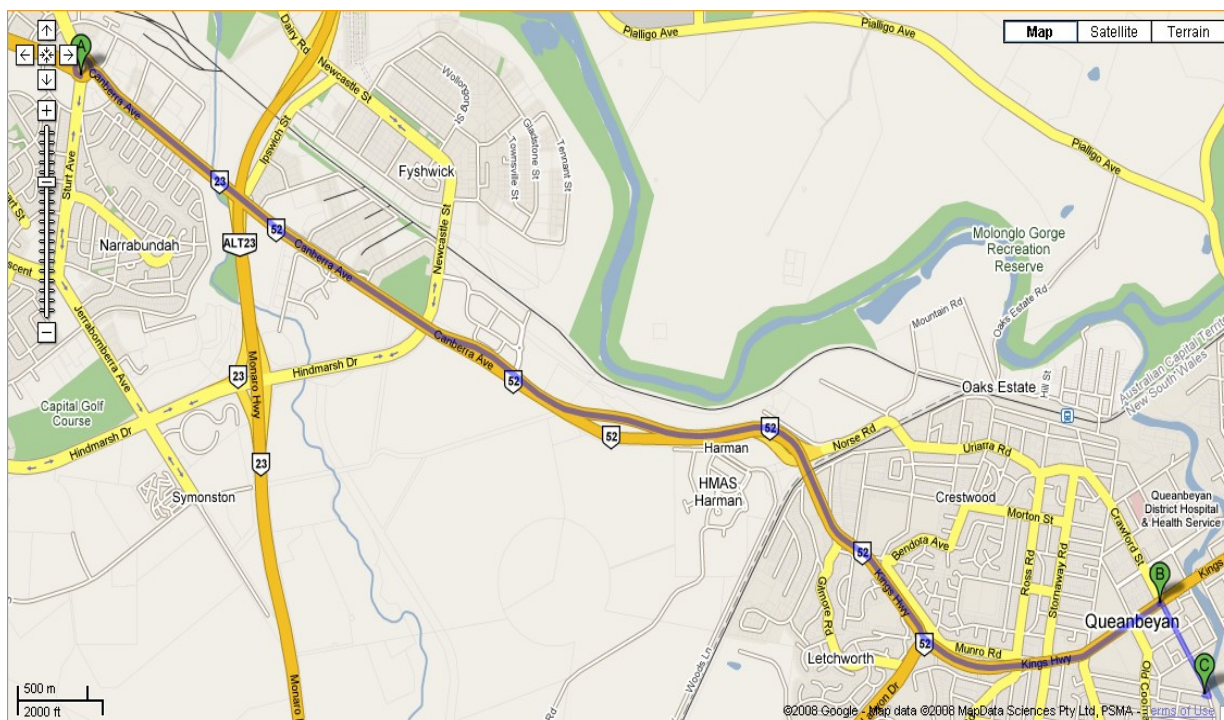
Morning Peak Travel Time Validation						Table 22
Route	Distance	Survey			Model	OK?
		Mean	Lower	Upper		
Route 1 - Eastbound	9944m	638	560	727	709	OK
Route 1 - Westbound	9985m	671	650	750	784	+5%
Route 2 - Eastbound	4069m	368	325	393	330	OK
Route 2 - Westbound	4436m	392	350	427	384	OK
Route 3 - Eastbound	11551m	744	705	770	705	OK
Route 3 - Westbound	11473m	711	668	757	795	+5%
Route 4 - Northbound	4972m	305	270	360	306	OK
Route 4 - Southbound	5025m	276	273	278	264	-3%

Evening Peak Travel Time Validation						Table 23
Route	Distance	Survey			Model	OK?
		Mean	Lower	Upper		
Route 1 - Eastbound	9944m	707	637	765	676	OK
Route 1 - Westbound	9985m	716	604	860	664	OK
Route 2 - Eastbound	4069m	347	325	365	331	OK
Route 2 - Westbound	4436m	340	305	422	375	OK
Route 3 - Eastbound	11551m	739	695	797	738	OK
Route 3 - Westbound	11473m	889	705	1015	744	OK
Route 4 - Northbound	4972m	270	265	272	283	+4%
Route 4 - Southbound	5025m	295	267	335	293	OK

The majority of travel time routes were within the variation bounds of the surveyed data. On four instances the modelled journey time were outside the surveyed results but were at maximum 5% outside limits. In all instances, the variance from the surveyed results was due to delays at intersections well within the ACT. Whilst care had been taken to create a reasonable fully functioning ACT model no serious validation of the ACT region had been undertaken and these variances are considered reasonable.

## Route 1

### Canberra – Queanbeyan via Canberra Avenue



#### East bound (Canberra to Queanbeyan)

Start when exiting SH23 / Stuart Ave / Wentworth Ave RAB, travel down Canberra Ave towards Queanbeyan, through to Monaro St (Kings Hwy), then turn right into Crawford St, finish at Thorpe Ave / Hirst Ave intersection.

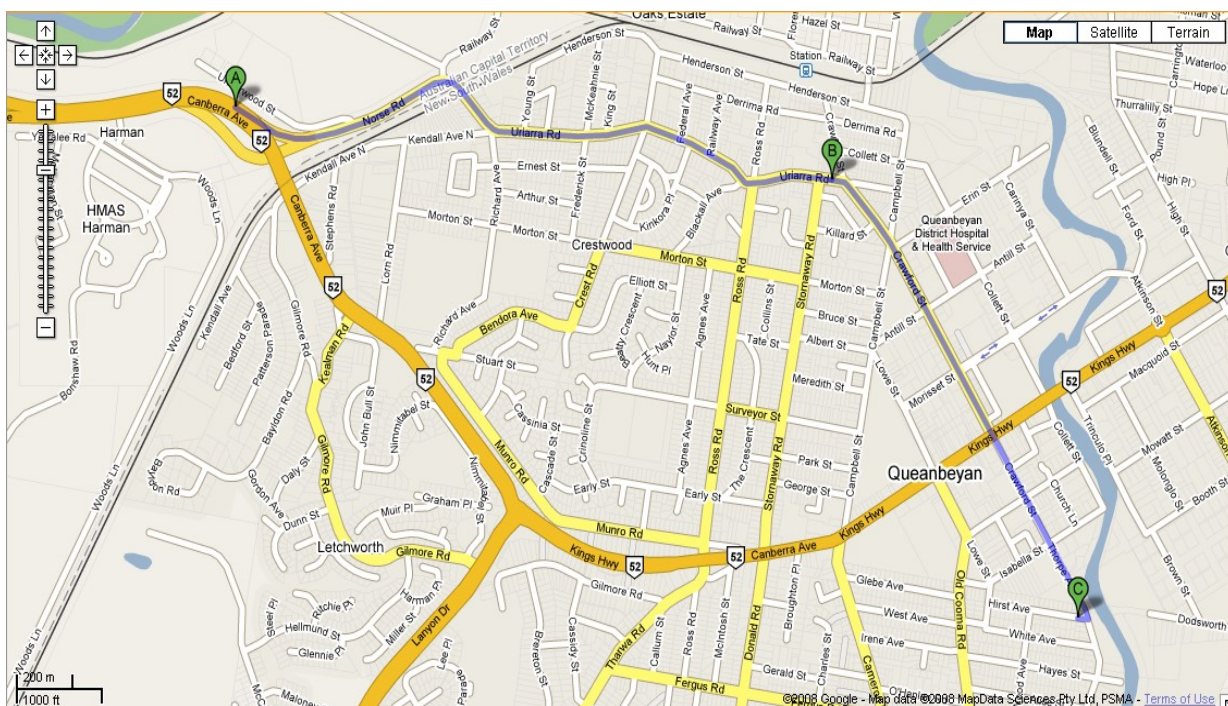
#### West bound (Queanbeyan to Canberra)

Start Thorpe Ave / Hirst Ave intersection, travel up Crawford St, turn left at Monaro St (Kings Hwy) and follow Canberra Ave finishing at SH23 / Stuart Ave / Wentworth Ave RAB.

Queanbeyan LGA	Travel Time Survey Route 1	Figure 21
Gabites Porter		

## Route 2

Canberra ACT boundary – Queanbeyan via Uriarra Rd



### East bound (Canberra ACT boundary to Queanbeyan)

Canberra Ave off ramp to Norse Rd, then turn right into Uriarra Rd, follow Uriarra Rd to Crawford St, travel down Crawford Rd finishing at Thorpe Ave / Hirst Ave intersection.

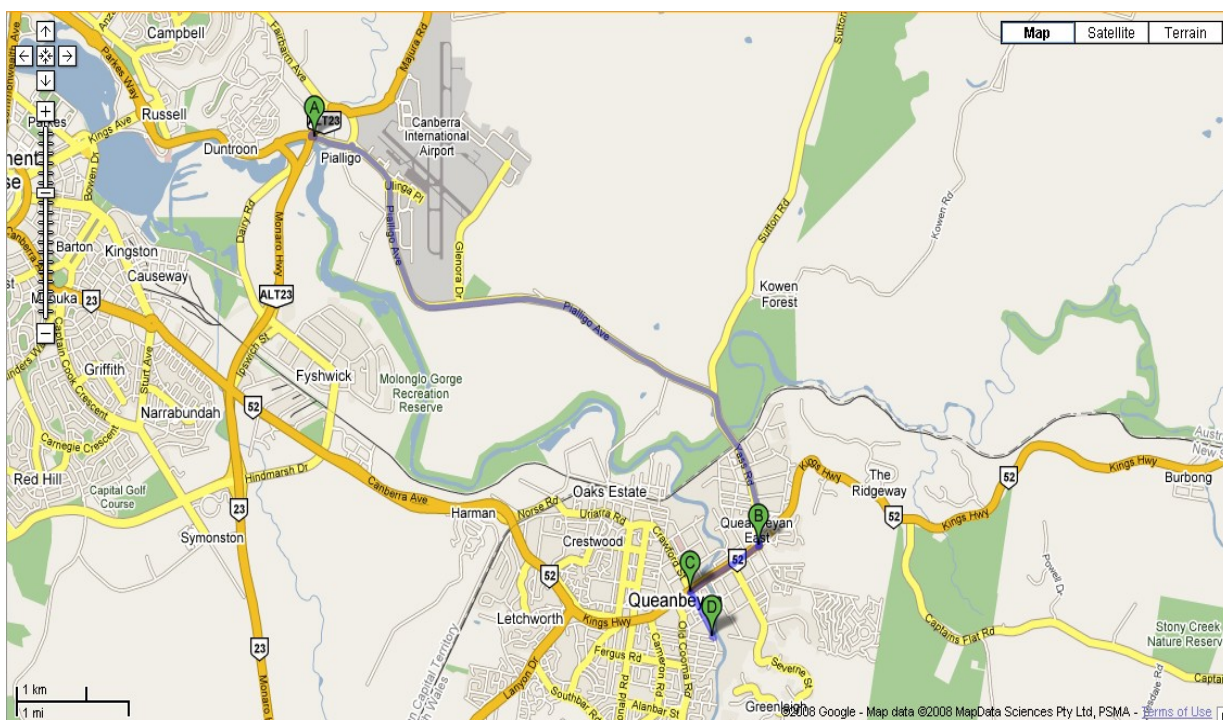
### West bound (Queanbeyan to Canberra)

Thorpe Ave / Hirst Ave intersection, travel up Crawford St to Uriarra Rd, follow Uriarra Rd to Norse Rd finishing at the Canberra Ave on ramp.

Queanbeyan LGA	Travel Time Survey Route 2	Figure 22
Gabites Porter		

### Route 3

#### Canberra Airport – Queanbeyan via Yass Rd



#### East bound (Canberra Airport to Queanbeyan)

Start when exiting Pialligo Ave / Dairy Rd / Morshead Dr RAB, travel down Pialligo Ave to Yass Rd, turn right into Bungendore Rd (Kings Hwy), travel across the bridge, then right into Crawford St, finishing at Thorpe Ave / Hirst Ave intersection.

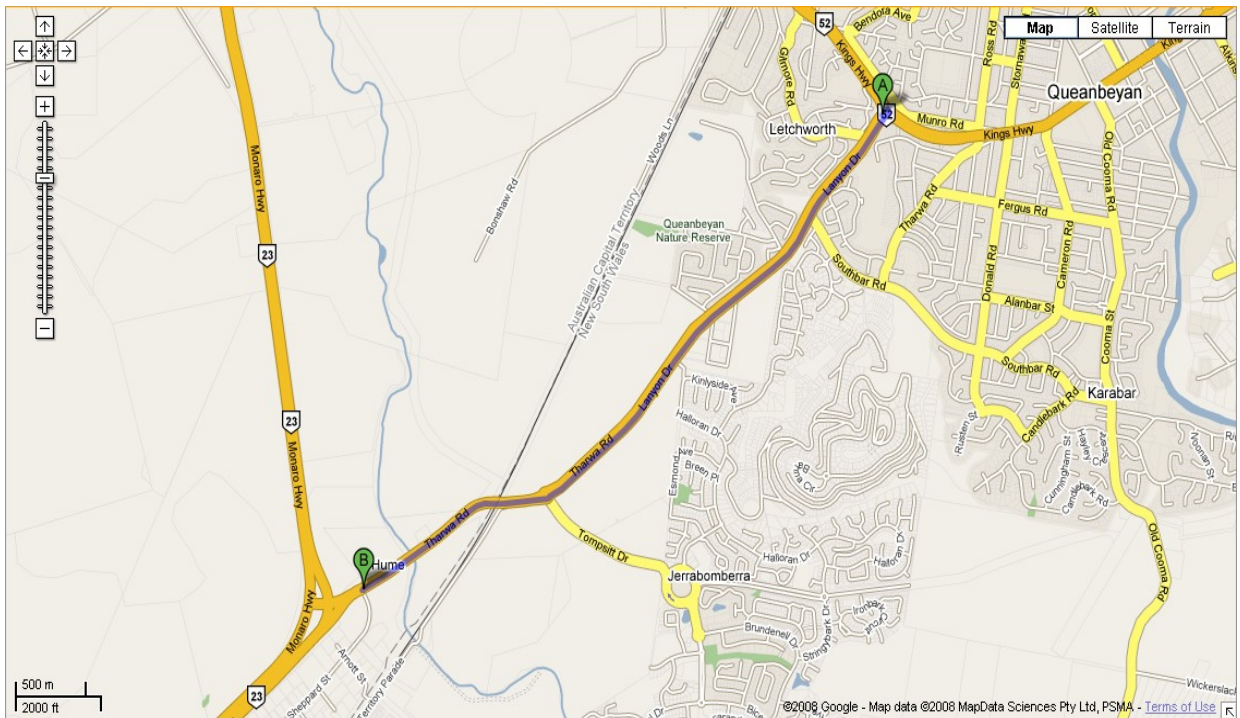
#### West bound (Queanbeyan to Canberra Airport)

Start Thorpe Ave / Hirst Ave intersection, travel up Crawford St, turn right at Monaro St (Kings Hwy), travel across the bridge, left into Yass Rd, then follow Pialligo Ave finishing at Pialligo Ave / Dairy Rd / Morshead Dr RAB.

Queanbeyan LGA	Travel Time Survey Route 3	Figure 23
Gabites Porter		

## Route 4

Canberra Sth – Queanbeyan via Lanyon Dr



### North bound (Canberra Sth to Queanbeyan)

Start at Tharwa Rd / Sheppard St intersection, travel up Tharwa Rd into Lanyon Dr, finishing at the Canberra Ave / Lanyon Dr RAB.

### South bound (Queanbeyan to Canberra Sth)

Start Canberra Ave / Lanyon Dr RAB, travel down Lanyon Dr into Tharwa Rd finishing at Tharwa Rd / Sheppard St intersection.

Queanbeyan LGA	<b>Travel Time Survey Route 4</b>	<b>Figure 24</b>
Gabites Porter		

## 10.4 General Discussion

As a prerequisite to using a transportation model to test road network and land use options, the model must be validated such that the model must be seen to be a close match to "reality".

"Reality" as termed here is illustrated by observed values of such variables as traffic counts, and origin destination surveys. In measuring "reality" there are a number of inherent difficulties. These can be caused by:

- a) the variability of "reality" due to the nature of human behaviour.
- b) the methods used to survey "reality".

The first point tells us that there is no such thing as a typical or average day. There will never be a day where every vehicle driver makes exactly the same trips at exactly the same time as any other day. That said we are at best trying to simulate indicative travel patterns.

The second point is that survey techniques can have a significant amount of error. For example, a vehicle travelling very slowly over a traffic counter tube will register a count differently to one travelling at a normal speed. Such difficulties are minimised by careful selection of traffic counter placements but cannot be fully avoided.

A document put out by the US Department of Transportation titled "Calibration and Adjustment of System Planning Models", December 1990 summarises validation as follows.

*"...A regional transportation planning model consists of a complex series of steps with many built-in assumptions. When validating a model, one should not be overly optimistic about matching the simulated volume to ground counts...."*

**A word of caution:** *When comparing forecasted volumes to ground counts, it is important to recognise that the ground counts probably contain a significant amount of error.*

*Traffic volumes vary greatly by season and by day of week. Count errors can be caused by variation in the mix of vehicles in the traffic stream. Regularly occurring local events, special events, and accidents can destroy the counts on large portions of the highway system. Errors can also be due to mechanical counter failure, field personnel mistakes, or improper counter location. Procedures have been developed to help correct for some of this variation, but these procedures are imperfect. There is often no way to ensure that ground counts correspond to the same time period as base-case socio-economic data.*

*Base-case ground counts should be thought of as approximations of existing traffic, just as the base-case model estimate is an approximation to existing traffic."*

This model has been created to, as closely as possible, replicate the traffic movements within the Queanbeyan LGA during a typical weekday in 2006 based on available traffic data.

Gabites Porter believes that the model building aspect of this project has been done in full accordance with the project brief and satisfies standard model validation criteria.

## 10.5 Unresolved Model Issues

As indicated in the screenline validation section of this report, the flow validation of locations within the Queanbeyan CBD is not ideal. Some screenlines were significantly affected by CBD parking movements on and around Crawford and Collett Streets. The location of off-street and on-street parking, access to and from parking areas and the build up of parking during the off-peak period (which has not been modelled) greatly affected the level of vehicle validation on these roads.

The ability to redistribute trips according to parking destination and modelling of an interpeak parking period would improve flow validation, in the PM Peak period in particular, within the CBD area. This however could only be implemented with the inclusion of a parking redistribution module within the modelling process and the creation of a validated Inter-peak period.

To include a parking module within the model would require a significant parking inventory and occupancy survey to be undertaken during the AM, Inter and PM periods.

The Queanbeyan model has been created with the possibility of a future parking module in mind. Parking zones have been allowed for in the model network, land use distributed in such a way as to allow for the module to be included and the model parameter structure adapted to allow for the inclusion of the module.

Clearly the interaction between Queanbeyan and Canberra is significant. The current model includes all of the major elements of the ACT road network to better model this interaction. However, the ACT part of the model has not been rigorously validated. All reasonable attempts have been made to ensure that general major flows within the ACT network reasonably replicate existing but this is not the same as validation.

All Intersection delays, signal timings and 2006 network flow validation have not been undertaken as part of this model build. The interaction between the two areas could only be improved with a fully validated ACT network.

Having said that, the ACT part of this model uses the existing ACT EMME/2 model zone structure, road centrelines, currently implemented land use data and replicates very closely the trip length distribution of the 1997 ACT HIS.



## REFERENCES

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- Akcelik:2 Akcelik, R., The Highway Capacity Manual Formula for Signalised Intersections. ITE Journal, March 1988, Vol. 58, No. 3.
- Fisk:1 Fisk, C.S., Link Travel Time Functions for Traffic Assignment. Department of Civil Engineering, University of Auckland.
- Fisk:2 Fisk, C.S., and Tan H.H., Delay Analysis for Priority Intersections. Department of Civil Engineering, University of Auckland, 1989.

# APPENDICES



## Appendix One - TRACKS Zone Equivalence

Tracks Zone	HH %age of CCD	Job %age of CCD	CCD06 Zone	TDC Zone
51	0	2	1170102	4189
52	0	0	1170102	4189
53	50	3	1170102	4189
54	5	2	1170102	4189
55	5	11	1170102	4189
56	5	40	1170102	4189
57	5	40	1170102	4189
58	1	60	1170305	4189
59	0	25	1170103	4189
60	0	35	1170103	4189
61	0	0	1170103	4189
62	1	35	1170305	4189
63	10	25	1170103	4189
64	10	13	1170103	4189
65	20	20	1170108	4189
66	80	2	1170103	4189
67	5	80	1170108	4189
68	15	0	1170108	4189
69	30	0	1170108	4189
70	30	0	1170108	4189
71	30	100	1170403	4189
72	70	0	1170403	4189
73	50	0	1170410	4187
74	50	0	1170410	4187
75	60	0	1170409	4187
76	40	0	1170409	4187
77	100	100	1170406	4187
78	50	0	1170412	4187
79	50	0	1170412	4187
80	0	0	1170412	4187
81	20	0	1172006	4187
82	20	0	1172006	4187
83	40	0	1170411	4187
84	60	100	1170411	4187
85	100	100	1170405	4187
86	60	0	1172006	4187
87	0	0	1172013	4188
88	0	0	1172012	4186
89	50	0	1172012	4186
90	60	0	1172009	4186
91	100	100	1172001	4186
92	100	100	1172002	4186
93	40	0	1172008	4186
94	50	0	1172011	4186
95	50	0	1172011	4186
96	30	0	1172008	4186
97	25	0	1172008	4186
98	100	100	1172003	4186
99	60	0	1172004	4186
100	5	100	1172008	4186

Tracks Zone	HH %age of CCD	Job %age of CCD	CCD06 Zone	TDC Zone
101	40	0	1172004	4186
102	40	0	1172009	4186
103	50	0	1172012	4186
104	0	100	1172012	4186
105	10	0	1172007	4186
106	50	80	1172007	4186
107	10	0	1172007	4186
108	30	0	1172007	4186
109	0	20	1172007	4186
110	100	100	1172013	4188
111	100	100	1170302	4188
112	100	100	1170309	4188
113	0	60	1170301	4188
114	0	40	1170301	4188
115	100	0	1170301	4188
116	60	50	1170310	4188
117	40	50	1170310	4188
118	100	100	1170408	4189
119	100	100	1170308	4189
120	40	0	1170303	4189
121	40	100	1170303	4189
122	100	100	1170304	4189
123	100	100	1170307	4189
124	90	0	1170401	4189
125	10	100	1170401	4189
126	100	100	1170404	4187
127	50	100	1170407	4187
128	50	0	1170407	4187
129	100	100	1170402	4189
130	60	100	1170306	4189
131	40	0	1170306	4189
132	49	5	1170305	4189
133	55	0	1170208	4189
134	20	0	1170303	4189
135	20	100	1170210	4188
136	80	0	1170210	4188
137	20	0	1170209	4189
138	100	100	1170211	4188
139	0	75	1170201	4189
140	50	20	1170201	4189
141	50	40	1170202	4189
142	80	0	1170209	4189
143	45	0	1170208	4189
144	49	0	1170305	4189
145	100	100	1170207	4189
146	40	70	1170206	4189
147	60	30	1170206	4189
148	100	100	1170204	4189
149	50	60	1170202	4189
150	50	5	1170201	4189

Tracks Zone	HH %age of CCD	Job %age of CCD	CCD06 Zone	TDC Zone
151	100	100	1170203	4189
152	100	100	1170212	4189
153	100	100	1170205	4189
154	30	2	1170102	4189
155	0	25	1170111	4189
156	0	40	1170111	4189
157	20	5	1170101	4191
158	40	2	1170101	4191
159	10	35	1170111	4189
160	50	0	1170111	4189
161	40	0	1170111	4189
162	0	80	1170104	4189
163	100	20	1170104	4189
164	0	5	1170110	4191
165	0	100	1170106	4189
166	100	100	1170112	4189
167	20	60	1170105	4189
168	80	40	1170105	4189
169	90	10	1170107	4189
170	40	100	1170113	4189
171	60	0	1170113	4189
172	30	0	1170106	4189
173	20	0	1170106	4189
174	0	70	1170107	4189
175	10	20	1170107	4189
176	100	100	1170109	4184
177	50	0	1170106	4189
178	0	95	1170110	4191
179	90	0	1170110	4191
180	10	0	1170110	4191
181	40	2	1170101	4191
182	0	15	1170101	4191
183	0	15	1170101	4191
184	0	3	1170101	4191
185	0	23	1170101	4191
186	0	10	1170101	4191
187	0	25	1170101	4191
188	30	0	1170609	4191
189	25	0	1170609	4191
190	30	0	1170609	4191
191	15	0	1170609	4191
192	100	100	1170607	4187
193	0	0	1170607	4187
194	0	0	1170607	4187
195	1	5	1170614	4190
196	1	95	1170614	4190
197	70	0	1170614	4190
198	28	0	1170614	4190
199	0	0	1170614	4190
200	0	0	1170614	4190
201	0	0	1170614	4190
202	0	0	1170614	4190
203	0	0	1170614	4190

Tracks Zone	HH %age of CCD	Job %age of CCD	CCD06 Zone	TDC Zone
204	0	0	1170614	4190
205	0	0	1170614	4190
206	0	0	1170614	4190
207	0	0	1170614	4190
208	0	0	1170614	4190
209	0	0	1170614	4190
210	0	0	1170614	4190
211	0	0	1170614	4190
212	0	0	1170614	4190
213	0	0	1170614	4190
214	0	0	1170614	4190
215	0	0	1170614	4190
216	0	0	1170614	4190
217	0	0	1170614	4190
218	0	0	1170614	4190
219	0	0	1170614	4190
220	0	0	1170614	4190
221	0	0	1170614	4190
222	0	0	1170614	4190
223	0	0	1170614	4190
224	0	0	1170614	4190
225	0	0	1170614	4190
226	0	0	1170614	4190
227	0	0	1170614	4190
228	0	0	1170614	4190
229	0	0	1170614	4190
230	0	0	1170614	4190
231	0	0	1170614	4190
232	0	0	1170614	4190
233	0	0	1170614	4190
234	0	0	1170614	4190
235	0	0	1170614	4190
236	0	0	1170614	4190
237	0	0	1170614	4190
238	0	0	1170614	4190
239	0	0	1170614	4190
240	0	0	1170614	4190
241	0	0	1170614	4190
242	0	0	1170614	4190
243	0	0	1170614	4190
244	0	0	1170614	4190
245	0	0	1170614	4190
246	0	0		
247	0	0	1170614	4190
248	0	0	1170614	4190
249	0	100	1172008	4186
250	0	0	1170614	4190

Tracks Zone	Emme/2 Zone	Zone Description
251	11	City
252	12	City
253	13	City
254	14	City
255	15	City
256	16	City
257	17	City
258	18	City
259	19	City
260	20	City
261	21	City
262	22	City
263	23	City
264	24	City
265	25	City
266	26	City
267	27	City
268	28	City
269	29	City
270	30	City
271	31	City
272	32	City
273	33	City
274	35	City
275	36	City
276	37	City
277	38	City
278	39	City
279	40	City
280	41	City
281	42	City
282	43	City
283	44	City
284	45	City
285	46	City
286	47	City
287	48	City
288	49	City
289	50	Reid
290	51	Reid
291	52	Reid
292	53	Reid
293	54	Reid
294	55	Reid
295	56	Reid
296	57	Acton
297	58	Acton
298	59	Acton - ANU
299	60	Acton
300	61	Acton - CSIRO
301	62	Turner
302	63	Turner
303	64	Turner
304	65	Turner

Tracks Zone	Emme/2 Zone	Zone Description
305	66	Turner
306	67	Turner
307	68	Turner
308	69	Turner
309	70	Turner
310	71	Turner
311	72	Turner
312	73	Turner
313	74	Turner
314	75	Turner
315	76	Turner
316	77	Turner
317	78	Turner
318	79	Braddon
319	80	Braddon
320	81	Braddon
321	82	Braddon
322	83	Braddon
323	84	Braddon
324	85	Braddon
325	86	Braddon
326	87	Braddon
327	88	Braddon
328	89	Braddon
329	90	Braddon
330	91	Braddon
331	92	Braddon
332	93	Ainslie
333	94	Campbell (War Memorial)
334	95	Campbell
335	96	Campbell
336	97	Campbell
337	98	Campbell
338	99	Campbell
339	100	Campbell
340	101	Campbell
341	102	Campbell
342	103	Campbell
343	104	Campbell
344	105	Parkes
345	106	Campbell
346	108	Campbell
347	109	Reid
348	110	Reid
349	111	Reid
350	112	City
351	113	Russell
352	114	Campbell
353	115	Campbell
354	116	Russell
355	117	Campbell
356	118	Russell
357	119	Russell
358	121	Russell

Tracks Zone	Emme/2 Zone	Zone Description
359	122	Russell
360	123	Russell
361	124	Russell
362	125	Russell
363	126	Russell
364	127	Russell
365	128	Russell
366	129	Russell
367	130	Russell
368	131	Russell
369	132	Russell
370	133	Russell
371	134	Russell
372	135	Russell
373	136	Russell
374	137	Russell
375	138	Campbell - ADFA
376	139	Campbell - Duntroon
377	140	O'Connor
378	141	O'Connor
379	142	O'Connor
380	143	O'Connor
381	144	O'Connor
382	145	O'Connor
383	146	O'Connor
384	147	O'Connor
385	148	O'Connor
386	149	O'Connor
387	150	O'Connor
388	151	O'Connor
389	152	Lyneham
390	153	O'Connor
391	154	O'Connor
392	155	O'Connor
393	156	O'Connor
394	157	O'Connor
395	158	O'Connor
396	159	Lyneham
397	160	O'Connor
398	161	Lyneham
399	162	Lyneham
400	163	Lyneham
401	164	Lyneham
402	165	Lyneham
403	166	Lyneham
404	167	Lyneham
405	168	Lyneham
406	169	Lyneham
407	170	Lyneham
408	171	Lyneham
409	172	Lyneham
410	173	Lyneham
411	174	Lyneham
412	175	Lyneham

Tracks Zone	Emme/2 Zone	Zone Description
413	176	Lyneham
414	177	Lyneham
415	178	Lyneham North
416	179	Lyneham
417	180	Mitchell
418	181	Mitchell
419	182	Dickson
420	183	Dickson
421	184	Dickson
422	185	Dickson
423	186	Dickson
424	187	Dickson
425	188	Dickson
426	189	Dickson
427	190	Dickson
428	191	Dickson
429	192	Downer
430	193	Downer
431	194	Downer
432	195	Ainslie
433	196	Ainslie
434	197	Ainslie
435	198	Ainslie
436	199	Ainslie
437	200	Ainslie
438	201	Ainslie
439	202	Ainslie
440	203	Ainslie
441	204	Hackett
442	205	Hackett
443	206	Hackett
444	207	Watson
445	208	Watson
446	209	Watson
447	210	Watson
448	211	Watson
449	212	Watson
450	213	Watson
451	214	Watson
452	215	Watson
453	216	Watson
454	226	Parkes
455	227	Parkes
456	228	Parkes
457	229	Parkes
458	230	Parkes
459	231	Parkes - Parliament House
460	232	Barton
461	233	Barton
462	234	Barton
463	235	Barton
464	236	Forrest
465	237	Forrest
466	238	Deakin

Tracks Zone	Emme/2 Zone	Zone Description
467	239	Deakin
468	240	Deakin
469	241	Deakin
470	243	Yarralumla
471	244	Yarralumla
472	245	Yarralumla
473	246	Yarralumla
474	247	Kingston
475	248	Kingston
476	249	Kingston
477	250	Griffith
478	251	Griffith
479	252	Griffith - Manuka
480	253	Griffith
481	254	Griffith
482	255	Narrabundah
483	256	Red-Hill
484	257	Red-Hill
485	258	Fyshwick
486	259	Narrabundah
487	260	Narrabundah
488	261	Narrabundah
489	262	Narrabundah
490	263	Narrabundah
491	264	Narrabundah
492	265	Narrabundah
493	271	Phillip
494	272	Phillip
495	273	Phillip - Woden TC
496	274	Phillip - Woden TC
497	275	Phillip - Woden TC
498	276	Phillip
499	277	Phillip
500	278	Phillip
501	279	Phillip
502	280	Phillip
503	281	Phillip
504	282	Phillip
505	283	Hughes
506	284	Hughes
507	285	Hughes
508	286	Hughes
509	287	Hughes
510	288	Hughes
511	289	Garran
512	290	Garran - Woden Hospital
513	291	O'Malley
514	292	O'Malley
515	293	Mawson
516	294	Mawson
517	295	Mawson
518	296	Pearce
519	297	Pearce
520	298	Pearce

Tracks Zone	Emme/2 Zone	Zone Description
521	299	Pearce
522	300	Chifley
523	301	Chifley
524	302	Chifley
525	303	Lyons
526	304	Lyons
527	305	Lyons
528	306	Curtin
529	307	Curtin
530	308	Isaacs
531	309	Isaacs
532	310	Isaacs
533	311	Isaacs
534	312	Mawson
535	313	Mawson
536	314	Torrens
537	315	Farrer
538	316	Farrer
539	317	Farrer
540	318	Farrer
541	319	Farrer
542	320	Fisher
543	321	Waramanga
544	322	Stirling
545	323	Weston
546	324	Weston
547	325	Weston
548	326	Weston
549	327	Chapman
550	328	Rivett
551	329	Holder
552	330	Holder
553	331	Holder
554	332	Holder
555	333	Holder
556	334	Duffy
557	335	Weston
558	336	Duffy
559	337	Duffy
560	338	Duffy
561	339	Duffy
562	340	Duffy
563	341	Duffy
564	342	Duffy
565	351	Belconnen
566	352	Belconnen
567	353	Belconnen
568	354	Belconnen
569	355	Belconnen
570	356	Belconnen
571	357	Belconnen
572	358	Belconnen
573	359	Belconnen
574	360	Belconnen

Tracks Zone	Emme/2 Zone	Zone Description
575	361	Belconnen
576	364	Belconnen
577	365	Page
578	366	Page
579	367	Page
580	368	Page
581	369	Page
582	370	Florey
583	371	Florey
584	372	Florey
585	373	Florey
586	374	Evatt
587	375	Evatt
588	376	Evatt
589	377	Evatt
590	378	McKellar
591	379	McKellar
592	380	Lawson
593	381	Bruce
594	382	Bruce
595	383	Bruce
596	384	Bruce
597	385	Bruce
598	386	Bruce
599	387	Bruce
600	388	Bruce
601	389	Aranda
602	390	Macquarie - Jamison
603	391	Macquarie
604	392	Cook
605	393	Cook
606	394	Cook
607	395	Weetangerra
608	396	Weetangerra
609	397	Hawker
610	398	Hawker
611	399	Hawker
612	400	Hawker
613	401	Hawker
614	402	Scullin
615	403	Scullin
616	404	Scullin
617	405	Scullin
618	406	Scullin
619	407	Higgins
620	408	Higgins
621	409	Higgins
622	410	Higgins
623	411	Higgins
624	412	Higgins
625	413	Latham
626	414	Latham
627	415	Latham
628	416	Latham

Tracks Zone	Emme/2 Zone	Zone Description
629	417	Latham
630	418	Latham
631	419	Melba
632	420	Melba
633	421	Melba
634	422	Spence
635	423	Flynn
636	424	Flynn
637	425	Flynn
638	426	Fraser
639	427	Fraser
640	428	Fraser
641	429	Fraser
642	430	Charnwood
643	431	Charnwood
644	432	Charnwood
645	433	Charnwood
646	434	Charnwood
647	435	Charnwood
648	436	Charnwood
649	437	Macgregor
650	438	Macgregor
651	439	Macgregor
652	440	Macgregor
653	441	Holt
654	442	Holt - Kippax
655	443	Holt
656	444	Holt
657	445	Holt
658	446	Holt
659	447	Holt
660	448	Macgregor
661	449	Macgregor
662	450	Macgregor
663	451	Macgregor
664	452	Macgregor
665	453	Dunlop
666	454	Dunlop
667	455	Dunlop
668	456	Dunlop
669	457	Dunlop
670	458	Dunlop
671	459	Dunlop
672	462	Dunlop
673	464	Giralang
674	465	Giralang
675	466	Kaleen
676	467	Kaleen
677	468	Kaleen
678	469	Kaleen
679	470	Kaleen
680	471	Kaleen
681	472	Kaleen
682	473	Kaleen



Tracks Zone	Emme/2 Zone	Zone Description
683	474	Kaleen
684	475	Kaleen
685	491	Gungahlin
686	492	Gungahlin
687	493	Gungahlin
688	494	Gungahlin
689	495	Gungahlin
690	496	Throsby
691	497	Gungahlin
692	498	Gungahlin
693	500	Gungahlin
694	501	Gungahlin
695	502	Gungahlin
696	503	Gungahlin
697	504	Gungahlin
698	505	Gungahlin
699	506	Gungahlin
700	507	Gungahlin
701	508	Palmerston
702	509	Palmerston
703	510	Palmerston
704	511	Palmerston
705	512	Palmerston
706	513	Palmerston
707	514	Palmerston
708	515	Palmerston
709	516	Crace
710	517	Crace
711	518	Throsby
712	519	Throsby
713	520	Throsby
714	521	Throsby
715	522	Throsby
716	523	Throsby
717	525	Harrison
718	526	Harrison
719	527	Harrison (South)
720	528	Harrison
721	529	Harrison
722	530	Harrison
723	531	Franklin (NW)
724	532	Franklin (south)
725	533	Franklin (West)
726	534	Franklin (south)
727	535	Franklin
728	536	Gungahlin
729	537	Franklin
730	538	Throsby
731	539	Throsby
732	540	Kenny
733	541	Kenny
734	542	Kenny
735	543	Kenny
736	544	Kenny

