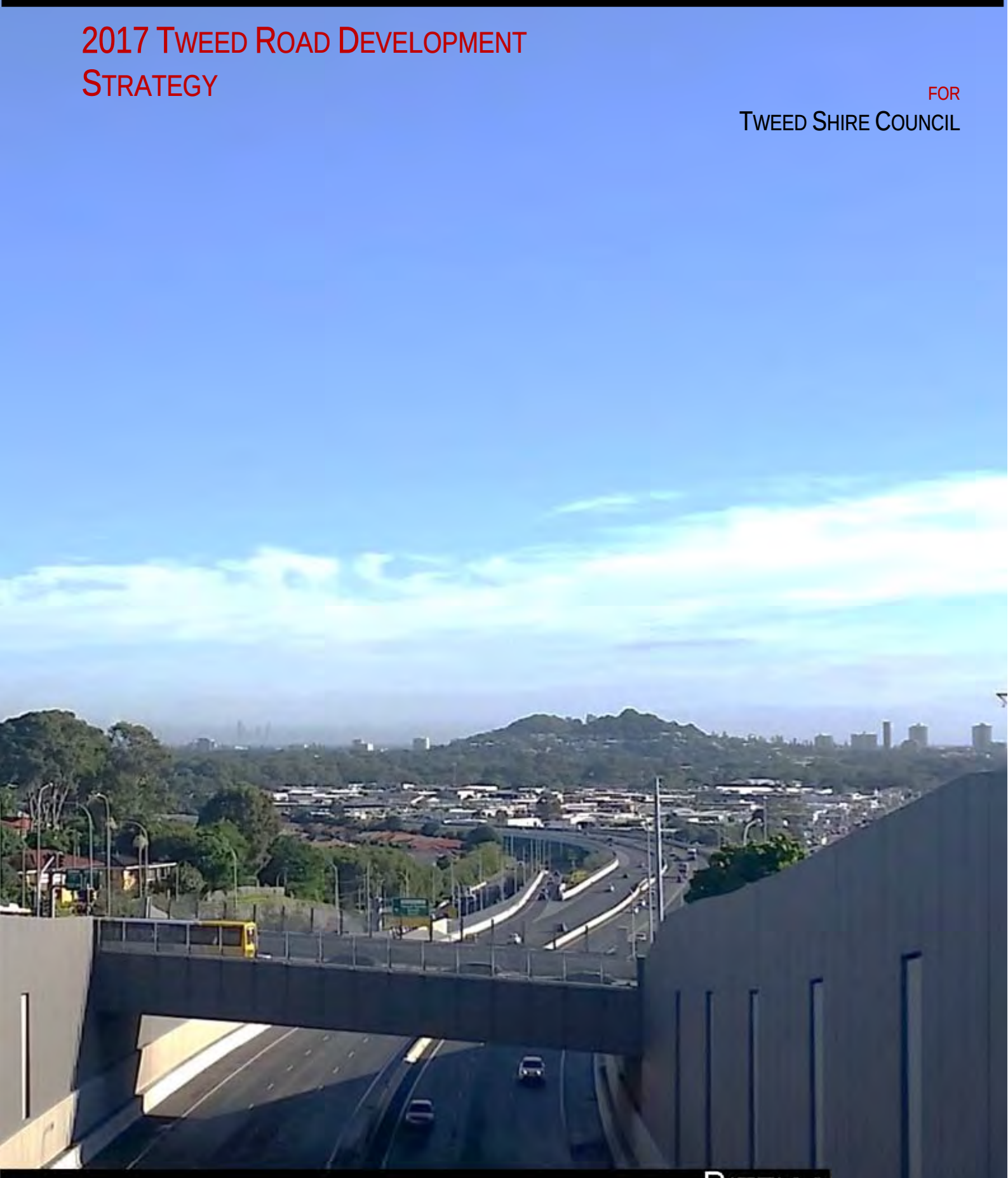
2017 TWEED ROAD DEVELOPMENT STRATEGY

FOR

TWEED SHIRE COUNCIL



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EXECUTIVE SUMMARY

BACKGROUND

The current Tweed Road Development Strategy (TRDS) was developed in 2007 and provides the Tweed Shire's road network requirements to cater for long term growth. These road network requirements also form the basis for Council's Section 94 Roads Contribution Plan.

The 2017 TRDS review incorporates a more detailed road infrastructure assessment process than previous strategies using an AIMSUN traffic model for the "inner core" region. This model uses outputs from the strategic (EMME) model to allow the review, testing and confirmation of likely intersection requirements across the network in additional to road link upgrades.

The Tweed's road network will experience increased traffic congestion irrespective of development within the Shire as a result of its close relationship with its neighbours and its core spine road being the nationally-significant Pacific Highway Motorway between Sydney and Brisbane. The TRDS is based on practical rather than "aspirational" road network infrastructure which is consistent with the level of expected growth across the LGA, which can be funded and which can provide practical benefits to the Tweed community within the expected timeframes.

TRANSPORT MODEL DEVELOPMENT

The existing 2016 Gold Coast Strategic Transport Model - Multi Model (GCSTM-MM) was used as the basis for developing the TRDS EMME base model. This model was reduced to the road network and zoning system south of Currumbin Creek and then extended into the Tweed. The model development made use of GIS layers provided by Council to assist in creating the major road network and Tweed Shire zones in the model. Key data such as population, employment and enrolments at the ABS - Statistical Area Level 1 (SA1) was added.

The AIMSUN model was coded in a common link and node system to the EMME model to allow ease of integration between models. The use of two models has allowed detailed intersection requirements within the inner core area to be defined as well as road link needs across the wider road network to be determined as per previous strategies.

Population forecasts were based on the number of additional dwellings across Tweed Shire given future development expectations provided by Tweed Shire Council (TSC). This data incorporated approved developments, urban release areas and expected 'in fill' development of established areas. Three (3) growth options were tested, namely High, Medium and Low growth projections 2041.

SCENARIO TESTING

The strategic transport model was used to test a series of road network and infrastructure scenarios to optimise a preferred suite of upgrades required by 2041. Key modelling outputs included Vehicle Hours Travelled (VHT) and Vehicle Kilometres Travelled (VKT). In addition, link volume and Degree of Saturation (DOS) plots were compared to determine the performance of each scenario tested.

An additional 187,000 trips per day are expected to use the Tweed road network by 2041 (under the Medium Yield scenario). These additional trips increase average trip times by over four minutes and decrease average speed by 7.5 km/h compared to 2016 conditions. This growth was shown present challenges for major road links such as the Pacific Highway, Tweed Coast Road, Tweed Valley Way and Kennedy Drive in particular.

Scenario 1 maintains the conditions of the base network with the exception of a six-lane upgrade on the Pacific Highway. The six-laning of the Pacific Highway provides the opportunity for more trips to use the highway generating longer average trip distances (VKT) and with less delay.

Scenario 2 incorporates upgrades to the Tweed road network which cater for immediate and short term network deficiencies. Scenario 2 improves the local road network to cater for forecast traffic at the Pacific

Highway/Tweed Coast Road interchange. The additional capacity at this interchange coupled with new east-west linkages between Kingscliff and Chinderah improves accessibility to Kingscliff town centre and reduces the dependence on constrained intersections at Cudgen Road/Tweed Coast Road as well as at the Kingscliff north interchange with the Pacific Highway at the Waugh Street/Phillip Street intersection.

The partial construction of the Kirkwood Road (northbound) interchange and connection to Fraser Drive provides a benefit to the Kennedy Drive and the Darlington Drive interchanges. This is a result of providing a more direct route to the western areas of South Tweed (i.e Banora Point west, Flame Tree Park) that would otherwise use routes such as Leisure Drive or Dry Dock Road.

Scenario 3 incorporates further network improvements to Tweed Coast Road and includes the full construction of the Kirkwood Road Interchange. To maintain the northbound off-ramp to Kennedy Drive, it is proposed that Sugarwood Drive is converted to a two-lane service road (bi-directional), as shown in Figure 7.4. The rationale for this upgrade over the previous TRDS service road bridge plan is to use existing infrastructure (i.e. northern off-ramp and dual lane service road) given its underutilisation, it also provides a more efficient signalised intersection with Kennedy Drive with three approaches instead of four and complimentary turn movement flows during peak periods allowing for efficient signal phasing.

The full implementation of the Kirkwood Road interchange increases the permeability of the road network taking pressure of other east-west connectors such as Dry Dock Road, Kennedy Drive and Leisure Drive.

Scenario 4 incorporates all of the road infrastructure upgrades proposed under the previous TRDS. The implementation of the previous TRDS is forecast to significantly improve the performance of the local road network with a 4.5 km/h increase in average travel speeds compared to the Base Case.

Scenario 5 includes sensitivity tests for a series of potential road link options considered by Council in recent years. This included the following:

- Test 1 – A second Cudgen Creek crossing connecting Casuarina Way north of Salt Village to Cudgen Road west of TAFE New South Wales (Kingscliff Campus). The inclusion of this new Cudgen Creek crossing demonstrates a significant diversion of trips from the Kingscliff Town Centre and in particular Tweed Coast Road between Grande Parade (Casuarina) and Cudgen Road (Cudgen);
- Test 2 - Round Mountain Interchange at the Pacific Highway. With the inclusion of a new interchange at Round Mountain Road, Reserve Creek Road experiences an increase of 2,300 trips per day. This volume increase is not considered significant in itself to warrant the need for the interchange;
- Test 4 – North Kellehers Road Link. The daily volumes on Coronation Drive without the Kellehers Road link demonstrates an increase of around 1,100 vehicle per day through Pottsville Town Centre. It is important to note that this is for a typical weekday operation only. As such, traffic utilisation of the proposed linkage would primarily occur during peak periods as well as weekends and seasonal periods.

THE PREFERRED SCENARIO

The Preferred Network Scenario (Scenario 6) offers a slight improvement when compared to the previous TRDS with improvements to both average speed and travel time despite the latest modelling showing more trips on the network. When compared to Scenario 4, both VKT and VHT decreases.

Whilst the network-wide performance statistics of Scenario 3 appear better than for Scenario 6, it is important to note that the inclusion of several lower-order roads within Scenario 6 improves accessibility and route choice and reduces trip lengths and hence the reduction in overall VKT.

As opposed to the previous TRDS proposal, the Scenario 6 upgrade does not necessitate the construction of additional “separate” bridges over Terranora Creek and Kennedy Drive for the collector-distributor roads and are expected to be less costly compared to the previous TRDS planning.

Scenario 7 was used to test impacts of implementing the preferred upgrades as per Scenario 6, but without the inclusion of the six-laning of the Pacific Highway between Sextons Hill and Stewart Road. The modelling showed that retaining the existing four lane configuration of the Pacific Highway from Stewart Road to Sextons Hill detrimentally affects the performance of the Tweed road network. The overall network VKT

reduces, whilst the overall VHT increases which reflects a constraining of the network, more congestion, and slower speeds. This would likely result in a reduction in the attractiveness for trips to/from the Gold Coast, particularly during morning and afternoon peak periods.

RECOMMENDATIONS

Table E1 details a total of 51 recommended road infrastructure upgrades for inclusion within the TRDS. This includes the authority responsible for the upgrade and likely priorities or triggers for the upgrade.

Figure E1 to Figure E4 show the locations of each upgrade with Appendix E providing conceptual intersection layouts for the intersection upgrades.

Table E1: TRDS Road Network Projects

ID#	Upgrade	Responsibility	Priority/ Trigger
1	Construct Cobaki Parkway	TSC	Dependent on land release area
2	Upgrade to Sandy Lane	TSC	Dependent on land release area
3	Piggabeen Road to McAllisters Road extension	TSC	Dependent on land release area
4	McAllisters Road extension to Scenic Drive	TSC	Dependent on land release area
5	Upgrade Kennedy Drive/ Piggabeen Road intersection to roundabout	TSC	Medium Term / prior to Cobaki Parkway connection
6	Upgrade Pacific Highway ramp (southbound)/ Gold Coast Highway intersection.	RMS/ TSC	Medium Term / Kennedy Drive NBD off-ramp removal
7	Upgrade Pacific Highway ramp (northbound)/ Sugarwood Drive intersection	RMS/ TSC	Medium Term / Kennedy Drive NBD offramp removal
8	Six-laning of the Pacific Highway	RMS	Medium Term
9	Signalise Sugarwood Drive/ Sussyer Avenue intersection	TSC	Medium Term / Dependent on land release area
10	Convert Sugarwood Drive into a two-way service road	RMS/ TSC	Medium Term / Kennedy Drive NBD offramp removal
11	Signalise Kennedy Drive/ Sugarwood Drive intersection	RMS/ TSC	Medium Term / Kennedy Drive NBD offramp removal
12	Signalise Pacific Highway (southbound)/ Kennedy Drive intersection	RMS/ TSC	Short Term / Kennedy Drive NBD offramp removal
13	Upgrade Kennedy Drive/ Ducat Street intersection	TSC	Short Term / Kennedy Drive NBD offramp removal
14	Upgrade Wharf Street/ Florence Street intersection	TSC	Long Term
15	Remove NBD off/ramp on Pacific Highway at Kennedy Drive	RMS	Medium Term
16	Kirkwood Road extension to Fraser Drive	TSC	Medium Term
17	Pacific Highway (northbound)/ Kirkwood Road interchange (northbound)	RMS	Medium Term
18	Extend Enterprise Avenue to Kirkwood Road	TSC	Medium Term
19	Four-laning of Fraser Drive	TSC	Medium Term
20	Signalise Greenway Drive/ Traders Way intersection	TSC	Medium Term
21	Four-laning of Greenway Drive	TSC	Medium Term
22	Signalise Leisure Drive/ Darlington Drive intersection	TSC	Short Term
23	Construct Fraser Drive/ Broadwater Parkway intersection	TSC	Dependent on land release area
24	Construct Broadwater Parkway (Mahers Lane to Fraser Drive)	TSC	Dependent on land release area
25	Upgrade Terranora Road/ Mahers Lane intersection (roundabout)	TSC	Dependent on land release area

ID#	Upgrade	Responsibility	Priority/ Trigger
26	Extend Davey Street to Minjungbal Drive	TSC	Long Term
27	Upgrade Minjungbal Drive/ Machinery Drive intersection	TSC	Medium Term
28	Upgrade Sexton Hill Drive/ Darlington Drive intersection	TSC	Medium Term
29	Upgrade Waugh Street/ Phillip Street intersection (roundabout)	TSC	Short Term
30	Upgrade Wommin Bay Road/ Sand Street intersection (roundabout)	TSC	Medium Term / Dependant on Land Release Area
31	Upgrade Pacific Highway/ Tweed Coast Road interchange	RMS/ TSC	Medium Term
32	Construct direct connection between Pacific Highway offramp and Morton Street	TSC	Medium Term
33	Extend Ozone Street to Tweed Coast Road	TSC	Dependent on land release area
34	Four-laning of Tweed Coast Road	TSC	Dependent on land release area
35	Construct Tweed Coast Road/ Ozone Street intersection (roundabout)	TSC	Dependent on land release area
36	Connect Rotuma Street to Ozone Street extension	TSC	Dependent on land release area
37	Construct Ozone Street/ Rotuma Street intersection (roundabout)	TSC	Dependent on land release area
38	Upgrade Ozone Street/ Sand Street intersection (roundabout)	TSC	Dependent on land release area
39	Extend Elrond Drive to Ozone Street	TSC	Dependent on land release area
40	Upgrade Tweed Coast Road/ Crescent Street intersection	TSC	Dependent on land release area
41	Extend Turnock Street to Tweed Coast Road	TSC	Dependent on land release area
42	Upgrade Tweed Coast Road/ Depot Road intersection (roundabout)	TSC	Dependent on land release area
43	Upgrade Pacific Highway (northbound)/ Cudgera Creek Road intersection (roundabout)	RMS/ TSC	Medium Term / Dependent on Land Release Area
44	Upgrade Pacific Highway (southbound)/ Cudgera Creek Road intersection (roundabout)	RMS/ TSC	Medium Term / Dependent on Land Release Area
45	Upgrade Cudgera Creek Road/ Pottsville Road intersection (roundabout)	TSC	Long Term / Dependent on land release areas
46	Extend Kellehers Road to Pottsville Road	TSC	Medium Term / Dependent on Land Release Area
47	Construct Pottsville Road/ Kellehers Road (extension) intersection	TSC	Medium Term / Dependent on Land Release Area
48	Extend Cane Road to Rous River Way	TSC	Long Term / Dependent on land release area
49	Extend West End Street to Rous River Way	TSC	Medium Term
50	Four-laning of Tweed Valley Way (Alma Street to Quarry Road)	TSC	Medium Term / Dependent on Land Release Area
51	Upgrade Tweed Valley Way/ Quarry Road intersection	TSC	Medium Term. Dependent on land release area