Tracks Zone	Emme/2 Zone	Zone Description
737	545	Kenny
738	546	Kenny
739	547	Mitchell
740	548	Mitchell
741	549	Mitchell
742	550	Amaroo
743	551	Amaroo
744	552	Amaroo
745	553	Amaroo
746	554	Ngunnawal
747	555	Ngunnawal
748	556	Ngunnawal
749	557	Ngunnawal
750	558	Ngunnawal
751	559	Ngunnawal
752	560	Ngunnawal
753	561	Ngunnawal
754	562	Ngunnawal
755	563	Ngunnawal
756	564	Ngunnawal
757	565	Ngunnawal
758	566	Ngunnawal
759	567	Ngunnawal
760	568	Ngunnawal
761	569	Ngunnawal
762	570	Ngunnawal
763	571	Ngunnawal
764	572	Nicholls
765	573	Nicholls
766	574	Nicholls
767	575	Nicholls - Harcourt Hill
768	576	Nicholls - Harcourt Hill
769	577	Nicholls - Gold Creek
770	578	Nicholls - Harcourt Hill
771	579	Nicholls - Harcourt Hill
772	580	Nicholls - Harcourt Hill
773	581	Nicholls - Harcourt Hill
774	582	Nicholls - Harcourt Hill
775	583	Nicholls
776	584	Nicholls - Harcourt Hill
777	585	Nicholls - Harcourt Hill
778	586	Nicholls - Harcourt Hill
779	587	Nicholls - Harcourt Hill
780	588	Nicholls
781	589	Casey
782	590	Casey
783	591	Kinlyside
784	592	Kinlyside
785	593	Kinlyside
786	594	Casey
787	595	Casey
788	600	Taylor
789	601	Hall
790	602	Taylor

Tracks Zone	Emme/2 Zone	Zone Description
791	603	Taylor
792	604	Taylor
793	605	Taylor
794	606	Moncrieff
795	607	Moncrieff
796	608	Moncrieff
797	609	Moncrieff
798	610	Bonner
799	611	Jacka
800	612	Jacka
801	613	Jacka
802	614	Bonner
803	615	Bonner
804	616	Bonner
805	617	Forde
806	618	Forde
807	619	Forde
808	631	Pialligo
809	632	Campbell
810	633	Pialligo - Canberra International Airport
811	634	Pialligo - Canberra International Airport (east)
812	635	Fyshwick
813	636	Fyshwick
814	637	Fyshwick
815	638	Fyshwick
816	639	Fyshwick
817	640	Fyshwick
818	642	Symonston (Harman)
819	643	Symonston
820	644	Symonston
821	645	Symonston
822	646	Symonston
823	647	Symonston
824	648	Hume
825	649	Symonston
826	650	Symonston
827	651	Symonston
828	652	Symonston
829	653	Hume
830	654	Hume
831	656	Hume
832	657	Hume
833	658	Symonston
834	659	Symonston
835	660	Symonston
836	661	Symonston
837	662	Symonston
838	663	Symonston
839	664	Hume
840	701	Greenway (Tuggeranong TC)
841	702	Greenway (Tuggeranong TC)
842	703	Greenway (Tuggeranong TC)

Tracks Zone	Emme/2 Zone	Zone Description
843	704	Greenway (Tuggeranong TC)
844	705	Greenway (Tuggeranong TC)
845	706	Greenway (Tuggeranong TC)
846	707	Greenway (Tuggeranong TC)
847	708	Greenway (Tuggeranong TC)
848	709	Greenway
849	710	Greenway
850	711	Oxley
851	712	Monash
852	713	Monash
853	714	Monash
854	715	Isabella Plains
855	716	Isabella Plains
856	717	Isabella Plains
857	718	Isabella Plains
858	719	Bonython
859	720	Bonython
860	721	Bonython
861	722	Bonython
862	723	Kambah
863	724	Kambah
864	725	Kambah
865	726	Kambah
866	727	Kambah
867	728	Kambah
868	729	Kambah
869	730	Kambah
870	731	Kambah
871	732	Kambah
872	733	Kambah
873	734	Kambah
874	735	Kambah
875	736	Kambah
876	737	Kambah
877	738	Kambah
878	739	Kambah
879	740	Kambah
880	741	Wanniassa
881	742	Wanniassa
882	743	Wanniassa
883	744	Wanniassa
884	745	Wanniassa
885	746	Wanniassa - Erindale
886	747	Fadden
887	748	Fadden
888	749	Gowrie
889	750	Gowrie
890	751	Gowrie
891	752	Gowrie
892	753	Richardson
893	754	Richardson
894	755	Richardson
895	756	Calwell
896	757	Calwell

Tracks Zone	Emme/2 Zone	Zone Description
897	758	Gordon
898	759	Gordon
899	760	Gordon
900	761	Gordon
901	762	Gordon
902	763	Gordon
903	764	Macarthur
904	765	Gilmore
905	766	Chisholm
906	767	Chisholm
907	768	Chisholm
908	769	Chisholm
909	770	Theodore
910	771	Conder
911	772	Conder
912	773	Conder
913	774	Conder
914	775	Conder
915	776	Conder
916	777	Conder
917	778	Conder
918	779	Conder
919	780	Conder
920	781	Conder
921	782	Conder
922	783	Conder
923	784	Conder
924	785	Conder
925	786	Banks
926	787	Banks
927	788	Banks
928	789	Banks
929	790	Greenway (Tuggeranong TC)

\ZONEDTV5.20  
 Queanbeyan 2006 TRANSPORTATION MODEL  
 QC06EX.ZND  
 999  
 Empl/HH  
 Cars/HH  
 1. Households  
 2. Primary School Roll  
 3. Secondary School Roll  
 4. Tertiary Roll  
 5. Retail Trade  
 6. Finance  
 7. Community  
 8. Manufacturing  
 9. Other Jobs  
 10.Total Jobs  
 11.Large Format Retail  
 12.Special  
 13.spare  
 14.spare  
 15AMPEAK Externals inbound  
 16AMPEAK Externals outbound  
 17OFFPEAK Externals inbound  
 18OFFPEAK Externals outbound  
 19PMPEAK Externals inbound  
 20PMPEAK Externals outbound  
 21AMPEAK Externals thrus  
 22AMPEAK Externals thrus  
 23OFFPEAK Externals thrus  
 24OFFPEAK Externals thrus  
 25PMPEAK Externals thrus  
 26PMPEAK Externals thrus

	HH	PRI	SEC	TER	RET	FIN	COM	MAN	OTH	TOT	LFT	SPE
1	0	0	0	0	0	0	27	0	0	27		
2	0	0	0	0	0	0	27	0	0	27		
3	0	0	0	0	0	0	72	0	0	72		
4	0	0	0	0	0	0	27	0	0	27		
5	0	0	0	0	0	0	27	0	0	27		
6	0	0	0	0	6	5	5	0	2	18		
7	0	0	0	0	6	5	5	0	2	18		
8	0	0	0	0	45	41	19	1	19	126		
9	0	0	0	0	68	62	28	2	29	188		
10	0	0	0	0	68	62	28	2	29	188		
11	0	0	0	0	45	41	19	1	19	126		
12	0	0	0	0	23	21	9	1	10	63		
13	0	0	0	0	56	52	23	2	24	157		
14	0	0	0	0	34	31	14	1	14	94		
15	0	0	0	0	45	41	19	1	19	126		
16	0	0	0	0	34	31	14	1	14	94		
17	0	0	0	0	34	31	14	1	14	94		
18	0	0	0	0	12	11	10	0	5	40		
19	0	0	0	0	10	9	8	0	4	32		
20	0	0	0	0	10	9	8	0	4	32		
21	0	0	0	0	11	10	9	0	5	36		
22	0	0	0	0	10	9	8	0	4	32		
23	0	0	0	0	10	9	8	0	4	32		
24	0	0	0	0	10	9	8	0	4	32		
25	0	0	0	0	40	36	28	1	26	131		
26	0	0	0	0	20	18	14	1	13	65		
27	0	0	0	0	20	18	14	1	13	65		
28	0	0	0	0	40	36	28	1	26	131		
29	0	0	0	0	40	36	28	1	26	131		
30	0	0	0	0	40	36	28	1	26	131		

31	0	0	0	0	0	21	19	14	1	15	70
32	0	0	0	0	0	28	26	18	1	20	93
33	0	0	0	0	0	28	26	18	1	20	93
34	0	0	0	0	0	21	19	14	1	15	70
35	0	0	0	0	0	21	19	14	1	15	70
36	0	0	0	0	0	21	19	14	1	15	70
37	0	0	0	0	0	20	20	7	64	17	129
38	0	0	0	0	0	6	6	2	22	2	38
39	0	0	0	20	0	6	6	2	22	2	38
40	0	0	0	0	0	23	21	23	1	7	75
41	0	0	0	0	0	28	26	29	1	9	93
42	0	0	0	0	0	23	21	23	1	7	75
43	0	0	0	0	0	23	21	23	1	7	75
44	0	0	0	0	0	23	21	23	1	7	75
45	0	0	0	0	0	23	21	23	1	7	75
46	0	0	0	0	0	15	13	15	0	5	49
47	0	0	0	0	0	15	13	15	0	5	49
48	0	0	0	0	0	15	13	15	0	5	49
49	0	0	0	0	0	15	13	15	0	5	49
50	0	0	0	0	0	15	13	15	0	5	49
51	1.350	1.574	0	0	0	0	0	0	0	0	0
52	1.350	1.574	0	0	0	0	0	0	0	0	0
53	0.804	0.861	141	0	0	17	15	14	1	7	54
54	0.804	0.861	14	0	0	0	0	0	0	0	0
55	0.804	0.861	14	0	0	0	0	0	0	0	0
56	0.804	0.861	14	0	0	0	0	0	0	0	0
57	0.804	0.861	14	0	0	0	0	0	0	0	0
58	0.709	1.101	2	0	0	0	0	0	0	0	0
59	0.000	0.000	0	0	0	0	0	0	0	0	0
60	0.000	0.000	0	0	0	0	0	0	0	0	0
61	0.000	0.000	0	0	0	0	0	0	0	0	0
62	0.709	1.101	2	0	0	0	0	0	0	0	0
63	0.564	0.404	9	0	0	0	0	0	0	0	0
64	0.564	0.404	9	0	0	0	0	0	0	0	0
65	1.038	1.348	37	0	0	3	3	1	14	6	29
66	0.564	0.404	75	0	0	11	10	9	0	6	37
67	1.038	1.348	9	725	0	0	0	115	0	0	115
68	1.038	1.348	28	0	0	0	0	0	0	0	0
69	1.038	1.348	55	0	0	0	0	0	0	0	0
70	1.038	1.348	55	0	0	0	0	0	0	0	0
71	1.115	1.475	42	0	0	0	0	0	0	0	0
72	1.115	1.475	97	0	0	0	0	0	0	0	0
73	1.368	1.602	67	0	0	0	0	0	0	0	0
74	1.368	1.602	67	0	0	0	0	0	0	0	0
75	1.565	1.861	125	0	0	0	0	0	0	0	0
76	1.565	1.861	84	0	0	0	0	0	0	0	0
77	1.617	1.718	298	0	0	0	0	0	0	0	0
78	1.757	1.868	136	0	0	0	0	0	0	0	0
79	1.757	1.868	136	0	0	0	0	0	0	0	0
80	0.000	0.000	0	0	0	0	0	0	0	0	0
81	1.866	2.147	63	0	0	0	0	0	0	0	0
82	1.866	2.147	63	0	0	0	0	0	0	0	0
83	1.721	2.012	130	0	0	0	0	0	0	0	0
84	1.721	2.012	196	0	0	12	13	27	10	5	68
85	1.279	1.603	229	0	0	0	0	0	0	0	0
86	1.866	2.147	188	0	0	0	0	0	0	0	0
87	0.000	0.000	0	0	0	0	0	0	0	0	0
88	0.000	0.000	0	0	0	0	0	0	0	0	0
89	1.760	1.863	293	0	0	0	0	0	0	0	0
90	1.770	1.891	164	0	0	0	0	0	0	0	0
91	1.891	1.975	202	0	0	16	13	8	12	1	50
92	1.904	2.123	260	0	0	0	0	0	0	0	0

300  
630  
170  
250  
340  
230

93	1.626	1.916	114	0	0	0	0	0	0	0	0	0
94	1.721	1.934	167	0	0	0	0	0	0	0	0	0
95	1.721	1.934	167	0	0	0	0	0	0	0	0	0
96	1.626	1.916	86	0	0	0	0	0	0	0	0	0
97	1.626	1.916	72	0	0	0	0	0	0	0	0	0
98	1.479	1.637	190	0	0	16	13	8	12	1	50	0
99	1.474	1.693	164	0	0	0	0	0	0	0	0	0
100	1.626	1.916	14	737	0	0	0	82	0	2	84	0
101	1.474	1.693	110	0	0	0	0	0	0	0	0	0
102	1.770	1.891	110	0	0	0	0	0	0	0	0	0
103	1.760	1.863	195	0	0	0	0	0	0	0	0	0
104	0.000	0.000	0	0	0	97	76	10	72	45	300	0
105	1.742	2.000	36	0	0	0	0	0	0	0	0	0
106	1.742	2.000	179	0	0	13	10	7	10	0	40	0
107	1.742	2.000	36	0	0	0	0	0	0	0	0	0
108	1.742	2.000	107	0	0	0	0	0	0	0	0	0
109	0.000	0.000	0	0	0	3	2	2	2	0	10	0
110	1.913	2.150	160	0	0	0	0	0	0	0	0	0
111	1.581	1.817	229	0	0	2	1	0	7	3	12	0
112	1.497	1.702	332	0	0	5	3	0	20	8	36	0
113	0.000	0.000	0	0	0	45	26	0	177	72	320	0
114	0.000	0.000	0	0	0	30	18	0	118	48	213	0
115	1.308	1.682	195	0	0	0	0	0	0	0	0	0
116	1.393	1.800	180	0	0	1	0	0	3	1	6	0
117	1.393	1.800	120	0	0	1	0	0	3	1	6	0
118	1.339	1.504	248	0	0	0	0	0	0	0	0	0
119	0.989	1.102	285	0	0	17	17	6	54	50	144	0
120	1.078	1.287	103	0	0	0	0	0	0	0	0	0
121	1.078	1.287	103	0	0	17	17	6	54	50	144	0
122	1.186	1.437	167	0	0	0	0	0	0	0	0	0
123	0.990	1.105	295	0	0	17	17	6	54	50	144	0
124	0.973	1.126	236	0	0	0	0	0	0	0	0	0
125	0.973	1.126	26	477	934	0	0	144	0	0	144	0
126	1.019	1.226	212	0	0	0	0	0	0	0	0	0
127	1.171	1.341	126	0	0	46	50	103	38	20	256	0
128	1.171	1.341	126	0	0	0	0	0	0	0	0	0
129	1.339	1.679	112	0	0	0	0	0	0	0	0	0
130	1.159	1.527	109	0	0	0	0	0	0	0	0	0
131	1.159	1.527	73	0	0	0	0	0	0	0	0	0
132	0.709	1.101	88	0	0	2	2	1	6	1	11	0
133	1.133	1.528	149	0	0	0	0	0	0	0	0	0
134	1.078	1.287	52	0	0	0	0	0	0	0	0	0
135	1.473	1.986	29	0	481	0	0	28	0	4	32	0
136	1.473	1.986	117	0	0	0	0	0	0	0	0	0
137	1.643	1.974	46	0	0	0	0	0	0	0	0	0
138	1.282	1.808	78	0	0	0	0	0	0	0	0	0
139	0.000	0.000	0	0	0	89	87	32	148	21	377	0
140	1.076	1.052	145	0	0	24	23	9	39	6	101	0
141	1.014	1.385	139	406	0	14	13	5	50	4	86	0
142	1.643	1.974	184	0	0	0	0	0	0	0	0	0
143	1.133	1.528	122	0	0	0	0	0	0	0	0	0
144	0.709	1.101	88	0	0	0	0	0	0	0	0	0
145	1.178	1.389	90	0	0	0	0	0	0	0	0	0
146	0.843	0.987	120	0	0	12	12	4	63	10	101	0
147	0.843	0.987	180	0	0	5	5	2	27	4	43	0
148	1.005	1.204	196	0	0	0	0	0	0	0	0	0
149	1.014	1.385	139	0	0	20	20	7	75	6	129	0
150	1.076	1.052	145	0	0	6	6	2	10	1	25	0
151	1.079	1.059	304	0	0	17	17	6	54	50	144	0
152	1.052	1.161	248	0	0	17	17	6	63	41	144	0
153	1.060	1.090	266	0	0	17	17	6	90	14	144	0
154	0.804	0.861	84	0	0	11	10	9	0	5	36	0



217	0.000	0.000	0	0	0	0	0	0	0	0	0	0
218	0.000	0.000	0	0	0	0	0	0	0	0	0	0
219	0.000	0.000	0	0	0	0	0	0	0	0	0	0
220	0.000	0.000	0	0	0	0	0	0	0	0	0	0
221	0.000	0.000	0	0	0	0	0	0	0	0	0	0
222	0.000	0.000	0	0	0	0	0	0	0	0	0	0
223	0.000	0.000	0	0	0	0	0	0	0	0	0	0
224	0.000	0.000	0	0	0	0	0	0	0	0	0	0
225	0.000	0.000	0	0	0	0	0	0	0	0	0	0
226	0.000	0.000	0	0	0	0	0	0	0	0	0	0
227	0.000	0.000	0	0	0	0	0	0	0	0	0	0
228	0.000	0.000	0	0	0	0	0	0	0	0	0	0
229	0.000	0.000	0	0	0	0	0	0	0	0	0	0
230	0.000	0.000	0	0	0	0	0	0	0	0	0	0
231	0.000	0.000	0	0	0	0	0	0	0	0	0	0
232	0.000	0.000	0	0	0	0	0	0	0	0	0	0
233	0.000	0.000	0	0	0	0	0	0	0	0	0	0
234	0.000	0.000	0	0	0	0	0	0	0	0	0	0
235	0.000	0.000	0	0	0	0	0	0	0	0	0	0
236	0.000	0.000	0	0	0	0	0	0	0	0	0	0
237	0.000	0.000	0	0	0	0	0	0	0	0	0	0
238	0.000	0.000	0	0	0	0	0	0	0	0	0	0
239	0.000	0.000	0	0	0	0	0	0	0	0	0	0
240	0.000	0.000	0	0	0	0	0	0	0	0	0	0
241	0.000	0.000	0	0	0	0	0	0	0	0	0	0
242	0.000	0.000	0	0	0	0	0	0	0	0	0	0
243	0.000	0.000	0	0	0	0	0	0	0	0	0	0
244	0.000	0.000	0	0	0	0	0	0	0	0	0	0
245	0.000	0.000	0	0	0	0	0	0	0	0	0	0
246	1.345	2.476	127	0	0	14	2	0	10	19	45	
247	0.000	0.000	0	0	0	0	0	0	0	0	0	0
248	0.000	0.000	0	0	0	0	0	0	0	0	0	0
249	0.000	0.000	0	0	0	16	13	0	12	9	50	
250	0.000	0.000	0	0	0	0	0	0	0	0	0	0
251	1.411	1.354	0	0	0	0	175	88	0	88	350	
252	1.411	1.354	0	0	0	0	250	125	0	125	500	
253	1.411	1.354	0	0	0	40	330	165	0	165	700	
254	1.411	1.354	0	0	0	0	325	163	0	163	650	
255	1.411	1.354	0	0	0	0	0	0	0	0	0	0
256	1.411	1.354	0	0	0	0	180	90	0	90	360	
257	1.411	1.354	0	0	0	0	200	100	0	100	400	
258	1.411	1.354	55	0	0	380	260	130	0	130	900	
259	1.411	1.354	46	0	0	200	250	125	0	125	700	
260	1.411	1.354	0	0	0	180	110	55	0	55	400	
261	1.411	1.354	0	0	0	0	175	88	0	88	350	
262	1.411	1.354	0	0	0	0	250	125	0	125	500	
263	1.411	1.354	46	0	0	0	70	35	0	35	140	
264	1.411	1.354	0	0	0	0	200	100	0	100	400	
265	1.411	1.354	0	0	0	0	250	125	0	125	500	
266	1.411	1.354	0	0	0	0	100	50	0	50	200	
267	1.411	1.354	0	0	0	152	49	25	0	25	250	
268	1.411	1.354	0	0	0	40	180	90	0	90	400	
269	1.411	1.354	19	0	0	80	160	80	0	80	400	
270	1.411	1.354	0	0	0	46	327	164	0	164	700	
271	1.411	1.354	0	0	0	620	340	170	0	170	1300	
272	1.411	1.354	0	0	0	400	550	275	0	275	1500	
273	1.411	1.354	0	0	0	540	605	303	0	303	1750	
274	1.411	1.354	0	0	0	60	145	73	0	73	350	
275	1.411	1.354	0	0	0	52	99	50	0	50	250	
276	1.411	1.354	0	0	0	0	100	50	0	50	200	
277	1.411	1.354	0	0	0	0	350	175	0	175	700	
278	1.411	1.354	0	0	0	60	295	148	0	148	650	



279	1.411	1.354	0	0	0	0	0	25	13	0	13	50
280	1.411	1.354	0	0	0	0	0	50	25	0	25	100
281	1.411	1.354	0	0	0	0	0	225	113	0	113	450
282	1.411	1.354	0	0	0	0	0	60	30	0	30	120
283	1.411	1.354	0	0	0	0	0	60	30	0	30	120
284	1.411	1.354	0	0	0	0	6	72	36	0	36	150
285	1.411	1.354	0	0	0	0	14	118	59	0	59	250
286	1.411	1.354	0	0	0	0	25	173	86	0	86	370
287	1.411	1.354	30	0	0	0	38	231	116	0	116	500
288	1.411	1.354	0	0	0	0	51	250	125	0	125	550
289	1.411	1.354	95	0	0	0	1	12	6	0	6	25
290	1.411	1.354	246	0	0	0	0	10	5	0	5	20
291	1.411	1.354	114	0	0	0	0	10	5	0	5	20
292	1.411	1.354	0	0	0	4300	8	259	129	0	129	525
293	1.411	1.354	57	4	4	0	0	5	3	0	3	10
294	1.411	1.354	114	4	4	0	0	10	5	0	5	20
295	1.411	1.354	8	0	0	0	0	25	13	0	13	50
296	1.411	1.354	0	0	0	0	6	2	1	0	1	10
297	1.411	1.354	4	0	0	0	0	80	40	0	40	160
298	1.411	1.354	190	0	0	7000	110	1298	649	0	649	2705
299	1.411	1.354	379	0	0	4300	0	800	400	0	400	1600
300	1.411	1.354	0	0	0	0	4	20	0	0	976	1000
301	1.411	1.354	30	0	0	0	0	25	13	0	13	50
302	1.411	1.354	0	0	0	0	0	365	183	0	183	730
303	1.411	1.354	11	0	0	0	0	168	84	0	84	335
304	1.411	1.354	8	0	0	0	0	0	0	0	0	0
305	1.411	1.354	68	0	0	0	0	5	3	0	3	10
306	1.411	1.354	0	0	0	0	0	0	0	0	0	0
307	1.411	1.354	95	0	0	0	0	8	4	0	4	15
308	1.411	1.354	66	0	0	0	0	5	3	0	3	10
309	1.411	1.354	38	0	0	0	0	3	1	0	1	5
310	1.411	1.354	38	0	0	0	0	10	5	0	5	20
311	1.411	1.354	0	0	0	0	0	10	5	0	5	20
312	1.411	1.354	95	0	0	0	0	20	10	0	10	40
313	1.411	1.354	95	0	0	0	0	5	3	0	3	10
314	1.411	1.354	38	0	0	0	0	25	13	0	13	50
315	1.411	1.354	19	430	0	0	0	45	23	0	23	90
316	1.411	1.354	47	0	0	0	0	50	25	0	25	100
317	1.411	1.354	95	0	0	0	0	75	38	0	38	150
318	1.411	1.354	38	0	0	0	5	148	74	0	74	300
319	1.411	1.354	228	0	0	0	0	20	10	0	10	40
320	1.411	1.354	76	0	0	0	0	95	48	0	48	190
321	1.411	1.354	133	0	990	0	0	105	53	0	53	210
322	1.411	1.354	0	0	0	0	326	97	49	0	49	520
323	1.411	1.354	0	0	0	0	0	335	168	0	168	670
324	1.411	1.354	38	0	0	0	0	5	3	0	3	10
325	1.411	1.354	152	0	0	0	0	15	8	0	8	30
326	1.411	1.354	228	420	0	0	0	40	20	0	20	80
327	1.411	1.354	114	0	0	0	0	15	8	0	8	30
328	1.411	1.354	38	0	0	0	0	5	3	0	3	10
329	1.411	1.354	0	0	0	0	200	265	133	0	133	730
330	1.411	1.354	19	0	0	0	160	270	135	0	135	700
331	1.411	1.354	76	0	0	0	100	0	0	0	0	100
332	1.411	1.354	171	0	0	0	0	5	5	5	30	45
333	1.411	1.354	0	0	595	0	0	5	600	0	135	740
334	1.411	1.354	190	0	0	0	0	11	23	23	34	90
335	1.411	1.354	171	80	0	0	0	6	13	13	19	50
336	1.411	1.354	152	0	0	0	0	4	8	8	11	30
337	1.411	1.354	265	0	0	0	23	20	39	39	59	180
338	1.411	1.354	322	0	0	0	0	5	10	10	15	40
339	1.411	1.354	133	0	0	0	0	1	3	3	4	10
340	1.411	1.354	0	0	0	0	0	1	3	3	4	10

341	1.411	1.354	0	0	0	0	0	31	63	63	94	250
342	1.411	1.354	0	0	0	0	0	0	0	0	0	0
343	1.411	1.354	0	0	0	0	0	0	0	0	0	0
344	1.345	1.509	0	0	0	0	0	3	5	5	8	20
345	1.411	1.354	0	0	0	0	0	0	0	0	0	0
346	1.411	1.354	0	0	0	0	0	25	50	50	75	200
347	1.411	1.354	0	0	0	0	0	28	55	55	83	220
348	1.411	1.354	0	0	0	0	0	0	0	0	0	0
349	1.411	1.354	0	0	0	4300	0	94	188	188	281	750
350	1.411	1.354	0	0	0	0	10	3	5	5	8	30
351	1.411	1.354	0	0	0	0	0	38	75	75	113	300
352	1.411	1.354	0	0	0	0	0	0	0	0	0	0
353	1.411	1.354	0	0	0	0	0	0	0	0	0	0
354	1.411	1.354	0	0	0	0	0	38	75	75	113	300
355	1.411	1.354	0	0	0	0	0	50	100	100	150	400
356	1.411	1.354	0	0	0	0	0	0	0	0	0	0
357	1.411	1.354	0	0	0	0	0	25	50	50	75	200
358	1.411	1.354	0	0	0	0	0	13	25	25	38	100
359	1.411	1.354	0	0	0	0	0	13	25	25	38	100
360	1.411	1.354	0	0	0	0	0	69	138	138	206	550
361	1.411	1.354	0	0	0	0	0	34	68	68	101	270
362	1.411	1.354	0	0	0	0	0	63	125	125	188	500
363	1.411	1.354	0	0	0	0	0	0	0	0	0	0
364	1.411	1.354	0	0	0	0	0	88	175	175	263	700
365	1.411	1.354	0	0	0	0	0	75	150	150	225	600
366	1.411	1.354	0	0	0	0	0	38	75	75	113	300
367	1.411	1.354	0	0	0	0	0	25	50	50	75	200
368	1.411	1.354	0	0	0	0	0	38	75	75	113	300
369	1.411	1.354	0	0	0	0	0	63	126	126	189	505
370	1.411	1.354	0	0	0	0	0	38	75	75	113	300
371	1.411	1.354	0	0	0	0	0	0	0	0	0	0
372	1.411	1.354	0	0	0	0	0	0	0	0	0	0
373	1.411	1.354	0	0	0	0	0	0	0	0	0	0
374	1.411	1.354	0	0	0	0	0	0	0	0	0	0
375	1.411	1.354	269	0	0	375	0	10	800	0	90	900
376	1.411	1.354	228	0	0	0	0	20	600	0	20	640
377	1.411	1.354	95	0	0	0	0	10	20	20	30	80
378	1.411	1.354	0	0	0	0	64	24	48	48	72	255
379	1.411	1.354	131	0	0	0	0	3	6	6	9	25
380	1.411	1.354	76	0	0	0	0	1	3	3	4	10
381	1.411	1.354	57	0	0	0	0	1	3	3	4	10
382	1.411	1.354	46	0	0	0	0	1	1	1	2	5
383	1.411	1.354	114	0	0	0	0	4	9	9	13	35
384	1.411	1.354	114	0	60	0	0	3	5	5	8	20
385	1.411	1.354	133	0	0	0	0	3	5	5	8	20
386	1.411	1.354	133	175	0	0	0	8	15	15	23	60
387	1.411	1.354	34	0	0	0	0	1	3	3	4	10
388	1.411	1.354	38	0	0	0	0	1	1	1	2	5
389	1.411	1.354	152	0	0	0	0	3	6	6	9	25
390	1.411	1.354	95	0	0	0	0	2	4	4	6	15
391	1.411	1.354	76	0	0	0	0	3	5	5	8	20
392	1.411	1.354	152	0	0	0	0	3	6	6	9	25
393	1.411	1.354	171	0	0	0	0	5	10	10	15	40
394	1.411	1.354	0	0	0	0	0	1	3	3	4	10
395	1.411	1.354	4	0	0	0	0	6	13	13	19	50
396	1.411	1.354	57	0	0	0	0	1	3	3	4	10
397	1.411	1.354	133	0	0	0	0	4	8	8	11	30
398	1.411	1.354	114	0	0	0	0	47	94	94	141	375
399	1.411	1.354	133	0	0	0	0	19	38	38	56	150
400	1.411	1.354	76	0	0	0	0	1	3	3	4	10
401	1.411	1.354	0	0	0	0	118	48	95	95	143	500
402	1.411	1.354	133	0	0	0	0	16	33	33	49	130

403	1.411	1.354	0	525	0	0	0	5	10	10	15	40
404	1.411	1.354	152	0	740	0	0	6	13	13	19	50
405	1.411	1.354	171	0	0	0	0	5	10	10	15	40
406	1.411	1.354	76	0	0	0	0	11	23	23	34	90
407	1.411	1.354	30	0	0	0	0	6	13	13	19	50
408	1.411	1.354	0	0	0	0	0	8	15	15	23	60
409	1.411	1.354	0	0	0	0	0	1	3	3	4	10
410	1.411	1.354	133	0	0	0	0	5	10	10	15	40
411	1.411	1.354	95	0	0	0	0	3	5	5	8	20
412	1.411	1.354	76	0	0	0	46	17	35	35	52	185
413	1.411	1.354	57	0	0	0	0	1	3	3	4	10
414	1.411	1.354	0	0	0	0	0	1	3	3	4	10
415	1.411	1.354	171	0	0	0	0	4	8	8	11	30
416	1.411	1.354	182	0	0	0	0	11	23	23	34	90
417	1.411	1.354	0	0	0	0	0	2	0	221	72	295
418	1.411	1.354	0	0	0	0	0	5	0	825	270	1100
419	1.411	1.354	76	0	0	0	0	5	63	0	183	250
420	1.411	1.354	152	0	0	0	0	0	5	0	15	20
421	1.411	1.354	159	0	0	0	0	1	13	0	37	50
422	1.411	1.354	322	175	0	0	0	3	35	0	102	140
423	1.411	1.354	0	0	0	0	0	19	238	0	694	950
424	1.411	1.354	4	0	1415	0	0	4	50	0	146	200
425	1.411	1.354	0	450	0	0	700	0	0	0	0	700
426	1.411	1.354	0	0	0	0	247	31	388	0	885	1550
427	1.411	1.354	0	0	0	0	0	1	18	0	51	70
428	1.411	1.354	0	0	750	0	0	3	43	0	124	170
429	1.411	1.354	429	0	0	0	17	2	29	0	67	115
430	1.411	1.354	265	0	0	0	0	1	10	0	29	40
431	1.411	1.354	607	0	0	0	0	3	40	0	117	160
432	1.411	1.354	292	0	0	0	0	1	18	0	51	70
433	1.411	1.354	0	0	0	0	0	0	0	0	0	0
434	1.411	1.354	284	0	0	0	0	1	16	0	47	65
435	1.411	1.354	152	0	0	0	0	1	15	0	44	60
436	1.411	1.354	341	0	0	0	84	6	74	0	131	295
437	1.411	1.354	133	0	0	0	0	1	13	0	37	50
438	1.411	1.354	152	350	0	0	0	3	38	0	110	150
439	1.411	1.354	284	0	0	0	0	1	13	0	37	50
440	1.411	1.354	0	0	0	0	0	0	0	0	0	0
441	1.411	1.354	341	0	0	0	0	1	2	2	35	40
442	1.411	1.354	375	0	0	0	31	2	6	6	74	120
443	1.411	1.354	417	0	0	0	0	1	3	3	57	65
444	1.411	1.354	292	480	0	650	0	5	13	13	220	250
445	1.411	1.354	303	0	0	0	0	1	1	1	22	25
446	1.411	1.354	0	0	0	0	0	0	0	0	0	0
447	1.411	1.354	152	0	0	800	24	4	10	10	152	200
448	1.411	1.354	209	0	0	0	0	1	1	1	22	25
449	1.411	1.354	152	0	0	0	0	0	1	1	9	10
450	1.411	1.354	190	345	0	0	0	1	3	3	53	60
451	1.411	1.354	114	0	0	0	0	0	1	1	9	10
452	1.411	1.354	0	0	0	0	0	3	8	8	132	150
453	1.411	1.354	38	60	0	0	0	1	3	3	44	50
454	1.345	1.509	0	0	0	0	0	130	130	0	1040	1300
455	1.345	1.509	10	0	0	0	0	60	60	0	480	600
456	1.345	1.509	0	0	0	0	0	74	74	0	592	740
457	1.345	1.509	0	0	0	0	0	70	70	0	560	700
458	1.345	1.509	0	0	0	0	0	94	94	0	748	935
459	1.345	1.509	0	0	0	0	0	175	175	0	1400	1750
460	1.345	1.509	0	0	0	0	0	273	273	0	2180	2725
461	1.345	1.509	0	0	0	0	0	325	325	0	2600	3250
462	1.345	1.509	214	450	655	0	4	195	195	0	1556	1950
463	1.345	1.509	0	0	0	0	0	97	97	0	772	965
464	1.345	1.509	313	0	0	0	0	17	17	0	136	170

465	1.345	1.509	182	465	0	0	0	120	120	0	960	1200
466	1.345	1.509	404	0	1375	0	0	100	100	0	800	1000
467	1.345	1.509	666	0	0	0	40	56	56	0	404	555
468	1.345	1.509	0	0	0	0	0	260	260	0	2080	2600
469	1.345	1.509	20	0	750	0	0	95	95	0	756	945
470	1.345	1.509	101	0	0	0	104	55	55	0	336	550
471	1.345	1.509	485	0	240	0	0	17	17	0	136	170
472	1.345	1.509	303	0	0	0	0	85	85	0	680	850
473	1.345	1.509	44	0	0	0	0	68	68	0	540	675
474	1.345	1.509	85	0	0	0	0	3	3	0	24	30
475	1.345	1.509	263	0	0	0	714	164	164	0	599	1640
476	1.345	1.509	444	0	0	0	0	10	10	0	80	100
477	1.345	1.509	303	0	0	0	0	20	20	0	160	200
478	1.345	1.509	444	0	2365	0	79	91	91	0	649	910
479	1.345	1.509	162	0	0	0	702	188	188	0	802	1880
480	1.345	1.509	578	0	0	0	0	20	20	0	160	200
481	1.345	1.509	141	0	0	0	0	8	8	0	64	80
482	1.345	1.509	141	0	0	0	0	1	1	0	8	10
483	1.345	1.509	1131	0	2125	0	30	68	68	0	510	675
484	1.345	1.509	204	0	0	0	0	35	35	0	276	345
485	1.345	1.509	8	0	0	0	130	5	5	1315	50	1500
486	1.345	1.509	444	0	0	0	0	2	2	0	16	20
487	1.345	1.509	404	95	0	0	52	30	30	0	188	300
488	1.345	1.509	254	0	0	0	0	11	11	0	84	105
489	1.345	1.509	242	200	0	0	0	5	5	0	40	50
490	1.345	1.509	343	0	0	0	0	7	7	0	52	65
491	1.345	1.509	0	0	0	0	0	5	5	0	40	50
492	1.345	1.509	464	0	920	0	0	30	30	0	240	300
493	1.317	1.596	0	525	0	0	0	5	5	0	90	100
494	1.317	1.596	287	0	0	0	6	4	4	0	67	80
495	1.317	1.596	0	0	0	0	4	25	25	0	446	500
496	1.317	1.596	0	0	0	0	1000	150	150	0	2700	4000
497	1.317	1.596	0	0	0	0	74	184	184	0	3308	3750
498	1.317	1.596	0	0	0	0	0	55	55	0	990	1100
499	1.317	1.596	0	0	0	0	4	75	75	0	1346	1500
500	1.317	1.596	0	0	0	0	0	20	20	0	360	400
501	1.317	1.596	390	0	0	0	0	3	3	0	45	50
502	1.317	1.596	176	0	0	0	0	2	2	0	36	40
503	1.317	1.596	0	0	0	0	440	66	66	875	304	1750
504	1.317	1.596	0	0	0	0	152	15	15	225	43	450
505	1.317	1.596	195	400	0	0	0	2	2	0	36	40
506	1.317	1.596	156	0	0	0	0	2	2	0	32	35
507	1.317	1.596	312	0	0	0	0	5	5	0	95	105
508	1.317	1.596	215	0	0	0	0	2	2	0	36	40
509	1.317	1.596	125	215	0	0	73	4	4	0	78	160
510	1.317	1.596	168	0	0	0	0	2	2	0	27	30
511	1.317	1.596	917	485	0	0	37	25	25	0	444	530
512	1.317	1.596	179	0	0	0	0	142	142	0	2561	2845
513	1.317	1.596	386	0	0	0	0	16	16	0	293	325
514	1.317	1.596	98	0	0	0	0	1	1	0	14	15
515	1.317	1.596	187	0	0	0	0	5	5	0	90	100
516	1.317	1.596	254	0	0	0	0	2	2	0	41	45
517	1.317	1.596	234	0	0	0	0	3	3	0	45	50
518	1.317	1.596	137	0	2300	0	0	17	17	0	297	330
519	1.317	1.596	195	0	0	0	21	7	7	0	120	155
520	1.317	1.596	316	0	0	0	0	3	3	0	45	50
521	1.317	1.596	332	505	0	0	0	3	3	0	45	50
522	1.317	1.596	332	0	0	0	0	1	1	0	23	25
523	1.317	1.596	285	0	0	0	0	1	1	0	18	20
524	1.317	1.596	312	0	0	0	20	3	3	0	45	70
525	1.317	1.596	468	0	0	0	0	4	4	0	72	80
526	1.317	1.596	195	0	0	0	2	2	2	0	34	40

527	1.317	1.596	335	0	0	0	34	6	6	0	113	160
528	1.317	1.596	624	215	0	0	0	18	18	0	315	350
529	1.317	1.596	1482	140	0	0	192	25	25	0	457	700
530	1.317	1.596	215	0	0	0	0	2	2	0	32	35
531	1.317	1.596	254	0	0	0	25	2	2	0	45	75
532	1.317	1.596	332	0	0	0	0	2	2	0	36	40
533	1.317	1.596	137	0	0	0	0	1	1	0	23	25
534	1.317	1.596	156	0	0	0	361	6	6	0	107	480
535	1.317	1.596	176	0	0	0	20	4	4	50	22	100
536	1.317	1.596	885	360	0	0	20	9	9	0	166	205
537	1.345	1.509	323	0	0	0	0	3	3	0	45	50
538	1.345	1.509	323	0	0	0	23	7	7	0	124	160
539	1.345	1.509	162	0	0	0	0	1	1	0	18	20
540	1.345	1.509	295	385	0	0	0	4	4	0	72	80
541	1.345	1.509	343	0	0	0	0	3	3	0	45	50
542	1.405	1.725	1185	0	0	0	26	8	8	0	147	190
543	1.651	1.889	905	0	1445	0	30	20	20	0	351	420
544	1.405	1.725	818	0	530	0	0	10	10	0	176	195
545	1.405	1.725	336	0	0	0	680	26	26	0	468	1200
546	1.405	1.725	459	0	0	0	0	4	4	0	77	85
547	1.405	1.725	478	155	0	0	3	12	12	0	223	250
548	1.405	1.725	8	450	0	450	0	28	28	0	495	550
549	1.405	1.725	1116	395	0	0	25	13	13	0	234	285
550	1.405	1.725	1292	110	0	0	21	9	9	0	166	205
551	1.405	1.725	248	0	0	0	0	2	2	0	36	40
552	1.405	1.725	229	0	0	0	0	2	2	0	36	40
553	1.405	1.725	134	0	0	0	16	5	5	0	85	110
554	1.405	1.725	248	0	0	0	0	3	3	0	45	50
555	1.405	1.725	229	195	0	0	0	16	16	0	293	325
556	1.405	1.725	0	0	0	0	0	0	0	0	0	0
557	1.405	1.725	31	0	0	0	0	12	12	0	216	240
558	1.405	1.725	344	0	0	0	0	1	1	0	23	25
559	1.405	1.725	329	0	0	0	0	1	1	0	23	25
560	1.405	1.725	96	245	0	0	9	5	5	0	82	100
561	1.405	1.725	229	0	0	0	0	1	1	0	18	20
562	1.405	1.725	210	0	0	0	0	1	1	0	18	20
563	1.405	1.725	0	0	0	0	0	0	0	0	0	0
564	1.405	1.725	19	0	0	0	0	1	1	0	18	20
565	1.515	1.754	0	0	0	0	0	8	8	0	135	150
566	1.515	1.754	0	0	0	0	0	55	55	0	990	1100
567	1.515	1.754	144	0	0	0	100	115	115	0	2070	2400
568	1.515	1.754	0	0	0	0	1451	177	177	0	3194	5000
569	1.515	1.754	0	0	0	0	0	15	15	0	270	300
570	1.515	1.754	0	0	0	0	540	56	56	0	999	1650
571	1.515	1.754	503	0	0	0	9	2	2	0	37	50
572	1.515	1.754	395	0	0	0	11	1	1	0	26	40
573	1.515	1.754	0	0	0	0	11	1	1	0	26	40
574	1.515	1.754	0	0	0	0	42	13	13	0	232	300
575	1.515	1.754	0	0	0	0	93	25	25	0	457	600
576	1.515	1.754	306	0	815	0	0	15	15	0	270	300
577	1.515	1.754	252	0	0	0	0	3	3	0	59	65
578	1.515	1.754	216	220	0	0	0	3	3	0	45	50
579	1.515	1.754	86	0	0	0	21	4	4	0	80	110
580	1.515	1.754	252	0	0	0	0	3	3	0	50	55
581	1.515	1.754	234	0	0	0	0	4	4	0	77	85
582	1.515	1.754	575	0	0	0	0	4	4	0	72	80
583	1.515	1.754	324	0	1405	0	0	10	10	0	171	190
584	1.515	1.754	719	440	0	0	45	5	5	0	90	145
585	1.515	1.754	395	0	0	0	0	2	2	0	36	40
586	1.411	1.354	303	0	0	0	0	2	2	0	32	35
587	1.411	1.354	758	825	0	0	0	10	10	0	171	190
588	1.411	1.354	986	340	0	0	38	6	6	0	101	150

589	1.411	1.354	254	0	0	0	0	1	1	0	23	25
590	1.411	1.354	241	0	0	0	0	1	1	0	18	20
591	1.411	1.354	834	0	0	0	17	6	6	0	102	130
592	1.411	1.354	0	0	0	0	0	3	3	0	45	50
593	1.515	1.754	180	0	0	7750	64	64	64	0	1157	1350
594	1.515	1.754	288	0	0	0	0	3	3	0	54	60
595	1.515	1.754	0	0	960	0	0	8	8	0	135	150
596	1.515	1.754	180	0	0	0	0	3	3	0	54	60
597	1.515	1.754	18	0	0	0	0	25	25	0	450	500
598	1.515	1.754	0	1	0	8125	0	33	33	0	585	650
599	1.515	1.754	208	0	0	0	3	77	77	0	1392	1550
600	1.515	1.754	162	0	0	0	0	24	24	0	428	475
601	1.515	1.754	931	605	0	0	7	17	17	0	309	350
602	1.515	1.754	0	0	785	0	219	21	21	0	370	630
603	1.515	1.754	864	220	0	0	24	7	7	0	127	165
604	1.515	1.754	226	0	0	0	0	2	2	0	27	30
605	1.515	1.754	341	0	0	0	0	2	2	0	41	45
606	1.515	1.754	503	140	0	0	28	5	5	0	83	120
607	1.515	1.754	356	0	0	0	0	4	4	0	72	80
608	1.515	1.754	647	290	0	0	25	7	7	0	121	160
609	1.515	1.754	0	0	0	0	218	2	2	0	29	250
610	1.515	1.754	431	730	0	0	0	9	9	0	158	175
611	1.515	1.754	140	0	245	0	0	5	5	0	81	90
612	1.515	1.754	377	0	880	0	0	10	10	0	180	200
613	1.515	1.754	86	0	0	0	0	1	1	0	18	20
614	1.515	1.754	162	0	0	0	0	1	1	0	14	15
615	1.515	1.754	234	0	0	0	0	2	2	0	27	30
616	1.515	1.754	230	0	0	0	27	4	4	0	70	105
617	1.515	1.754	144	0	0	0	0	1	1	0	9	10
618	1.515	1.754	324	290	0	0	0	3	3	0	54	60
619	1.411	1.354	209	0	0	0	0	1	1	0	14	15
620	1.411	1.354	174	0	0	0	0	1	1	0	14	15
621	1.411	1.354	190	0	0	0	0	1	1	0	18	20
622	1.411	1.354	228	0	0	0	0	1	1	0	23	25
623	1.411	1.354	228	225	0	0	29	5	5	0	86	125
624	1.411	1.354	216	0	0	0	0	1	1	0	18	20
625	1.411	1.354	190	0	0	0	0	1	1	0	18	20
626	1.411	1.354	190	0	0	0	0	1	1	0	18	20
627	1.411	1.354	356	0	0	0	0	2	2	0	36	40
628	1.411	1.354	190	0	0	0	0	1	1	0	14	15
629	1.411	1.354	341	260	0	0	6	5	5	0	89	105
630	1.411	1.354	190	0	0	0	0	1	1	0	14	15
631	1.411	1.354	229	0	0	0	0	7	7	0	126	140
632	1.411	1.354	531	0	325	0	14	7	7	0	122	150
633	1.411	1.354	592	465	0	0	0	3	3	0	59	65
634	1.411	1.354	1066	205	0	0	38	11	11	0	191	250
635	1.411	1.354	379	0	0	0	0	2	2	0	41	45
636	1.411	1.354	487	225	0	0	0	6	6	0	99	110
637	1.411	1.354	569	0	0	0	0	4	4	0	68	75
638	1.411	1.354	133	0	0	0	0	1	1	0	9	10
639	1.411	1.354	341	250	0	0	11	5	5	0	89	110
640	1.411	1.354	190	0	0	0	0	1	1	0	18	20
641	1.411	1.354	174	0	0	0	0	1	1	0	18	20
642	1.411	1.354	152	0	0	0	0	1	1	0	18	20
643	1.411	1.354	171	0	0	0	0	2	2	0	36	40
644	1.411	1.354	171	0	0	0	0	1	1	0	18	20
645	1.411	1.354	209	0	0	0	0	2	2	0	27	30
646	1.411	1.354	209	180	0	0	0	7	7	0	122	135
647	1.411	1.354	152	185	0	0	129	4	4	0	64	200
648	1.411	1.354	133	0	0	0	6	1	1	0	12	20
649	1.411	1.354	550	0	0	0	0	3	3	0	54	60
650	1.411	1.354	417	0	0	0	0	2	2	0	36	40



713	1.653	1.798	0	0	0	0	0	0	0	0	0	0
714	1.653	1.798	0	0	0	0	0	0	0	0	0	0
715	1.653	1.798	0	0	0	0	0	0	0	0	0	0
716	1.653	1.798	0	0	0	0	0	0	0	0	0	0
717	1.653	1.798	0	0	0	0	0	0	0	0	0	0
718	1.653	1.798	0	0	0	0	0	0	0	0	0	0
719	1.653	1.798	0	0	0	0	0	0	0	0	0	0
720	1.653	1.798	0	0	0	0	0	0	0	0	0	0
721	1.653	1.798	0	0	0	0	0	0	0	0	0	0
722	1.653	1.798	0	0	0	0	0	0	0	0	0	0
723	1.411	1.354	0	0	0	0	0	0	0	0	0	0
724	1.411	1.354	0	0	0	0	0	0	0	0	0	0
725	1.411	1.354	0	0	0	0	0	0	0	0	0	0
726	1.411	1.354	0	0	0	0	0	0	0	0	0	0
727	1.411	1.354	0	0	0	0	0	0	0	0	0	0
728	1.653	1.798	0	0	0	0	0	0	0	0	0	0
729	1.411	1.354	0	0	0	0	0	0	0	0	0	0
730	1.653	1.798	0	0	0	0	0	0	0	0	0	0
731	1.653	1.798	0	0	0	0	0	0	0	0	0	0
732	1.653	1.798	0	0	0	0	0	0	0	0	0	0
733	1.653	1.798	0	0	0	0	0	0	0	0	0	0
734	1.653	1.798	0	0	0	0	0	0	0	0	0	0
735	1.653	1.798	0	0	0	0	0	0	0	0	0	0
736	1.653	1.798	0	0	0	0	0	0	0	0	0	0
737	1.653	1.798	0	0	0	0	0	0	0	0	0	0
738	1.653	1.798	0	0	0	0	0	0	0	0	0	0
739	1.411	1.354	0	0	0	0	40	5	0	563	143	750
740	1.411	1.354	0	0	0	0	180	10	0	750	60	1000
741	1.411	1.354	0	0	0	0	0	2	0	124	39	165
742	1.653	1.798	403	0	0	0	0	2	2	0	41	45
743	1.653	1.798	235	0	0	0	0	2	2	0	36	40
744	1.653	1.798	151	0	0	0	0	3	3	25	20	50
745	1.653	1.798	335	0	0	0	0	2	2	0	32	35
746	1.653	1.798	168	0	0	0	0	2	2	0	27	30
747	1.653	1.798	379	0	0	0	12	1	1	0	21	35
748	1.653	1.798	268	0	0	0	0	1	1	0	14	15
749	1.653	1.798	268	0	0	0	0	1	1	0	18	20
750	1.653	1.798	168	0	0	0	0	1	1	0	23	25
751	1.653	1.798	201	0	0	0	0	1	1	0	18	20
752	1.653	1.798	134	0	0	0	0	1	1	0	9	10
753	1.653	1.798	185	0	0	0	0	2	2	0	27	30
754	1.653	1.798	0	0	0	0	0	1	1	0	9	10
755	1.653	1.798	101	0	0	0	0	1	1	0	18	20
756	1.653	1.798	101	0	0	0	0	1	1	0	14	15
757	1.653	1.798	168	0	0	0	38	5	5	0	87	135
758	1.653	1.798	235	0	0	0	0	1	1	0	23	25
759	1.653	1.798	117	0	0	0	0	1	1	0	14	15
760	1.653	1.798	134	390	0	0	0	5	5	0	90	100
761	1.653	1.798	84	0	0	0	0	0	0	0	5	5
762	1.653	1.798	252	0	0	0	0	2	2	0	27	30
763	1.653	1.798	0	0	0	0	0	0	0	0	0	0
764	1.411	1.354	0	0	0	0	0	0	0	0	0	0
765	1.411	1.354	264	0	0	0	0	1	1	0	23	25
766	1.411	1.354	152	0	0	0	0	1	1	0	18	20
767	1.411	1.354	171	0	0	0	0	2	2	0	27	30
768	1.411	1.354	152	0	0	0	0	2	2	0	27	30
769	1.411	1.354	0	0	0	0	280	7	7	0	131	425
770	1.411	1.354	95	0	0	0	0	2	2	0	27	30
771	1.411	1.354	95	0	0	0	0	1	1	0	23	25
772	1.411	1.354	114	0	0	0	0	2	2	0	27	30
773	1.411	1.354	114	0	0	0	0	1	1	0	14	15
774	1.411	1.354	550	0	0	0	0	2	2	0	36	40



775	1.411	1.354	322	0	0	0	0	1	1	0	23	25
776	1.411	1.354	0	0	0	0	0	0	0	0	0	0
777	1.411	1.354	114	0	0	0	0	1	1	0	23	25
778	1.411	1.354	38	0	0	0	0	2	2	0	32	35
779	1.411	1.354	0	0	0	0	0	0	0	0	0	0
780	1.411	1.354	114	0	1730	0	0	4	4	0	63	70
781	1.653	1.798	0	0	0	0	0	0	0	0	0	0
782	1.653	1.798	0	0	0	0	0	0	0	0	0	0
783	1.411	1.354	0	0	0	0	0	0	0	0	0	0
784	1.411	1.354	0	0	0	0	0	0	0	0	0	0
785	1.411	1.354	0	0	0	0	0	0	0	0	0	0
786	1.653	1.798	0	0	0	0	0	0	0	0	0	0
787	1.653	1.798	0	0	0	0	0	0	0	0	0	0
788	1.653	1.798	0	0	0	0	0	0	0	0	0	0
789	1.411	1.354	174	140	0	0	20	12	12	0	207	250
790	1.653	1.798	0	0	0	0	0	0	0	0	0	0
791	1.653	1.798	0	0	0	0	0	0	0	0	0	0
792	1.653	1.798	0	0	0	0	0	0	0	0	0	0
793	1.653	1.798	0	0	0	0	0	0	0	0	0	0
794	1.653	1.798	0	0	0	0	0	0	0	0	0	0
795	1.653	1.798	0	0	0	0	0	0	0	0	0	0
796	1.653	1.798	0	0	0	0	0	0	0	0	0	0
797	1.653	1.798	0	0	0	0	0	0	0	0	0	0
798	1.653	1.798	0	0	0	0	0	0	0	0	0	0
799	1.411	1.354	0	0	0	0	0	0	0	0	0	0
800	1.411	1.354	0	0	0	0	0	0	0	0	0	0
801	1.411	1.354	0	0	0	0	0	0	0	0	0	0
802	1.653	1.798	0	0	0	0	0	0	0	0	0	0
803	1.653	1.798	0	0	0	0	0	0	0	0	0	0
804	1.653	1.798	0	0	0	0	0	0	0	0	0	0
805	1.653	1.798	0	0	0	0	0	0	0	0	0	0
806	1.653	1.798	0	0	0	0	0	0	0	0	0	0
807	1.653	1.798	0	0	0	0	0	0	0	0	0	0
808	1.411	1.354	46	0	0	0	100	25	25	303	152	605
809	1.411	1.354	0	0	0	0	0	39	39	98	605	780
810	1.411	1.354	0	0	0	0	0	255	55	0	790	1100
811	1.411	1.354	87	0	0	0	0	23	23	0	410	455
812	1.345	1.509	8	0	0	0	660	20	0	2120	200	3000
813	1.345	1.509	4	0	0	0	500	15	0	1785	150	2450
814	1.345	1.509	4	0	0	0	630	25	0	2595	250	3500
815	1.345	1.509	4	0	0	0	100	5	0	505	50	660
816	1.345	1.509	4	0	0	0	160	5	0	635	50	850
817	1.345	1.509	4	0	0	0	60	5	0	330	30	425
818	1.345	1.509	77	0	0	0	0	10	120	0	20	150
819	1.345	1.509	0	0	0	0	0	0	0	0	0	0
820	1.345	1.509	0	0	0	0	0	23	23	150	255	450
821	1.345	1.509	0	0	0	0	0	1	1	0	18	20
822	1.345	1.509	0	0	0	0	0	0	0	0	0	0
823	1.345	1.509	153	0	0	0	1	35	35	0	629	700
824	1.345	1.509	12	0	0	0	0	4	4	56	11	75
825	1.345	1.509	0	0	0	0	0	0	0	0	0	0
826	1.345	1.509	0	0	0	0	0	0	0	0	0	0
827	1.345	1.509	0	0	0	0	0	0	0	0	0	0
828	1.345	1.509	0	0	0	0	0	0	0	0	0	0
829	1.345	1.509	0	0	0	0	60	76	76	1181	182	1575
830	1.345	1.509	6	0	0	0	0	0	0	0	0	0
831	1.345	1.509	0	0	0	0	40	9	9	153	0	210
832	1.345	1.509	0	0	0	0	0	0	0	0	0	0
833	1.345	1.509	4	0	0	0	0	3	3	45	9	60
834	1.345	1.509	0	0	0	0	0	1	1	8	2	10
835	1.345	1.509	8	0	0	0	0	1	1	8	2	10
836	1.345	1.509	0	0	0	0	0	0	0	0	0	0

0 6500

837	1.345	1.509	4	0	0	0	0	5	5	75	15	100
838	1.345	1.509	6	0	0	0	0	2	2	34	7	45
839	1.345	1.509	0	0	0	0	0	0	0	0	0	0
840	1.651	1.889	0	0	0	0	200	20	20	0	360	600
841	1.651	1.889	0	0	0	0	0	30	30	400	140	600
842	1.651	1.889	30	0	0	0	1440	153	153	0	2754	4500
843	1.651	1.889	0	0	880	0	0	18	18	263	53	350
844	1.651	1.889	0	0	0	0	24	34	34	525	83	700
845	1.651	1.889	0	0	0	0	0	0	0	0	0	0
846	1.651	1.889	0	0	0	0	30	69	69	1050	183	1400
847	1.651	1.889	0	0	0	0	0	24	24	353	71	470
848	1.651	1.889	152	0	0	0	0	1	1	3	20	25
849	1.651	1.889	152	0	0	0	0	1	1	2	16	20
850	1.651	1.889	638	0	0	0	0	3	3	6	48	60
851	1.651	1.889	675	0	0	0	0	4	4	8	64	80
852	1.651	1.889	777	475	0	0	0	7	7	14	108	135
853	1.651	1.889	588	0	0	0	16	5	5	12	82	120
854	1.651	1.889	405	740	0	0	0	4	4	0	77	85
855	1.651	1.889	439	0	365	0	23	6	6	0	105	140
856	1.651	1.889	451	0	0	0	0	2	2	0	36	40
857	1.651	1.889	236	0	0	0	0	2	2	0	27	30
858	1.345	1.509	343	0	0	0	0	2	2	0	36	40
859	1.345	1.509	323	420	0	0	0	4	4	0	77	85
860	1.345	1.509	404	0	0	0	0	2	2	0	27	30
861	1.345	1.509	384	0	0	0	0	3	3	0	45	50
862	1.651	1.889	135	0	0	0	0	1	1	0	18	20
863	1.651	1.889	186	0	0	0	0	2	2	0	27	30
864	1.651	1.889	135	0	0	0	0	1	1	0	14	15
865	1.651	1.889	557	0	0	0	12	4	4	0	80	100
866	1.651	1.889	574	0	0	0	0	3	3	0	59	65
867	1.651	1.889	473	0	0	0	0	3	3	0	54	60
868	1.651	1.889	0	0	410	0	15	10	10	0	184	220
869	1.651	1.889	304	0	0	0	9	7	7	0	131	155
870	1.651	1.889	659	370	0	0	12	6	6	0	106	130
871	1.651	1.889	371	400	0	0	0	5	5	0	81	90
872	1.651	1.889	388	0	0	0	0	3	3	0	45	50
873	1.651	1.889	135	0	0	0	0	1	1	0	14	15
874	1.651	1.889	152	0	0	0	0	1	1	0	18	20
875	1.651	1.889	186	0	0	0	119	9	9	0	167	305
876	1.651	1.889	392	150	0	0	8	3	3	0	56	70
877	1.651	1.889	456	280	0	0	11	4	4	0	71	90
878	1.651	1.889	371	0	0	0	0	3	3	0	54	60
879	1.651	1.889	304	0	0	0	8	2	2	0	38	50
880	1.651	1.889	827	0	2135	0	8	21	21	0	375	425
881	1.651	1.889	709	0	490	0	82	18	18	0	332	450
882	1.651	1.889	794	355	0	0	0	10	10	0	180	200
883	1.651	1.889	304	0	0	0	0	3	3	0	54	60
884	1.651	1.889	169	0	0	0	0	2	2	0	36	40
885	1.651	1.889	135	0	835	0	394	13	13	0	230	650
886	1.651	1.889	375	0	0	0	0	4	4	0	63	70
887	1.651	1.889	811	385	0	0	17	10	10	0	174	210
888	1.651	1.889	371	730	0	0	0	5	5	0	81	90
889	1.651	1.889	338	0	0	0	0	2	2	0	27	30
890	1.651	1.889	138	250	0	0	26	4	4	0	75	110
891	1.651	1.889	321	0	0	0	0	2	2	0	27	30
892	1.345	1.509	505	0	0	0	0	2	2	0	27	30
893	1.345	1.509	505	255	0	0	29	5	5	0	91	130
894	1.345	1.509	404	0	0	0	0	1	1	0	23	25
895	1.345	1.509	953	0	1610	0	124	24	24	0	428	600
896	1.345	1.509	1616	0	0	0	0	7	7	0	117	130
897	1.345	1.509	363	240	0	0	0	7	7	0	122	135
898	1.345	1.509	525	0	0	0	19	1	1	0	10	30



961	0.000	0.000	0	0	0	0	0	0	0	0	0								
962	0.000	0.000	0	0	0	0	0	0	0	0	0								
963	0.000	0.000	0	0	0	0	0	0	0	0	0								
964	0.000	0.000	0	0	0	0	0	0	0	0	0								
965	0.000	0.000	0	0	0	0	0	0	0	0	0								
966	0.000	0.000	0	0	0	0	0	0	0	0	0								
967	0.000	0.000	0	0	0	0	0	0	0	0	0								
968	0.000	0.000	0	0	0	0	0	0	0	0	0								
969	0.000	0.000	0	0	0	0	0	0	0	0	0								
970	0.000	0.000	0	0	0	0	0	0	0	0	0								
971	0.000	0.000	0	0	0	0	0	0	0	0	0								
972	0.000	0.000	0	0	0	0	0	0	0	0	0								
973	0.000	0.000	0	0	0	0	0	0	0	0	0								
974	0.000	0.000	0	0	0	0	0	0	0	0	0								
975	0.000	0.000	0	0	0	0	0	0	0	0	0								
976	0.000	0.000	0	0	0	0	0	0	0	0	0								
977	0.000	0.000	0	0	0	53	0	0	0	0	53								
978	0.000	0.000	0	0	0	0	0	0	0	0	0								
979	0.000	0.000	0	0	0	0	0	0	0	0	0								
980	0.000	0.000	0	0	0	0	0	0	0	0	0								
981	0.000	0.000	0	0	0	0	0	0	0	0	0								
982	0.000	0.000	0	0	0	0	0	0	0	0	0								
983	0.000	0.000	0	0	0	0	0	0	0	0	0								
984	0.000	0.000	0	0	0	0	0	0	0	0	0								
985	0.000	0.000	0	0	0	0	0	0	0	0	0								
986	0.000	0.000	0	0	0	0	0	0	0	0	0								
987	0.000	0.000	0	0	0	0	0	0	0	0	0			500	500			500	500
988	0.000	0.000	0	0	0	0	0	0	0	0	0			20	70	0	0	56	32
989	0.000	0.000	0	0	0	0	0	0	0	0	0			0	0	0	0	0	0
990	0.000	0.000	0	0	0	0	0	0	0	0	0			0	0	0	0	0	0
991	0.000	0.000	0	0	0	0	0	0	0	0	0			0	0	0	0	0	0
992	0.000	0.000	0	0	0	0	0	0	0	0	0			0	0	0	0	0	0
993	0.000	0.000	0	0	0	0	0	0	0	0	0			0	0	0	0	0	0
994	0.000	0.000	0	0	0	0	0	0	0	0	0			420	20	0	0	20	420
995	0.000	0.000	0	0	0	0	0	0	0	0	0			850	400	0	0	400	850
996	0.000	0.000	0	0	0	0	0	0	0	0	0			26	2	0	0	13	1
997	0.000	0.000	0	0	0	0	0	0	0	0	0			123	10	0	0	20	184
998	0.000	0.000	0	0	0	0	0	0	0	0	0			344	56	0	0	97	353
999	0.000	0.000	0	0	0	0	0	0	0	0	0			421	182	0	0	177	370

**MORNING PEAK**

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+-----+
| TRACKS TRACKS TRACKS TRACKS TRACKS TRACKS TR |
| TRACKS +-----+ TRACKS |
| S TRACKS |          | S TRACKS |
| KS TRACK | Program :   CORDON | KS TRACK |
| CKS TRAC | Version :   V7.08  | CKS TRAC |
| ACKS TRA |          | ACKS TRA |
| RACKS TR | Date run : 17-Jun-08 | RACKS TR |
| TRACKS T | Time run : 16:55:28 | TRACKS T |
| TRACKS | Platform : Win 95/NT | TRACKS |
| S TRACKS+-----+S TRACKS |
| KS TRACKS TRACKS TRACKS TRACKS TRACKS TRACKS |
+-----+
|          |
| TRACKS Licenced to |
| Gabites Porter_____ |
| at : Christchurch |
|          |
+-----+

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Build Date : 19/06/07 01:30  
Parameter version : V5.20

Network Period Factor : 1.000

Cordon Period Factor : 1.000

GEH Period Factor : 1.000

CSV Output File :

Cordon Data File : QM06CD.000\*QUEANBEYAN MODEL  
Loaded Network : QM06NL.000 \*QUEANBEYAN AM - LUSE-2006  
\*\*\*\* Links in network

Cordon Number : 1  
Description : \*1

NODE1	NODE2	FORWARD				BACK				TOTAL				GEH	
		COUNT	VOLUME	CHANGE	%	COUNT	VOLUME	CHANGE	%	COUNT	VOLUME	CHANGE	%		
1300	1249	150.	218	68.	145.3	232.	134	-98.	57.8	382.	352	-30.	92.1	1.6	*KENDALL Ave. Nth.- Canberra Ave. - Ste
3373	1249	166.	56	-110.	33.7	44.	73	29.	165.9	209.	129	-80.	61.7	6.2	*STEPHENS Rd.- Canberra Ave. - Kendall
3369	1153	75.	74	-1.	98.7	58.	55	-3.	94.8	133.	129	-4.	97.0	.3	*MUNRO Rd.- #32_Spendelove St. - Ross R
3049	3050	258.	191	-67.	74.0	198.	169	-29.	85.4	456.	360	-96.	78.9	4.8	*ROSS Rd.- #106_Munro Rd. - Early St.
1194	1378	98.	185	87.	188.8	72.	67	-5.	93.1	170.	252	82.	148.2	5.6	*STORNAWAY Rd.- #121_Canberra Ave. - Ea
2834	2244	52.	50	-2.	96.2	24.	32	8.	133.3	76.	82	6.	107.9	.7	*CAMPBELL St.- Canberra Ave. - George S
2306	2513	489.	419	-70.	85.7	No Back Link Present				489.	419	-70.	85.7	3.3	*LOWE St.- Farrer Pl. - Morisset St NB
2306	1215	No Forward Link Present				261.	262	1.	100.4	261.	262	1.	100.4	.1	*LOWE St.- Farrer Pl. - Morisset St SB

3435	2514	197.	219	22.	111.2	No Back Link Present	197.	219	22.	111.2	1.5	*CRAWFORD ST nth of MONARO St NB			
3436	1761	No Forward Link Present	226.	193	-33.	85.4	226.	193	-33.	85.4	2.3	*CRAWFORD ST nth of MONARO St SB			
1591	3446	327.	245	-82.	74.9	176.	98	-78.	55.7	503.	343	-160.	68.2	7.8	*COLLETT St sth of MORISSET St

Number of links = 11 Number of forward links = 9 Number of back links = 9

TOTALS	FORWARD	BACK	TOTALS		
COUNT	1812.	1291.	3102.		
VOLUME	1657.	1083.	2740.		
CHANGE	-155.	-208.	-362.		
%	91.	84.	88.		
CORREL.					
COEFF.	.868	.899	.917		
%RMS	35.51	33.58	26.39		
r^2	.754	.808	.840		
GEH	3.7	6.0	6.7		
GEH <5	<7	<10	<12	>12	
#	8	10	11	11	0
%	72.7	90.9	100.0	100.0	.0

Cordon Number : 2  
Description : \*2a

NODE1	NODE2	FORWARD				BACK				TOTAL				GEH	
		COUNT	VOLUME	CHANGE	%	COUNT	VOLUME	CHANGE	%	COUNT	VOLUME	CHANGE	%		
2937	1299	602.	366	-236.	60.8	197.	189	-8.	95.9	799.	555	-244.	69.5	9.4	*KENDALL Ave
2905	2888	15.	37	22.	246.7	38.	22	-16.	57.9	53.	59	6.	111.3	.8	*KEALMAN Rd.- Gilmore Rd. - Gregory St.
2888	2889	49.	3	-46.	6.1	63.	11	-52.	17.5	112.	14	-98.	12.5	12.3	*GREGORY St.- #4_Kealman Rd. - John Bul
3125	2250	1184.	1333	149.	112.6	No Back Link Present				1184.	1333	149.	112.6	4.2	*LANYON Dr.Gilmore Rd. - Canberra Ave N
3124	1091	No Forward Link Present				548.	700	152.	127.7	548.	700	152.	127.7	6.1	*LANYON Dr.Gilmore Rd. - Canberra Ave S
1921	2234	380.	474	94.	124.7	92.	107	15.	116.3	472.	581	109.	123.1	4.8	*THARWA Rd.- Gilmore Pl. - Ross Rd.#58&
1357	2234	116.	287	171.	247.4	48.	46	-2.	95.8	164.	333	169.	203.0	10.7	*ROSS Rd.- #132_Fergus Rd. - Tharwa Rd.
1871	3352	15.	27	12.	180.0	24.	31	7.	129.2	39.	58	19.	148.7	2.7	*McINTOSH St.- at # 27 - NTH/ STH 04 sc
1388	1739	303.	239	-64.	78.9	141.	149	8.	105.7	444.	388	-56.	87.4	2.7	*DONALD Rd.- #14_Garland Ave. - Canberr
1566	1738	4.	13	9.	325.0	6.	25	19.	416.7	10.	38	28.	380.0	5.7	*BROUGHTON Pl.- #2_Garland Ave. - Canbe
1537	1536	211.	175	-36.	82.9	96.	153	57.	159.4	307.	328	21.	106.8	1.2	*CAMERON Rd.- #15_Glebe Ave. - Canberra
2253	2371	468.	652	184.	139.3	275.	208	-67.	75.6	743.	860	117.	115.7	4.1	*LOWE St. - Opp. School/ Cooma/Monaro S
1946	1453	259.	171	-88.	66.0	136.	163	27.	119.9	395.	334	-61.	84.6	3.2	*CRAWFORD St.- #257_Rutledge St. - Mona
3442	1472	254.	138	-116.	54.3	121.	57	-64.	47.1	375.	195	-180.	52.0	10.7	*COLLETT St.- #25 Car park - Leagues Cl

Number of links = 14 Number of forward links = 13 Number of back links = 13

TOTALS	FORWARD	BACK	TOTALS		
COUNT	3860.	1785.	5645.		
VOLUME	3915.	1861.	5776.		
CHANGE	55.	76.	131.		
%	101.	104.	102.		
CORREL.					
COEFF.	.944	.964	.941		
%RMS	41.16	41.73	31.48		
r^2	.891	.930	.885		
GEH	.9	1.8	1.7		
GEH <5	<7	<10	<12	>12	
#	8	10	11	13	1
%	57.1	71.4	78.6	92.9	7.1

Cordon Number : 3  
Description : \*2b

NODE1	NODE2	FORWARD				BACK				TOTAL				GEH	
		COUNT	VOLUME	CHANGE	%	COUNT	VOLUME	CHANGE	%	COUNT	VOLUME	CHANGE	%		
1596	2984	492.	417	-75.	84.8	No Back Link Present				492.	417	-75.	84.8	3.5	*ATKINSON St.- #19n_Macquoid St. - Bung
1596	2980	No Forward Link Present				341.	350	9.	102.6	341.	350	9.	102.6	.5	*ATKINSON St.- #19s_Bungendore Rd. - Ma
3411	1374	127.	182	55.	143.3	43.	46	3.	107.0	170.	228	58.	134.1	4.1	*ELLERTON Dr.- QCC depot - Bungendore R
2351	2350	42.	90	48.	214.3	42.	62	20.	147.6	84.	152	68.	181.0	6.3	*WARROO St sth of BUNGENDORE ST
2350	3450	225.	213	-12.	94.7	616.	606	-10.	98.4	841.	819	-22.	97.4	.8	*Bungendore St est of Warrooo St