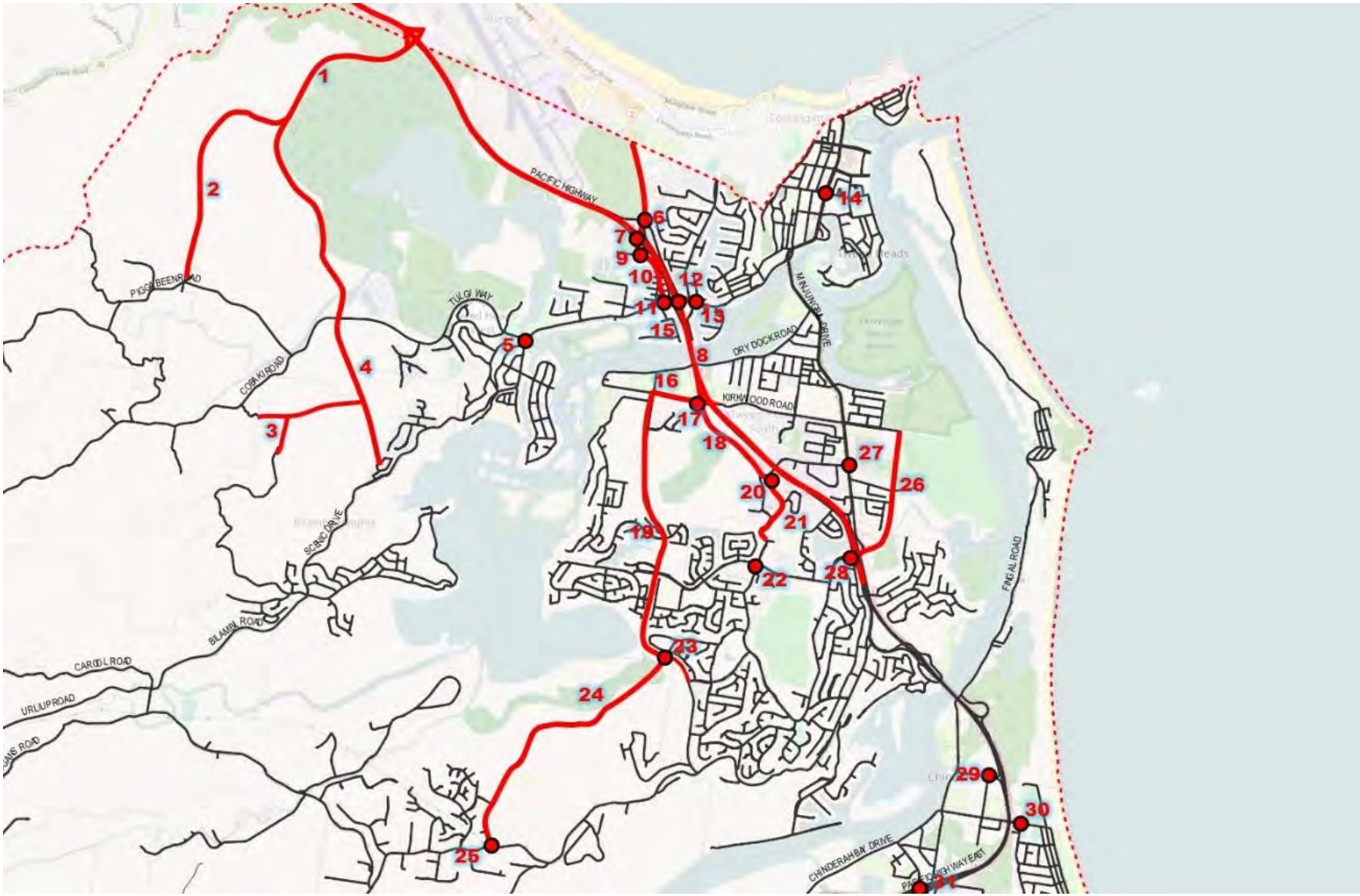


Figure E1: TRDS Inclusions – Tweed Heads, South Tweed Heads, West Tweed Heads and Chinderah

Figure E2: TRDS Inclusions – Kingscliff

Figure E3: TRDS Inclusions – Pottsville

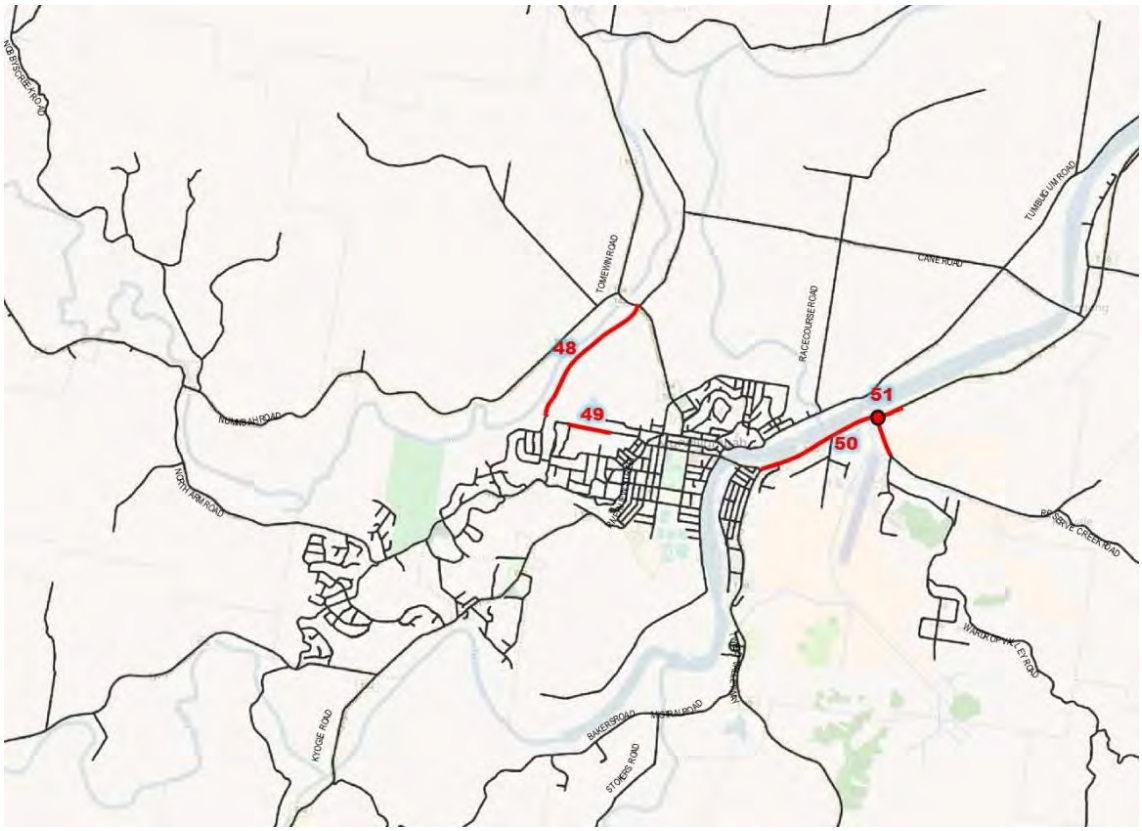


Figure E4: TRDS Inclusions – Murwillumbah

1. INTRODUCTION

1.1 BACKGROUND

The Tweed Road Development Strategy (TRDS) is the Tweed Shire's road network upgrades to cater for long term growth and forms the basis for Council's Section 94 Roads Contribution Plan.

Tweed Shire Council (TSC) first undertook the TRDS in 1997. This work assessed the Shire's road network needs and established a philosophy and methodology for calculating development contributions for road network upgrades. The TRDS has since been reviewed in 2004 and in 2007 to update it with new information on development progress and planning and on road infrastructure improvements. Previous TRDS studies have used strategic modelling, relating to link based capacity analysis on major road links without specifically considering intersection needs.

In recent years, TSC has completed a range of road projects on Council-controlled roads. In addition, both the NSW Roads and Maritime Service (RMS) and the QLD Department of Transport and Main Roads (TMR) have completed significant road upgrades such as the Sextons Hill Bypass and the Tugun Bypass.

In 2009, TSC adopted the Tweed Urban and Employment Lands Release Strategy setting out potential housing and employment areas across the Shire for the next 25 years. This included development within the urban-zoned areas of Kings Forest, Cobaki, Area E (Terranora), Bilambil Heights, Pottsville and Murwillumbah.

Previous TRDS's have been based on the VLC Zenith Strategic model which was not a "proprietary" software package. The 2017 TRDS study has created a new strategic transport model in the common EMME package. Also, given that new development and likely traffic infrastructure requirements are predominately located in the "core area" bounded by the state border, Casuarina/Kings Forest and the Terranora Broadwater and that intersections are dominating capacity limitations in developed urban areas, the 2017 TDRS incorporates an additional level of intersection-capacity analysis using an AIMSUN model for the inner core area. This model uses outputs from the strategic (EMME) model to allow the review and option testing of both road link and intersection requirements across the network.

Figure 1.1 shows the study area for the project.

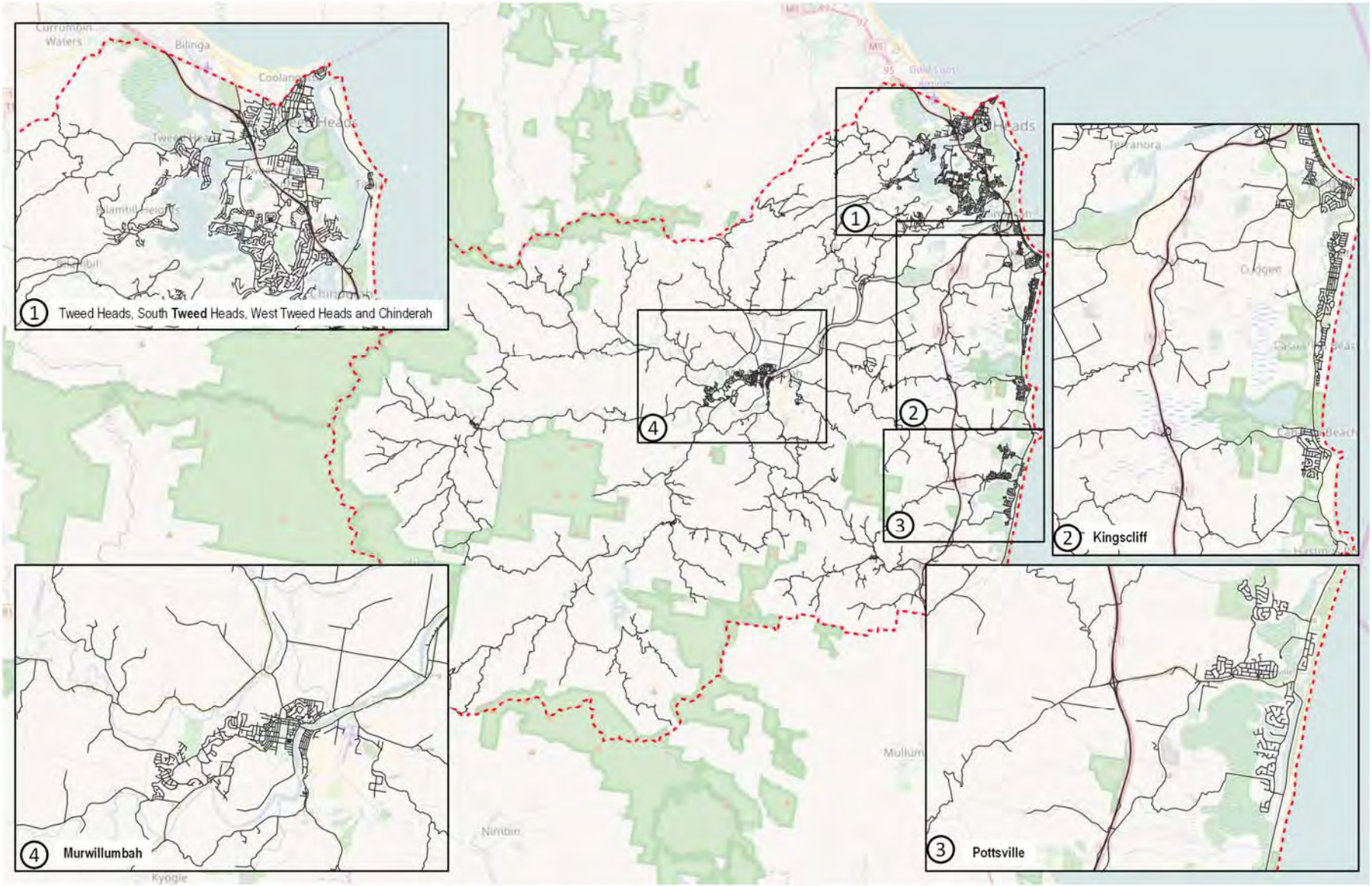


Figure 1.1: Project Study Area

1.2 TWEED ROAD DEVELOPMENT STRATEGY OBJECTIVES

Key objectives of this 2017 TRDS review were to:

- review the previous TRDS considering contemporary road network and intersection capacity planning and updating population and employment growth projections for Tweed Shire, whilst also considering recent traffic studies and planning strategy documents;
- develop a strategic traffic model and a mesoscopic traffic model (for the core-urban area) for the Tweed road network, calibrated to reflect current traffic volumes (base year), and capable of projecting traffic growth for a planning horizon of 25-30 years;
- use the traffic model to input and test road and intersection improvement options to achieve an optimised future distributor road network, including relevant triggers/thresholds for the timing of road network upgrades;
- review Council's adopted levels of service (e.g. percentage utilisation, delays and queuing at intersections) for the distributor road network against best practice benchmarks as an input to optimising project designs to achieve better value for money process;
- review Council's road hierarchy; and
- produce works program as the basis for a subsequent review of the Tweed Road Contribution Plan, based on the prevailing contribution scheme philosophy.

1.3 STUDY METHODOLOGY

The 2017 TRDS development has included the creation of two "levels" of traffic modes as follows:

- a link-based strategic model for the major road network for the entire LGC using EMME; and
- an "Inner Core" Mesoscopic-simulation model using AIMSUN.

For the EMME Model, the latest version of the Gold Coast Strategic Transport Model – Multi Model (GCSTM-MM) was extended to 'build-in' the Tweed Base Strategic Transport Model (TSTM-MM) for a 2041 design year (25 year design horizon).

The separate (but linked) mesoscopic model was created for the "core" urban area bounded by the state border, Casuarina/Kings Forest and Terranora Broadwater.

The steps used in the development of the 2017 TRDS are is summarised as follows:

- Review of Previous Studies - a review of previous studies was undertaken to confirm the appropriateness and currency of the previous road infrastructure planning for the Tweed;
- EMME Model Development - the 2016 Base EMME model was developed using the existing 2016 GCSTM-MM model. GIS layers provided by Council were used to develop Tweed zones with population, employment and enrolment demographics at the ABS - SA1 Level Zoning system;
- AIMSUN Model Development - in parallel with the EMME model, a TRDS Core AIMSUN model was created for the region bounded by the State border, Casuarina/ Kings Forrest and the Terranora Broadwater;
- Calibration and Validation of Models - Calibration and Validation was undertaken on the Base Year 2016 EMME and 2016 AIMSUN models to ensure that models were fit for purpose for assessing network upgrade options. Outputs from each model were also extracted and reported along with the model development process. Base model calibration reports were developed for both models;
- Base Model Validation Reporting and Presentations -
- Ultimate Base Model Development - TSC's forecast population, employment and enrolment demographics were incorporated into the ultimate base model at the EMME zone level. Three growth scenarios were developed (Low, Medium, High) for an "Ultimate Design Year" of 2041. Outputs for each scenario were extracted and compared to determine the likely critical road links and locations with poor levels of service.
- Network Testing - for the medium growth scenario, a series of upgrade options were tested in the models, reviewed and workshopped with Council and RMS. These tests included upgrades both within the previous TRDS as well as new road network and intersections upgrade options;
- Preferred Network – the preferred network was developed and optimised in both the EMME and AIMSUN to identify likely intersection pinch points and likely future upgrades. Outputs included:

- new links needed;
- upgrade needs links;
- new intersections and likely configurations;
- network performance such as VHT and VKT;
- traffic volume plots (daily and peak periods); and
- volume to capacity (V/C).

1.4 CONTENTS OF THIS REPORT

This report includes the following:

- Section 1 – Introduction, Background and Study Methodology;
- Section 2 – Existing Road Network;
- Section 3 – Review of Previous Studies including key considerations for the TRDS 2017 Review;
- Section 4 – 2016 Base Year Model Development for the Tweed Strategic Transport Model Version 1.0 (TSTM-MM V1.0) and the Tweed Core Area Mesoscopic AIMSUN Model;
- Section 5 – Existing Conditions Assessment;
- Section 6 – Year 2041 demographics forecasts based on Councils current development planning and expected population growth;
- Section 7 – Future Road Infrastructure Options tested within the TSTM-MM and AIMSUN model and option testing modelling Results including intersection configuration needs; and
- Section 8 – Tweed Road Development Strategy Master Plan based on the preferred network option.