Number of links = 5 Number of forward links = 4 Number of back links = 4

TOTALS	FORWARD	BACK	TOTALS
COUNT	886.	1042.	1928.
VOLUME	902.	1064.	1966.
CHANGE	16.	22.	38.
%	102.	102.	102.
CORREL.			
COEFF.	.993	1.000	.988
%RMS	27.46	5.38	15.44
r^2	.985	.999	.976
GEH	.5	.7	.9
GEH <5	<7	<10	>12
#	4	5	5
%	80.0	100.0	100.0

Cordon Number : 4  
Description : \*3

NODE1	NODE2	FORWARD				BACK				TOTAL				GEH	
		COUNT	VOLUME	CHANGE	%	COUNT	VOLUME	CHANGE	%	COUNT	VOLUME	CHANGE	%		
2407	1093	1033.	1029	-4.	99.6	No Back Link Present				1033.	1029	-4.	99.6	.1	*LANYON Dr - Tomsitt Dr- Hoover Rd NB
2409	3148	No Forward Link Present				594.	638	44.	107.4	594.	638	44.	107.4	1.8	*LANYON Dr - Tomsitt Dr - Hoover Rd SB
1316	1319	270.	276	6.	102.2	116.	100	-16.	86.2	386.	376	-10.	97.4	.5	*HALLORAN Dr.- #44_Jerrabomberra Hill R
2005	3238	305.	276	-29.	90.5	74.	54	-20.	73.0	379.	330	-49.	87.1	2.6	*COOMA Rd.- Candlebark Rd. - Wickerslac

Number of links = 4 Number of forward links = 3 Number of back links = 3

TOTALS	FORWARD	BACK	TOTALS
COUNT	1608.	784.	2392.
VOLUME	1581.	792.	2373.
CHANGE	-27.	8.	-19.
%	98.	101.	99.
CORREL.			
COEFF.	.999	1.000	.994
%RMS	3.94	13.78	6.44
r^2	.998	1.000	.987
GEH	.7	.3	.4
GEH <5	<7	<10	>12
#	4	4	4
%	100.0	100.0	100.0

Cordon Number : 5  
Description : \*4

NODE1	NODE2	FORWARD				BACK				TOTAL				GEH	
		COUNT	VOLUME	CHANGE	%	COUNT	VOLUME	CHANGE	%	COUNT	VOLUME	CHANGE	%		
3211	2973	1274.	1091	-183.	85.6	No Back Link Present				1274.	1091	-183.	85.6	5.3	*TOMPSITT Dr.- Lanyon Dr. end - KERB/Mi
3210	2224	No Forward Link Present				249.	418	169.	167.9	249.	418	169.	167.9	9.3	*TOMPSITT Dr.- Lanyon Dr. end - KERB/Mi
1316	1319	270.	276	6.	102.2	116.	100	-16.	86.2	386.	376	-10.	97.4	.5	*HALLORAN Dr.- #44_Jerrabomberra Hill R

Number of links = 3 Number of forward links = 2 Number of back links = 2

TOTALS	FORWARD	BACK	TOTALS	
COUNT	1544.	365.	1909.	
VOLUME	1367.	518.	1885.	
CHANGE	-177.	153.	-24.	
%	89.	142.	99.	
CORREL.				
COEFF.	1.000	1.000	.985	
%RMS	23.72	93.02	27.70	
r^2	1.000	1.000	.969	
GEH	4.6	7.3	.6	
GEH <5	<7	<10	<12	>12
#	1	2	3	3
%	33.3	66.7	100.0	100.0
				.0

Cordon Number : 6  
Description : \*5

NODE1	NODE2	FORWARD				BACK				TOTAL				GEH	
		COUNT	VOLUME	CHANGE	%	COUNT	VOLUME	CHANGE	%	COUNT	VOLUME	CHANGE	%		
1772	1771	469.	505	36.	107.7	682.	633	-49.	92.8	1151.	1138	-13.	98.9	.4	*URIARA Rd.- #51_Railway Ave. - Blackal
2740	1771	60.	49	-11.	81.7	28.	16	-12.	57.1	88.	65	-23.	73.9	2.6	*BLACKALL Ave.- #8_Morton St. - Uriara
1156	2114	135.	110	-25.	81.5	106.	81	-25.	76.4	241.	191	-50.	79.3	3.4	*Morton Street - btw Agnes Ave. and Ros
1718	2230	87.	45	-42.	51.7	30.	33	3.	110.0	117.	78	-39.	66.7	3.9	*Surveyor Street - btw Agnes Ave. and R
1381	1380	76.	81	5.	106.6	44.	84	40.	190.9	120.	165	45.	137.5	3.8	*EARLY St. #20_Agnes Ave - Ross Rd
3369	1153	75.	74	-1.	98.7	58.	55	-3.	94.8	133.	129	-4.	97.0	.3	*MUNRO Rd.- #32_Spendelove St. - Ross R
2283	1195	845.	951	106.	112.5	No Back Link Present				845.	951	106.	112.5	3.5	*CANBERRA Ave.Tharwa Rd. - Lanyon Dr./
1987	1191	No Forward Link Present				1364.	1291	-73.	94.6	1364.	1291	-73.	94.6	2.0	*CANBERRA Ave.Lanyon Dr. - Ross Rd.KERB
1446	1445	51.	51	0.	100.0	25.	28	3.	112.0	77.	79	2.	102.6	.2	*CREST PARK Pde.- #20_Weir Pl. - Telope

Number of links = 9 Number of forward links = 8 Number of back links = 8

TOTALS	FORWARD	BACK	TOTALS	
COUNT	1798.	2337.	4136.	
VOLUME	1866.	2221.	4087.	
CHANGE	68.	-116.	-49.	
%	104.	95.	99.	
CORREL.				
COEFF.	.999	.999	.995	
%RMS	20.64	13.02	11.75	
r^2	.997	.998	.989	
GEH	1.6	2.4	.8	
GEH <5	<7	<10	<12	>12
#	9	9	9	9
				0



% 100.0 100.0 100.0 100.0 .0

Cordon Number : 7  
Description : \*6

NODE1	NODE2	FORWARD				BACK				TOTAL				GEH	
		COUNT	VOLUME	CHANGE	%	COUNT	VOLUME	CHANGE	%	COUNT	VOLUME	CHANGE	%		
3390	3004	95.	104	9.	109.5	123.	78	-45.	63.4	218.	182	-36.	83.5	2.5	*COLLETT St.- #119_Erin St. - Campbell
1364	2246	87.	85	-2.	97.7	91.	51	-40.	56.0	178.	136	-42.	76.4	3.4	*ERIN St.- #1_Crawford St. - Collett St
1997	1995	590.	571	-19.	96.8	535.	660	125.	123.4	1125.	1231	106.	109.4	3.1	*CRAWFORD St.- Campbell St-Killard St.
1981	3291	54.	153	99.	283.3	42.	73	31.	173.8	96.	226	130.	235.4	10.2	*ANTILL St.- #11_Campbell St. - Crawfor
2126	2511	No Forward Link Present				243.	200	-43.	82.3	243.	200	-43.	82.3	2.9	*LOWE St. - Morisset St. - Campbell St.
3307	2127	294.	285	-9.	96.9	No Back Link Present				294.	285	-9.	96.9	.5	*LOWE St. - Morisset St. - Campbell St.
2835	3311	1042.	1070	28.	102.7	No Back Link Present				1042.	1070	28.	102.7	.9	*FARRER Pl. -Campbell St. - Lowe St EB
1989	3317	No Forward Link Present				1058.	819	-239.	77.4	1058.	819	-239.	77.4	7.8	*FARRER Pl. -Campbell St. - Lowe St WB

Number of links = 8 Number of forward links = 6 Number of back links = 6

TOTALS	FORWARD	BACK	TOTALS
COUNT	2162.	2092.	4254.
VOLUME	2268.	1881.	4149.
CHANGE	106.	-211.	-105.
%	105.	90.	98.
CORREL.			
COEFF.	.994	.956	.969
%RMS	13.08	36.09	21.45
r^2	.988	.914	.938
GEH	2.3	4.7	1.6
GEH <5	<7	<10	>12
#	6	6	7
%	75.0	75.0	87.5
			100.0
			.0

Cordon Number : 8  
Description : \*7 ACT Boundary Inbound first

NODE1	NODE2	FORWARD				BACK				TOTAL				GEH	
		COUNT	VOLUME	CHANGE	%	COUNT	VOLUME	CHANGE	%	COUNT	VOLUME	CHANGE	%		
6329	7028	421.	419	-2.	99.5	835.	792	-43.	94.9	1256.	1211	-45.	96.4	1.3	*YASS Rd.- ACT border - Rail bridge (ZC
8230	2609	132.	148	16.	112.1	219.	227	8.	103.7	351.	375	24.	106.8	1.3	*MCEWAN Ave nth of HENDERSON St
2021	1731	343.	531	188.	154.8	740.	929	189.	125.5	1083.	1460	377.	134.8	10.6	*URIARA Rd.- Rail Bridge - Kendall Ave.
1990	1296	553.	620	67.	112.1	No Back Link Present				553.	620	67.	112.1	2.8	*Canberra Dr. North of KENDALL Ave EB (
1741	1295	No Forward Link Present				1679.	1640	-39.	97.7	1679.	1640	-39.	97.7	1.0	*Canberra Dr. North of KENDALL Ave WB (
4173	1770	950.	1042	92.	109.7	1365.	1310	-55.	96.0	2315.	2352	37.	101.6	.8	*LANYON Dr.- ACT Border - Tomsitt Dr./
3452	2313	20.	14	-6.	70.0	70.	82	12.	117.1	90.	96	6.	106.7	.6	*OLD COOMA Rd.- Sth. of Thoroughbread D

Number of links = 7 Number of forward links = 6 Number of back links = 6

TOTALS	FORWARD	BACK	TOTALS
COUNT	2419.	4908.	7327.
VOLUME	2774.	4980.	7754.
CHANGE	355.	72.	427.
%	115.	101.	106.
CORREL.			
COEFF.	.982	.990	.983
%RMS	24.45	11.25	15.21

r^2 .965 .980 .967  
 GEH 7.0 1.0 4.9

GEH <5 <7 <10 <12 >12  
 # 6 6 6 7 0  
 % 85.7 85.7 85.7 100.0 .0

Cordon Number : 9  
 Description : \*8 Spot counts

NODE1	NODE2	FORWARD				BACK				TOTAL				GEH	
		COUNT	VOLUME	CHANGE	%	COUNT	VOLUME	CHANGE	%	COUNT	VOLUME	CHANGE	%		
1218	1248	67.	70	3.	104.5	76.	87	11.	114.5	143.	157	14.	109.8	1.1	*Lorn St btw Morton St and Kendall Ave
3060	1926	50.	68	18.	136.0	88.	118	30.	134.1	138.	186	48.	134.8	3.8	*Morton St Btw Richard Ave-Frederick St
2362	3067	54.	48	-6.	88.9	85.	146	61.	171.8	139.	194	55.	139.6	4.3	*STORNAWAY Rd. #77_Surveyor St. - Mere
1402	1673	133.	110	-23.	82.7	18.	50	32.	277.8	151.	160	9.	106.0	.7	*CARWOOLA St nth of DODSWORTH Ave
1403	1402	5.	11	6.	220.0	2.	11	9.	550.0	7.	22	15.	314.3	3.9	*DODSWORTH Ave wst of SEVERNE St
3001	3356	150.	150	0.	100.0	60.	82	22.	136.7	210.	232	22.	110.5	1.5	*CAMERON Rd north of ALANBAR St 06
1650	1651	87.	70	-17.	80.5	323.	303	-20.	93.8	410.	373	-37.	91.0	1.9	*BARRACKS FLAT Dr Est of COOMA Rd

Number of links = 7 Number of forward links = 7 Number of back links = 7

TOTALS	FORWARD	BACK	TOTALS
COUNT	546.	652.	1198.
VOLUME	527.	797.	1324.
CHANGE	-19.	145.	126.
%	97.	122.	111.

CORREL.  
 COEFF. .964 .977 .976  
 %RMS 18.30 35.96 20.91  
 r^2 .929 .954 .953  
 GEH .8 5.4 3.5

GEH <5 <7 <10 <12 >12  
 # 7 7 7 7 0  
 % 100.0 100.0 100.0 100.0 .0

Cordon Number : 10  
 Description : \*9 ALL

NODE1	NODE2	FORWARD				BACK				TOTAL				GEH	
		COUNT	VOLUME	CHANGE	%	COUNT	VOLUME	CHANGE	%	COUNT	VOLUME	CHANGE	%		
1300	1249	150.	218	68.	145.3	232.	134	-98.	57.8	382.	352	-30.	92.1	1.6	*KENDALL Ave. Nth.- Canberra Ave. - Ste
3373	1249	166.	56	-110.	33.7	44.	73	29.	165.9	209.	129	-80.	61.7	6.2	*STEPHENS Rd.- Canberra Ave. - Kendall
3369	1153	75.	74	-1.	98.7	58.	55	-3.	94.8	133.	129	-4.	97.0	.3	*MUNRO Rd.- #32_Spendelove St. - Ross R
3049	3050	258.	191	-67.	74.0	198.	169	-29.	85.4	456.	360	-96.	78.9	4.8	*ROSS Rd.- #106_Munro Rd. - Early St.
1194	1378	98.	185	87.	188.8	72.	67	-5.	93.1	170.	252	82.	148.2	5.6	*STORNAWAY Rd.- #121_Canberra Ave. - Ea
2834	2244	52.	50	-2.	96.2	24.	32	8.	133.3	76.	82	6.	107.9	.7	*CAMPBELL St.- Canberra Ave. - George S
2306	2513	489.	419	-70.	85.7	No Back Link Present			489.	419	-70.	85.7	3.3	*LOWE St.- Farrer Pl. - Morisset St NB	
2306	1215	No Forward Link Present				261.	262	1.	100.4	261.	262	1.	100.4	.1	*LOWE St.- Farrer Pl. - Morisset St SB
3435	2514	197.	219	22.	111.2	No Back Link Present			197.	219	22.	111.2	1.5	*CRAWFORD ST nth of MONARO St NB	
3436	1761	No Forward Link Present				226.	193	-33.	85.4	226.	193	-33.	85.4	2.3	*CRAWFORD ST nth of MONARO St SB
1591	3446	327.	245	-82.	74.9	176.	98	-78.	55.7	503.	343	-160.	68.2	7.8	*COLLETT St sth of MORISSET St
2937	1299	602.	366	-236.	60.8	197.	189	-8.	95.9	799.	555	-244.	69.5	9.4	*KENDALL Ave
2905	2888	15.	37	22.	246.7	38.	22	-16.	57.9	53.	59	6.	111.3	.8	*KEALMAN Rd.- Gilmore Rd. - Gregory St.
2888	2889	49.	3	-46.	6.1	63.	11	-52.	17.5	112.	14	-98.	12.5	12.3	*GREGORY St.- #4_Kealman Rd. - John Bul
3125	2250	1184.	1333	149.	112.6	No Back Link Present			1184.	1333	149.	112.6	4.2	*LANYON Dr.Gilmore Rd. - Canberra Ave N	



COEFF.	.972	.987	.982		
%RMS	26.08	22.72	18.54		
r^2	.945	.975	.965		
GEH	.8	2.5	1.2		
GEH <5	<7	<10	<12	>12	
#	51	57	61	64	1
%	78.5	87.7	93.8	98.5	1.5

CORDON terminated successfully

**EVENING PEAK**

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+-----+
| TRACKS TRACKS TRACKS TRACKS TRACKS TRACKS TR |
| TRACKS +-----+ TRACKS |
| S TRACKS | |S TRACKS |
| KS TRACK | Program : CORDON |KS TRACK |
| CKS TRAC | Version : V7.08 |CKS TRAC |
| ACKS TRA | |ACKS TRA |
| RACKS TR | Date run : 28-Jun-08 |RACKS TR |
| TRACKS T | Time run : 12:32:20 |TRACKS T |
| TRACKS | Platform : Win 95/NT | TRACKS |
| S TRACKS+-----+S TRACKS |
| KS TRACKS TRACKS TRACKS TRACKS TRACKS TRACKS |
+-----+
|
| TRACKS Licenced to
| Gabites Porter_____
| at : Christchurch
|
+-----+
Build Date : 19/06/07 01:30
Parameter version : V5.20
    