2. EXISTING ROAD NETWORK DETAILS

2.1 ROAD INFRASTRUCTURE AND ROAD HIERARCHY

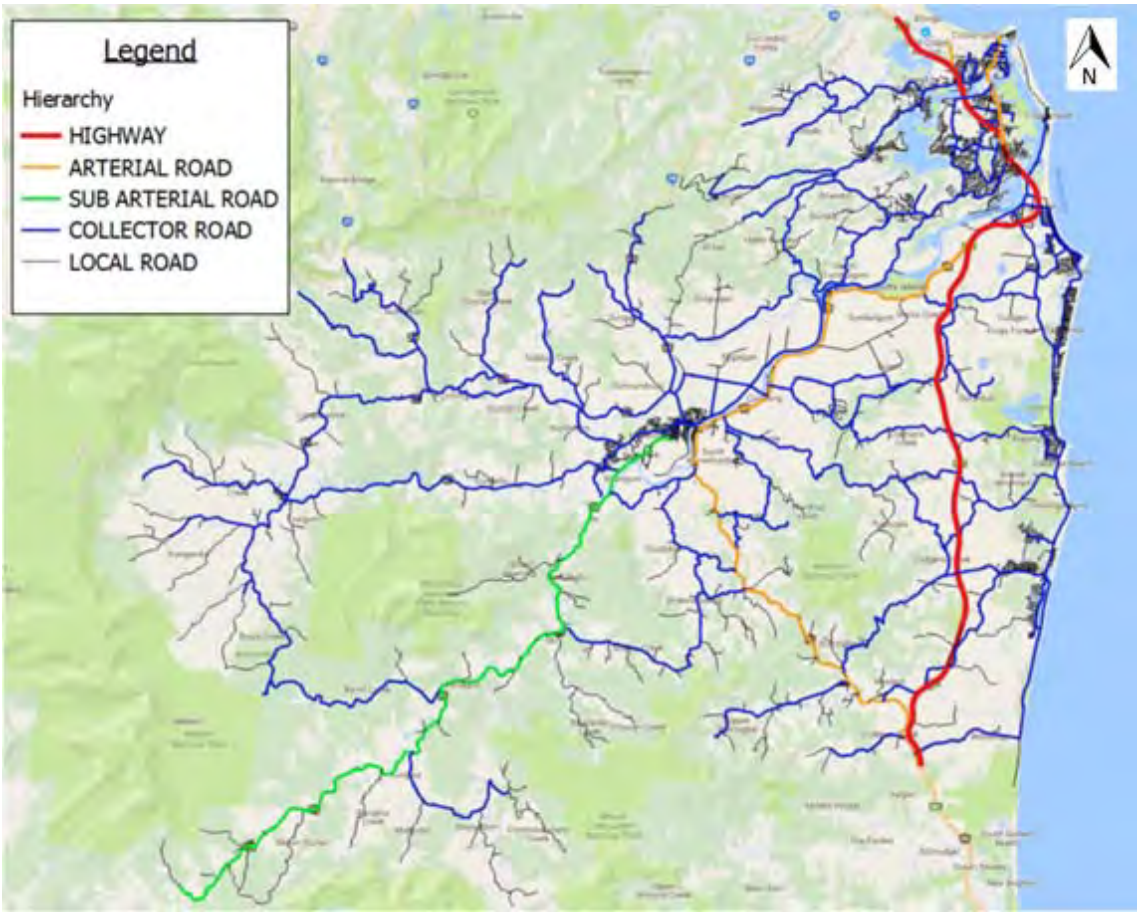
TSC is responsible for a significant length of public roadways within the Tweed Shire LGA. As at 30 June 2015 this includes:

- local roads (full financial responsibility of Council):
  - urban: 458km;
  - non-urban, sealed: 481km;
  - non-urban, unsealed: 158km; and
  - Total: 1,097km;
- regional roads (subject to "block grant" funding from the RMS):
  - urban: 34km;
  - non-urban, sealed: 114km; and
  - non-urban, unsealed: none;
  - Total: 148km.

The Pacific Highway between Yelgun (to the south) and the NSW/QLD border (to the north) run through the Tweed Shire LGA. This road is under the jurisdiction of the RMS.

Source: *Tweed Shire Council*

Figure 2.1 illustrates the existing road network and hierarchy within Tweed Shire.

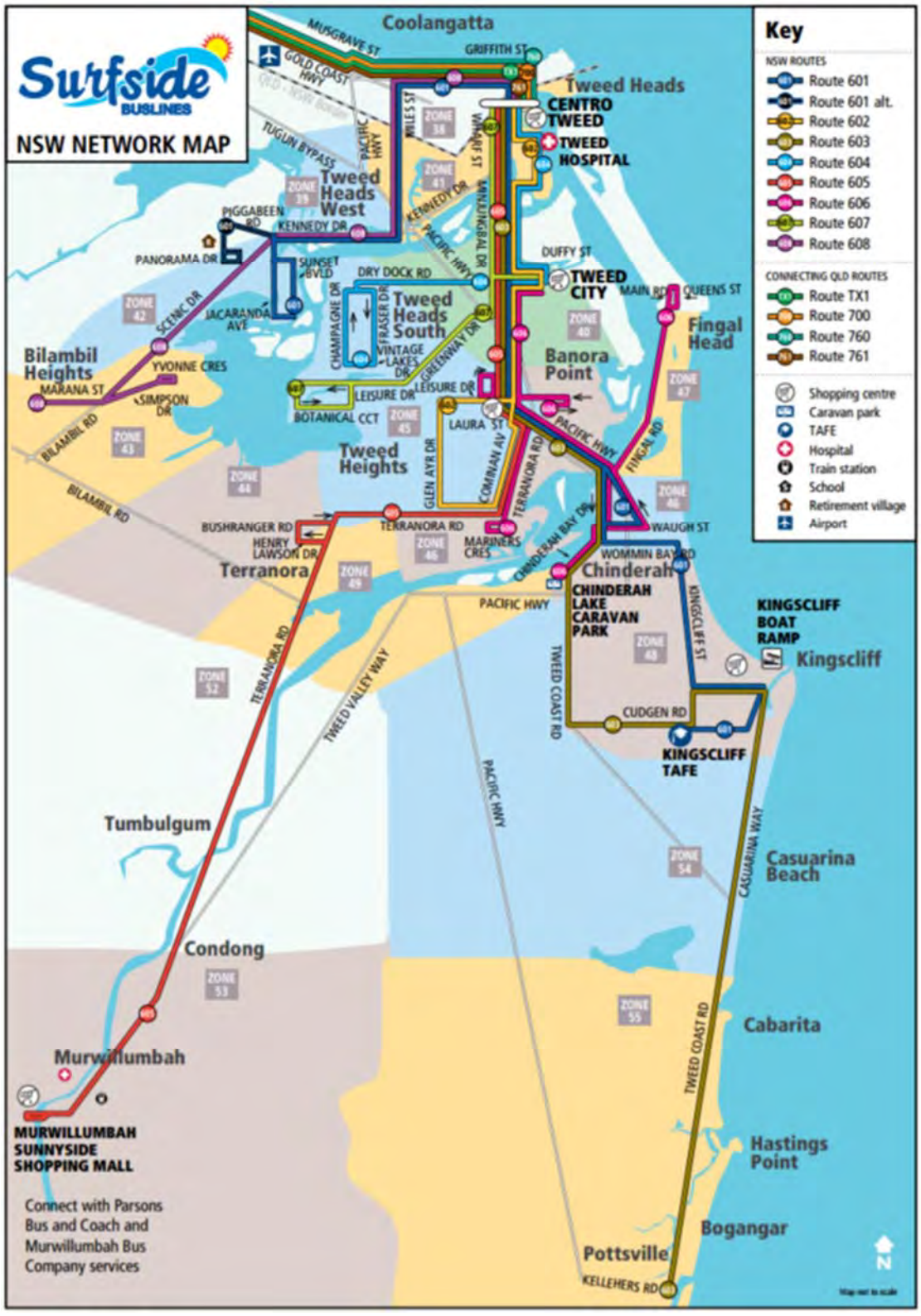


Source: Tweed Shire Council

Figure 2.1: Tweed Road Network and Hierarchy

2.2 PUBLIC TRANSPORT

All bus services within the Tweed Shire are operated by Surfside Buslines, Parsons Bus and Coach and Murwillumbah Bus Co. The existing bus network is shown in Figure 2.2.



Source: Surfside Buslines

Figure 2.2: Year 2017 Bus Routes

Table 2.1 lists the current bus routes for the region and their associated service frequencies.

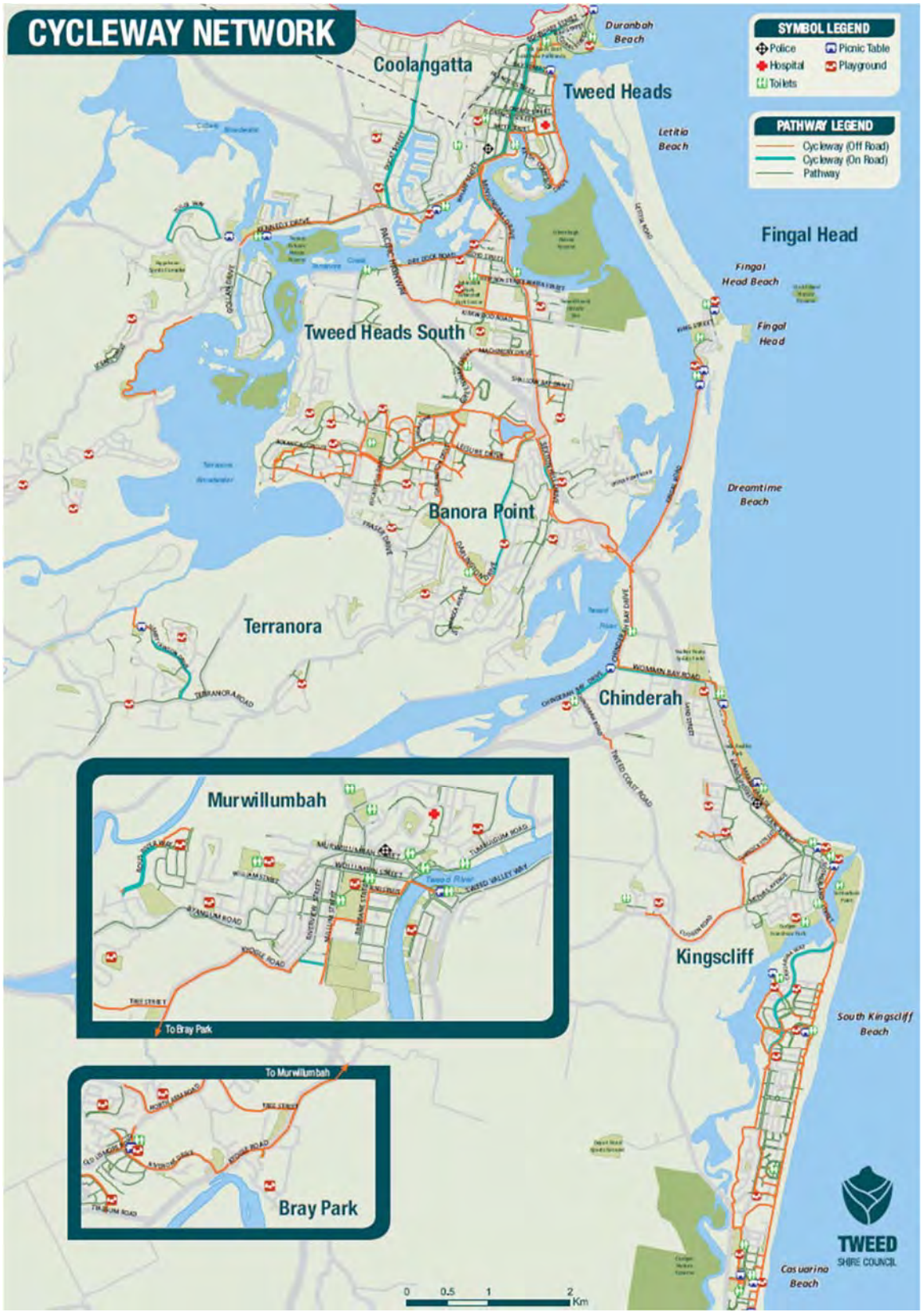
Table 2.1: Surfside Bus Route Numbers and Frequencies