```

Network Period Factor : 1.000

Cordon Period Factor : 1.000

GEH Period Factor : 1.000

CSV Output File :

Cordon Data File : QE06CD.000\*QUEANBEYAN MODEL  
 Loaded Network : QE06NL.000 \*QUEANBEYAN PMP -LUSE-2006  
 \*\*\*\* Links in network

Cordon Number : 1  
 Description : \*1 0

NODE1	NODE2	FORWARD				BACK				TOTAL				GEH	
		COUNT	VOLUME	CHANGE	%	COUNT	VOLUME	CHANGE	%	COUNT	VOLUME	CHANGE	%		
1300	1249	248.	147	-101.	59.3	202.	180	-22.	89.1	450.	327	-123.	72.7	6.2	*KENDALL Ave. Nth.- Canberra Ave. - Ste
3373	1249	139.	43	-96.	30.9	79.	42	-37.	53.2	218.	85	-133.	39.0	10.8	*STEPHENS Rd.- Canberra Ave. - Kendall
3369	1153	72.	65	-7.	90.3	75.	87	12.	116.0	147.	152	5.	103.4	.4	*MUNRO Rd.- #32_Spendelove St. - Ross R
3049	3050	181.	159	-22.	87.8	196.	170	-26.	86.7	377.	329	-48.	87.3	2.6	*ROSS Rd.- #106_Munro Rd. - Early St.
1194	1378	97.	152	55.	156.7	139.	141	2.	101.4	236.	293	57.	124.2	3.5	*STORNAWAY Rd.- #121_Canberra Ave. - Ea
2834	2244	44.	22	-22.	50.0	30.	34	4.	113.3	74.	56	-18.	75.7	2.2	*CAMPBELL St.- Canberra Ave. - George S
2306	2513	293.	291	-2.	99.3	No Back Link Present				293.	291	-2.	99.3	.1	*LOWE St.- Farrer Pl. - Morisset St NB
2306	1215	No Forward Link Present				520.	543	23.	104.4	520.	543	23.	104.4	1.0	*LOWE St.- Farrer Pl. - Morisset St SB

3435	2514	253.	231	-22.	91.3	No Back Link Present	253.	231	-22.	91.3	1.4	*CRAWFORD ST nth of MONARO St NB			
3436	1761	No Forward Link Present	487.	240	-247.	49.3	487.	240	-247.	49.3	13.0	*CRAWFORD ST nth of MONARO St SB			
1591	3446	391.	179	-212.	45.8	335.	302	-33.	90.1	726.	481	-245.	66.3	10.0	COLLETT St sth of MORISSET St

Number of links = 11 Number of forward links = 9 Number of back links = 9

TOTALS	FORWARD	BACK	TOTALS
COUNT	1718.	2063.	3781.
VOLUME	1289.	1739.	3028.
CHANGE	-429.	-324.	-753.
%	75.	84.	80.
CORREL.			
COEFF.	.734	.890	.836
%RMS	48.61	39.42	36.89
r^2	.539	.792	.699
GEH	11.1	7.4	12.9
GEH <5	<7	<10	<12
#	7	8	10
%	63.6	72.7	81.8
			90.9
			9.1

Cordon Number : 2  
Description : \*2a

NODE1	NODE2	FORWARD				BACK				TOTAL				GEH	
		COUNT	VOLUME	CHANGE	%	COUNT	VOLUME	CHANGE	%	COUNT	VOLUME	CHANGE	%		
2937	1299	246.	164	-82.	66.7	312.	251	-61.	80.4	558.	415	-143.	74.4	6.5	*KENDALL Ave.
2905	2888	16.	7	-9.	43.8	72.	19	-53.	26.4	88.	26	-62.	29.5	8.2	*KEALMAN Rd.- Gilmore Rd. - Gregory St.
2888	2889	49.	17	-32.	34.7	66.	5	-61.	7.6	115.	22	-93.	19.1	11.2	*GREGORY St.- #4_Kealman Rd. - John Bul
3125	2250	723.	815	92.	112.7	No Back Link Present				723.	815	92.	112.7	3.3	*LANYON Dr.Gilmore Rd. - Canberra Ave N
3124	1091	No Forward Link Present				1237.	1261	24.	101.9	1237.	1261	24.	101.9	.7	*LANYON Dr.Gilmore Rd. - Canberra Ave S
1921	2234	223.	207	-16.	92.8	344.	247	-97.	71.8	567.	454	-113.	80.1	5.0	*THARWA Rd.- Gilmore Pl. - Ross Rd.#58&
1357	2234	53.	102	49.	192.5	101.	173	72.	171.3	154.	275	121.	178.6	8.3	*ROSS Rd.- #132_Fergus Rd. - Tharwa Rd.
1871	3352	15.	57	42.	380.0	25.	55	30.	220.0	40.	112	72.	280.0	8.3	*McINTOSH St.- at # 27 - NTH/ STH 04 sc
1388	1739	167.	106	-61.	63.5	247.	429	182.	173.7	414.	535	121.	129.2	5.6	*DONALD Rd.- #14_Garland Ave. - Canberr
1566	1738	3.	54	51.	*****	17.	45	28.	264.7	20.	99	79.	495.0	10.2	*BROUGHTON Pl.- #2_Garland Ave. - Canbe
1537	1536	75.	110	35.	146.7	186.	227	41.	122.0	261.	337	76.	129.1	4.4	*CAMERON Rd.- #15_Glebe Ave. - Canberra
2253	2371	358.	379	21.	105.9	458.	601	143.	131.2	816.	980	164.	120.1	5.5	*LOWE St. - Opp. School/ Cooma/Monaro S
1946	1453	258.	196	-62.	76.0	245.	378	133.	154.3	503.	574	71.	114.1	3.1	*CRAWFORD St.- #257_Rutledge St. - Mona
3442	1472	248.	118	-130.	47.6	235.	138	-97.	58.7	482.	256	-226.	53.1	11.8	*COLLETT St.- #25 Car park - Leagues Cl

Number of links = 14 Number of forward links = 13 Number of back links = 13

TOTALS	FORWARD	BACK	TOTALS
COUNT	2434.	3545.	5978.
VOLUME	2332.	3829.	6161.
CHANGE	-102.	284.	183.
%	96.	108.	103.
CORREL.			
COEFF.	.955	.962	.947
%RMS	34.28	35.02	27.88
r^2	.913	.926	.898
GEH	2.1	4.7	2.3
GEH <5	<7	<10	<12
#	4	8	11
%	28.6	57.1	78.6
			100.0
			.0

Cordon Number : 3  
Description : \*2b

NODE1	NODE2	FORWARD				BACK				TOTAL				GEH	
		COUNT	VOLUME	CHANGE	%	COUNT	VOLUME	CHANGE	%	COUNT	VOLUME	CHANGE	%		
1596	2984	311.	472	161.	151.8	No Back Link Present				311.	472	161.	151.8	8.1	*ATKINSON St.- #19n_Macquoid St. - Bung
1596	2980	No Forward Link Present				515.	651	136.	126.4	515.	651	136.	126.4	5.6	*ATKINSON St.- #19s_Bungendore Rd. - Ma
3411	1374	103.	105	2.	101.9	147.	99	-48.	67.3	250.	204	-46.	81.6	3.1	*ELLERTON Dr.- QCC depot - Bungendore R
2351	2350	74.	99	25.	133.8	177.	122	-55.	68.9	251.	221	-30.	88.0	2.0	*WARROO St sth of BUNGENDORE ST
2350	3450	596.	567	-29.	95.1	269.	279	10.	103.7	865.	846	-19.	97.8	.6	*Bungendore St est of Warrooo St

Number of links = 5 Number of forward links = 4 Number of back links = 4

TOTALS	FORWARD	BACK	TOTALS		
COUNT	1084.	1108.	2192.		
VOLUME	1243.	1151.	2394.		
CHANGE	159.	43.	202.		
%	115.	104.	109.		
CORREL.					
COEFF.	.940	.999	.933		
%RMS	35.26	32.24	24.93		
r^2	.884	.999	.871		
GEH	4.7	1.3	4.2		
GEH <5	<7	<10	<12	>12	
#	3	4	5	5	0
%	60.0	80.0	100.0	100.0	.0

Cordon Number : 4  
Description : \*3

NODE1	NODE2	FORWARD				BACK				TOTAL				GEH	
		COUNT	VOLUME	CHANGE	%	COUNT	VOLUME	CHANGE	%	COUNT	VOLUME	CHANGE	%		
2407	1093	680.	594	-86.	87.4	No Back Link Present				680.	594	-86.	87.4	3.4	*LANYON Dr - Tomsitt Dr- Hoover Rd NB
2409	3148	No Forward Link Present				883.	874	-9.	99.0	883.	874	-9.	99.0	.3	*LANYON Dr - Tomsitt Dr - Hoover Rd SB
1316	1319	167.	223	56.	133.5	280.	252	-28.	90.0	447.	475	28.	106.3	1.3	*HALLORAN Dr.- #44_Jerrabomberra Hill R
2005	3238	86.	112	26.	130.2	239.	318	79.	133.1	325.	430	105.	132.3	5.4	*COOMA Rd.- Candlebark Rd. - Wickerslac

Number of links = 4 Number of forward links = 3 Number of back links = 3

TOTALS	FORWARD	BACK	TOTALS		
COUNT	933.	1402.	2335.		
VOLUME	929.	1444.	2373.		
CHANGE	-4.	42.	38.		
%	100.	103.	102.		
CORREL.					
COEFF.	.995	.988	.960		
%RMS	24.07	12.75	13.74		
r^2	.991	.977	.922		
GEH	.1	1.1	.8		
GEH <5	<7	<10	<12	>12	
#	3	4	4	4	0
%	75.0	100.0	100.0	100.0	.0

Cordon Number : 5  
Description : \*4

NODE1	NODE2	FORWARD				BACK				TOTAL				GEH	
		COUNT	VOLUME	CHANGE	%	COUNT	VOLUME	CHANGE	%	COUNT	VOLUME	CHANGE	%		
3211	2973	349.	601	252.	172.2	No Back Link Present				349.	601	252.	172.2	11.6	*TOMPSITT Dr.- Lanyon Dr. end - KERB/Mi
3210	2224	No Forward Link Present				1373.	1234	-139.	89.9	1373.	1234	-139.	89.9	3.8	*TOMPSITT Dr.- Lanyon Dr. end - KERB/Mi
1316	1319	167.	223	56.	133.5	280.	252	-28.	90.0	447.	475	28.	106.3	1.3	*HALLORAN Dr.- #44_Jerrabomberra Hill R

Number of links = 3 Number of forward links = 2 Number of back links = 2

TOTALS	FORWARD	BACK	TOTALS		
COUNT	516.	1653.	2169.		
VOLUME	824.	1486.	2310.		
CHANGE	308.	-167.	141.		
%	160.	90.	107.		
CORREL.					
COEFF.	1.000	1.000	.971		
%RMS	100.06	17.16	28.28		
r^2	1.000	1.000	.942		
GEH	11.9	4.2	3.0		
GEH	<5	<7	<10	<12	>12
#	2	2	2	3	0
%	66.7	66.7	66.7	100.0	.0

Cordon Number : 6  
Description : \*5

NODE1	NODE2	FORWARD				BACK				TOTAL				GEH	
		COUNT	VOLUME	CHANGE	%	COUNT	VOLUME	CHANGE	%	COUNT	VOLUME	CHANGE	%		
1772	1771	797.	623	-174.	78.2	412.	340	-72.	82.5	1209.	963	-246.	79.7	7.5	*URIARA Rd.- #51_Railway Ave. - Blackal
2740	1771	27.	44	17.	163.0	64.	59	-5.	92.2	91.	103	12.	113.2	1.2	*BLACKALL Ave.- #8_Morton St. - Uriara
1156	2114	112.	126	14.	112.5	124.	123	-1.	99.2	236.	249	13.	105.5	.8	*Morton Street - btw Agnes Ave. and Ros
1718	2230	84.	25	-59.	29.8	41.	28	-13.	68.3	125.	53	-72.	42.4	7.6	*Surveyor Street - btw Agnes Ave. and R
1381	1380	62.	27	-35.	43.5	74.	33	-41.	44.6	136.	60	-76.	44.1	7.7	*EARLY St. #20_Agnes Ave - Ross Rd
3369	1153	72.	65	-7.	90.3	75.	87	12.	116.0	147.	152	5.	103.4	.4	*MUNRO Rd.- #32_Spendelove St. - Ross R
2283	1195	1297.	1602	305.	123.5	No Back Link Present				1297.	1602	305.	123.5	8.0	*CANBERRA Ave.Tharwa Rd. - Lanyon Dr./
1987	1191	No Forward Link Present				1166.	1284	118.	110.1	1166.	1284	118.	110.1	3.4	*CANBERRA Ave.Lanyon Dr. - Ross Rd.KERB
1446	1445	41.	32	-9.	78.0	45.	72	27.	160.0	86.	104	18.	120.9	1.8	*CREST PARK Pde.- #20_Weir Pl. - Telope

Number of links = 9 Number of forward links = 8 Number of back links = 8

TOTALS	FORWARD	BACK	TOTALS		
COUNT	2492.	2001.	4493.		
VOLUME	2544.	2026.	4570.		
CHANGE	52.	25.	77.		
%	102.	101.	102.		
CORREL.					
COEFF.	.978	.995	.972		
%RMS	43.52	22.34	29.97		
r^2	.957	.990	.944		
GEH	1.0	.6	1.1		
GEH	<5	<7	<10	<12	>12
#	5	5	9	9	0



% 55.6 55.6 100.0 100.0 .0

Cordon Number : 7  
Description : \*6

NODE1	NODE2	FORWARD				BACK				TOTAL				GEH	
		COUNT	VOLUME	CHANGE	%	COUNT	VOLUME	CHANGE	%	COUNT	VOLUME	CHANGE	%		
3390	3004	127.	108	-19.	85.0	186.	113	-73.	60.8	313.	221	-92.	70.6	5.6	*COLLETT St.- #119_Erin St. - Campbell
1364	2246	147.	172	25.	117.0	128.	82	-46.	64.1	275.	254	-21.	92.4	1.3	*ERIN St.- #1_Crawford St. - Collett St
1997	1995	874.	608	-266.	69.6	529.	486	-43.	91.9	1403.	1094	-309.	78.0	8.7	*CRAWFORD St.- Campbell St-Killard St.
1981	3291	53.	76	23.	143.4	93.	139	46.	149.5	146.	215	69.	147.3	5.1	*ANTILL St.- #11_Campbell St. - Crawfor
2126	2511	No Forward Link Present				297.	230	-67.	77.4	297.	230	-67.	77.4	4.1	*LOWE St. - Morisset St. - Campbell St.
3307	2127	294.	425	131.	144.6	No Back Link Present				294.	425	131.	144.6	6.9	*LOWE St. - Morisset St. - Campbell St.
2835	3311	936.	996	60.	106.4	No Back Link Present				936.	996	60.	106.4	1.9	*FARRER Pl. -Campbell St. - Lowe St EB
1989	3317	No Forward Link Present				1157.	1274	117.	110.1	1157.	1274	117.	110.1	3.4	*FARRER Pl. -Campbell St. - Lowe St WB

Number of links = 8 Number of forward links = 6 Number of back links = 6

TOTALS	FORWARD	BACK	TOTALS
COUNT	2431.	2390.	4821.
VOLUME	2385.	2324.	4709.
CHANGE	-46.	-66.	-112.
%	98.	97.	98.
CORREL.			
COEFF.	.939	.993	.955
%RMS	33.67	19.31	24.14
r^2	.883	.985	.912
GEH	.9	1.4	1.6
GEH <5	<7	<10	>12
#	4	7	8
%	50.0	87.5	100.0

Cordon Number : 8  
Description : \*7 ACT Boundary Inbound first

NODE1	NODE2	FORWARD				BACK				TOTAL				GEH	
		COUNT	VOLUME	CHANGE	%	COUNT	VOLUME	CHANGE	%	COUNT	VOLUME	CHANGE	%		
6329	7028	735.	742	7.	101.0	531.	377	-154.	71.0	1266.	1119	-147.	88.4	4.3	*YASS Rd.- ACT border - Rail bridge (ZC
2021	1731	869.	873	4.	100.5	313.	439	126.	140.3	1182.	1312	130.	111.0	3.7	*URIARA Rd.- Rail Bridge - Kendall Ave.
8230	2609	300.	273	-27.	91.0	162.	172	10.	106.2	462.	445	-17.	96.3	.8	*MCEWAN Ave nth of HENDERSON St
1990	1296	1800.	1640	-160.	91.1	No Back Link Present				1800.	1640	-160.	91.1	3.9	*Canberra Dr. North of KENDALL Ave EB (
1741	1295	No Forward Link Present				691.	868	177.	125.6	691.	868	177.	125.6	6.3	*Canberra Dr. North of KENDALL Ave WB (
4173	1770	1327.	1384	57.	104.3	874.	1042	168.	119.2	2201.	2426	225.	110.2	4.7	*LANYON Dr.- ACT Border - Tompsitt Dr./
3452	2313	56.	94	38.	167.9	32.	36	4.	112.5	88.	130	42.	147.7	4.0	*OLD COOMA Rd.- Sth. of Thoroughbread D

Number of links = 7 Number of forward links = 6 Number of back links = 6

TOTALS	FORWARD	BACK	TOTALS
COUNT	5087.	2603.	7690.
VOLUME	5006.	2934.	7940.
CHANGE	-81.	331.	250.
%	98.	113.	103.
CORREL.			
COEFF.	.994	.955	.980
%RMS	9.30	32.48	14.30

r^2 .989 .913 .960  
 GEH 1.1 6.3 2.8

GEH <5 <7 <10 <12 >12  
 # 6 7 7 7 0  
 % 85.7 100.0 100.0 100.0 .0

Cordon Number : 9  
 Description : \*8 Spot counts

NODE1	NODE2	FORWARD				BACK				TOTAL				GEH	
		COUNT	VOLUME	CHANGE	%	COUNT	VOLUME	CHANGE	%	COUNT	VOLUME	CHANGE	%		
1218	1248	89.	72	-17.	80.9	114.	82	-32.	71.9	203.	154	-49.	75.9	3.7	*Lorn St btw Morton St and Kendall Ave
3060	1926	74.	135	61.	182.4	48.	94	46.	195.8	122.	229	107.	187.7	8.1	*Morton St Btw Richard Ave-Frederick St
2362	3067	106.	131	25.	123.6	89.	94	5.	105.6	195.	225	30.	115.4	2.1	*STORNAWAY Rd. #77_Surveyor St. - Mere
1402	1673	73.	85	12.	116.4	115.	129	14.	112.2	188.	214	26.	113.8	1.8	*CARWOOLA St nth of DODSWORTH Ave
1403	1402	7.	14	7.	200.0	10.	14	4.	140.0	17.	28	11.	164.7	2.3	*DODSWORTH Ave wst of SEVERNE St
3001	3356	57.	42	-15.	73.7	80.	116	36.	145.0	137.	158	21.	115.3	1.7	*CAMERON Rd north of ALANBAR St 06
1650	1651	376.	368	-8.	97.9	211.	196	-15.	92.9	587.	564	-23.	96.1	1.0	*BARRACKS FLAT Dr Est of COOMA Rd

Number of links = 7 Number of forward links = 7 Number of back links = 7

TOTALS	FORWARD	BACK	TOTALS
COUNT	782.	667.	1449.
VOLUME	847.	725.	1572.
CHANGE	65.	58.	123.
%	108.	109.	108.

CORREL.  
 COEFF. .974 .904 .963  
 %RMS 26.14 29.99 25.35  
 r^2 .948 .817 .928  
 GEH 2.3 2.2 3.2

GEH <5 <7 <10 <12 >12  
 # 6 6 7 7 0  
 % 85.7 85.7 100.0 100.0 .0

Cordon Number : 10  
 Description : \*9 ALL

NODE1	NODE2	FORWARD				BACK				TOTAL				GEH	
		COUNT	VOLUME	CHANGE	%	COUNT	VOLUME	CHANGE	%	COUNT	VOLUME	CHANGE	%		
1300	1249	248.	147	-101.	59.3	202.	180	-22.	89.1	450.	327	-123.	72.7	6.2	*KENDALL Ave. Nth.- Canberra Ave. - Ste
3373	1249	139.	43	-96.	30.9	79.	42	-37.	53.2	218.	85	-133.	39.0	10.8	*STEPHENS Rd.- Canberra Ave. - Kendall
3369	1153	72.	65	-7.	90.3	75.	87	12.	116.0	147.	152	5.	103.4	.4	*MUNRO Rd.- #32_Spendelove St. - Ross R
3049	3050	181.	159	-22.	87.8	196.	170	-26.	86.7	377.	329	-48.	87.3	2.6	*ROSS Rd.- #106_Munro Rd. - Early St.
1194	1378	97.	152	55.	156.7	139.	141	2.	101.4	236.	293	57.	124.2	3.5	*STORNAWAY Rd.- #121_Canberra Ave. - Ea
2834	2244	44.	22	-22.	50.0	30.	34	4.	113.3	74.	56	-18.	75.7	2.2	*CAMPBELL St.- Canberra Ave. - George S
2306	2513	293.	291	-2.	99.3	No Back Link Present				293.	291	-2.	99.3	.1	*LOWE St.- Farrer Pl. - Morisset St NB
2306	1215	No Forward Link Present				520.	543	23.	104.4	520.	543	23.	104.4	1.0	*LOWE St.- Farrer Pl. - Morisset St SB
3435	2514	253.	231	-22.	91.3	No Back Link Present				253.	231	-22.	91.3	1.4	*CRAWFORD ST nth of MONARO St NB
3436	1761	No Forward Link Present				487.	240	-247.	49.3	487.	240	-247.	49.3	13.0	*CRAWFORD ST nth of MONARO St SB
1591	3446	391.	179	-212.	45.8	335.	302	-33.	90.1	726.	481	-245.	66.3	10.0	COLLETT St sth of MORISSET St
2937	1299	246.	164	-82.	66.7	312.	251	-61.	80.4	558.	415	-143.	74.4	6.5	*KENDALL Ave.
2905	2888	16.	7	-9.	43.8	72.	19	-53.	26.4	88.	26	-62.	29.5	8.2	*KEALMAN Rd.- Gilmore Rd. - Gregory St.
2888	2889	49.	17	-32.	34.7	66.	5	-61.	7.6	115.	22	-93.	19.1	11.2	*GREGORY St.- #4_Kealman Rd. - John Bul
3125	2250	723.	815	92.	112.7	No Back Link Present				723.	815	92.	112.7	3.3	*LANYON Dr.Gilmore Rd. - Canberra Ave N



COEFF.	.969	.973	.966		
%RMS	31.62	26.96	24.15		
r^2	.939	.946	.932		
GEH	1.0	.9	.1		
GEH	<5	<7	<10	<12	>12
#	37	48	59	64	1
%	56.9	73.8	90.8	98.5	1.5

CORDON terminated successfully

**MORNING PEAK**

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+-----+
| TRACKS TRACKS TRACKS TRACKS TRACKS TRACKS TR |
| TRACKS +-----+ TRACKS |
| S TRACKS |          | S TRACKS |
| KS TRACK | Program  :   JURNEY | KS TRACK |
| CKS TRAC | Version  :   V7.03  | CKS TRAC |
| ACKS TRA |          | ACKS TRA |
| RACKS TR | Date run  :  17-Jun-08 | RACKS TR |
| TRACKS T | Time run  :  16:55:25 | TRACKS T |
| TRACKS   | Platform  :  Win 95/NT | TRACKS   |
| S TRACKS+-----+ S TRACKS |
| KS TRACKS TRACKS TRACKS TRACKS TRACKS TRACKS |
+-----+

+-----+
|          TRACKS Licenced to          |
| Gabites Porter_____                |
| at : Christchurch                    |
+-----+

Parameter version : V5.20
    
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JURNEY Data File : JURNEY.AMP
Loaded Network   : QM06NL.000      *QUEANBEYAN AM - LUSE-2006
**** Links in network
    
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+-----+
| TRACKS - 17-Jun-08 @ 16:55:26          |
|                                         |
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+-----+
    
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Gabites Porter
Christchurch
    
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Journey 1 Movement Analysis - times in seconds

Route1EB

Link	Types	Dist	Mdl	Obs	Mdl	Obs	Mdl	Obs	Mdl	Obs	Accum	Accum	Street Name
	Lnk Ap	(m)	Spd	Spd	Time	Time	Delay	Delay	Total	Total	Mdl	Time	
9272 - 9274	15 0	5	51.8	.0	.3	.0	.0	.0	.3	.0	.3	.0	
9274 - 9270	15 0	9	51.8	.0	.6	.0	.0	.0	.6	.0	1.0	.0	
9270 - 9260	15 0	81	51.8	.0	5.6	.0	.0	.0	5.6	.0	6.6	.0	
9260 - 9266	15 0	9	53.0	.0	.6	.0	.0	.0	.6	.0	7.2	.0	
9266 - 9265	15 6	5	53.0	1.4	.3	13.0	22.0	.0	22.3	13.0	29.6	13.0	
9265 - 9267	16 0	5	63.5	.0	.3	.0	.0	.0	.3	.0	29.8	13.0	
9267 - 9261	16 0	9	63.5	.0	.5	.0	.0	.0	.5	.0	30.3	13.0	
9261 - 3511	16 0	405	63.3	.0	23.0	.0	.0	.0	23.0	.0	53.4	13.0	
3511 - 5394	16 0	173	63.9	.0	9.7	.0	.0	.0	9.7	.0	63.1	13.0	
5394 - 3510	16 0	82	63.9	.0	4.6	.0	.0	.0	4.6	.0	67.7	13.0	
3510 - 3513	16 0	288	64.3	.0	16.1	.0	.0	.0	16.1	.0	83.9	13.0	
3513 - 5643	16 0	546	64.3	.0	30.6	.0	.0	.0	30.6	.0	114.4	13.0	
5643 - 5645	16 0	13	64.4	.0	.7	.0	.0	.0	.7	.0	115.2	13.0	
5645 - 5655	16 7	9	64.4	.4	.5	82.0	93.0	28.0	93.5	110.0	208.7	123.0	
5655 - 5651	8 0	11	78.4	.0	.5	.0	.0	.0	.5	.0	209.2	123.0	
5651 - 5649	8 0	12	78.4	.0	.6	.0	.0	.0	.6	.0	209.7	123.0	
5649 - 5399	8 0	1987	77.1	.0	92.8	.0	.0	.0	92.8	.0	302.5	123.0	
5399 - 5400	8 0	118	77.1	.0	5.5	.0	.0	.0	5.5	.0	308.0	123.0	
5400 - 5401	8 6	40	77.1	1.3	1.9	110.0	14.0	.0	15.9	110.0	323.9	233.0	
5401 - 5402	8 0	47	78.1	.0	2.2	.0	.0	.0	2.2	.0	326.0	233.0	

5402 - 5403	8	0	73	78.1	.0	3.4	.0	.0	3.4	.0	329.4	233.0		
5403 - 7990	8	0	538	78.1	.0	24.8	.0	.0	24.8	.0	354.2	233.0		
7990 - 1990	8	0	300	79.0	.0	13.7	.0	.0	13.7	.0	367.9	233.0		
1990 - 1296	16	0	31	64.2	.0	1.7	.0	.0	1.7	.0	369.6	233.0	CANBERRA Ave	
1296 - 1297	16	0	18	63.9	.0	1.0	.0	.0	1.0	.0	370.6	233.0	CANBERRA Ave	
1297 - 1292	16	7	4	63.9	.4	.2	40.0	7.0	8.0	7.2	48.0	377.9	281.0	CANBERRA Ave
1292 - 1298	16	0	5	64.2	.0	.3	.0	.0	.3	.0	378.1	281.0	CANBERRA Ave	
1298 - 1294	16	0	21	64.2	.0	1.2	.0	.0	1.2	.0	379.3	281.0	CANBERRA Ave	
1294 - 3104	16	0	235	64.5	.0	13.1	.0	.0	13.1	.0	392.4	281.0	CANBERRA Ave	
3104 - 3109	16	0	11	64.2	.0	.6	.0	.0	.6	.0	393.1	281.0	CANBERRA Ave	
3109 - 3107	16	0	4	64.2	.0	.2	.0	.0	.2	.0	393.3	281.0	CANBERRA Ave	
3107 - 3108	16	0	5	64.0	.0	.3	.0	.0	.3	.0	393.6	281.0	CANBERRA Ave	
3108 - 3105	16	0	8	64.0	.0	.5	.0	.0	.5	.0	394.0	281.0	CANBERRA Ave	
3105 - 3111	16	0	154	64.0	.0	8.7	.0	.0	8.7	.0	402.7	281.0	CANBERRA Ave	
3111 - 3115	16	0	11	64.0	.0	.6	.0	.0	.6	.0	403.3	281.0	CANBERRA Ave	
3115 - 3114	16	0	5	64.0	.0	.3	.0	.0	.3	.0	403.6	281.0	CANBERRA Ave	
3114 - 3116	16	0	5	64.0	.0	.3	.0	.0	.3	.0	403.9	281.0	CANBERRA Ave	
3116 - 3112	16	0	11	64.0	.0	.6	.0	.0	.6	.0	404.5	281.0	CANBERRA Ave	
3112 - 2280	7	0	743	68.7	.0	38.9	.0	.0	38.9	.0	443.4	281.0	CANBERRA Ave	
2280 - 1732	7	0	116	69.0	5.8	6.1	72.0	.0	.0	6.1	72.0	449.5	353.0	CANBERRA Ave
1732 - 1733	7	0	80	69.0	.0	4.2	.0	.0	4.2	.0	453.6	353.0	CANBERRA Ave	
1733 - 2283	7	0	50	67.7	.0	2.7	.0	.0	2.7	.0	456.3	353.0	CANBERRA Ave	
2283 - 1195	7	0	552	67.7	.0	29.4	.0	.0	29.4	.0	485.6	353.0	CANBERRA Ave	
1195 - 1197	7	0	16	68.6	.0	.8	.0	.0	.8	.0	486.5	353.0	CANBERRA Ave	
1197 - 1200	7	6	3	68.6	.3	.2	42.0	22.0	24.0	22.2	66.0	508.6	419.0	CANBERRA Ave
1200 - 1198	7	0	3	67.3	.0	.2	.0	.0	.2	.0	508.8	419.0	CANBERRA Ave	
1198 - 1196	7	0	17	67.3	.0	.9	.0	.0	.9	.0	509.7	419.0	CANBERRA Ave	
1196 - 2285	7	0	85	67.3	.0	4.5	.0	.0	4.5	.0	514.3	419.0	CANBERRA Ave	
2285 - 1193	7	0	98	67.3	.0	5.2	.0	.0	5.2	.0	519.5	419.0	CANBERRA Ave	
1193 - 1394	7	0	12	68.2	.0	.6	.0	.0	.6	.0	520.1	419.0	CANBERRA Ave	
1394 - 1395	7	6	5	68.2	1.1	.3	17.0	11.0	2.0	11.3	19.0	531.4	438.0	CANBERRA Ave
1395 - 1396	7	0	5	68.2	.0	.3	.0	.0	.3	.0	531.7	438.0	CANBERRA Ave	
1396 - 1392	7	0	11	68.2	.0	.6	.0	.0	.6	.0	532.2	438.0	CANBERRA Ave	
1392 - 2287	7	0	114	68.2	.0	6.0	.0	.0	6.0	.0	538.3	438.0	CANBERRA Ave	
2287 - 3120	7	0	136	68.2	.0	7.2	.0	.0	7.2	.0	545.4	438.0	CANBERRA Ave	
3120 - 3122	7	0	6	68.2	.0	.3	.0	.0	.3	.0	545.8	438.0	CANBERRA Ave	
3122 - 3121	7	0	4	68.2	.8	.2	19.0	.0	.0	.2	19.0	546.0	457.0	CANBERRA Ave
3121 - 3123	7	0	4	68.2	.0	.2	.0	.0	.2	.0	546.2	457.0	FARRER Pl	
3123 - 3117	7	0	9	68.2	.0	.5	.0	.0	.5	.0	546.7	457.0	FARRER Pl	
3117 - 2836	7	0	11	68.2	.0	.6	.0	.0	.6	.0	547.2	457.0	-- no name --	
2836 - 2289	7	0	14	67.5	.0	.7	.0	.0	.7	.0	548.0	457.0	FARRER Pl	
2289 - 2835	7	0	15	67.5	.0	.8	.0	.0	.8	.0	548.8	457.0	FARRER Pl	
2835 - 3311	7	0	182	67.5	.0	9.7	.0	.0	9.7	.0	558.5	457.0	FARRER Pl	
3311 - 2290	7	0	137	67.5	.0	7.3	.0	.0	7.3	.0	565.8	457.0	FARRER Pl	
2290 - 1400	7	0	34	67.5	.0	1.8	.0	.0	1.8	.0	567.6	457.0	FARRER Pl	
1400 - 1399	16	6	7	62.7	.9	.4	28.0	22.0	9.0	22.4	37.0	590.0	494.0	FARRER Pl
1399 - 1491	15	0	8	51.9	.0	.6	.0	.0	.6	.0	590.6	494.0	MONARO St	
1491 - 1397	15	0	26	51.9	.0	1.8	.0	.0	1.8	.0	592.4	494.0	MONARO St	
1397 - 3439	15	0	85	52.0	.0	5.9	.0	.0	5.9	.0	598.2	494.0	MONARO St	
3439 - 1493	15	0	99	52.0	.0	6.9	.0	.0	6.9	.0	605.1	494.0	MONARO St	
1493 - 1497	15	0	12	52.0	.0	.8	.0	.0	.8	.0	605.9	494.0	MONARO St	
1497 - 1492	15	6	5	52.0	.5	.3	35.0	42.0	41.0	42.3	76.0	648.3	570.0	MONARO St
1492 - 2264	5	0	5	48.5	.0	.4	.0	.0	.4	.0	648.7	570.0	CRAWFORD St	
2264 - 1452	14	0	10	43.6	.0	.8	.0	.0	.8	.0	649.5	570.0	CRAWFORD St	
1452 - 3478	14	0	81	43.6	.0	6.7	.0	.0	6.7	.0	656.2	570.0	CRAWFORD St	
3478 - 1453	14	0	13	43.8	.0	1.1	.0	.0	1.1	.0	657.2	570.0	CRAWFORD St	
1453 - 1946	5	0	103	48.9	.0	7.6	.0	.0	7.6	.0	664.8	570.0	CRAWFORD St	
1946 - 3178	5	3	20	48.9	2.6	1.5	28.0	8.0	.0	9.5	28.0	674.3	598.0	CRAWFORD ST
3178 - 3016	4	0	20	39.6	.0	1.8	.0	.0	1.8	.0	676.1	598.0	CRAWFORD ST	
3016 - 3319	4	0	69	39.6	.0	6.3	.0	.0	6.3	.0	682.4	598.0	CRAWFORD ST	

3319 - 3017	4	0	69	39.7	.0	6.3	.0	.0	.0	6.3	.0	688.6	598.0	CRAWFORD ST
3017 - 1904	4	0	10	39.7	2.3	.9	16.0	.0	.0	.9	16.0	689.5	614.0	CRAWFORD ST
1904 - 3018	5	0	9	49.4	.0	.7	.0	.0	.0	.7	.0	690.2	614.0	THORPE Ave
3018 - 3328	5	0	87	49.4	.0	6.3	.0	.0	.0	6.3	.0	696.5	614.0	THORPE Ave
3328 - 3325	5	0	30	49.9	.0	2.2	.0	.0	.0	2.2	.0	698.7	614.0	THORPE Ave
3325 - 1281	5	0	148	49.9	22.2	10.7	24.0	.0	.0	10.7	24.0	709.4	638.0	THORPE Ave

Modelled Totals	8671	44.0		468.4		241.0			709.4					
Observed Totals			.0		638.0			.0			638.0			

Observed Journey Time =	638.00	Implied Average Speed =	48.9
Modelled Journey Time =	709.38	Modelled Average Speed =	44.0
	111.19%		89.94%

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| TRACKS - 17-Jun-08 @ 16:55:26                                     |
|                                                                 |
+-----+

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Gabites Porter  
Christchurch

Journey 2 Movement Analysis - times in seconds

Route1WB

Link	Types	Dist	Mdl	Obs	Mdl	Obs	Mdl	Obs	Mdl	Obs	Accum	Accum	Street Name
	Lnk Ap	(m)	Spd	Spd	Time	Time	Delay	Delay	Total	Total	Mdl	Time	
1281 - 3325	5 0	148	49.5	.0	10.8	.0	.0	.0	10.8	.0	10.8	.0	THORPE Ave
3325 - 3328	5 0	30	49.5	.0	2.2	.0	.0	.0	2.2	.0	12.9	.0	THORPE Ave
3328 - 3018	5 0	87	49.4	.0	6.3	.0	.0	.0	6.3	.0	19.3	.0	THORPE Ave
3018 - 1904	5 0	9	49.4	1.1	.7	30.0	.0	.0	.7	30.0	19.9	30.0	THORPE Ave
1904 - 3017	4 0	10	39.6	.0	.9	.0	.0	.0	.9	.0	20.9	30.0	CRAWFORD ST
3017 - 3319	4 0	69	39.6	.0	6.3	.0	.0	.0	6.3	.0	27.1	30.0	CRAWFORD ST
3319 - 3016	4 0	69	39.5	.0	6.3	.0	.0	.0	6.3	.0	33.4	30.0	CRAWFORD ST
3016 - 3178	4 3	20	39.5	5.1	1.8	14.0	8.0	.0	9.8	14.0	43.2	44.0	CRAWFORD ST
3178 - 1946	5 0	20	48.8	.0	1.5	.0	.0	.0	1.5	.0	44.7	44.0	CRAWFORD ST
1946 - 1453	5 0	103	48.8	.0	7.6	.0	2.0	.0	9.6	.0	54.3	44.0	CRAWFORD St
1453 - 3478	14 0	13	43.9	.0	1.1	.0	.0	.0	1.1	.0	55.4	44.0	CRAWFORD St
3478 - 1452	14 0	81	43.9	.0	6.6	.0	.0	.0	6.6	.0	62.0	44.0	CRAWFORD St
1452 - 2264	14 0	10	43.9	.0	.8	.0	.0	.0	.8	.0	62.8	44.0	CRAWFORD St
2264 - 1492	5 7	5	48.8	.8	.4	24.0	30.0	16.0	30.4	40.0	93.2	84.0	CRAWFORD St
1492 - 1497	15 0	5	53.0	.0	.3	.0	.0	.0	.3	.0	93.5	84.0	MONARO St
1497 - 1494	15 0	14	53.0	.0	1.0	.0	.0	.0	1.0	.0	94.5	84.0	MONARO St
1494 - 3440	15 0	92	53.0	.0	6.2	.0	.0	.0	6.2	.0	100.7	84.0	MONARO St
3440 - 1398	15 0	91	53.1	.0	6.2	.0	.0	.0	6.2	.0	106.9	84.0	MONARO St
1398 - 1491	15 0	26	53.1	.0	1.8	.0	.0	.0	1.8	.0	108.7	84.0	MONARO St
1491 - 1399	15 6	8	53.1	.9	.5	31.0	22.0	12.0	22.5	43.0	131.2	127.0	MONARO St
1399 - 1400	16 0	7	63.2	.0	.4	.0	.0	.0	.4	.0	131.6	127.0	FARRER Pl
1400 - 2183	7 0	33	68.0	.0	1.7	.0	.0	.0	1.7	.0	133.4	127.0	FARRER Pl
2183 - 3317	7 0	72	68.0	.0	3.8	.0	.0	.0	3.8	.0	137.2	127.0	FARRER Pl
3317 - 1989	7 0	265	68.0	.0	14.0	.0	.0	.0	14.0	.0	151.2	127.0	FARRER Pl
1989 - 3118	7 0	27	68.0	.0	1.4	.0	.0	.0	1.4	.0	152.6	127.0	FARRER Pl
3118 - 3123	7 0	6	68.0	.0	.3	.0	.0	.0	.3	.0	153.0	127.0	FARRER Pl
3123 - 3121	7 0	4	68.0	.5	.2	30.0	.0	.0	.2	30.0	153.2	157.0	FARRER Pl
3121 - 3122	7 0	4	67.9	.0	.2	.0	.0	.0	.2	.0	153.4	157.0	CANBERRA Ave
3122 - 3119	7 0	10	67.9	.0	.5	.0	.0	.0	.5	.0	153.9	157.0	CANBERRA Ave
3119 - 1738	7 0	139	67.9	.0	7.4	.0	.0	.0	7.4	.0	161.3	157.0	CANBERRA Ave
1738 - 1393	7 0	110	67.9	.0	5.8	.0	.0	.0	5.8	.0	167.1	157.0	CANBERRA Ave
1393 - 1396	7 0	9	68.5	.0	.5	.0	.0	.0	.5	.0	167.6	157.0	CANBERRA Ave
1396 - 1395	7 6	5	68.5	.9	.3	19.0	10.0	6.0	10.3	25.0	177.8	182.0	CANBERRA Ave
1395 - 1394	7 0	5	67.9	.0	.3	.0	.0	.0	.3	.0	178.1	182.0	CANBERRA Ave
1394 - 1391	7 0	12	67.9	.0	.6	.0	.0	.0	.6	.0	178.7	182.0	CANBERRA Ave
1391 - 1736	7 0	99	67.9	.0	5.2	.0	.0	.0	5.2	.0	184.0	182.0	CANBERRA Ave
1736 - 1099	7 0	83	68.5	.0	4.4	.0	.0	.0	4.4	.0	188.4	182.0	CANBERRA Ave
1099 - 1198	7 0	16	68.6	.0	.8	.0	.0	.0	.8	.0	189.2	182.0	CANBERRA Ave
1198 - 1200	7 6	3	68.6	.3	.2	34.0	23.0	.0	23.2	34.0	212.4	216.0	CANBERRA Ave
1200 - 1197	7 0	3	67.7	.0	.2	.0	.0	.0	.2	.0	212.5	216.0	CANBERRA Ave
1197 - 1191	7 0	15	67.7	.0	.8	.0	.0	.0	.8	.0	213.3	216.0	CANBERRA Ave
1191 - 1987	7 0	621	67.0	.0	33.4	.0	.0	.0	33.4	.0	246.7	216.0	CANBERRA Ave
1987 - 1988	16 4	53	63.4	4.2	3.0	45.0	9.6	.0	12.6	45.0	259.3	261.0	CANBERRA Ave
1988 - 2015	6 0	10	57.4	.0	.6	.0	.0	.0	.6	.0	259.9	261.0	CANBERRA Ave
2015 - 2250	6 0	35	57.8	.0	2.2	.0	1.1	.0	3.3	.0	263.2	261.0	CANBERRA Ave
2250 - 3113	7 0	853	66.6	.0	46.1	.0	.0	.0	46.1	.0	309.3	261.0	CANBERRA Ave
3113 - 3116	16 0	9	61.7	.0	.5	.0	.0	.0	.5	.0	309.8	261.0	CANBERRA Ave
3116 - 3114	16 0	5	61.7	.0	.3	.0	.0	.0	.3	.0	310.1	261.0	CANBERRA Ave



3114 - 3115	16	0	5	61.7	.0	.3	.0	.0	.0	.3	.0	310.4	261.0	CANBERRA Ave
3115 - 3110	16	0	11	61.7	.0	.6	.0	.0	.0	.6	.0	311.1	261.0	CANBERRA Ave
3110 - 3106	16	0	159	61.7	.0	9.3	.0	.0	.0	9.3	.0	320.3	261.0	CANBERRA Ave
3106 - 3108	16	0	8	61.7	.0	.5	.0	.0	.0	.5	.0	320.8	261.0	CANBERRA Ave
3108 - 3107	16	0	5	61.7	.0	.3	.0	.0	.0	.3	.0	321.1	261.0	CANBERRA Ave
3107 - 3109	16	0	4	62.0	.0	.2	.0	.0	.0	.2	.0	321.3	261.0	CANBERRA Ave
3109 - 3103	16	0	9	62.0	.0	.5	.0	.0	.0	.5	.0	321.8	261.0	CANBERRA Ave
3103 - 1293	16	0	240	62.0	.0	13.9	.0	.0	.0	13.9	.0	335.8	261.0	CANBERRA Ave
1293 - 1298	16	0	20	62.0	.0	1.2	.0	.0	.0	1.2	.0	336.9	261.0	CANBERRA Ave
1298 - 1292	16	7	5	62.0	.3	.3	59.0	9.0	66.0	9.3	125.0	346.2	386.0	CANBERRA Ave
1292 - 1297	16	0	4	62.0	.0	.2	.0	.0	.0	.2	.0	346.5	386.0	CANBERRA Ave
1297 - 1295	16	0	18	62.0	.0	1.0	.0	.0	.0	1.0	.0	347.5	386.0	CANBERRA Ave
1295 - 1741	16	0	29	62.6	.0	1.7	.0	.0	.0	1.7	.0	349.2	386.0	CANBERRA Ave
1741 - 3451	8	0	300	77.4	.0	14.0	.0	2.1	.0	16.1	.0	365.2	386.0	
3451 - 8001	8	0	323	76.2	.0	15.3	.0	.0	.0	15.3	.0	380.5	386.0	
8001 - 5404	8	0	184	76.0	.0	8.7	.0	.0	.0	8.7	.0	389.2	386.0	
5404 - 5402	8	0	76	76.0	.0	3.6	.0	.0	.0	3.6	.0	392.8	386.0	
5402 - 5401	8	6	47	76.0	3.8	2.2	45.0	18.0	.0	20.2	45.0	413.0	431.0	
5401 - 5400	8	0	40	76.1	.0	1.9	.0	.0	.0	1.9	.0	414.9	431.0	
5400 - 5398	8	0	125	76.1	.0	5.9	.0	2.7	.0	8.6	.0	423.5	431.0	
5398 - 5650	8	0	2013	73.6	.0	98.5	.0	.0	.0	98.5	.0	522.0	431.0	
5650 - 5651	8	0	15	76.3	.0	.7	.0	.0	.0	.7	.0	522.7	431.0	
5651 - 5655	8	7	11	76.3	.4	.5	110.0	107.0	21.0	107.5	131.0	630.2	562.0	
5655 - 5645	16	0	9	63.7	.0	.5	.0	.0	.0	.5	.0	630.7	562.0	
5645 - 5644	16	0	15	63.7	.0	.8	.0	.0	.0	.8	.0	631.6	562.0	
5644 - 3514	16	0	545	63.2	.0	31.0	.0	.0	.0	31.0	.0	662.6	562.0	
3514 - 5395	16	0	286	63.4	.0	16.2	.0	.0	.0	16.2	.0	678.9	562.0	
5395 - 3512	16	0	254	63.5	.0	14.4	.0	.0	.0	14.4	.0	693.3	562.0	
3512 - 9262	16	0	408	63.4	.0	23.2	.0	.0	.0	23.2	.0	716.4	562.0	
9262 - 9267	16	0	9	63.7	.0	.5	.0	.0	.0	.5	.0	716.9	562.0	
9267 - 9265	16	6	5	63.7	.2	.3	89.0	21.0	7.0	21.3	96.0	738.2	658.0	
9265 - 9266	15	0	5	52.3	.0	.3	.0	.0	.0	.3	.0	738.6	658.0	
9266 - 9259	15	0	9	52.3	.0	.6	.0	.0	.0	.6	.0	739.2	658.0	
9259 - 9271	15	0	79	52.3	.0	5.4	.0	.0	.0	5.4	.0	744.6	658.0	
9271 - 9274	15	0	10	52.3	.0	.7	.0	.0	.0	.7	.0	745.3	658.0	
9274 - 9272	15	6	5	52.3	1.5	.3	12.0	38.3	.0	38.6	12.0	784.0	670.0	
Modelled Totals		8713	40.0			480.2		303.8		784.0				
Observed Totals						.0		671.0		.0		671.0		
Observed Journey Time =			671.00											Implied Average Speed = 46.7
Modelled Journey Time =			783.96											Modelled Average Speed = 40.0
			116.83%											85.59%

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| TRACKS - 17-Jun-08 @ 16:55:26                                     |
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Journey 3 Movement Analysis - times in seconds

Route2EB

Link	Types	Dist	Mdl	Obs	Mdl	Obs	Mdl	Obs	Mdl	Obs	Accum	Accum	Street Name
	Lnk Ap	(m)	Spd	Spd	Time	Time	Delay	Delay	Total	Total	Mdl	Time	
7990 - 7989	7 0	262	67.2	.0	14.0	.0	.0	.0	14.0	.0	14.0	.0	
7989 - 6256	7 0	483	67.2	.0	25.9	.0	.0	.0	25.9	.0	39.9	.0	
6256 - 6255	7 0	52	67.5	.0	2.8	.0	.0	.0	2.8	.0	42.7	.0	
6255 - 2021	7 0	92	67.5	.0	4.9	.0	.0	.0	4.9	.0	47.6	.0	
2021 - 1731	7 0	28	67.5	.0	1.5	.0	.0	.0	1.5	.0	49.1	.0	URIARRA Rd
1731 - 1730	7 0	139	67.5	.0	7.4	.0	.0	.0	7.4	.0	56.5	.0	URIARRA Rd
1730 - 3173	6 3	25	56.9	1.3	1.6	69.0	8.0	.0	9.6	69.0	66.1	69.0	URIARRA Rd
3173 - 1774	6 0	24	57.1	.0	1.5	.0	.0	.0	1.5	.0	67.6	69.0	URIARRA Rd
1774 - 1773	6 0	90	57.1	.0	5.7	.0	.0	.0	5.7	.0	73.3	69.0	URIARRA Rd
1773 - 1416	6 0	82	57.2	.0	5.2	.0	.0	.0	5.2	.0	78.4	69.0	URIARRA Rd
1416 - 1179	6 0	142	57.1	.0	9.0	.0	.0	.0	9.0	.0	87.4	69.0	URIARRA Rd
1179 - 1246	6 0	74	56.9	.0	4.7	.0	.0	.0	4.7	.0	92.1	69.0	URIARRA Rd
1246 - 3059	6 0	129	57.0	.0	8.1	.0	.0	.0	8.1	.0	100.2	69.0	URIARRA Rd
3059 - 1440	5 0	10	46.5	.9	.8	42.0	.0	.0	.8	42.0	101.0	111.0	URIARRA Rd
1440 - 3058	5 0	15	46.7	.0	1.2	.0	.0	.0	1.2	.0	102.1	111.0	URIARRA Rd
3058 - 1735	6 0	119	57.2	.0	7.5	.0	.0	.0	7.5	.0	109.6	111.0	URIARRA Rd
1735 - 1734	6 0	39	57.2	.0	2.5	.0	.0	.0	2.5	.0	112.1	111.0	URIARRA Rd
1734 - 1772	6 0	75	57.3	.0	4.7	.0	.0	.0	4.7	.0	116.8	111.0	URIARRA Rd
1772 - 1771	6 0	152	57.1	.0	9.6	.0	.0	.0	9.6	.0	126.4	111.0	URIARRA Rd
1771 - 3056	5 0	21	46.3	.0	1.6	.0	.0	.0	1.6	.0	128.0	111.0	URIARRA Rd
3056 - 1111	5 0	12	46.3	1.5	.9	28.0	.0	.0	.9	28.0	128.9	139.0	URIARRA Rd
1111 - 3057	5 0	13	46.5	.0	1.0	.0	.0	.0	1.0	.0	130.0	139.0	URIARRA Rd
3057 - 2020	6 0	228	56.9	41.0	14.4	20.0	.0	.0	14.4	20.0	144.4	159.0	URIARRA Rd
2020 - 2259	6 0	6	56.9	.0	.4	.0	.0	.0	.4	.0	144.8	159.0	URIARRA Rd
2259 - 1451	6 0	72	56.9	.0	4.6	.0	.0	.0	4.6	.0	149.3	159.0	URIARRA Rd
1451 - 1759	6 0	62	57.1	.0	3.9	.0	.0	.0	3.9	.0	153.2	159.0	URIARRA Rd
1759 - 1999	6 0	117	57.1	.0	7.4	.0	.0	.0	7.4	.0	160.6	159.0	CRAWFORD St
1999 - 2094	6 0	7	58.5	.0	.4	.0	.0	.0	.4	.0	161.0	159.0	CRAWFORD ST
2094 - 2092	6 0	4	57.1	.0	.3	.0	.0	.0	.3	.0	161.3	159.0	CRAWFORD ST
2092 - 2093	6 0	4	57.0	.0	.3	.0	.0	.0	.3	.0	161.5	159.0	CRAWFORD ST
2093 - 2091	6 0	7	57.0	.0	.4	.0	.0	.0	.4	.0	162.0	159.0	CRAWFORD ST
2091 - 1959	6 0	46	57.0	.0	2.9	.0	.0	.0	2.9	.0	164.9	159.0	CRAWFORD ST
1959 - 2182	6 0	26	56.7	.0	1.7	.0	.0	.0	1.7	.0	166.5	159.0	CRAWFORD ST
2182 - 1997	6 0	19	56.7	.0	1.2	.0	.0	.0	1.2	.0	167.7	159.0	CRAWFORD ST
1997 - 1995	6 0	6	56.7	.8	.4	26.0	.0	.0	.4	26.0	168.1	185.0	CRAWFORD ST
1995 - 1996	6 0	6	58.6	.0	.4	.0	.0	.0	.4	.0	168.5	185.0	CRAWFORD ST
1996 - 3026	6 0	9	58.6	.0	.6	.0	.0	.0	.6	.0	169.0	185.0	CRAWFORD ST
3026 - 3434	6 0	106	58.6	.0	6.5	.0	.0	.0	6.5	.0	175.6	185.0	CRAWFORD St
3434 - 3292	6 0	51	58.7	.0	3.1	.0	.0	.0	3.1	.0	178.7	185.0	CRAWFORD St
3292 - 3023	6 0	49	58.7	.0	3.0	.0	.0	.0	3.0	.0	181.7	185.0	CRAWFORD St
3023 - 1994	6 0	10	58.7	.0	.6	.0	.0	.0	.6	.0	182.3	185.0	CRAWFORD St
1994 - 1992	6 0	4	58.7	.0	.2	.0	.0	.0	.2	.0	182.5	185.0	CRAWFORD St
1992 - 1993	6 0	5	59.0	.0	.3	.0	.0	.0	.3	.0	182.8	185.0	CRAWFORD St
1993 - 3021	6 0	10	59.0	.0	.6	.0	.0	.0	.6	.0	183.5	185.0	CRAWFORD St
3021 - 3445	6 0	37	59.0	.0	2.3	.0	.0	.0	2.3	.0	185.7	185.0	CRAWFORD St
3445 - 3303	6 0	69	59.1	.0	4.2	.0	.0	.0	4.2	.0	189.9	185.0	CRAWFORD St
3303 - 3022	6 0	104	59.2	.0	6.3	.0	.0	.0	6.3	.0	196.2	185.0	CRAWFORD St
3022 - 1991	6 0	8	59.2	.0	.5	.0	.0	.0	.5	.0	196.7	185.0	CRAWFORD ST



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| TRACKS - 17-Jun-08 @ 16:55:26                                     |
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Gabites Porter
Christchurch

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Journey 4 Movement Analysis - times in seconds

Route2WB

Link	Types	Dist	Mdl	Obs	Mdl	Obs	Mdl	Obs	Mdl	Obs	Accum	Accum	Street Name
	Lnk Ap	(m)	Spd	Spd	Time	Time	Delay	Delay	Total	Total	Mdl	Time	
1281 - 3325	5 0	148	49.5	.0	10.8	.0	.0	.0	10.8	.0	10.8	.0	THORPE Ave
3325 - 3328	5 0	30	49.5	.0	2.2	.0	.0	.0	2.2	.0	12.9	.0	THORPE Ave
3328 - 3018	5 0	87	49.4	.0	6.3	.0	.0	.0	6.3	.0	19.3	.0	THORPE Ave
3018 - 1904	5 0	9	49.4	1.2	.7	27.0	.0	.0	.7	27.0	19.9	27.0	THORPE Ave
1904 - 3017	4 0	10	39.6	.0	.9	.0	.0	.0	.9	.0	20.9	27.0	CRAWFORD ST
3017 - 3319	4 0	69	39.6	.0	6.3	.0	.0	.0	6.3	.0	27.1	27.0	CRAWFORD ST
3319 - 3016	4 0	69	39.5	.0	6.3	.0	.0	.0	6.3	.0	33.4	27.0	CRAWFORD ST
3016 - 3178	4 3	20	39.5	4.5	1.8	16.0	8.0	.0	9.8	16.0	43.2	43.0	CRAWFORD ST
3178 - 1946	5 0	20	48.8	.0	1.5	.0	.0	.0	1.5	.0	44.7	43.0	CRAWFORD ST
1946 - 1453	5 0	103	48.8	.0	7.6	.0	2.0	.0	9.6	.0	54.3	43.0	CRAWFORD St
1453 - 3478	14 0	13	43.9	.0	1.1	.0	.0	.0	1.1	.0	55.4	43.0	CRAWFORD St
3478 - 1452	14 0	81	43.9	.0	6.6	.0	.0	.0	6.6	.0	62.0	43.0	CRAWFORD St
1452 - 2264	14 0	10	43.9	.0	.8	.0	.0	.0	.8	.0	62.8	43.0	CRAWFORD St
2264 - 1492	5 7	5	48.8	.7	.4	26.0	29.0	26.0	29.4	52.0	92.2	95.0	CRAWFORD St
1492 - 2307	6 0	5	59.2	.0	.3	.0	.0	.0	.3	.0	92.5	95.0	CRAWFORD St
2307 - 2516	6 0	13	59.2	.0	.8	.0	.0	.0	.8	.0	93.3	95.0	CRAWFORD St
2516 - 2515	6 0	33	59.2	.0	2.0	.0	.0	.0	2.0	.0	95.3	95.0	CRAWFORD ST
2515 - 3435	6 0	71	59.3	.0	4.3	.0	.0	.0	4.3	.0	99.6	95.0	CRAWFORD ST
3435 - 2514	6 0	107	59.3	.0	6.5	.0	.0	.0	6.5	.0	106.1	95.0	CRAWFORD ST
2514 - 1900	6 0	6	59.3	.0	.4	.0	.0	.0	.4	.0	106.5	95.0	CRAWFORD ST
1900 - 1899	6 7	4	59.3	.7	.2	21.0	28.0	28.0	28.2	49.0	134.7	144.0	CRAWFORD ST
1899 - 1991	6 0	4	58.0	.0	.2	.0	.0	.0	.2	.0	135.0	144.0	CRAWFORD ST
1991 - 3020	6 0	7	58.0	.0	.4	.0	.0	.0	.4	.0	135.4	144.0	CRAWFORD ST
3020 - 3309	6 0	106	58.0	.0	6.6	.0	.0	.0	6.6	.0	142.0	144.0	CRAWFORD St
3309 - 3019	6 0	106	58.2	.0	6.6	.0	.0	.0	6.6	.0	148.5	144.0	CRAWFORD St
3019 - 1993	6 0	8	58.2	.0	.5	.0	.0	.0	.5	.0	149.0	144.0	CRAWFORD St
1993 - 1992	6 0	5	58.2	.0	.3	.0	.0	.0	.3	.0	149.3	144.0	CRAWFORD St
1992 - 1994	6 0	4	58.3	.0	.2	.0	.0	.0	.2	.0	149.6	144.0	CRAWFORD St
1994 - 3024	6 0	10	58.3	.0	.6	.0	.0	.0	.6	.0	150.2	144.0	CRAWFORD St
3024 - 3443	6 0	82	58.3	.0	5.1	.0	.0	.0	5.1	.0	155.3	144.0	CRAWFORD St
3443 - 3027	6 0	120	58.3	.0	7.4	.0	.0	.0	7.4	.0	162.7	144.0	CRAWFORD St
3027 - 1996	6 0	14	58.3	.0	.9	.0	.0	.0	.9	.0	163.5	144.0	CRAWFORD ST
1996 - 1995	6 0	6	58.3	.5	.4	40.0	.0	.0	.4	40.0	163.9	184.0	CRAWFORD ST
1995 - 1997	6 0	6	58.0	.0	.4	.0	.0	.0	.4	.0	164.3	184.0	CRAWFORD ST
1997 - 3025	6 0	19	58.0	.0	1.2	.0	.0	.0	1.2	.0	165.5	184.0	CRAWFORD ST
3025 - 2000	6 0	70	58.0	.0	4.3	.0	.0	.0	4.3	.0	169.8	184.0	CRAWFORD ST
2000 - 2093	6 0	7	58.0	.0	.4	.0	.0	.0	.4	.0	170.2	184.0	CRAWFORD ST
2093 - 2092	6 0	4	58.0	.0	.2	.0	.0	.0	.2	.0	170.5	184.0	CRAWFORD ST
2092 - 2094	6 0	4	58.1	.0	.2	.0	.0	.0	.2	.0	170.7	184.0	CRAWFORD ST
2094 - 1998	6 0	7	58.1	.0	.4	.0	.0	.0	.4	.0	171.2	184.0	CRAWFORD ST
1998 - 2256	6 0	116	58.1	.0	7.2	.0	2.5	.0	9.7	.0	180.9	184.0	CRAWFORD
2256 - 1451	6 0	61	56.3	.0	3.9	.0	.0	.0	3.9	.0	184.8	184.0	URIARRA Rd
1451 - 2259	6 0	72	56.6	.0	4.6	.0	.8	.0	5.4	.0	190.1	184.0	URIARRA Rd
2259 - 2020	6 0	6	56.6	.9	.4	24.0	.0	.0	.4	24.0	190.5	208.0	URIARRA Rd
2020 - 3057	6 0	228	56.5	.0	14.5	.0	.0	.0	14.5	.0	205.1	208.0	URIARRA Rd
3057 - 1111	5 0	13	45.9	2.8	1.0	17.0	.0	.0	1.0	17.0	206.1	225.0	URIARRA Rd
1111 - 3056	5 0	12	45.7	.0	.9	.0	.0	.0	.9	.0	207.0	225.0	URIARRA Rd
3056 - 1771	5 0	21	45.7	.0	1.7	.0	.0	.0	1.7	.0	208.7	225.0	URIARRA Rd

1771 - 1772	6	0	152	56.3	.0	9.7	.0	.0	.0	9.7	.0	218.4	225.0	URIARRA Rd
1772 - 1734	6	0	75	56.4	.0	4.8	.0	.0	.0	4.8	.0	223.2	225.0	URIARRA Rd
1734 - 1735	6	0	39	56.3	.0	2.5	.0	.0	.0	2.5	.0	225.7	225.0	URIARRA Rd
1735 - 3058	6	0	119	56.0	.0	7.7	.0	.0	.0	7.7	.0	233.3	225.0	URIARRA Rd
3058 - 1440	5	0	15	45.4	1.9	1.2	28.0	.0	.0	1.2	28.0	234.5	253.0	URIARRA Rd
1440 - 3059	5	0	10	45.5	.0	.8	.0	.0	.0	.8	.0	235.3	253.0	URIARRA Rd
3059 - 1246	6	0	129	56.0	.0	8.3	.0	.0	.0	8.3	.0	243.6	253.0	URIARRA Rd
1246 - 1179	6	0	74	56.0	.0	4.8	.0	.0	.0	4.8	.0	248.4	253.0	URIARRA Rd
1179 - 1416	6	0	142	55.8	.0	9.2	.0	.0	.0	9.2	.0	257.5	253.0	URIARRA Rd
1416 - 1773	6	0	82	55.8	.0	5.3	.0	.0	.0	5.3	.0	262.8	253.0	URIARRA Rd
1773 - 1774	6	0	90	55.7	.0	5.8	.0	.0	.0	5.8	.0	268.6	253.0	URIARRA Rd
1774 - 3173	6	3	24	55.7	2.4	1.6	36.0	14.0	12.0	15.6	48.0	284.2	301.0	URIARRA Rd
3173 - 1730	6	0	25	54.8	.0	1.6	.0	.0	.0	1.6	.0	285.8	301.0	URIARRA Rd
1730 - 1731	7	0	139	65.8	.0	7.6	.0	.0	.0	7.6	.0	293.4	301.0	URIARRA Rd
1731 - 2021	7	0	28	65.8	.0	1.5	.0	.0	.0	1.5	.0	295.0	301.0	URIARRA Rd
2021 - 6255	7	0	92	65.8	.0	5.0	.0	.0	.0	5.0	.0	300.0	301.0	
6255 - 6256	7	0	52	65.8	10.4	2.8	18.0	.0	.0	2.8	18.0	302.8	319.0	
6256 - 7989	7	0	483	65.8	.0	26.4	.0	.0	.0	26.4	.0	329.3	319.0	
7989 - 8001	6	2	635	54.8	30.9	41.7	74.0	13.4	.0	55.1	74.0	384.4	393.0	
Modelled Totals	4436		41.5			286.7		97.7		384.4				
Observed Totals					.0		392.0		.0		392.0			
Observed Journey Time =	392.00													
Implied Average Speed =										40.7				
Modelled Journey Time =	384.37													
Modellled Average Speed =										41.5				
	98.05%										101.98%			

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| TRACKS - 17-Jun-08 @ 16:55:26                                     |
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|                                     | Gabites Porter |
|                                     | Christchurch  |
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Journey 5 Movement Analysis - times in seconds

Route3EB

Link	Types	Dist	Mdl	Obs	Mdl	Obs	Mdl	Obs	Mdl	Obs	Accum	Accum	Street Name
	Lnk Ap	(m)	Spd	Spd	Time	Time	Delay	Delay	Total	Total	Mdl	Time	
6426 - 6289	8 0	19	76.4	.0	.9	.0	.0	.0	.9	.0	.9	.0	
6289 - 6333	8 0	16	76.9	4.4	.7	13.0	.0	.0	.7	13.0	1.6	13.0	
6333 - 6493	8 0	84	77.7	.0	3.9	.0	3.0	.0	6.9	.0	8.5	13.0	
6493 - 6495	5 0	482	42.6	.0	40.7	.0	.0	.0	40.7	.0	49.3	13.0	
6495 - 6334	5 4	191	46.8	.0	14.7	.0	9.4	.0	24.1	.0	73.4	13.0	
6334 - 7063	5 0	15	46.4	.6	1.2	86.0	.0	.0	1.2	86.0	74.5	99.0	
7063 - 6330	8 0	19	77.7	.0	.9	.0	10.0	.0	10.9	.0	85.4	99.0	
6330 - 6496	5 0	111	48.8	.0	8.2	.0	2.2	.0	10.4	.0	95.8	99.0	
6496 - 3454	5 3	469	47.7	39.3	35.4	43.0	7.7	.0	43.1	43.0	138.9	142.0	
3454 - 3456	5 3	679	47.7	67.9	51.2	36.0	12.0	.0	63.2	36.0	202.1	178.0	
3456 - 8206	9 0	894	87.9	59.6	36.6	54.0	.0	.0	36.6	54.0	238.7	232.0	
8206 - 7281	9 0	3257	88.0	82.0	133.2	143.0	.0	.0	133.2	143.0	372.0	375.0	
7281 - 6329	9 0	662	88.1	.0	27.1	.0	.0	.0	27.1	.0	399.0	375.0	
6329 - 7028	9 0	729	88.0	.0	29.8	.0	.0	.0	29.8	.0	428.9	375.0	
7028 - 2638	8 0	141	78.0	.0	6.5	.0	.0	.0	6.5	.0	435.4	375.0	
2638 - 3189	7 0	37	67.9	.0	2.0	.0	.0	.0	2.0	.0	437.3	375.0	YASS Rd
3189 - 3192	6 0	6	57.5	.0	.4	.0	.0	.0	.4	.0	437.7	375.0	YASS Rd
3192 - 3191	6 0	5	57.5	.0	.3	.0	.0	.0	.3	.0	438.0	375.0	YASS Rd
3191 - 3193	6 0	4	59.0	.0	.2	.0	.0	.0	.2	.0	438.3	375.0	YASS Rd
3193 - 3188	6 0	7	59.0	.0	.4	.0	.0	.0	.4	.0	438.7	375.0	YASS Rd
3188 - 3233	6 0	214	59.0	.0	13.1	.0	.0	.0	13.1	.0	451.8	375.0	YASS RD
3233 - 3236	6 0	8	59.0	.0	.5	.0	.0	.0	.5	.0	452.2	375.0	YASS Rd
3236 - 3235	6 0	7	59.0	.0	.4	.0	.0	.0	.4	.0	452.7	375.0	YASS Rd
3235 - 3237	6 0	5	59.0	.0	.3	.0	.0	.0	.3	.0	453.0	375.0	YASS Rd
3237 - 3232	6 0	9	59.0	.0	.5	.0	.0	.0	.5	.0	453.5	375.0	YASS Rd
3232 - 3226	6 0	29	59.0	.0	1.8	.0	.0	.0	1.8	.0	455.3	375.0	YASS RD
3226 - 3229	6 0	8	59.0	.0	.5	.0	.0	.0	.5	.0	455.8	375.0	YASS Rd
3229 - 3228	6 0	7	59.0	.3	.4	91.0	.0	2.0	.4	93.0	456.2	468.0	YASS Rd
3228 - 3230	6 0	6	59.0	.0	.4	.0	.0	.0	.4	.0	456.6	468.0	YASS Rd
3230 - 3225	6 0	10	59.0	.0	.6	.0	.0	.0	.6	.0	457.2	468.0	YASS Rd
3225 - 1798	6 0	176	59.0	.0	10.7	.0	.0	.0	10.7	.0	467.9	468.0	YASS RD
1798 - 1893	6 0	10	59.0	.0	.6	.0	.0	.0	.6	.0	468.5	468.0	YASS Rd
1893 - 1894	6 0	11	59.0	.0	.7	.0	.0	.0	.7	.0	469.2	468.0	YASS Rd
1894 - 1892	6 0	8	58.8	.0	.5	.0	.0	.0	.5	.0	469.7	468.0	YASS Rd
1892 - 1891	6 0	10	58.8	.0	.6	.0	.0	.0	.6	.0	470.3	468.0	YASS Rd
1891 - 2635	6 0	173	58.8	.0	10.6	.0	.0	.0	10.6	.0	480.9	468.0	YASS RD
2635 - 1797	6 0	6	58.8	.0	.4	.0	.0	.0	.4	.0	481.3	468.0	YASS RD
1797 - 1792	6 0	3	58.8	.0	.2	.0	.0	.0	.2	.0	481.4	468.0	YASS RD
1792 - 1795	6 0	7	58.9	.0	.4	.0	.0	.0	.4	.0	481.9	468.0	YASS RD
1795 - 1793	6 0	11	58.9	.0	.7	.0	.0	.0	.7	.0	482.5	468.0	YASS RD
1793 - 2634	6 0	70	58.9	.0	4.3	.0	.0	.0	4.3	.0	486.8	468.0	YASS RD
2634 - 1695	6 0	73	58.9	.0	4.5	.0	.0	.0	4.5	.0	491.3	468.0	YASS RD
1695 - 1699	6 0	12	58.9	.0	.7	.0	.0	.0	.7	.0	492.0	468.0	YASS RD
1699 - 1791	6 0	6	58.9	.5	.4	43.0	.0	.0	.4	43.0	492.4	511.0	YASS RD
1791 - 1700	15 0	5	54.0	.0	.3	.0	.0	.0	.3	.0	492.7	511.0	YASS RD
1700 - 1698	15 0	13	54.0	.0	.9	.0	.0	.0	.9	.0	493.6	511.0	YASS RD
1698 - 1600	15 0	206	54.0	.0	13.7	.0	.0	.0	13.7	.0	507.3	511.0	YASS RD
1600 - 1692	15 0	17	54.0	.0	1.1	.0	.0	.0	1.1	.0	508.5	511.0	YASS RD



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| TRACKS - 17-Jun-08 @ 16:55:26                                     |
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Gabites Porter
Christchurch

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Journey 6 Movement Analysis - times in seconds

Route3WB

Link	Types	Dist	Mdl	Obs	Mdl	Obs	Mdl	Obs	Mdl	Obs	Accum	Accum	Street Name
	Lnk Ap	(m)	Spd	Spd	Time	Time	Delay	Delay	Total	Total	Mdl	Time	
1281 - 3325	5 0	148	49.5	.0	10.8	.0	.0	.0	10.8	.0	10.8	.0	THORPE Ave
3325 - 3328	5 0	30	49.5	.0	2.2	.0	.0	.0	2.2	.0	12.9	.0	THORPE Ave
3328 - 3018	5 0	87	49.4	.0	6.3	.0	.0	.0	6.3	.0	19.3	.0	THORPE Ave
3018 - 1904	5 0	9	49.4	1.1	.7	29.0	.0	.0	.7	29.0	19.9	29.0	THORPE Ave
1904 - 3017	4 0	10	39.6	.0	.9	.0	.0	.0	.9	.0	20.9	29.0	CRAWFORD ST
3017 - 3319	4 0	69	39.6	.0	6.3	.0	.0	.0	6.3	.0	27.1	29.0	CRAWFORD ST
3319 - 3016	4 0	69	39.5	.0	6.3	.0	.0	.0	6.3	.0	33.4	29.0	CRAWFORD ST
3016 - 3178	4 3	20	39.5	4.8	1.8	15.0	8.0	.0	9.8	15.0	43.2	44.0	CRAWFORD ST
3178 - 1946	5 0	20	48.8	.0	1.5	.0	.0	.0	1.5	.0	44.7	44.0	CRAWFORD ST
1946 - 1453	5 0	103	48.8	.0	7.6	.0	2.0	.0	9.6	.0	54.3	44.0	CRAWFORD St
1453 - 3478	14 0	13	43.9	.0	1.1	.0	.0	.0	1.1	.0	55.4	44.0	CRAWFORD St
3478 - 1452	14 0	81	43.9	.0	6.6	.0	.0	.0	6.6	.0	62.0	44.0	CRAWFORD St
1452 - 2264	14 0	10	43.9	.0	.8	.0	.0	.0	.8	.0	62.8	44.0	CRAWFORD St
2264 - 1492	5 7	5	48.8	.8	.4	24.0	31.0	39.0	31.4	63.0	94.2	107.0	CRAWFORD St
1492 - 1498	15 0	6	52.2	.0	.4	.0	.0	.0	.4	.0	94.6	107.0	MONARO St
1498 - 1495	15 0	11	52.2	.0	.8	.0	.0	.0	.8	.0	95.4	107.0	MONARO St
1495 - 3438	15 0	98	52.2	.0	6.8	.0	.0	.0	6.8	.0	102.1	107.0	MONARO St
3438 - 2305	15 0	36	52.3	.0	2.5	.0	.0	.0	2.5	.0	104.6	107.0	MONARO St
2305 - 1593	15 0	19	50.5	.0	1.4	.0	.0	.0	1.4	.0	106.0	107.0	MONARO St
1593 - 2018	15 0	198	50.5	32.4	14.1	22.0	.0	.0	14.1	22.0	120.1	129.0	MONARO St
2018 - 1594	15 0	265	50.5	.0	18.9	.0	.0	.0	18.9	.0	139.0	129.0	MONARO St
1594 - 2304	6 4	51	55.3	6.3	3.3	29.0	18.7	.0	22.0	29.0	161.0	158.0	MONARO St
2304 - 2629	6 0	10	23.1	.0	1.6	.0	.0	.0	1.6	.0	162.6	158.0	MONARO St
2629 - 1671	6 0	19	57.3	.0	1.2	.0	.0	.0	1.2	.0	163.7	158.0	MONARO St
1671 - 2303	6 0	6	56.5	.0	.4	.0	.0	.0	.4	.0	164.1	158.0	MONARO St
2303 - 2155	6 0	219	57.3	.0	13.8	.0	.0	.0	13.8	.0	177.9	158.0	MONARO St
2155 - 2302	6 0	173	57.4	.0	10.9	.0	.0	.0	10.9	.0	188.7	158.0	BUNGENDORE ST
2302 - 2308	6 4	22	57.4	2.1	1.4	38.0	13.0	.0	14.4	38.0	203.1	196.0	ELLERTON DR/BUNGENDOR
2308 - 1599	15 0	155	52.9	.0	10.5	.0	.0	.0	10.5	.0	213.7	196.0	YASS Rd
1599 - 1693	15 0	16	52.9	.0	1.1	.0	.0	.0	1.1	.0	214.8	196.0	YASS RD
1693 - 1694	15 0	9	52.9	.0	.6	.0	.0	.0	.6	.0	215.4	196.0	YASS RD
1694 - 1692	15 0	11	52.9	.0	.7	.0	.0	.0	.7	.0	216.1	196.0	YASS RD
1692 - 1691	15 0	17	52.9	.0	1.2	.0	.0	.0	1.2	.0	217.3	196.0	YASS RD
1691 - 1697	15 0	205	52.9	.0	14.0	.0	.0	.0	14.0	.0	231.2	196.0	YASS Rd
1697 - 1700	15 0	12	52.9	.0	.8	.0	.0	.0	.8	.0	232.0	196.0	YASS RD
1700 - 1791	15 0	5	52.9	.4	.3	41.0	.0	.0	.3	41.0	232.4	237.0	YASS RD
1791 - 1699	6 0	6	57.8	.0	.4	.0	.0	.0	.4	.0	232.8	237.0	YASS RD
1699 - 1696	6 0	13	57.8	.0	.8	.0	.0	.0	.8	.0	233.6	237.0	YASS RD
1696 - 1908	6 0	72	57.8	.0	4.5	.0	.0	.0	4.5	.0	238.0	237.0	YASS Rd
1908 - 1794	6 0	70	57.8	.0	4.4	.0	.0	.0	4.4	.0	242.4	237.0	YASS Rd
1794 - 1795	6 0	6	57.8	.0	.4	.0	.0	.0	.4	.0	242.8	237.0	YASS RD
1795 - 1792	6 0	7	57.8	.0	.4	.0	.0	.0	.4	.0	243.2	237.0	YASS RD
1792 - 1797	6 0	3	57.4	.0	.2	.0	.0	.0	.2	.0	243.4	237.0	YASS RD
1797 - 1796	6 0	10	57.4	.0	.6	.0	.0	.0	.6	.0	244.0	237.0	YASS RD
1796 - 1800	6 0	169	57.4	.0	10.6	.0	.0	.0	10.6	.0	254.6	237.0	YASS Rd
1800 - 1892	6 0	10	57.4	.0	.6	.0	.0	.0	.6	.0	255.3	237.0	YASS Rd
1892 - 1894	6 0	8	57.4	.0	.5	.0	.0	.0	.5	.0	255.8	237.0	YASS Rd
1894 - 1893	6 0	11	57.7	.0	.7	.0	.0	.0	.7	.0	256.4	237.0	YASS Rd





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| TRACKS - 17-Jun-08 @ 16:55:26                                     |
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Gabites Porter
Christchurch

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Journey 7 Movement Analysis - times in seconds

Route4NB

Link	Types	Dist	Mdl	Obs	Mdl	Obs	Mdl	Obs	Mdl	Obs	Accum	Accum	Street Name
	Lnk Ap	(m)	Spd	Spd	Time	Time	Delay	Delay	Total	Total	Mdl	Time	
4601 - 4173	8 0	1110	75.2	.0	53.1	.0	.0	.0	53.1	.0	53.1	.0	THARWA RD
4173 - 1770	8 0	249	75.2	13.6	11.9	66.0	.0	.0	11.9	66.0	65.1	66.0	THARWA RD
1770 - 1769	7 0	58	65.3	.0	3.2	.0	.0	.0	3.2	.0	68.3	66.0	THARWA RD
1769 - 2276	7 0	31	65.3	.0	1.7	.0	.0	.0	1.7	.0	70.0	66.0	THARWA RD
2276 - 1096	7 4	10	67.5	1.7	.5	21.0	15.8	.0	16.3	21.0	86.3	87.0	THARWA RD
1096 - 2488	7 0	49	66.9	.0	2.6	.0	.0	.0	2.6	.0	88.9	87.0	LANYON Dr
2488 - 2408	7 0	13	67.5	.0	.7	.0	.0	.0	.7	.0	89.6	87.0	LANYON DR RBT
2408 - 2407	9 0	31	87.7	.0	1.3	.0	.0	.0	1.3	.0	90.9	87.0	LANYON Dr
2407 - 1093	9 0	1549	87.7	.0	63.6	.0	.0	.0	63.6	.0	154.5	87.0	LANYON Dr
1093 - 3145	9 0	32	87.7	.0	1.3	.0	.0	.0	1.3	.0	155.8	87.0	LANYON Dr
3145 - 3150	9 0	7	87.7	.0	.3	.0	.0	.0	.3	.0	156.1	87.0	LANYON Dr
3150 - 3149	9 0	5	87.7	.2	.2	89.0	.0	.0	.2	89.0	156.3	176.0	LANYON Dr
3149 - 3151	9 0	6	87.7	.0	.2	.0	.0	.0	.2	.0	156.5	176.0	LANYON Dr
3151 - 3146	9 0	8	87.7	.0	.3	.0	.0	.0	.3	.0	156.9	176.0	LANYON Dr
3146 - 1094	9 0	8	87.7	.0	.3	.0	.0	.0	.3	.0	157.2	176.0	LANYON Dr
1094 - 3140	9 0	183	87.7	.0	7.5	.0	.0	.0	7.5	.0	164.7	176.0	LANYON Dr
3140 - 3143	9 0	10	87.7	.0	.4	.0	.0	.0	.4	.0	165.1	176.0	LANYON Dr
3143 - 3142	9 0	6	87.7	.0	.2	.0	.0	.0	.2	.0	165.4	176.0	LANYON Dr
3142 - 3144	9 0	6	87.7	.0	.2	.0	.0	.0	.2	.0	165.6	176.0	LANYON Dr
3144 - 3141	9 0	12	87.7	.0	.5	.0	.0	.0	.5	.0	166.1	176.0	LANYON Dr
3141 - 2187	9 0	14	87.7	.0	.6	.0	.0	.0	.6	.0	166.7	176.0	LANYON Dr
2187 - 1092	9 0	177	87.7	.0	7.3	.0	.0	.0	7.3	.0	173.9	176.0	LANYON Dr
1092 - 2013	9 0	225	87.7	.0	9.2	.0	.0	.0	9.2	.0	183.2	176.0	LANYON Dr
2013 - 3131	9 0	14	87.7	.0	.6	.0	.0	.0	.6	.0	183.8	176.0	LANYON DR
3131 - 3136	9 0	10	87.8	.0	.4	.0	.0	.0	.4	.0	184.2	176.0	LANYON Dr
3136 - 3135	9 0	5	87.8	.0	.2	.0	.0	.0	.2	.0	184.4	176.0	LANYON Dr
3135 - 3137	18 0	5	82.6	.0	.2	.0	.0	.0	.2	.0	184.6	176.0	LANYON Dr
3137 - 3132	18 0	10	82.6	.0	.4	.0	.0	.0	.4	.0	185.0	176.0	LANYON Dr
3132 - 3208	18 0	82	82.5	.0	3.6	.0	.0	.0	3.6	.0	188.6	176.0	LANYON Dr
3208 - 2014	18 0	148	82.5	.0	6.5	.0	.0	.0	6.5	.0	195.1	176.0	LANYON Dr
2014 - 2828	18 4	20	82.5	1.4	.9	51.0	22.0	.0	22.9	51.0	217.9	227.0	LANYON DR
2828 - 2826	8 0	38	76.6	.0	1.8	.0	.0	.0	1.8	.0	219.7	227.0	LANYON DR RBT
2826 - 2265	6 0	20	56.3	.0	1.3	.0	.0	.0	1.3	.0	221.0	227.0	LANYON DR
2265 - 3206	6 0	503	56.3	.0	32.2	.0	.0	.0	32.2	.0	253.2	227.0	LANYON Dr
3206 - 3127	6 0	83	56.3	.0	5.3	.0	.0	.0	5.3	.0	258.5	227.0	LANYON Dr
3127 - 3129	6 0	10	56.3	.0	.6	.0	.0	.0	.6	.0	259.1	227.0	LANYON Dr
3129 - 3128	6 0	6	56.3	.6	.4	38.0	.0	.0	.4	38.0	259.5	265.0	LANYON Dr
3128 - 3130	6 0	8	56.2	.0	.5	.0	.0	.0	.5	.0	260.0	265.0	LANYON Dr
3130 - 3125	6 0	12	56.2	.0	.8	.0	.0	.0	.8	.0	260.8	265.0	LANYON Dr
3125 - 2250	6 4	199	56.2	34.1	12.7	21.0	32.3	19.0	45.0	40.0	305.8	305.0	LANYON Dr