Route Number	Servicing	Time of Service*		Frequency*
		First	Last	
Surfside Services				
601	Kingscliff to West Tweed Heads	6:00	20:00	Hourly
602	Centro Tweed Heads to Banora Point	7:00	19:00	Hourly
603	Centro Tweed Heads to Pottsville	8:00	20:00	Hourly
604	Centro Tweed Heads to Hillcrest	7:00	18:00	Hourly
605	Centro Tweed Heads to Murwillumbah	7:00	18:00	Hourly
606	Tweed City, Oxley Cove, Chinderah and Fingal Head	9:00	16:02	Hourly
607	Tweed Heads Centro to Flame Tree Park	8:00	5:00	Hourly
608	Tweed City to Bilambil Heights	7:30	4:30	Hourly
TransLink-Surfside Services (Qld Based)				
700	Australia Fair to Tweed Heads Mall	5:30	20:30	Half Hourly
760	Pacific Fair to Tweed Heads Mall	5:40	20:30	Half Hourly
761	Tweed Heads Mall to Robina Railway Station	5:00	19:00	Hourly
762	The Pines Shopping Centre (Elanora) to Palm Beach	6:40	18:00	Hourly
763	The Pines Shopping Centre (Elanora) to Elanora	6:40	18:00	Hourly
764	The Pines Shopping Centre (Elanora) to Currumbin Park	6:40	18:00	Hourly
765	The Pines Shopping Centre (Elanora) to Robina Railway Station	5:00	22:00	Half Hourly
766	The Pines Shopping Centre (Elanora) to Currumbin Waters	6:40	18:00	Hourly
767	The Pines Shopping Centre (Elanora) to Tugun Heights	6:40	18:00	Hourly
768	Tweed Heads to John Flynn Hospital	7:30	18:30	Hourly
769	The Pines Shopping Centre (Elanora) to Reedy Creek	6:00	20:00	Hourly
TX1	Theme Parks Service (to Burleigh Heads) – same service 7 days	8:10 & 8:40	16:45 and 17:10	2 services per peak only
TX2	Theme Parks Service (to Tweed Heads) – same service 7 days	8:00	19:05	Half Hourly

**Time of First and Last Service and Frequency are those of the first stop in the described direction on a normal Weekday expect for TX1 and TX2 which have the same timetables every day.*

2.3 WALKING AND CYCLING ROUTES

The existing cycleways and pedestrian pathways for Tweed Heads, Kingscliff, Murwillumbah, Bray Park and some surrounding areas are shown in Figure 2.3.



Source: Tweed Shire Council

Figure 2.3: P2017 Pedestrian and Cyclist Facilities Network

3. REVIEW OF PREVIOUS STUDIES

3.1 BACKGROUND

A review of previous studies was undertaken to confirm the currency, detail and importance of elements of the network proposed in previous infrastructure planning for the Tweed. This work included a review of the previous traffic volume forecasts for recently constructed roads such as the Banora Point Bypass, Kirkwood Road extension and the Kennedy Drive upgrade.

The previous studies which were reviewed include:

- Tweed Road Development Strategy – Veitch Lister Consulting (2007);
- Tweed Road Development Strategy (2007);
- Tweed Urban and Employment Land Release Strategy – Tweed Shire Council (2009);
- Gold Coast Transport Strategy 2031 - City of Gold Coast Council (2013);
- Cross Border Traffic Master Plan – Bitzios Consulting (2011);
- Lower Tweed and Pacific Highway Traffic Master Plan – Parsons Brinckerhoff (2006);
- The Lower Tweed and Pacific Highway Traffic Master Plan (2006); and
- Distributor Road Network Planning (by TSC).

3.2 TWEED ROAD DEVELOPMENT STRATEGY – *VEITCH LISTER CONSULTING (2007)*

Prior to the finalisation of the Lower Tweed and Pacific Highway Master Plan, Veitch Lister Consulting was commissioned to model additional options and undertake scenario testing considering "ultimate development" levels. This work included:

- a review of demographic assumptions to determine the "ultimate development" number of households under the latest land use plans;
- updates to the base case and ultimate development road network;
- an examination of the benefits of the new local access link east of Tweed City connecting to Kirkwood Road East and Lakes Drive and also due to the Darlington Drive interchange; and
- testing an option to provide a new interchange where Cobaki Parkway/Boyd Street intersects the Tugun Bypass, including one option of north-facing ramps only and a secondary option with both north-facing and south-facing ramps.

The strategy recommends a number of works throughout the Tweed Shire based on the Zenith model outputs. Then, using the previously-adopted "consumption model" used in the 1997 TRDS the "Standard Contribution" rates for Version 5 of the Contribution Plan were updated.

Figure 3.1 lists details the previous road network inclusions with the 2007 TRDS.

West Tweed Heads Area - Refer to **Figure 6.1**, and details below.

Table 6.1: Additions and Improvements (West Tweed Heads)

Road / Section	Type	Funding	Standard
A. Pacific Highway (Tugun-Nerang)	Impr.	MRD	6 lanes @ 110 kph
B. Stewart Road	Impr.	GCC	4 lanes @ 70 kph
C. Tugun Bypass (Stewart Rd to Boyd St)	Add.	MRD	6 lanes @ 100 kph
D. Boyd Street (GC Highway to Inland Dr)	Impr.	MRD	4 lanes @ 60 kph
E. Boyd Street Extn. (Tugun Bypass to Inland Dr)	Add.	MRD	4 lanes @ 70 kph
F. Tugun Bypass (Boyd St to Tweed Bypass)	Add.	RTA	4 lanes @ 100 kph
G. Cobaki Parkway (Tugun Bypass – Piggabeen Rd)	Add.	**TSC**	4 lanes @ 70 kph
H. Cobaki Parkway Extn (Scenic Dr – Piggabeen Rd)	Add.	**TSC**	2 lanes @ 70 kph
I. Cobaki Collector 1 (Town Centre Section)	Add.	**TSC**	4 lanes @ 60 kph
J. Cobaki Collector 1 (Balance)	Add.	**TSC**	2 lanes @ 60 kph
K. Cobaki Access Streets (various)	Add.	*Dev.*	2 lanes @ 60 kph
L. Cobaki Collector 2 (Collector 1 – Cobaki Parkway)	Add	Dev.	2 lanes @ 70 kph
M. Piggabeen Road (Skyline Dr – Cobaki Parkway)	Impr.	**TSC**	2 lanes @ 70kph
N. Kennedy Drive (Cobaki Creek – Barrett St)	Impr.	**TSC**	Pk Hour Clearways
O. McAllisters Road Extension	Add.	**TSC**	2 lanes @ 60 kph
P. McAllisters Road (Existing Section)	Impr.	**TSC**	2 lanes @ 60 kph

Banora Point Area – refer to **Figure 6.2** and details below.