```

Modelled Totals      4972  58.5      235.7      70.1      305.8
Observed Totals          .0          305.0          .0      305.0

```

```

Observed Journey Time = 305.00      Implied Average Speed = 58.7
Modelled Journey Time = 305.82      Modelled Average Speed = 58.5
                               100.27%                               99.73%

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+-----+
| TRACKS - 17-Jun-08 @ 16:55:27                                     Gabites Porter |
|                                                                 | Christchurch  |
+-----+

```

Journey 8 Movement Analysis - times in seconds

Route4SB

Link	Types	Dist	Mdl	Obs	Mdl	Obs	Mdl	Obs	Mdl	Obs	Accum	Accum	Street Name
	Lnk Ap	(m)	Spd	Spd	Time	Time	Delay	Delay	Total	Total	Mdl	Time	
1987 - 1091	6 0	121	56.8	.0	7.7	.0	.0	.0	7.7	.0	7.7	.0	LANYON Dr
1091 - 3124	6 0	120	57.9	.0	7.5	.0	.0	.0	7.5	.0	15.1	.0	LANYON Dr
3124 - 3130	6 0	13	57.9	.0	.8	.0	.0	.0	.8	.0	15.9	.0	LANYON Dr
3130 - 3128	6 0	8	57.9	1.9	.5	15.0	.0	.0	.5	15.0	16.4	15.0	LANYON Dr
3128 - 3129	6 0	6	58.1	.0	.4	.0	.0	.0	.4	.0	16.8	15.0	LANYON Dr
3129 - 3126	6 0	11	58.1	.0	.7	.0	.0	.0	.7	.0	17.5	15.0	LANYON Dr
3126 - 3207	6 0	82	58.1	.0	5.1	.0	.0	.0	5.1	.0	22.6	15.0	LANYON Dr
3207 - 2262	6 0	504	58.1	.0	31.2	.0	.0	.0	31.2	.0	53.8	15.0	LANYON Dr
2262 - 2825	6 4	21	58.1	1.9	1.3	40.0	10.0	.0	11.3	40.0	65.1	55.0	LANYON DR
2825 - 2823	8 0	10	78.0	.0	.5	.0	.0	.0	.5	.0	65.6	55.0	LANYON DR RBT
2823 - 2824	8 0	17	78.7	.0	.8	.0	.0	.0	.8	.0	66.3	55.0	LANYON DR RBT
2824 - 2827	8 0	8	77.3	.0	.4	.0	.0	.0	.4	.0	66.7	55.0	LANYON DR RBT
2827 - 1767	18 0	21	83.2	.0	.9	.0	.0	.0	.9	.0	67.6	55.0	LANYON DR
1767 - 3209	18 0	147	83.2	.0	6.4	.0	.0	.0	6.4	.0	74.0	55.0	LANYON Dr
3209 - 3133	18 0	82	83.2	.0	3.5	.0	.0	.0	3.5	.0	77.5	55.0	LANYON Dr
3133 - 3137	18 0	12	83.2	.0	.5	.0	.0	.0	.5	.0	78.0	55.0	LANYON Dr
3137 - 3135	18 0	5	83.2	.0	.2	.0	3.0	.0	3.2	.0	81.3	55.0	LANYON Dr
3135 - 3136	9 0	5	88.4	.0	.2	.0	.0	.0	.2	.0	81.5	55.0	LANYON Dr
3136 - 3134	9 0	8	88.4	.0	.3	.0	.0	.0	.3	.0	81.8	55.0	LANYON Dr
3134 - 1768	9 0	25	88.4	.0	1.0	.0	.0	.0	1.0	.0	82.8	55.0	LANYON Dr
1768 - 2188	9 0	412	88.4	.0	16.8	.0	.0	.0	16.8	.0	99.6	55.0	LANYON Dr
2188 - 3144	9 0	11	88.4	.0	.4	.0	.0	.0	.4	.0	100.0	55.0	LANYON Dr
3144 - 3142	9 0	6	88.4	.0	.2	.0	.0	.0	.2	.0	100.3	55.0	LANYON Dr
3142 - 3143	9 0	6	88.4	.0	.2	.0	.0	.0	.2	.0	100.5	55.0	LANYON Dr
3143 - 3139	9 0	11	88.4	.0	.4	.0	.0	.0	.4	.0	101.0	55.0	LANYON Dr
3139 - 3147	9 0	187	88.4	.0	7.6	.0	.0	.0	7.6	.0	108.6	55.0	-- no name --
3147 - 3151	9 0	10	88.4	.0	.4	.0	.0	.0	.4	.0	109.0	55.0	LANYON Dr
3151 - 3149	9 0	6	88.4	.4	.2	53.0	.0	.0	.2	53.0	109.2	108.0	LANYON Dr
3149 - 3150	9 0	5	88.4	.0	.2	.0	.0	.0	.2	.0	109.4	108.0	LANYON Dr
3150 - 3148	9 0	9	88.4	.0	.4	.0	.0	.0	.4	.0	109.8	108.0	LANYON Dr
3148 - 2409	9 0	1571	88.4	.0	64.0	.0	.0	.0	64.0	.0	173.8	108.0	LANYON Dr
2409 - 2410	9 0	42	88.6	.0	1.7	.0	.0	.0	1.7	.0	175.5	108.0	LANYON Dr
2410 - 2485	7 4	9	68.6	.4	.5	84.0	11.1	.0	11.6	84.0	187.1	192.0	LANYON Dr
2485 - 1097	7 0	7	68.0	.0	.4	.0	.0	.0	.4	.0	187.4	192.0	LANYON Dr
1097 - 2486	7 0	17	68.6	.0	.9	.0	.0	.0	.9	.0	188.3	192.0	LANYON Dr
2486 - 1098	7 0	17	68.6	.0	.9	.0	.0	.0	.9	.0	189.2	192.0	LANYON Dr
1098 - 1095	7 0	16	66.3	.0	.9	.0	.0	.0	.9	.0	190.1	192.0	LANYON Dr
1095 - 2276	7 0	9	67.0	.0	.5	.0	.0	.0	.5	.0	190.6	192.0	THARWA RD
2276 - 1769	7 0	31	59.3	.0	1.9	.0	.0	.0	1.9	.0	192.5	192.0	THARWA RD
1769 - 1770	7 0	58	59.3	.0	3.5	.0	.0	.0	3.5	.0	196.0	192.0	THARWA RD
1770 - 4173	8 0	249	73.0	40.7	12.3	22.0	.0	.0	12.3	22.0	208.3	214.0	THARWA RD
4173 - 4601	8 0	1110	73.0	64.5	54.7	62.0	1.1	.0	55.8	62.0	264.1	276.0	THARWA RD

```

Modelled Totals      5025  68.5      238.9      25.2      264.1
Observed Totals          .0      276.0          .0      276.0

```

```

Observed Journey Time = 276.00      Implied Average Speed = 65.5
Modelled Journey Time = 264.10      Modelled Average Speed = 68.5
                               95.69%                               104.51%
JURNEY terminated successfully

```

## EVENING PEAK

```
+-----+
| TRACKS TRACKS TRACKS TRACKS TRACKS TRACKS TR |
| TRACKS +-----+ TRACKS |
| S TRACKS |          | S TRACKS |
| KS TRACK | Program  :   JURNEY | KS TRACK |
| CKS TRAC | Version  :   V7.03   | CKS TRAC |
| ACKS TRA |          | ACKS TRA |
| RACKS TR | Date run : 28-Jun-08 | RACKS TR |
| TRACKS T | Time run : 12:32:09 | TRACKS T |
| TRACKS   | Platform : Win 95/NT | TRACKS   |
| S TRACKS+-----+ S TRACKS |
| KS TRACKS TRACKS TRACKS TRACKS TRACKS TRACKS |
+-----+

+-----+
| TRACKS Licenced to |
| Gabites Porter_____|
| at : Christchurch  |
+-----+

Parameter version : V5.20
```

```
JURNEY Data File  : JURNEY.PMP
Loaded Network   : QE06NL.000      *QUEANBEYAN PMP -LUSE-2006
**** Links in network
```