Table 6.2: Additions and Improvements (Banora Point)

Road / Section	Type	Funds	Standard
A. Tugun Bypass / Tweed Heads Bypass Interchange	Add.	RTA	various
B. Northbound Service Road (Nth Section)	Add.	**TSC**	2 lanes Nb @ 70 kph
C. Southbound Service Road (Nth Section)	Add.	**TSC**	2 lanes Sb @ 70 kph
D. Northbound Service Road (Sth Section)	Add.	**TSC**/RTA	2 lanes Nb @ 70 kph
E. Southbound Service Road (Sth Section)	Add.	**TSC**/RTA	2 lanes Sb @ 70 kph
F. Kirkwood Road Extension	Add.	**TSC**	2 lanes @ 60 kph
G. Kirkwood Road On/Off Ramps	Add.	RTA	1 lane @ 70 kph
H. Fraser Drive (Botanical Circuit – Kirkwood Rd)	Impr.	**TSC**	4 lanes @ 70 kph
I. Enterprise Avenue Extension	Add.	**TSC**	2 lanes @ 60 kph
J. Tweed Heads Bypass (Darlington Dr – Kirkwood Rd	Impr.	RTA	6 lanes @ 100 kph
K. Davey Street Extension (to Soorley St)	Add.	**TSC**	2 lanes @ 60kph
L. Darlington Drive / Minjungbal Dr Interchange	Impr.	RTA	various
M. East Lakes Drive Extension	Add.	**TSC**	2 lanes @ 60 kph
N. Elsie Street Extension	Add.	**TSC**	2 lanes @ 50 kph
O. Leisure Drive (Fraser Dr – Woodlands Dr)	Impr.	**TSC**	4 lanes @ 60 kph
P. Leisure Drive (Advocate Pl – Darlington Dr East)	Impr.	**TSC**	4 lanes @ 60 kph
Q. Darlington Drive East (Leisure Dr – Pacific Hway)	Impr.	**TSC**	4 lanes @ 60 kph
R. Old Pacific Hway (Sexton's Hill) incl. Laura St Opass	Add.	RTA	4 lanes @ 70 kph
S. New Pacific Highway (Sexton's Hill)	Add.	RTA	6 lanes @ 100 kph
T. New Collector (Area E)	Add.	**LAC**	2 lanes @ 70 kph
U. New Collectors (Area E)	Add.	*Dev.*	2 lanes @ 60 kph

Tweed Coast Area – refer to **Figure 6.3** and details below.

Table 6.3: Additions and Improvements (Tweed Coast)

Road / Section	Type	Funds	Standard
A. Tweed Coast Road (Pacific Hwy – Cabarita)	Impr.	**TSC**	4 lanes @ 80 kph
B. Ozone Street Extn (Elrond Dr – Chinderah Rd)	Add.	**TSC**	4 lanes @ 60 kph
C. Ozone Street Realignment (Kingscliff St – Elrond Dr)	Add.	**TSC**	2 lanes @ 60 kph
D. Elrond Drive Extension (Beach St – Ozone St)	Add.	**TSC**	2 lanes @ 60 kph
E. New Collector Street (Turnock St – Kingscliff St)	Add.	*Dev.*	2 lanes @ 60 kph
F. Crescent Street Realignment	Add.	*Dev.*	2 lanes @ 60 kph
G. New Access Streets	Add	*Dev.*	2 lanes @ 50 kph
H. New Distributor (Chinderah Rd – Turnock St)	Add.	**TSC**	2 lanes @ 70 kph
I. John Robb Way Extension (to Crescent St)	Add.	*Dev.*	2 lanes @ 50 kph
J. Kingsforest Collector 1	Add.	*Dev.*	2 lanes @ 60 kph
K. Kingsforest Parkway (Duranbah Rd – Town Ctr.)	Add.	**LAC**	2 lanes @ 70 kph
L. Kingsforest Parkway (Chinderah Rd – Town Ctr.)	Add.	**LAC**	4 lanes @ 70 kph
M. Kingsforest Collector 2	Add.	*Dev.*	2 lanes @ 60 kph
N. Casuarina Collector	Add.	**LAC**	2 lanes @ 50 kph
O. Koala Beach – Seabreeze Connector	Add.	**LAC**	2 lanes @ 50 kph
P. New Access Streets	Add.	*Dev.*	2 lanes @ 50 kph
Q. Tweed Coast Road	Impr.	**TSC**	2 lanes @ 70 kph
R. Extension of Collector Road	Add.	*Dev.*	2 lanes @ 60 kph

Murwillumbah Area – refer to **Figure 6.4** and details below.

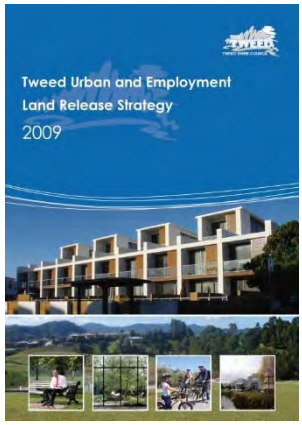
Table 6.4: Additions and Improvements (Murwillumbah)

Road / Section	Type	Funds	Standard
A. Cane Road (Qld. Rd – Tweed Valley Way)	Impr.	**TSC**	2 lanes @ 100 kph
B. Numinbah Road (Tomewin Rd – North Arm Rd)	Impr.	**TSC**	2 lanes @ 80 kph
C. Cane Road Extn. (Qld. Rd – West End St Extn.)	Add.	**TSC**	2 lanes @ 80 kph
D. West End Street Extn (incl. link to Frances St)	Add.	**TSC**/Dev.	2 lanes @ 60 kph
E. Joshua Street Extn (to West End St Extn.)	Add.	**TSC**	2 lanes @ 60 kph
F. New Access Streets	Add.	Dev.	2 lanes @ 50 kph
G. Riverview Street (Eyles Ave – Wollumbin St)	Impr.	**TSC**	2 lanes @ 60 kph
H. North Arm Road (Numinbah Rd – Castlefield Dr)	Impr.	**TSC**	2 lanes @ 100 kph
I. Castlefield Drive Extension	Add.	Dev.	2 lanes @ 60 kph
J. Old Lismore Road (Riveroak Dr – North Arm Rd)	Impr.	**TSC**	2 lanes @ 60 kph
K. Riveroak Drive Extension	Add.	Dev.	2 lanes @ 60 kph

Source: VLC Tweed Road Development Strategy (2007)

Figure 3.1: TRDS (2007) Inclusions

3.3 TWEED URBAN AND EMPLOYMENT LAND RELEASE STRATEGY – *TWEED SHIRE COUNCIL (2009)*



The Tweed Urban and Employment Land Release Strategy was the response to the Far North Coast Regional Strategy's requirement for TSC to prepare a local Growth Management Strategy prior to rezoning further land for urban, commercial and industrial uses. The report addresses both future employment lands and future urban residential lands in two separate but interconnect parts of the report. The report recommends that employment and population land should be considered together to ensure the long-term sustainability of Tweed Shire.

The Tweed Shire Employment Land Release Strategy identifies potential employment land areas and provides an indication of when the re-zoning process will need to be considered for these areas to be able to supply employment land to the market at the appropriate time.

The Tweed Urban and Employment Land Release Strategy also guides the location of further urban development over the life of the strategy. It outlines nine key potential urban developments with indicative time frames for when the rezoning process will need to be considered if these areas are to supply residential land to the market at the appropriate time.

3.4 GOLD COAST CITY TRANSPORT STRATEGY 2031 - *CITY OF GOLD COAST COUNCIL (2013)*

The Gold Coast City Transport Strategy 2031 provides a "blueprint for the city's transport network over the next 20 years". The strategy includes six key objectives including one under the heading of "Maximising Road and Freight Performance" with the following objective statement:

"To develop and manage an efficient road network that meets the city's needs for the movement of people and goods, and can be safely shared by all road uses".

The key themes associated with this objective are stated in the Gold Coast Transport Strategy 2031 as follows:

- *Theme 17: Plan and manage the Gold Coast Road Network as "one network" regardless of ownership;*
- *Theme 18: Plan, invest and manage the road network to provide a match between the transport function of each road with the places it goes and the users who needs priority;*
- *Theme 19: Make the most of existing infrastructure and promote greater use of public transport and active transport;*
- *Theme 20: Improve the legibility of the Gold Coast Road network so motorists take preferred traffic routes and avoid unnecessary trips through activity centres, strip shopping areas and beachside areas;*
- *Theme 21: Provide adequate loading zones and off-street loading facilities for freight; and*
- *Theme 22: Maintain the local road network to a high standard.*

Importantly, the Gold Coast City Transport Strategy recognises that the focus should be on managing the available road space to support a more sustainable transport system whilst at the same time providing for the expansion of the road network in areas where it is reasonable to do so.

The strategy details themes that apply to the Gold Coast's maturing road network, which is also particularly evident for sections of Tweed's road network where urban development is established and future road capacity is limited.

3.5 CROSS BORDER TRAFFIC MASTER PLAN – *BITZIOS CONSULTING (2011)*

The Cross Border Traffic Master Plan was a joint effort of TSC, Gold Coast City Council, NSW Roads and Maritime Services (formally RTA) and the Queensland Department of Transport and Main Roads (TMR).