```
+-----+
| TRACKS - 28-Jun-08 @ 12:32:10 |
|                               |
|                               |
+-----+
|                               |
|                               |
+-----+
| Gabites Porter |
| Christchurch  |
+-----+
```

Journey 1 Movement Analysis - times in seconds

Route1EB

Link	Types	Dist	Mdl	Obs	Mdl	Obs	Mdl	Obs	Mdl	Obs	Accum	Accum	Street Name
	Lnk Ap	(m)	Spd	Spd	Time	Time	Delay	Delay	Total	Total	Mdl	Time	
9272 - 9274	15 0	5	51.7	.0	.3	.0	.0	.0	.3	.0	.3	.0	
9274 - 9270	15 0	9	51.7	.0	.6	.0	.0	.0	.6	.0	1.0	.0	
9270 - 9260	15 0	81	51.7	.0	5.6	.0	.0	.0	5.6	.0	6.6	.0	
9260 - 9266	15 0	9	51.2	.0	.6	.0	.0	.0	.6	.0	7.2	.0	
9266 - 9265	15 6	5	51.2	3.0	.4	6.0	17.0	17.0	17.4	23.0	24.6	23.0	
9265 - 9267	16 0	5	62.7	.0	.3	.0	.0	.0	.3	.0	24.9	23.0	
9267 - 9261	16 0	9	62.7	.0	.5	.0	.0	.0	.5	.0	25.4	23.0	
9261 - 3511	16 0	405	62.2	.0	23.4	.0	.0	.0	23.4	.0	48.8	23.0	
3511 - 5394	16 0	173	62.2	.0	10.0	.0	.0	.0	10.0	.0	58.9	23.0	
5394 - 3510	16 0	82	62.2	.0	4.7	.0	.0	.0	4.7	.0	63.6	23.0	
3510 - 3513	16 0	288	62.2	.0	16.7	.0	.0	.0	16.7	.0	80.3	23.0	
3513 - 5643	16 0	546	62.0	.0	31.7	.0	.0	.0	31.7	.0	112.0	23.0	
5643 - 5645	16 0	13	62.0	.0	.8	.0	.0	.0	.8	.0	112.7	23.0	
5645 - 5655	16 7	9	62.0	.4	.5	82.0	66.0	39.0	66.5	121.0	179.3	144.0	
5655 - 5651	8 0	11	75.8	.0	.5	.0	.0	.0	.5	.0	179.8	144.0	
5651 - 5649	8 0	12	75.8	.0	.6	.0	.0	.0	.6	.0	180.3	144.0	
5649 - 5399	8 0	1987	74.1	.0	96.5	.0	.0	.0	96.5	.0	276.9	144.0	
5399 - 5400	8 0	118	74.1	.0	5.7	.0	.0	.0	5.7	.0	282.6	144.0	
5400 - 5401	8 6	40	74.1	1.3	1.9	109.0	19.0	.0	20.9	109.0	303.6	253.0	
5401 - 5402	8 0	47	76.0	.0	2.2	.0	.0	.0	2.2	.0	305.8	253.0	
5402 - 5403	8 0	73	76.0	.0	3.5	.0	.0	.0	3.5	.0	309.2	253.0	

5403 - 7990	8	0	538	76.0	.0	25.5	.0	.0	25.5	.0	334.7	253.0		
7990 - 1990	8	0	300	77.3	.0	14.0	.0	.0	14.0	.0	348.7	253.0		
1990 - 1296	16	0	31	62.5	.0	1.8	.0	.0	1.8	.0	350.5	253.0	CANBERRA Ave	
1296 - 1297	16	0	18	61.4	.0	1.1	.0	.0	1.1	.0	351.5	253.0	CANBERRA Ave	
1297 - 1292	16	7	4	61.4	.4	.2	39.0	9.0	4.0	9.2	43.0	360.8	296.0	CANBERRA Ave
1292 - 1298	16	0	5	61.8	.0	.3	.0	.0	.0	.3	.0	361.1	296.0	CANBERRA Ave
1298 - 1294	16	0	21	61.8	.0	1.2	.0	.0	.0	1.2	.0	362.3	296.0	CANBERRA Ave
1294 - 3104	16	0	235	62.8	.0	13.5	.0	.0	.0	13.5	.0	375.8	296.0	CANBERRA Ave
3104 - 3109	16	0	11	61.6	.0	.6	.0	.0	.0	.6	.0	376.4	296.0	CANBERRA Ave
3109 - 3107	16	0	4	61.6	.0	.2	.0	.0	.0	.2	.0	376.6	296.0	CANBERRA Ave
3107 - 3108	16	0	5	61.3	.0	.3	.0	.0	.0	.3	.0	376.9	296.0	CANBERRA Ave
3108 - 3105	16	0	8	61.3	.0	.5	.0	.0	.0	.5	.0	377.4	296.0	CANBERRA Ave
3105 - 3111	16	0	154	61.3	.0	9.0	.0	.0	.0	9.0	.0	386.4	296.0	CANBERRA Ave
3111 - 3115	16	0	11	61.3	.0	.6	.0	.0	.0	.6	.0	387.1	296.0	CANBERRA Ave
3115 - 3114	16	0	5	61.3	.0	.3	.0	.0	.0	.3	.0	387.4	296.0	CANBERRA Ave
3114 - 3116	16	0	5	61.4	.0	.3	.0	.0	.0	.3	.0	387.7	296.0	CANBERRA Ave
3116 - 3112	16	0	11	61.4	.0	.6	.0	.0	.0	.6	.0	388.3	296.0	CANBERRA Ave
3112 - 2280	7	0	743	66.4	.0	40.3	.0	.0	.0	40.3	.0	428.6	296.0	CANBERRA Ave
2280 - 1732	7	0	116	67.2	6.4	6.2	65.0	.0	.0	6.2	65.0	434.8	361.0	CANBERRA Ave
1732 - 1733	7	0	80	67.2	.0	4.3	.0	.0	.0	4.3	.0	439.1	361.0	CANBERRA Ave
1733 - 2283	7	0	50	66.3	.0	2.7	.0	.0	.0	2.7	.0	441.8	361.0	CANBERRA Ave
2283 - 1195	7	0	552	66.3	.0	30.0	.0	.0	.0	30.0	.0	471.8	361.0	CANBERRA Ave
1195 - 1197	7	0	16	67.6	.0	.9	.0	.0	.0	.9	.0	472.6	361.0	CANBERRA Ave
1197 - 1200	7	6	3	67.6	.3	.2	43.0	13.0	18.0	13.2	61.0	485.8	422.0	CANBERRA Ave
1200 - 1198	7	0	3	66.7	.0	.2	.0	.0	.0	.2	.0	486.0	422.0	CANBERRA Ave
1198 - 1196	7	0	17	66.7	.0	.9	.0	.0	.0	.9	.0	486.9	422.0	CANBERRA Ave
1196 - 2285	7	0	85	66.7	.0	4.6	.0	.0	.0	4.6	.0	491.5	422.0	CANBERRA Ave
2285 - 1193	7	0	98	66.7	.0	5.3	.0	.0	.0	5.3	.0	496.8	422.0	CANBERRA Ave
1193 - 1394	7	0	12	67.8	.0	.6	.0	.0	.0	.6	.0	497.4	422.0	CANBERRA Ave
1394 - 1395	7	6	5	67.8	1.0	.3	18.0	7.0	.0	7.3	18.0	504.7	440.0	CANBERRA Ave
1395 - 1396	7	0	5	68.1	.0	.3	.0	.0	.0	.3	.0	504.9	440.0	CANBERRA Ave
1396 - 1392	7	0	11	68.1	.0	.6	.0	.0	.0	.6	.0	505.5	440.0	CANBERRA Ave
1392 - 2287	7	0	114	68.1	.0	6.0	.0	.0	.0	6.0	.0	511.5	440.0	CANBERRA Ave
2287 - 3120	7	0	136	68.1	.0	7.2	.0	.0	.0	7.2	.0	518.7	440.0	CANBERRA Ave
3120 - 3122	7	0	6	68.1	.0	.3	.0	.0	.0	.3	.0	519.0	440.0	CANBERRA Ave
3122 - 3121	7	0	4	68.1	.8	.2	19.0	.0	.0	.2	19.0	519.3	459.0	CANBERRA Ave
3121 - 3123	7	0	4	68.3	.0	.2	.0	.0	.0	.2	.0	519.5	459.0	FARRER Pl
3123 - 3117	7	0	9	68.3	.0	.5	.0	.0	.0	.5	.0	519.9	459.0	FARRER Pl
3117 - 2836	7	0	11	68.3	.0	.6	.0	.0	.0	.6	.0	520.5	459.0	-- no name --
2836 - 2289	7	0	14	67.6	.0	.7	.0	.0	.0	.7	.0	521.3	459.0	FARRER Pl
2289 - 2835	7	0	15	67.6	.0	.8	.0	.0	.0	.8	.0	522.1	459.0	FARRER Pl
2835 - 3311	7	0	182	67.6	.0	9.7	.0	.0	.0	9.7	.0	531.8	459.0	FARRER Pl
3311 - 2290	7	0	137	67.5	.0	7.3	.0	.0	.0	7.3	.0	539.1	459.0	FARRER Pl
2290 - 1400	7	0	34	67.5	.0	1.8	.0	.0	.0	1.8	.0	540.9	459.0	FARRER Pl
1400 - 1399	16	6	7	62.7	.6	.4	40.0	13.0	19.0	13.4	59.0	554.3	518.0	FARRER Pl
1399 - 1491	15	0	8	52.5	.0	.5	.0	.0	.0	.5	.0	554.8	518.0	MONARO St
1491 - 1397	15	0	26	52.5	.0	1.8	.0	.0	.0	1.8	.0	556.6	518.0	MONARO St
1397 - 3439	15	0	85	52.5	.0	5.8	.0	.0	.0	5.8	.0	562.4	518.0	MONARO St
3439 - 1493	15	0	99	52.4	.0	6.8	.0	.0	.0	6.8	.0	569.2	518.0	MONARO St
1493 - 1497	15	0	12	52.4	.0	.8	.0	.0	.0	.8	.0	570.1	518.0	MONARO St
1497 - 1492	15	6	5	52.4	.4	.3	47.0	45.0	74.0	45.3	121.0	615.4	639.0	MONARO St
1492 - 2264	5	0	5	47.1	.0	.4	.0	.0	.0	.4	.0	615.8	639.0	CRAWFORD St
2264 - 1452	14	0	10	42.3	.0	.9	.0	.0	.0	.9	.0	616.6	639.0	CRAWFORD St
1452 - 3478	14	0	81	42.3	.0	6.9	.0	.0	.0	6.9	.0	623.5	639.0	CRAWFORD St
3478 - 1453	14	0	13	42.4	.0	1.1	.0	.0	.0	1.1	.0	624.6	639.0	CRAWFORD St
1453 - 1946	5	0	103	47.3	.0	7.8	.0	.0	.0	7.8	.0	632.5	639.0	CRAWFORD St
1946 - 3178	5	3	20	47.3	2.8	1.5	26.0	7.0	.0	8.5	26.0	641.0	665.0	CRAWFORD ST
3178 - 3016	4	0	20	39.4	.0	1.8	.0	.0	.0	1.8	.0	642.8	665.0	CRAWFORD ST
3016 - 3319	4	0	69	39.4	.0	6.3	.0	.0	.0	6.3	.0	649.1	665.0	CRAWFORD ST
3319 - 3017	4	0	69	39.5	.0	6.3	.0	.0	.0	6.3	.0	655.4	665.0	CRAWFORD ST

3017 - 1904	4	0	10	39.5	2.0	.9	18.0	.0	.0	.9	18.0	656.3	683.0	CRAWFORD ST
1904 - 3018	5	0	9	49.4	.0	.7	.0	.0	.0	.7	.0	657.0	683.0	THORPE Ave
3018 - 3328	5	0	87	49.4	.0	6.3	.0	.0	.0	6.3	.0	663.3	683.0	THORPE Ave
3328 - 3325	5	0	30	49.6	.0	2.2	.0	.0	.0	2.2	.0	665.5	683.0	THORPE Ave
3325 - 1281	5	0	148	49.6	21.3	10.7	25.0	.0	.0	10.7	25.0	676.2	708.0	THORPE Ave
Modelled Totals			8671	46.2		480.2		196.0		676.2				
Observed Totals					.0		707.0		.0		707.0			
Observed Journey Time =			707.00											Implied Average Speed = 44.2
Modelled Journey Time =			676.24											Modelled Average Speed = 46.2
			95.65%											104.55%

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| TRACKS - 28-Jun-08 @ 12:32:10                                     |
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Gabites Porter  
Christchurch

Journey 2 Movement Analysis - times in seconds

Route1WB

Link	Types	Dist	Mdl	Obs	Mdl	Obs	Mdl	Obs	Mdl	Obs	Accum	Accum	Street Name
	Lnk Ap	(m)	Spd	Spd	Time	Time	Delay	Delay	Total	Total	Mdl	Time	
1281 - 3325	5 0	148	49.8	.0	10.7	.0	.0	.0	10.7	.0	10.7	.0	THORPE Ave
3325 - 3328	5 0	30	49.8	.0	2.2	.0	.0	.0	2.2	.0	12.9	.0	THORPE Ave
3328 - 3018	5 0	87	49.5	.0	6.3	.0	.0	.0	6.3	.0	19.2	.0	THORPE Ave
3018 - 1904	5 0	9	49.5	1.2	.7	27.0	.0	.0	.7	27.0	19.8	27.0	THORPE Ave
1904 - 3017	4 0	10	39.6	.0	.9	.0	.0	.0	.9	.0	20.8	27.0	CRAWFORD ST
3017 - 3319	4 0	69	39.6	.0	6.3	.0	.0	.0	6.3	.0	27.0	27.0	CRAWFORD ST
3319 - 3016	4 0	69	39.6	.0	6.3	.0	.0	.0	6.3	.0	33.3	27.0	CRAWFORD ST
3016 - 3178	4 3	20	39.6	4.8	1.8	15.0	11.0	.0	12.8	15.0	46.1	42.0	CRAWFORD ST
3178 - 1946	5 0	20	48.6	.0	1.5	.0	.0	.0	1.5	.0	47.6	42.0	CRAWFORD ST
1946 - 1453	5 0	103	48.6	.0	7.6	.0	2.0	.0	9.6	.0	57.2	42.0	CRAWFORD St
1453 - 3478	14 0	13	43.6	.0	1.1	.0	.0	.0	1.1	.0	58.3	42.0	CRAWFORD St
3478 - 1452	14 0	81	43.4	.0	6.7	.0	.0	.0	6.7	.0	65.0	42.0	CRAWFORD St
1452 - 2264	14 0	10	43.4	.0	.8	.0	.0	.0	.8	.0	65.9	42.0	CRAWFORD St
2264 - 1492	5 7	5	48.3	.7	.4	27.0	32.0	17.0	32.4	44.0	98.2	86.0	CRAWFORD St
1492 - 1497	15 0	5	52.1	.0	.3	.0	.0	.0	.3	.0	98.6	86.0	MONARO St
1497 - 1494	15 0	14	52.1	.0	1.0	.0	.0	.0	1.0	.0	99.5	86.0	MONARO St
1494 - 3440	15 0	92	52.1	.0	6.4	.0	.0	.0	6.4	.0	105.9	86.0	MONARO St
3440 - 1398	15 0	91	52.1	.0	6.3	.0	.0	.0	6.3	.0	112.2	86.0	MONARO St
1398 - 1491	15 0	26	52.0	.0	1.8	.0	.0	.0	1.8	.0	114.0	86.0	MONARO St
1491 - 1399	15 6	8	52.0	.7	.6	41.0	14.0	13.0	14.6	54.0	128.5	140.0	MONARO St
1399 - 1400	16 0	7	62.1	.0	.4	.0	.0	.0	.4	.0	128.9	140.0	FARRER Pl
1400 - 2183	7 0	33	67.0	.0	1.8	.0	.0	.0	1.8	.0	130.7	140.0	FARRER Pl
2183 - 3317	7 0	72	67.0	.0	3.9	.0	.0	.0	3.9	.0	134.6	140.0	FARRER Pl
3317 - 1989	7 0	265	67.0	.0	14.2	.0	.0	.0	14.2	.0	148.8	140.0	FARRER Pl
1989 - 3118	7 0	27	67.0	.0	1.5	.0	.0	.0	1.5	.0	150.3	140.0	FARRER Pl
3118 - 3123	7 0	6	67.0	.0	.3	.0	.0	.0	.3	.0	150.6	140.0	FARRER Pl
3123 - 3121	7 0	4	67.0	.5	.2	28.0	.0	.0	.2	28.0	150.8	168.0	FARRER Pl
3121 - 3122	7 0	4	66.9	.0	.2	.0	.0	.0	.2	.0	151.0	168.0	CANBERRA Ave
3122 - 3119	7 0	10	66.9	.0	.5	.0	.0	.0	.5	.0	151.6	168.0	CANBERRA Ave
3119 - 1738	7 0	139	66.9	.0	7.5	.0	.0	.0	7.5	.0	159.0	168.0	CANBERRA Ave
1738 - 1393	7 0	110	66.9	.0	5.9	.0	.0	.0	5.9	.0	165.0	168.0	CANBERRA Ave
1393 - 1396	7 0	9	67.8	.0	.5	.0	.0	.0	.5	.0	165.4	168.0	CANBERRA Ave
1396 - 1395	7 6	5	67.8	1.0	.3	18.0	7.0	26.0	7.3	44.0	172.7	212.0	CANBERRA Ave
1395 - 1394	7 0	5	67.0	.0	.3	.0	.0	.0	.3	.0	173.0	212.0	CANBERRA Ave
1394 - 1391	7 0	12	67.0	.0	.6	.0	.0	.0	.6	.0	173.6	212.0	CANBERRA Ave
1391 - 1736	7 0	99	67.0	.0	5.3	.0	.0	.0	5.3	.0	178.9	212.0	CANBERRA Ave
1736 - 1099	7 0	83	67.9	.0	4.4	.0	.0	.0	4.4	.0	183.3	212.0	CANBERRA Ave
1099 - 1198	7 0	16	68.1	.0	.8	.0	.0	.0	.8	.0	184.2	212.0	CANBERRA Ave
1198 - 1200	7 6	3	68.1	.5	.2	22.0	12.0	.0	12.2	22.0	196.3	234.0	CANBERRA Ave
1200 - 1197	7 0	3	67.2	.0	.2	.0	.0	.0	.2	.0	196.5	234.0	CANBERRA Ave
1197 - 1191	7 0	15	67.2	.0	.8	.0	.0	.0	.8	.0	197.3	234.0	CANBERRA Ave
1191 - 1987	7 0	621	66.9	.0	33.4	.0	.0	.0	33.4	.0	230.7	234.0	CANBERRA Ave
1987 - 1988	16 4	53	64.1	3.9	3.0	49.0	11.8	.0	14.8	49.0	245.5	283.0	CANBERRA Ave
1988 - 2015	6 0	10	57.5	.0	.6	.0	.0	.0	.6	.0	246.1	283.0	CANBERRA Ave
2015 - 2250	6 0	35	58.7	.0	2.1	.0	.6	.0	2.7	.0	248.9	283.0	CANBERRA Ave
2250 - 3113	7 0	853	68.0	.0	45.2	.0	.0	.0	45.2	.0	294.0	283.0	CANBERRA Ave
3113 - 3116	16 0	9	63.2	.0	.5	.0	.0	.0	.5	.0	294.5	283.0	CANBERRA Ave
3116 - 3114	16 0	5	63.2	.0	.3	.0	.0	.0	.3	.0	294.8	283.0	CANBERRA Ave

3114 - 3115	16	0	5	63.2	.0	.3	.0	.0	.0	.3	.0	295.1	283.0	CANBERRA Ave
3115 - 3110	16	0	11	63.2	.0	.6	.0	.0	.0	.6	.0	295.7	283.0	CANBERRA Ave
3110 - 3106	16	0	159	63.2	.0	9.1	.0	.0	.0	9.1	.0	304.8	283.0	CANBERRA Ave
3106 - 3108	16	0	8	63.2	.0	.5	.0	.0	.0	.5	.0	305.3	283.0	CANBERRA Ave
3108 - 3107	16	0	5	63.2	.0	.3	.0	.0	.0	.3	.0	305.5	283.0	CANBERRA Ave
3107 - 3109	16	0	4	63.4	.0	.2	.0	.0	.0	.2	.0	305.8	283.0	CANBERRA Ave
3109 - 3103	16	0	9	63.4	.0	.5	.0	.0	.0	.5	.0	306.3	283.0	CANBERRA Ave
3103 - 1293	16	0	240	63.4	.0	13.6	.0	.0	.0	13.6	.0	319.9	283.0	CANBERRA Ave
1293 - 1298	16	0	20	63.4	.0	1.1	.0	.0	.0	1.1	.0	321.0	283.0	CANBERRA Ave
1298 - 1292	16	7	5	63.4	.2	.3	76.0	7.0	26.0	7.3	102.0	328.3	385.0	CANBERRA Ave
1292 - 1297	16	0	4	63.3	.0	.2	.0	.0	.0	.2	.0	328.6	385.0	CANBERRA Ave
1297 - 1295	16	0	18	63.3	.0	1.0	.0	.0	.0	1.0	.0	329.6	385.0	CANBERRA Ave
1295 - 1741	16	0	29	63.7	.0	1.6	.0	.0	.0	1.6	.0	331.2	385.0	CANBERRA Ave
1741 - 3451	8	0	300	78.6	.0	13.7	.0	1.8	.0	15.5	.0	346.8	385.0	
3451 - 8001	8	0	323	77.9	.0	14.9	.0	.0	.0	14.9	.0	361.7	385.0	
8001 - 5404	8	0	184	77.8	.0	8.5	.0	.0	.0	8.5	.0	370.2	385.0	
5404 - 5402	8	0	76	77.8	.0	3.5	.0	.0	.0	3.5	.0	373.7	385.0	
5402 - 5401	8	6	47	77.8	4.2	2.2	40.0	14.0	5.0	16.2	45.0	389.9	430.0	
5401 - 5400	8	0	40	77.9	.0	1.8	.0	.0	.0	1.8	.0	391.7	430.0	
5400 - 5398	8	0	125	77.9	.0	5.8	.0	2.0	.0	7.8	.0	399.5	430.0	
5398 - 5650	8	0	2013	76.8	.0	94.4	.0	.0	.0	94.4	.0	493.9	430.0	
5650 - 5651	8	0	15	78.1	.0	.7	.0	.0	.0	.7	.0	494.6	430.0	
5651 - 5655	8	7	11	78.1	.4	.5	113.0	51.0	33.0	51.5	146.0	546.1	576.0	
5655 - 5645	16	0	9	64.1	.0	.5	.0	.0	.0	.5	.0	546.6	576.0	
5645 - 5644	16	0	15	64.1	.0	.8	.0	.0	.0	.8	.0	547.4	576.0	
5644 - 3514	16	0	545	64.0	.0	30.7	.0	.0	.0	30.7	.0	578.1	576.0	
3514 - 5395	16	0	286	64.0	.0	16.1	.0	.0	.0	16.1	.0	594.2	576.0	
5395 - 3512	16	0	254	63.8	.0	14.3	.0	.0	.0	14.3	.0	608.5	576.0	
3512 - 9262	16	0	408	63.4	.0	23.2	.0	.0	.0	23.2	.0	631.7	576.0	
9262 - 9267	16	0	9	64.0	.0	.5	.0	.0	.0	.5	.0	632.2	576.0	
9267 - 9265	16	6	5	64.0	.2	.3	87.0	14.0	45.0	14.3	132.0	646.5	708.0	
9265 - 9266	15	0	5	52.7	.0	.3	.0	.0	.0	.3	.0	646.8	708.0	
9266 - 9259	15	0	9	52.7	.0	.6	.0	.0	.0	.6	.0	647.4	708.0	
9259 - 9271	15	0	79	52.7	.0	5.4	.0	.0	.0	5.4	.0	652.8	708.0	
9271 - 9274	15	0	10	52.7	.0	.7	.0	.0	.0	.7	.0	653.5	708.0	
9274 - 9272	15	6	5	52.7	2.0	.3	9.0	9.7	.0	10.0	9.0	663.5	717.0	
Modelled Totals		8713	47.3			473.6		189.9		663.5				
Observed Totals						.0		716.0		.0			716.0	
Observed Journey Time =			716.00											Implied Average Speed = 43.8
Modelled Journey Time =			663.53											Modelled Average Speed = 47.3
			92.67%											107.91%



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| TRACKS - 28-Jun-08 @ 12:32:10                                     |
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Journey 3 Movement Analysis - times in seconds

Route2EB

Link	Types	Dist	Mdl	Obs	Mdl	Obs	Mdl	Obs	Mdl	Obs	Accum	Accum	Street Name
	Lnk Ap	(m)	Spd	Spd	Time	Time	Delay	Delay	Total	Total	Mdl	Time	
7990 - 7989	7 0	262	66.0	.0	14.3	.0	.0	.0	14.3	.0	14.3	.0	
7989 - 6256	7 0	483	66.0	.0	26.3	.0	.0	.0	26.3	.0	40.6	.0	
6256 - 6255	7 0	52	65.9	.0	2.8	.0	.0	.0	2.8	.0	43.5	.0	
6255 - 2021	7 0	92	65.9	.0	5.0	.0	.0	.0	5.0	.0	48.5	.0	
2021 - 1731	7 0	28	65.9	.0	1.5	.0	.0	.0	1.5	.0	50.0	.0	URIARRA Rd
1731 - 1730	7 0	139	65.9	.0	7.6	.0	.0	.0	7.6	.0	57.6	.0	URIARRA Rd
1730 - 3173	6 3	25	54.9	1.1	1.6	84.0	9.0	.0	10.6	84.0	68.3	84.0	URIARRA Rd
3173 - 1774	6 0	24	56.0	.0	1.5	.0	.0	.0	1.5	.0	69.8	84.0	URIARRA Rd
1774 - 1773	6 0	90	56.0	.0	5.8	.0	.0	.0	5.8	.0	75.6	84.0	URIARRA Rd
1773 - 1416	6 0	82	56.2	.0	5.3	.0	.0	.0	5.3	.0	80.8	84.0	URIARRA Rd
1416 - 1179	6 0	142	56.0	.0	9.1	.0	.0	.0	9.1	.0	90.0	84.0	URIARRA Rd
1179 - 1246	6 0	74	55.9	.0	4.8	.0	.0	.0	4.8	.0	94.7	84.0	URIARRA Rd
1246 - 3059	6 0	129	56.0	.0	8.3	.0	.0	.0	8.3	.0	103.0	84.0	URIARRA Rd
3059 - 1440	5 0	10	45.4	.9	.8	40.0	.0	.0	.8	40.0	103.8	124.0	URIARRA Rd
1440 - 3058	5 0	15	45.8	.0	1.2	.0	.0	.0	1.2	.0	105.0	124.0	URIARRA Rd
3058 - 1735	6 0	119	56.3	.0	7.6	.0	.0	.0	7.6	.0	112.6	124.0	URIARRA Rd
1735 - 1734	6 0	39	56.4	.0	2.5	.0	.0	.0	2.5	.0	115.1	124.0	URIARRA Rd
1734 - 1772	6 0	75	56.6	.0	4.8	.0	.0	.0	4.8	.0	119.9	124.0	URIARRA Rd
1772 - 1771	6 0	152	56.3	.0	9.7	.0	.0	.0	9.7	.0	129.6	124.0	URIARRA Rd
1771 - 3056	5 0	21	45.5	.0	1.7	.0	.0	.0	1.7	.0	131.3	124.0	URIARRA Rd
3056 - 1111	5 0	12	45.5	1.4	.9	31.0	.0	.0	.9	31.0	132.2	155.0	URIARRA Rd
1111 - 3057	5 0	13	46.0	.0	1.0	.0	.0	.0	1.0	.0	133.2	155.0	URIARRA Rd
3057 - 2020	6 0	228	56.5	48.3	14.5	17.0	.0	.0	14.5	17.0	147.7	172.0	URIARRA Rd
2020 - 2259	6 0	6	56.6	.0	.4	.0	.0	.0	.4	.0	148.1	172.0	URIARRA Rd
2259 - 1451	6 0	72	56.6	.0	4.6	.0	.0	.0	4.6	.0	152.7	172.0	URIARRA Rd
1451 - 1759	6 0	62	56.8	.0	3.9	.0	.0	.0	3.9	.0	156.6	172.0	URIARRA Rd
1759 - 1999	6 0	117	56.8	.0	7.4	.0	.0	.0	7.4	.0	164.1	172.0	CRAWFORD St
1999 - 2094	6 0	7	58.3	.0	.4	.0	.0	.0	.4	.0	164.5	172.0	CRAWFORD ST
2094 - 2092	6 0	4	56.8	.0	.3	.0	.0	.0	.3	.0	164.7	172.0	CRAWFORD ST
2092 - 2093	6 0	4	56.7	.0	.3	.0	.0	.0	.3	.0	165.0	172.0	CRAWFORD ST
2093 - 2091	6 0	7	56.7	.0	.4	.0	.0	.0	.4	.0	165.4	172.0	CRAWFORD ST
2091 - 1959	6 0	46	56.7	.0	2.9	.0	.0	.0	2.9	.0	168.4	172.0	CRAWFORD ST
1959 - 2182	6 0	26	56.4	.0	1.7	.0	.0	.0	1.7	.0	170.0	172.0	CRAWFORD ST
2182 - 1997	6 0	19	56.4	.0	1.2	.0	.0	.0	1.2	.0	171.2	172.0	CRAWFORD ST
1997 - 1995	6 0	6	56.4	.8	.4	27.0	.0	.0	.4	27.0	171.6	199.0	CRAWFORD ST
1995 - 1996	6 0	6	58.8	.0	.4	.0	.0	.0	.4	.0	172.0	199.0	CRAWFORD ST
1996 - 3026	6 0	9	58.8	.0	.6	.0	.0	.0	.6	.0	172.5	199.0	CRAWFORD ST
3026 - 3434	6 0	106	58.8	.0	6.5	.0	.0	.0	6.5	.0	179.0	199.0	CRAWFORD St
3434 - 3292	6 0	51	58.8	.0	3.1	.0	.0	.0	3.1	.0	182.1	199.0	CRAWFORD St
3292 - 3023	6 0	49	58.8	.0	3.0	.0	.0	.0	3.0	.0	185.1	199.0	CRAWFORD St
3023 - 1994	6 0	10	58.8	.0	.6	.0	.0	.0	.6	.0	185.8	199.0	CRAWFORD St
1994 - 1992	6 0	4	58.8	.0	.2	.0	.0	.0	.2	.0	186.0	199.0	CRAWFORD St
1992 - 1993	6 0	5	59.0	.0	.3	.0	.0	.0	.3	.0	186.3	199.0	CRAWFORD St
1993 - 3021	6 0	10	59.0	.0	.6	.0	.0	.0	.6	.0	186.9	199.0	CRAWFORD St
3021 - 3445	6 0	37	59.0	.0	2.3	.0	.0	.0	2.3	.0	189.2	199.0	CRAWFORD St
3445 - 3303	6 0	69	59.0	.0	4.2	.0	.0	.0	4.2	.0	193.4	199.0	CRAWFORD St
3303 - 3022	6 0	104	58.9	.0	6.4	.0	.0	.0	6.4	.0	199.7	199.0	CRAWFORD St
3022 - 1991	6 0	8	58.9	.0	.5	.0	.0	.0	.5	.0	200.2	199.0	CRAWFORD ST

1991 - 1899	6	7	4	58.9	.4	.2	35.0	23.0	17.0	23.2	52.0	223.5	251.0	CRAWFORD ST
1899 - 1900	6	0	4	59.3	.0	.2	.0	.0	.0	.2	.0	223.7	251.0	CRAWFORD ST
1900 - 1761	6	0	8	59.3	.0	.5	.0	.0	.0	.5	.0	224.2	251.0	CRAWFORD ST
1761 - 3436	6	0	107	59.3	.0	6.5	.0	.0	.0	6.5	.0	230.7	251.0	CRAWFORD St
3436 - 1762	6	0	72	59.2	.0	4.4	.0	.0	.0	4.4	.0	235.1	251.0	CRAWFORD St
1762 - 2008	6	0	32	59.2	.0	1.9	.0	.0	.0	1.9	.0	237.0	251.0	CRAWFORD St
2008 - 2307	6	0	13	59.2	.0	.8	.0	.0	.0	.8	.0	237.8	251.0	CRAWFORD St
2307 - 1492	6	7	5	59.2	.6	.3	28.0	32.0	5.0	32.3	33.0	270.1	284.0	CRAWFORD St
1492 - 2264	5	0	5	47.1	.0	.4	.0	.0	.0	.4	.0	270.5	284.0	CRAWFORD St
2264 - 1452	14	0	10	42.3	.0	.9	.0	.0	.0	.9	.0	271.4	284.0	CRAWFORD St
1452 - 3478	14	0	81	42.3	.0	6.9	.0	.0	.0	6.9	.0	278.2	284.0	CRAWFORD St
3478 - 1453	14	0	13	42.4	.0	1.1	.0	.0	.0	1.1	.0	279.4	284.0	CRAWFORD St
1453 - 1946	5	0	103	47.3	.0	7.8	.0	.0	.0	7.8	.0	287.2	284.0	CRAWFORD St
1946 - 3178	5	3	20	47.3	2.7	1.5	27.0	7.0	.0	8.5	27.0	295.7	311.0	CRAWFORD ST
3178 - 3016	4	0	20	39.4	.0	1.8	.0	.0	.0	1.8	.0	297.5	311.0	CRAWFORD ST
3016 - 3319	4	0	69	39.4	.0	6.3	.0	.0	.0	6.3	.0	303.8	311.0	CRAWFORD ST
3319 - 3017	4	0	69	39.5	.0	6.3	.0	.0	.0	6.3	.0	310.1	311.0	CRAWFORD ST
3017 - 1904	4	0	10	39.5	2.8	.9	13.0	.0	.0	.9	13.0	311.0	324.0	CRAWFORD ST
1904 - 3018	5	0	9	49.4	.0	.7	.0	.0	.0	.7	.0	311.7	324.0	THORPE Ave
3018 - 3328	5	0	87	49.4	.0	6.3	.0	.0	.0	6.3	.0	318.0	324.0	THORPE Ave
3328 - 3325	5	0	30	49.6	.0	2.2	.0	.0	.0	2.2	.0	320.2	324.0	THORPE Ave
3325 - 1281	5	0	148	49.6	23.2	10.7	23.0	.0	.0	10.7	23.0	331.0	347.0	THORPE Ave

Modelled Totals	4069	44.3		260.0		71.0		331.0						
Observed Totals				.0		347.0		.0		347.0				

Observed Journey Time =	347.00	Implied Average Speed =	42.2
Modelled Journey Time =	330.96	Modelled Average Speed =	44.3
	95.38%		104.85%

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| TRACKS - 28-Jun-08 @ 12:32:10                                     |
+-----+
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|                                                                 |
+-----+

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Gabites Porter  
Christchurch

Journey 4 Movement Analysis - times in seconds

Route2WB

Link	Types	Dist	Mdl	Obs	Mdl	Obs	Mdl	Obs	Mdl	Obs	Accum	Accum	Street Name
	Lnk Ap	(m)	Spd	Spd	Time	Time	Delay	Delay	Total	Total	Mdl	Time	
1281 - 3325	5 0	148	49.8	.0	10.7	.0	.0	.0	10.7	.0	10.7	.0	THORPE Ave
3325 - 3328	5 0	30	49.8	.0	2.2	.0	.0	.0	2.2	.0	12.9	.0	THORPE Ave
3328 - 3018	5 0	87	49.5	.0	6.3	.0	.0	.0	6.3	.0	19.2	.0	THORPE Ave
3018 - 1904	5 0	9	49.5	1.3	.7	25.0	.0	.0	.7	25.0	19.8	25.0	THORPE Ave
1904 - 3017	4 0	10	39.6	.0	.9	.0	.0	.0	.9	.0	20.8	25.0	CRAWFORD ST
3017 - 3319	4 0	69	39.6	.0	6.3	.0	.0	.0	6.3	.0	27.0	25.0	CRAWFORD ST
3319 - 3016	4 0	69	39.6	.0	6.3	.0	.0	.0	6.3	.0	33.3	25.0	CRAWFORD ST
3016 - 3178	4 3	20	39.6	4.5	1.8	16.0	11.0	.0	12.8	16.0	46.1	41.0	CRAWFORD ST
3178 - 1946	5 0	20	48.6	.0	1.5	.0	.0	.0	1.5	.0	47.6	41.0	CRAWFORD ST
1946 - 1453	5 0	103	48.6	.0	7.6	.0	2.0	.0	9.6	.0	57.2	41.0	CRAWFORD St
1453 - 3478	14 0	13	43.6	.0	1.1	.0	.0	.0	1.1	.0	58.3	41.0	CRAWFORD St
3478 - 1452	14 0	81	43.4	.0	6.7	.0	.0	.0	6.7	.0	65.0	41.0	CRAWFORD St
1452 - 2264	14 0	10	43.4	.0	.8	.0	.0	.0	.8	.0	65.9	41.0	CRAWFORD St
2264 - 1492	5 7	5	48.3	.8	.4	24.0	31.0	7.0	31.4	31.0	97.2	72.0	CRAWFORD St
1492 - 2307	6 0	5	59.4	.0	.3	.0	.0	.0	.3	.0	97.5	72.0	CRAWFORD St
2307 - 2516	6 0	13	59.4	.0	.8	.0	.0	.0	.8	.0	98.3	72.0	CRAWFORD St
2516 - 2515	6 0	33	59.4	.0	2.0	.0	.0	.0	2.0	.0	100.3	72.0	CRAWFORD ST
2515 - 3435	6 0	71	59.3	.0	4.3	.0	.0	.0	4.3	.0	104.6	72.0	CRAWFORD ST
3435 - 2514	6 0	107	59.3	.0	6.5	.0	.0	.0	6.5	.0	111.1	72.0	CRAWFORD ST
2514 - 1900	6 0	6	59.3	.0	.4	.0	.0	.0	.4	.0	111.5	72.0	CRAWFORD ST
1900 - 1899	6 7	4	59.3	.8	.2	19.0	23.0	31.0	23.2	50.0	134.7	122.0	CRAWFORD ST
1899 - 1991	6 0	4	58.6	.0	.2	.0	.0	.0	.2	.0	135.0	122.0	CRAWFORD ST
1991 - 3020	6 0	7	58.6	.0	.4	.0	.0	.0	.4	.0	135.4	122.0	CRAWFORD ST
3020 - 3309	6 0	106	58.6	.0	6.5	.0	.0	.0	6.5	.0	141.9	122.0	CRAWFORD St
3309 - 3019	6 0	106	58.5	.0	6.5	.0	.0	.0	6.5	.0	148.4	122.0	CRAWFORD St
3019 - 1993	6 0	8	58.5	.0	.5	.0	.0	.0	.5	.0	148.9	122.0	CRAWFORD St
1993 - 1992	6 0	5	58.5	.0	.3	.0	.0	.0	.3	.0	149.2	122.0	CRAWFORD St
1992 - 1994	6 0	4	58.7	.0	.2	.0	.0	.0	.2	.0	149.5	122.0	CRAWFORD St
1994 - 3024	6 0	10	58.7	.0	.6	.0	.0	.0	.6	.0	150.1	122.0	CRAWFORD St
3024 - 3443	6 0	82	58.7	.0	5.0	.0	.0	.0	5.0	.0	155.1	122.0	CRAWFORD St
3443 - 3027	6 0	120	58.7	.0	7.4	.0	.0	.0	7.4	.0	162.5	122.0	CRAWFORD St
3027 - 1996	6 0	14	58.7	.0	.9	.0	.0	.0	.9	.0	163.3	122.0	CRAWFORD ST
1996 - 1995	6 0	6	58.7	.6	.4	35.0	.0	.0	.4	35.0	163.7	157.0	CRAWFORD ST
1995 - 1997	6 0	6	58.5	.0	.4	.0	.0	.0	.4	.0	164.1	157.0	CRAWFORD ST
1997 - 3025	6 0	19	58.5	.0	1.2	.0	.0	.0	1.2	.0	165.3	157.0	CRAWFORD ST
3025 - 2000	6 0	70	58.5	.0	4.3	.0	.0	.0	4.3	.0	169.6	157.0	CRAWFORD ST
2000 - 2093	6 0	7	58.5	.0	.4	.0	.0	.0	.4	.0	170.0	157.0	CRAWFORD ST
2093 - 2092	6 0	4	58.5	.0	.2	.0	.0	.0	.2	.0	170.2	157.0	CRAWFORD ST
2092 - 2094	6 0	4	58.6	.0	.2	.0	.0	.0	.2	.0	170.5	157.0	CRAWFORD ST
2094 - 1998	6 0	7	58.6	.0	.4	.0	.0	.0	.4	.0	170.9	157.0	CRAWFORD ST
1998 - 2256	6 0	116	58.6	.0	7.1	.0	2.4	.0	9.5	.0	180.4	157.0	CRAWFORD
2256 - 1451	6 0	61	57.2	.0	3.8	.0	.0	.0	3.8	.0	184.3	157.0	URIARRA Rd
1451 - 2259	6 0	72	57.4	.0	4.5	.0	.6	.0	5.1	.0	189.4	157.0	URIARRA Rd
2259 - 2020	6 0	6	57.4	.8	.4	26.0	.0	.0	.4	26.0	189.8	183.0	URIARRA Rd
2020 - 3057	6 0	228	57.6	.0	14.3	.0	.0	.0	14.3	.0	204.0	183.0	URIARRA Rd
3057 - 1111	5 0	13	47.3	2.6	1.0	18.0	.0	.0	1.0	18.0	205.0	201.0	URIARRA Rd
1111 - 3056	5 0	12	47.2	.0	.9	.0	.0	.0	.9	.0	205.9	201.0	URIARRA Rd
3056 - 1771	5 0	21	47.2	.0	1.6	.0	.0	.0	1.6	.0	207.5	201.0	URIARRA Rd

1771 - 1772	6	0	152	57.9	.0	9.5	.0	.0	.0	9.5	.0	217.0	201.0	URIARRA Rd
1772 - 1734	6	0	75	58.0	.0	4.7	.0	.0	.0	4.7	.0	221.6	201.0	URIARRA Rd
1734 - 1735	6	0	39	57.8	.0	2.4	.0	.0	.0	2.4	.0	224.1	201.0	URIARRA Rd
1735 - 3058	6	0	119	57.6	.0	7.4	.0	.0	.0	7.4	.0	231.5	201.0	URIARRA Rd
3058 - 1440	5	0	15	47.3	1.9	1.1	29.0	.0	.0	1.1	29.0	232.6	230.0	URIARRA Rd
1440 - 3059	5	0	10	47.5	.0	.8	.0	.0	.0	.8	.0	233.4	230.0	URIARRA Rd
3059 - 1246	6	0	129	57.8	.0	8.0	.0	.0	.0	8.0	.0	241.4	230.0	URIARRA Rd
1246 - 1179	6	0	74	57.8	.0	4.6	.0	.0	.0	4.6	.0	246.0	230.0	URIARRA Rd
1179 - 1416	6	0	142	57.7	.0	8.9	.0	.0	.0	8.9	.0	254.9	230.0	URIARRA Rd
1416 - 1773	6	0	82	57.7	.0	5.1	.0	.0	.0	5.1	.0	260.0	230.0	URIARRA Rd
1773 - 1774	6	0	90	57.7	.0	5.6	.0	.0	.0	5.6	.0	265.6	230.0	URIARRA Rd
1774 - 3173	6	3	24	57.7	2.0	1.5	44.0	16.0	.0	17.5	44.0	283.1	274.0	URIARRA Rd
3173 - 1730	6	0	25	57.3	.0	1.6	.0	.0	.0	1.6	.0	284.7	274.0	URIARRA Rd
1730 - 1731	7	0	139	67.8	.0	7.4	.0	.0	.0	7.4	.0	292.1	274.0	URIARRA Rd
1731 - 2021	7	0	28	67.8	.0	1.5	.0	.0	.0	1.5	.0	293.6	274.0	URIARRA Rd
2021 - 6255	7	0	92	67.8	.0	4.9	.0	.0	.0	4.9	.0	298.5	274.0	
6255 - 6256	7	0	52	67.8	7.8	2.8	24.0	.0	.0	2.8	24.0	301.2	298.0	
6256 - 7989	7	0	483	67.7	.0	25.7	.0	.0	.0	25.7	.0	326.9	298.0	
7989 - 8001	6	2	635	57.3	40.8	39.9	56.0	7.9	.0	47.8	56.0	374.7	354.0	
Modelled Totals			4436	42.6		280.8		93.9		374.7				
Observed Totals					.0		340.0		.0		340.0			
Observed Journey Time =			340.00			Implied Average Speed =	47.0							
Modelled Journey Time =			374.70			Modelled Average Speed =	42.6							
			110.20%				90.74%							

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| TRACKS - 28-Jun-08 @ 12:32:10                                     |
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+-----+

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| Gabites Porter |
| Christchurch   |
+-----+

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Journey 5 Movement Analysis - times in seconds

Route3EB

Link	Types	Dist	Mdl	Obs	Mdl	Obs	Mdl	Obs	Mdl	Obs	Accum	Accum	Street Name
	Lnk Ap	(m)	Spd	Spd	Time	Time	Delay	Delay	Total	Total	Mdl	Time	
6426 - 6289	8 0	19	76.5	.0	.9	.0	.0	.0	.9	.0	.9	.0	
6289 - 6333	8 0	16	77.0	.0	.7	.0	.0	.0	.7	.0	1.6	.0	
6333 - 6493	8 0	84	77.3	.0	3.9	.0	3.3	.0	7.2	.0	8.9	.0	
6493 - 6495	5 0	482	38.2	.0	45.4	.0	.0	.0	45.4	.0	54.3	.0	
6495 - 6334	5 4	191	46.3	.0	14.9	.0	9.9	.0	24.8	.0	79.0	.0	
6334 - 7063	5 0	15	46.1	.7	1.2	82.0	.0	.0	1.2	82.0	80.2	82.0	
7063 - 6330	8 0	19	76.5	.0	.9	.0	10.0	.0	10.9	.0	91.1	82.0	
6330 - 6496	5 0	111	47.8	.0	8.4	.0	2.5	.0	10.9	.0	102.0	82.0	
6496 - 3454	5 3	469	45.8	45.6	36.9	37.0	7.0	.0	43.9	37.0	145.8	119.0	
3454 - 3456	5 3	679	45.8	64.3	53.4	38.0	11.3	.0	64.7	38.0	210.5	157.0	
3456 - 8206	9 0	894	86.0	59.6	37.4	54.0	.0	.0	37.4	54.0	247.9	211.0	
8206 - 7281	9 0	3257	85.8	79.8	136.7	147.0	.0	.0	136.7	147.0	384.6	358.0	
7281 - 6329	9 0	662	86.7	.0	27.5	.0	.0	.0	27.5	.0	412.1	358.0	
6329 - 7028	9 0	729	86.8	.0	30.2	.0	.0	.0	30.2	.0	442.3	358.0	
7028 - 2638	8 0	141	76.4	.0	6.6	.0	.0	.0	6.6	.0	448.9	358.0	
2638 - 3189	7 0	37	66.5	.0	2.0	.0	.0	.0	2.0	.0	450.9	358.0	YASS Rd
3189 - 3192	6 0	6	55.7	.0	.4	.0	.0	.0	.4	.0	451.3	358.0	YASS Rd
3192 - 3191	6 0	5	55.7	.0	.3	.0	.0	.0	.3	.0	451.7	358.0	YASS Rd
3191 - 3193	6 0	4	57.9	.0	.2	.0	.0	.0	.2	.0	451.9	358.0	YASS Rd
3193 - 3188	6 0	7	57.9	.0	.4	.0	.0	.0	.4	.0	452.3	358.0	YASS Rd
3188 - 3233	6 0	214	57.9	.0	13.3	.0	.0	.0	13.3	.0	465.6	358.0	YASS RD
3233 - 3236	6 0	8	57.9	.0	.5	.0	.0	.0	.5	.0	466.1	358.0	YASS Rd
3236 - 3235	6 0	7	57.9	.0	.4	.0	.0	.0	.4	.0	466.6	358.0	YASS Rd
3235 - 3237	6 0	5	57.9	.0	.3	.0	.0	.0	.3	.0	466.9	358.0	YASS Rd
3237 - 3232	6 0	9	57.9	.0	.6	.0	.0	.0	.6	.0	467.4	358.0	YASS Rd
3232 - 3226	6 0	29	57.9	.0	1.8	.0	.0	.0	1.8	.0	469.2	358.0	YASS RD
3226 - 3229	6 0	8	57.9	.0	.5	.0	.0	.0	.5	.0	469.7	358.0	YASS Rd
3229 - 3228	6 0	7	57.9	.3	.4	94.0	.0	9.0	.4	103.0	470.2	461.0	YASS Rd
3228 - 3230	6 0	6	57.7	.0	.4	.0	.0	.0	.4	.0	470.6	461.0	YASS Rd
3230 - 3225	6 0	10	57.7	.0	.6	.0	.0	.0	.6	.0	471.2	461.0	YASS Rd
3225 - 1798	6 0	176	57.7	.0	11.0	.0	.0	.0	11.0	.0	482.2	461.0	YASS RD
1798 - 1893	6 0	10	57.7	.0	.6	.0	.0	.0	.6	.0	482.8	461.0	YASS Rd
1893 - 1894	6 0	11	57.7	.0	.7	.0	.0	.0	.7	.0	483.5	461.0	YASS Rd
1894 - 1892	6 0	8	57.3	.0	.5	.0	.0	.0	.5	.0	484.0	461.0	YASS Rd
1892 - 1891	6 0	10	57.3	.0	.6	.0	.0	.0	.6	.0	484.6	461.0	YASS Rd
1891 - 2635	6 0	173	57.3	.0	10.9	.0	.0	.0	10.9	.0	495.5	461.0	YASS RD
2635 - 1797	6 0	6	57.3	.0	.4	.0	.0	.0	.4	.0	495.8	461.0	YASS RD
1797 - 1792	6 0	3	57.3	.0	.2	.0	.0	.0	.2	.0	496.0	461.0	YASS RD
1792 - 1795	6 0	7	57.9	.0	.4	.0	.0	.0	.4	.0	496.5	461.0	YASS RD
1795 - 1793	6 0	11	57.9	.0	.7	.0	.0	.0	.7	.0	497.2	461.0	YASS RD
1793 - 2634	6 0	70	57.9	.0	4.4	.0	.0	.0	4.4	.0	501.5	461.0	YASS RD
2634 - 1695	6 0	73	57.9	.0	4.5	.0	.0	.0	4.5	.0	506.0	461.0	YASS RD
1695 - 1699	6 0	12	57.9	.0	.7	.0	.0	.0	.7	.0	506.8	461.0	YASS RD
1699 - 1791	6 0	6	57.9	.6	.4	38.0	.0	.0	.4	38.0	507.2	499.0	YASS RD
1791 - 1700	15 0	5	53.1	.0	.3	.0	.0	.0	.3	.0	507.5	499.0	YASS RD
1700 - 1698	15 0	13	53.1	.0	.9	.0	.0	.0	.9	.0	508.4	499.0	YASS RD
1698 - 1600	15 0	206	53.1	.0	14.0	.0	.0	.0	14.0	.0	522.4	499.0	YASS RD
1600 - 1692	15 0	17	53.1	.0	1.2	.0	.0	.0	1.2	.0	523.5	499.0	YASS RD

1692 - 1694	15	0	11	53.1	.0	.7	.0	.0	.0	.7	.0	524.2	499.0	YASS RD
1694 - 1693	15	0	9	53.1	.0	.6	.0	.0	.0	.6	.0	524.9	499.0	YASS RD
1693 - 1598	15	0	18	53.1	.0	1.2	.0	.0	.0	1.2	.0	526.1	499.0	YASS RD
1598 - 2757	15	0	28	53.1	.0	1.9	.0	.0	.0	1.9	.0	528.0	499.0	YASS RD
2757 - 2484	15	4	114	53.1	10.8	7.7	38.0	19.0	10.0	26.7	48.0	554.7	547.0	YASS RD
2484 - 2633	6	0	22	58.0	.0	1.4	.0	.0	.0	1.4	.0	556.1	547.0	ELLERTON DR/BUNGENDOR
2633 - 2309	6	0	7	58.0	.0	.4	.0	.0	.0	.4	.0	556.5	547.0	ELLERTON DR/BUNGENDOR
2309 - 1374	6	0	20	56.9	.0	1.3	.0	.0	.0	1.3	.0	557.8	547.0	ELLERTON DR/BUNGENDOR
1374 - 2301	6	0	8	56.9	.0	.5	.0	.0	.0	.5	.0	558.3	547.0	ELLERTON DR/BUNGENDOR
2301 - 1727	6	0	20	57.1	.0	1.3	.0	.0	.0	1.3	.0	559.5	547.0	ELLERTON DR/BUNGENDOR
1727 - 1726	6	0	178	57.1	.0	11.2	.0	.0	.0	11.2	.0	570.8	547.0	BUNGENDORE St
1726 - 2017	6	4	215	57.1	14.6	13.6	53.0	19.2	.0	32.8	53.0	603.5	600.0	MONARO St
2017 - 2979	6	0	10	55.6	.0	.6	.0	.0	.0	.6	.0	604.2	600.0	MONARO St
2979 - 2983	6	0	19	57.4	.0	1.2	.0	.0	.0	1.2	.0	605.4	600.0	MONARO St
2983 - 2019	6	0	13	56.0	.0	.8	.0	.0	.0	.8	.0	606.2	600.0	MONARO St
2019 - 1594	6	0	50	57.0	.0	3.2	.0	.0	.0	3.2	.0	609.3	600.0	MONARO St
1594 - 2018	15	0	265	47.8	.0	20.0	.0	.0	.0	20.0	.0	629.3	600.0	MONARO St
2018 - 1593	15	0	198	47.8	23.0	14.9	31.0	.0	.0	14.9	31.0	644.2	631.0	MONARO St
1593 - 2189	15	0	18	47.8	.0	1.4	.0	.0	.0	1.4	.0	645.6	631.0	MONARO St
2189 - 3441	15	0	43	51.5	.0	3.0	.0	.0	.0	3.0	.0	648.6	631.0	MONARO St
3441 - 1496	15	0	95	51.5	.0	6.6	.0	.0	.0	6.6	.0	655.2	631.0	MONARO St
1496 - 1498	15	0	9	51.5	.0	.6	.0	.0	.0	.6	.0	655.9	631.0	MONARO St
1498 - 1492	15	6	6	51.5	.6	.4	34.0	21.0	9.0	21.4	43.0	677.3	674.0	MONARO St
1492 - 2264	5	0	5	47.1	.0	.4	.0	.0	.0	.4	.0	677.7	674.0	CRAWFORD St
2264 - 1452	14	0	10	42.3	.0	.9	.0	.0	.0	.9	.0	678.5	674.0	CRAWFORD St
1452 - 3478	14	0	81	42.3	.0	6.9	.0	.0	.0	6.9	.0	685.4	674.0	CRAWFORD St
3478 - 1453	14	0	13	42.4	.0	1.1	.0	.0	.0	1.1	.0	686.5	674.0	CRAWFORD St
1453 - 1946	5	0	103	47.3	.0	7.8	.0	.0	.0	7.8	.0	694.3	674.0	CRAWFORD St
1946 - 3178	5	3	20	47.3	3.0	1.5	24.0	7.0	.0	8.5	24.0	702.9	698.0	CRAWFORD ST
3178 - 3016	4	0	20	39.4	.0	1.8	.0	.0	.0	1.8	.0	704.7	698.0	CRAWFORD ST
3016 - 3319	4	0	69	39.4	.0	6.3	.0	.0	.0	6.3	.0	711.0	698.0	CRAWFORD ST
3319 - 3017	4	0	69	39.5	.0	6.3	.0	.0	.0	6.3	.0	717.3	698.0	CRAWFORD ST
3017 - 1904	4	0	10	39.5	2.0	.9	18.0	.0	.0	.9	18.0	718.2	716.0	CRAWFORD ST
1904 - 3018	5	0	9	49.4	.0	.7	.0	.0	.0	.7	.0	718.9	716.0	THORPE Ave
3018 - 3328	5	0	87	49.4	.0	6.3	.0	.0	.0	6.3	.0	725.2	716.0	THORPE Ave
3328 - 3325	5	0	30	49.6	.0	2.2	.0	.0	.0	2.2	.0	727.4	716.0	THORPE Ave
3325 - 1281	5	0	148	49.6	22.2	10.7	24.0	.0	.0	10.7	24.0	738.1	740.0	THORPE Ave
Modelled Totals	10997		53.6		627.9		110.2			738.1				
Observed Totals				.0		739.0			.0		739.0			
Observed Journey Time =		739.00			Implied Average Speed =	53.6								
Modelled Journey Time =		738.11			Modelled Average Speed =	53.6								
		99.88%				100.12%								

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| TRACKS - 28-Jun-08 @ 12:32:10                                     |
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Gabites Porter  
Christchurch

Journey 6 Movement Analysis - times in seconds

Route3WB

Link	Types	Dist	Mdl	Obs	Mdl	Obs	Mdl	Obs	Mdl	Obs	Accum	Accum	Street Name
	Lnk Ap	(m)	Spd	Spd	Time	Time	Delay	Delay	Total	Total	Mdl	Time	
1281 - 3325	5 0	148	49.8	.0	10.7	.0	.0	.0	10.7	.0	10.7	.0	THORPE Ave
3325 - 3328	5 0	30	49.8	.0	2.2	.0	.0	.0	2.2	.0	12.9	.0	THORPE Ave
3328 - 3018	5 0	87	49.5	.0	6.3	.0	.0	.0	6.3	.0	19.2	.0	THORPE Ave
3018 - 1904	5 0	9	49.5	1.2	.7	28.0	.0	.0	.7	28.0	19.8	28.0	THORPE Ave
1904 - 3017	4 0	10	39.6	.0	.9	.0	.0	.0	.9	.0	20.8	28.0	CRAWFORD ST
3017 - 3319	4 0	69	39.6	.0	6.3	.0	.0	.0	6.3	.0	27.0	28.0	CRAWFORD ST
3319 - 3016	4 0	69	39.6	.0	6.3	.0	.0	.0	6.3	.0	33.3	28.0	CRAWFORD ST
3016 - 3178	4 3	20	39.6	4.8	1.8	15.0	11.0	.0	12.8	15.0	46.1	43.0	CRAWFORD ST
3178 - 1946	5 0	20	48.6	.0	1.5	.0	.0	.0	1.5	.0	47.6	43.0	CRAWFORD ST
1946 - 1453	5 0	103	48.6	.0	7.6	.0	2.0	.0	9.6	.0	57.2	43.0	CRAWFORD St
1453 - 3478	14 0	13	43.6	.0	1.1	.0	.0	.0	1.1	.0	58.3	43.0	CRAWFORD St
3478 - 1452	14 0	81	43.4	.0	6.7	.0	.0	.0	6.7	.0	65.0	43.0	CRAWFORD St
1452 - 2264	14 0	10	43.4	.0	.8	.0	.0	.0	.8	.0	65.9	43.0	CRAWFORD St
2264 - 1492	5 7	5	48.3	.7	.4	25.0	36.0	20.0	36.4	45.0	102.2	88.0	CRAWFORD St
1492 - 1498	15 0	6	52.1	.0	.4	.0	.0	.0	.4	.0	102.6	88.0	MONARO St
1498 - 1495	15 0	11	52.1	.0	.8	.0	.0	.0	.8	.0	103.4	88.0	MONARO St
1495 - 3438	15 0	98	52.1	.0	6.8	.0	.0	.0	6.8	.0	110.2	88.0	MONARO St
3438 - 2305	15 0	36	52.1	.0	2.5	.0	.0	.0	2.5	.0	112.7	88.0	MONARO St
2305 - 1593	15 0	19	49.6	.0	1.4	.0	.0	.0	1.4	.0	114.0	88.0	MONARO St
1593 - 2018	15 0	198	49.6	20.4	14.4	35.0	.0	.0	14.4	35.0	128.4	123.0	MONARO St
2018 - 1594	15 0	265	49.6	.0	19.2	.0	.0	.0	19.2	.0	147.6	123.0	MONARO St
1594 - 2304	6 4	51	54.8	8.7	3.4	21.0	14.1	.0	17.5	21.0	165.1	144.0	MONARO St
2304 - 2629	6 0	10	45.9	.0	.8	.0	.0	.0	.8	.0	165.9	144.0	MONARO St
2629 - 1671	6 0	19	57.1	.0	1.2	.0	.0	.0	1.2	.0	167.1	144.0	MONARO St
1671 - 2303	6 0	6	55.5	.0	.4	.0	.0	.0	.4	.0	167.5	144.0	MONARO St
2303 - 2155	6 0	219	57.1	.0	13.8	.0	.0	.0	13.8	.0	181.3	144.0	MONARO St
2155 - 2302	6 0	173	57.1	.0	10.9	.0	.0	.0	10.9	.0	192.2	144.0	BUNGENDORE ST
2302 - 2308	6 4	22	57.1	2.3	1.4	35.0	8.0	.0	9.4	35.0	201.6	179.0	ELLERTON DR/BUNGENDOR
2308 - 1599	15 0	155	53.9	.0	10.4	.0	.0	.0	10.4	.0	211.9	179.0	YASS Rd
1599 - 1693	15 0	16	53.9	.0	1.1	.0	.0	.0	1.1	.0	213.0	179.0	YASS RD
1693 - 1694	15 0	9	53.9	.0	.6	.0	.0	.0	.6	.0	213.6	179.0	YASS RD
1694 - 1692	15 0	11	53.9	.0	.7	.0	.0	.0	.7	.0	214.3	179.0	YASS RD
1692 - 1691	15 0	17	53.9	.0	1.1	.0	.0	.0	1.1	.0	215.5	179.0	YASS RD
1691 - 1697	15 0	205	53.9	.0	13.7	.0	.0	.0	13.7	.0	229.2	179.0	YASS Rd
1697 - 1700	15 0	12	53.9	.0	.8	.0	.0	.0	.8	.0	230.0	179.0	YASS RD
1700 - 1791	15 0	5	53.9	.6	.3	32.0	.0	4.0	.3	36.0	230.3	215.0	YASS RD
1791 - 1699	6 0	6	58.8	.0	.4	.0	.0	.0	.4	.0	230.7	215.0	YASS RD
1699 - 1696	6 0	13	58.8	.0	.8	.0	.0	.0	.8	.0	231.5	215.0	YASS RD
1696 - 1908	6 0	72	58.8	.0	4.4	.0	.0	.0	4.4	.0	235.9	215.0	YASS Rd
1908 - 1794	6 0	70	58.9	.0	4.3	.0	.0	.0	4.3	.0	240.1	215.0	YASS Rd
1794 - 1795	6 0	6	58.9	.0	.4	.0	.0	.0	.4	.0	240.5	215.0	YASS RD
1795 - 1792	6 0	7	58.9	.0	.4	.0	.0	.0	.4	.0	240.9	215.0	YASS RD
1792 - 1797	6 0	3	58.7	.0	.2	.0	.0	.0	.2	.0	241.1	215.0	YASS RD
1797 - 1796	6 0	10	58.7	.0	.6	.0	.0	.0	.6	.0	241.7	215.0	YASS RD
1796 - 1800	6 0	169	58.7	.0	10.4	.0	.0	.0	10.4	.0	252.1	215.0	YASS Rd
1800 - 1892	6 0	10	58.7	.0	.6	.0	.0	.0	.6	.0	252.7	215.0	YASS Rd
1892 - 1894	6 0	8	58.7	.0	.5	.0	.0	.0	.5	.0	253.2	215.0	YASS Rd
1894 - 1893	6 0	11	58.9	.0	.7	.0	.0	.0	.7	.0	253.9	215.0	YASS Rd





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| TRACKS - 28-Jun-08 @ 12:32:10                                     |
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Gabites Porter  
Christchurch

Journey 7 Movement Analysis - times in seconds

Route4NB

Link	Types	Dist	Mdl	Obs	Mdl	Obs	Mdl	Obs	Mdl	Obs	Accum	Accum	Street Name
	Lnk Ap	(m)	Spd	Spd	Time	Time	Delay	Delay	Total	Total	Mdl	Time	
4601 - 4173	8 0	1110	70.7	.0	56.5	.0	.0	.0	56.5	.0	56.5	.0	THARWA RD
4173 - 1770	8 0	249	70.7	15.5	12.7	58.0	.0	.0	12.7	58.0	69.2	58.0	THARWA RD
1770 - 1769	7 0	58	53.9	.0	3.9	.0	.0	.0	3.9	.0	73.1	58.0	THARWA RD
1769 - 2276	7 0	31	53.9	.0	2.1	.0	.0	.0	2.1	.0	75.1	58.0	THARWA RD
2276 - 1096	7 4	10	66.7	1.7	.5	21.0	18.1	.0	18.6	21.0	93.8	79.0	THARWA RD
1096 - 2488	7 0	49	66.3	.0	2.7	.0	.0	.0	2.7	.0	96.4	79.0	LANYON Dr
2488 - 2408	7 0	13	68.4	.0	.7	.0	.0	.0	.7	.0	97.1	79.0	LANYON DR RBT
2408 - 2407	9 0	31	88.4	.0	1.3	.0	.0	.0	1.3	.0	98.4	79.0	LANYON Dr
2407 - 1093	9 0	1549	88.4	.0	63.1	.0	.0	.0	63.1	.0	161.5	79.0	LANYON Dr
1093 - 3145	9 0	32	88.5	.0	1.3	.0	.0	.0	1.3	.0	162.8	79.0	LANYON Dr
3145 - 3150	9 0	7	88.5	.0	.3	.0	.0	.0	.3	.0	163.1	79.0	LANYON Dr
3150 - 3149	9 0	5	88.5	.2	.2	84.0	.0	.0	.2	84.0	163.3	163.0	LANYON Dr
3149 - 3151	9 0	6	88.5	.0	.2	.0	.0	.0	.2	.0	163.5	163.0	LANYON Dr
3151 - 3146	9 0	8	88.5	.0	.3	.0	.0	.0	.3	.0	163.8	163.0	LANYON Dr
3146 - 1094	9 0	8	88.5	.0	.3	.0	.0	.0	.3	.0	164.2	163.0	LANYON Dr
1094 - 3140	9 0	183	88.5	.0	7.4	.0	.0	.0	7.4	.0	171.6	163.0	LANYON Dr
3140 - 3143	9 0	10	88.5	.0	.4	.0	.0	.0	.4	.0	172.0	163.0	LANYON Dr
3143 - 3142	9 0	6	88.5	.0	.2	.0	.0	.0	.2	.0	172.3	163.0	LANYON Dr
3142 - 3144	9 0	6	88.5	.0	.2	.0	.0	.0	.2	.0	172.5	163.0	LANYON Dr
3144 - 3141	9 0	12	88.5	.0	.5	.0	.0	.0	.5	.0	173.0	163.0	LANYON Dr
3141 - 2187	9 0	14	88.5	.0	.6	.0	.0	.0	.6	.0	173.6	163.0	LANYON Dr
2187 - 1092	9 0	177	88.5	.0	7.2	.0	.0	.0	7.2	.0	180.8	163.0	LANYON Dr
1092 - 2013	9 0	225	88.5	.0	9.2	.0	.0	.0	9.2	.0	189.9	163.0	LANYON Dr
2013 - 3131	9 0	14	88.5	.0	.6	.0	.0	.0	.6	.0	190.5	163.0	LANYON DR
3131 - 3136	9 0	10	88.6	.0	.4	.0	.0	.0	.4	.0	190.9	163.0	LANYON Dr
3136 - 3135	9 0	5	88.6	.0	.2	.0	.0	.0	.2	.0	191.1	163.0	LANYON Dr
3135 - 3137	18 0	5	83.4	.0	.2	.0	.0	.0	.2	.0	191.3	163.0	LANYON Dr
3137 - 3132	18 0	10	83.4	.0	.4	.0	.0	.0	.4	.0	191.7	163.0	LANYON Dr
3132 - 3208	18 0	82	83.2	.0	3.5	.0	.0	.0	3.5	.0	195.3	163.0	LANYON Dr
3208 - 2014	18 0	148	83.2	.0	6.4	.0	.0	.0	6.4	.0	201.7	163.0	LANYON Dr
2014 - 2828	18 4	20	83.2	1.6	.9	45.0	12.3	.0	13.2	45.0	214.8	208.0	LANYON DR
2828 - 2826	8 0	38	77.9	.0	1.8	.0	.0	.0	1.8	.0	216.6	208.0	LANYON DR RBT
2826 - 2265	6 0	20	57.8	.0	1.2	.0	.0	.0	1.2	.0	217.9	208.0	LANYON DR
2265 - 3206	6 0	503	57.8	.0	31.3	.0	.0	.0	31.3	.0	249.2	208.0	LANYON Dr
3206 - 3127	6 0	83	57.8	.0	5.2	.0	.0	.0	5.2	.0	254.3	208.0	LANYON Dr
3127 - 3129	6 0	10	57.8	.0	.6	.0	.0	.0	.6	.0	255.0	208.0	LANYON Dr
3129 - 3128	6 0	6	57.8	.5	.4	42.0	.0	.0	.4	42.0	255.3	250.0	LANYON Dr
3128 - 3130	6 0	8	57.5	.0	.5	.0	.0	.0	.5	.0	255.8	250.0	LANYON Dr
3130 - 3125	6 0	12	57.5	.0	.8	.0	.0	.0	.8	.0	256.6	250.0	LANYON Dr
3125 - 2250	6 4	199	57.5	35.8	12.5	20.0	14.3	.0	26.8	20.0	283.4	270.0	LANYON Dr

Modelled Totals	4972	63.2		238.7		44.7		283.4	
Observed Totals				.0		270.0		.0	270.0

Observed Journey Time = 270.00      Implied Average Speed = 66.3  
 Modelled Journey Time = 283.36      Modelled Average Speed = 63.2  
 104.95%                                      95.29%

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| TRACKS - 28-Jun-08 @ 12:32:10                               Gabites Porter |
|                                                                Christchurch  |
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Journey 8 Movement Analysis - times in seconds

Route4SB

Link	Types	Dist	Mdl	Obs	Mdl	Obs	Mdl	Obs	Mdl	Obs	Accum	Accum	Street Name
	Lnk Ap	(m)	Spd	Spd	Time	Time	Delay	Delay	Total	Total	Mdl	Time	
1987 - 1091	6 0	121	55.1	.0	7.9	.0	.0	.0	7.9	.0	7.9	.0	LANYON Dr
1091 - 3124	6 0	120	56.3	.0	7.7	.0	.0	.0	7.7	.0	15.6	.0	LANYON Dr
3124 - 3130	6 0	13	56.3	.0	.8	.0	.0	.0	.8	.0	16.4	.0	LANYON Dr
3130 - 3128	6 0	8	56.3	2.1	.5	14.0	.0	.0	.5	14.0	16.9	14.0	LANYON Dr
3128 - 3129	6 0	6	56.4	.0	.4	.0	.0	.0	.4	.0	17.3	14.0	LANYON Dr
3129 - 3126	6 0	11	56.4	.0	.7	.0	.0	.0	.7	.0	18.0	14.0	LANYON Dr
3126 - 3207	6 0	82	56.4	.0	5.2	.0	.0	.0	5.2	.0	23.2	14.0	LANYON Dr
3207 - 2262	6 0	504	56.4	.0	32.2	.0	.0	.0	32.2	.0	55.4	14.0	LANYON Dr
2262 - 2825	6 4	21	56.4	1.7	1.3	44.0	14.0	.0	15.3	44.0	70.8	58.0	LANYON DR
2825 - 2823	8 0	10	76.8	.0	.5	.0	.0	.0	.5	.0	71.2	58.0	LANYON DR RBT
2823 - 2824	8 0	17	78.1	.0	.8	.0	.0	.0	.8	.0	72.0	58.0	LANYON DR RBT
2824 - 2827	8 0	8	77.2	.0	.4	.0	.0	.0	.4	.0	72.4	58.0	LANYON DR RBT
2827 - 1767	18 0	21	82.6	.0	.9	.0	.0	.0	.9	.0	73.3	58.0	LANYON DR
1767 - 3209	18 0	147	82.6	.0	6.4	.0	.0	.0	6.4	.0	79.7	58.0	LANYON Dr
3209 - 3133	18 0	82	82.6	.0	3.6	.0	.0	.0	3.6	.0	83.3	58.0	LANYON Dr
3133 - 3137	18 0	12	82.6	.0	.5	.0	.0	.0	.5	.0	83.8	58.0	LANYON Dr
3137 - 3135	18 0	5	82.6	.0	.2	.0	5.0	.0	5.2	.0	89.0	58.0	LANYON Dr
3135 - 3136	9 0	5	87.9	.0	.2	.0	.0	.0	.2	.0	89.2	58.0	LANYON Dr
3136 - 3134	9 0	8	87.9	.0	.3	.0	.0	.0	.3	.0	89.5	58.0	LANYON Dr
3134 - 1768	9 0	25	87.9	.0	1.0	.0	.0	.0	1.0	.0	90.6	58.0	LANYON Dr
1768 - 2188	9 0	412	87.9	.0	16.9	.0	.0	.0	16.9	.0	107.4	58.0	LANYON Dr
2188 - 3144	9 0	11	87.9	.0	.5	.0	.0	.0	.5	.0	107.9	58.0	LANYON Dr
3144 - 3142	9 0	6	87.9	.0	.2	.0	.0	.0	.2	.0	108.1	58.0	LANYON Dr
3142 - 3143	9 0	6	87.9	.0	.2	.0	.0	.0	.2	.0	108.4	58.0	LANYON Dr
3143 - 3139	9 0	11	87.9	.0	.5	.0	.0	.0	.5	.0	108.8	58.0	LANYON Dr
3139 - 3147	9 0	187	87.9	.0	7.7	.0	.0	.0	7.7	.0	116.5	58.0	-- no name --
3147 - 3151	9 0	10	87.9	.0	.4	.0	.0	.0	.4	.0	116.9	58.0	LANYON Dr
3151 - 3149	9 0	6	87.9	.6	.2	39.0	.0	.0	.2	39.0	117.2	97.0	LANYON Dr
3149 - 3150	9 0	5	87.9	.0	.2	.0	.0	.0	.2	.0	117.4	97.0	LANYON Dr
3150 - 3148	9 0	9	87.9	.0	.4	.0	.0	.0	.4	.0	117.7	97.0	LANYON Dr
3148 - 2409	9 0	1571	87.9	.0	64.3	.0	.0	.0	64.3	.0	182.1	97.0	LANYON Dr
2409 - 2410	9 0	42	88.3	.0	1.7	.0	.0	.0	1.7	.0	183.8	97.0	LANYON Dr
2410 - 2485	7 4	9	68.3	.4	.5	86.0	34.5	27.0	35.0	113.0	218.8	210.0	LANYON Dr
2485 - 1097	7 0	7	66.2	.0	.4	.0	.0	.0	.4	.0	219.1	210.0	LANYON Dr
1097 - 2486	7 0	17	68.4	.0	.9	.0	.0	.0	.9	.0	220.0	210.0	LANYON Dr
2486 - 1098	7 0	17	68.4	.0	.9	.0	.0	.0	.9	.0	220.9	210.0	LANYON Dr
1098 - 1095	7 0	16	67.1	.0	.9	.0	.0	.0	.9	.0	221.8	210.0	LANYON Dr
1095 - 2276	7 0	9	67.5	.0	.5	.0	.0	.0	.5	.0	222.3	210.0	THARWA RD
2276 - 1769	7 0	31	65.2	.0	1.7	.0	.0	.0	1.7	.0	224.0	210.0	THARWA RD
1769 - 1770	7 0	58	65.2	.0	3.2	.0	.0	.0	3.2	.0	227.2	210.0	THARWA RD
1770 - 4173	8 0	249	75.1	33.2	11.9	27.0	.0	.0	11.9	27.0	239.1	237.0	THARWA RD
4173 - 4601	8 0	1110	75.1	68.9	53.2	58.0	.9	.0	54.1	58.0	293.2	295.0	THARWA RD

```

Modelled Totals      5025  61.7      238.8      54.4      293.2
Observed Totals          .0          295.0          .0          295.0

```

```

Observed Journey Time = 295.00      Implied Average Speed = 61.3
Modelled Journey Time = 293.22      Modelled Average Speed = 61.7
                                99.40%                                100.61%
JURNEY terminated successfully

```