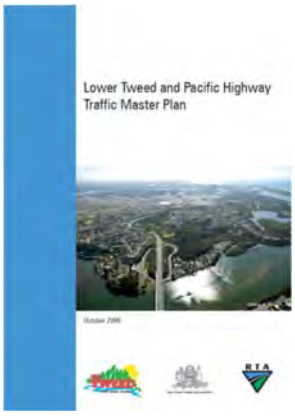
The need for a Cross Border Traffic Master Plan was identified as the Pacific Motorway/Tugun Bypass/Pacific Highway corridor is the primary cross border connection between Queensland and New South Wales. Due to the absence of alternative routes, this corridor is forecast to carry significant traffic volumes in the future with a mix of interstate, inter-regional and local traffic.

The Master Plan objectives included:

- identifying and assessing options for optimising the interaction of the Pacific Highway with the adjacent urban arterial road network with the aim of promoting local function trips on the local network and minimising reliance on the Pacific Highway/Pacific Motorway;
- optimising highway interchanges to provide the most appropriate levels of service and outline implementation arrangements to provide connectivity between the growth areas and local and regional facilities such as the Gold Coast Airport and John Flynn Hospital; and
- improving pedestrian and public transport connectivity including integration with the proposed future extension of the Gold Coast Rail Line to the Gold Coast Airport.

The Master Plan identified 14 key upgrades for the cross border region based on the transport modelling conducted. The recommendations included widened road corridors and the inclusion of additional ramps for the Pacific Motorway. Each upgrade also had a recommended implementation year identified.

3.6 LOWER TWEED AND PACIFIC HIGHWAY TRAFFIC MASTER PLAN – *PARSONS BRINCKERHOFF (2006)*



The Lower Tweed and Pacific Highway Traffic Master Plan was developed to address concerns from the community and stakeholders regarding local traffic conditions and the road hierarchy in the greater Tweed Heads area. These concerns were heightened in reaction to announcement of the Tugun Bypass and the Banora Point upgrades. The study aimed to identify an arrangement which would:

- maintain acceptable levels of service on the Pacific Highway and local arterials;
- improve local access to, and surrounding the Pacific Highway;
- prevent bottle-necks on the local road network through the provision of multiple accesses to key traffic generators;
- cater for the continuing commercial and residential development of the Tweed area; and
- improve road safety through the separation of highway and local traffic and the deterrence of short local trips on the highway.

An option analyses undertaken as part of the Master Plan concluded that an appropriate balanced ultimate arrangement for the development of both the Pacific Highway and adjoining local road network should be implemented. Indicative target completion dates and estimated costs were documented for these elements.

Figure 3.2 shows the proposed Terranora Inlet upgrades to incorporate the Kirkwood Road interchange and additional service road connections to Kennedy Drive. For the current TRDS, the costs for these works were considered to be substantial and alternative options have been considered as part of this 2017 TRDS review.

Source: The Lower Tweed and Pacific Highway Traffic Master Plan (2006)

Figure 3.2: Lower Tweed and Pacific Highway Traffic Master Plan – Kirkwood Road to Kennedy Drive

3.7 DISTRIBUTOR ROAD NETWORK PLANNING (2007)

TSC prepared a separate report focussing on traffic generated by the Cobaki Lakes/Bilambil Heights development areas to:

- identify the short and long term management options of Kennedy Drive and Cobaki Parkway as distributor roads;
- strengthen the relationship of this development with the TRDS;
- determine a management strategy to avoid overloading the interim road network (until the Cobaki Parkway is fully constructed); and
- inform future revisions of the Tweed Road Contributions Plan.

In the Tweed Heads West/Cobaki area, the major development areas of Cobaki Lakes and Bilambil Heights will have a significant impact on how and when the TRDS distributor roads are constructed; and management of this process will control how development can occur. The recommendations in this report are summarised in Table 3.1.

Table 3.1: Distributor Road Planning Recommendations

No.	Report Recommendation
1	Until Cobaki Parkway is constructed continuously between Boyd Street and the Piggabeen Road, development west of Cobaki Bridge at Kennedy Drive is to be restricted.
2	The Cobaki Lakes Development to have unrestricted access to Piggabeen Road subject to: ▪ the Developer entering into a legally binding agreement with Council that indemnifies Council from any financial liability in regards to obligations under the Boyd Street Road Works Deed dated 16 June 1993; and ▪ the Developer dedicating all the Cobaki Parkway Road Reserve (Boyd Street to Piggabeen Road) as part of Stage 1 of any new or amended Development Consents.
3	The proposed Pacific Highlands project part of the Bilambil Heights land release, may be permitted to progress beyond current restrictions based on the traffic thresholds on Cobaki Bridge provided: ▪ Cobaki Parkway is continuously constructed from Piggabeen Road to Boyd Street; ▪ the new "spine" road proposed through the site from Marana Street to Cobaki Road is constructed; and ▪ Cobaki Road from the "spine" road to Cobaki Parkway is upgraded.
4	The remainder of the Bilambil Heights Land Release Area can only proceed beyond the current road volume allowances on Kennedy Drive (24,650 vpd) when the Cobaki Parkway between Boyd Street and Piggabeen Road is continuously constructed and then development must progress in a manner that progressively constructs the Scenic Drive diversion from Piggabeen Road southward (i.e. all new development must have access to the Scenic Drive diversion).
5	The next review of Section 94 Contributions Plan No. 4, Tweed Road Contribution Plan to include in its works program, widening of Kennedy Drive between Cobaki Creek Bridge and Gray Street to four lanes.

The report also concluded that to minimise the impact of incremental development of the study area on Kennedy Drive, it is considered desirable to upgrade Kennedy Drive to four lanes from the Cobaki Creek Bridge to Gray Street. These works were completed in 2016.

4. BASE YEAR (2016) MODELS DEVELOPMENT

4.1 INTRODUCTION

Two separate models have been developed for the TRDS, specifically:

- a link-based strategic EMME Model for the whole major road network; and
- an "Inner Core" Meso-simulation AIMSUN model.

The existing 2016 GCSTM-MM was used as the basis for developing the TRDS EMME base model (referred to as the TSTM-MM V1.0). The GCSTM-MM model was first reduced to only include the road network and zoning system south of Currumbin Creek and then it was extended into the Tweed. Additional model zones and road links were created using GIS layers provided by TSC. Population, employment and enrolment demographics were input into the model. The model's zones use the ABS - SA1 Level Zoning system.

The AIMSUN model was created with a common link and node numbering system to the TSTM-MM model to allow ease of integration. The use of two models has allowed interrogation of detailed intersection requirements within the inner core as well as link capacities across the wider road network.

Year 2016 was used for the base year for both models. Traffic survey data at key locations including both 24hr "tube count" surveys and two-hour peak period turning movement traffic surveys at key intersections was used for model calibration purposes.

The model development calibration and validation processes for both the TSTM-MM models is summarised in the following sub-sections. More detailed model development information is provided in:

- the *Tweed Strategic Transport Model – 2016 Model Development Report* (attached as Appendix A); and
- the *TRDS AIMSUN Base Model Calibration and Validation Report* (attached as Appendix B).

4.2 TWEED STRATEGIC TRANSPORT MODEL – MULTI MODAL (TSTM-MM)

4.2.1 Model Background – Source Model

The Gold Coast Strategic Transport Model (GCSTM) is a strategic travel demand forecasting tool developed by the City of Gold Coast Council to support strategic transport planning, infrastructure and policy testing.

The model was updated (by Consultants SKM) in 2009 to:

- update the software platform from EMME/2 to EMME/3;
- update the model relationships to reflect the latest travel behaviour as evident in the most recent household and visitor travel surveys;
- update the model zoning system and boundaries to reflect the changes to the Census Collection District (CCD) boundaries used in the 2006 census;
- incorporate the public transport mode share results from the separate Gold Coast Rapid Transit base year modelling; and
- re-validate the base year model to 2006 traffic count data.

The GCSTM-MM V2.0 was created in 2014 by Bitzios Consulting involving re-basing the model to 2011 trip patterns (from Household Travel Survey data), adding a mode choice model and public transport trip assignment, updating demographics and re-calibrating/re-validating to traffic survey data.

Following this, some other improvements have also been implemented by Bitzios Consulting, including better representation of Gold Coast Airport traffic demands and more network detail in the rapidly growing Coomera area.

4.2.2 Model Structure Overview

The TSTM-MM is a "four-step" model incorporating trip generation, trip distribution, modal choice and trip assignment steps. Trip generation is based on trip generation equations primarily related to population, employment and enrolments. Trip distribution using a form of gravity model with its deterrence functions,

drawing on cost skims from within the model. Modal choice is based on "factors" to strip out walk/cycle trips but uses a logit-based choice model to split motorised person trips into public transport and private vehicle trips which are assigned to the network. Commercial vehicle trips are separately included:

4.2.3 Model Boundary and Zone System

The existing 2016 GCSTM-MM was used as the base for developing the TSTM-MM base model. Figure 4.1 shows the study area and zone boundaries for the strategic model.

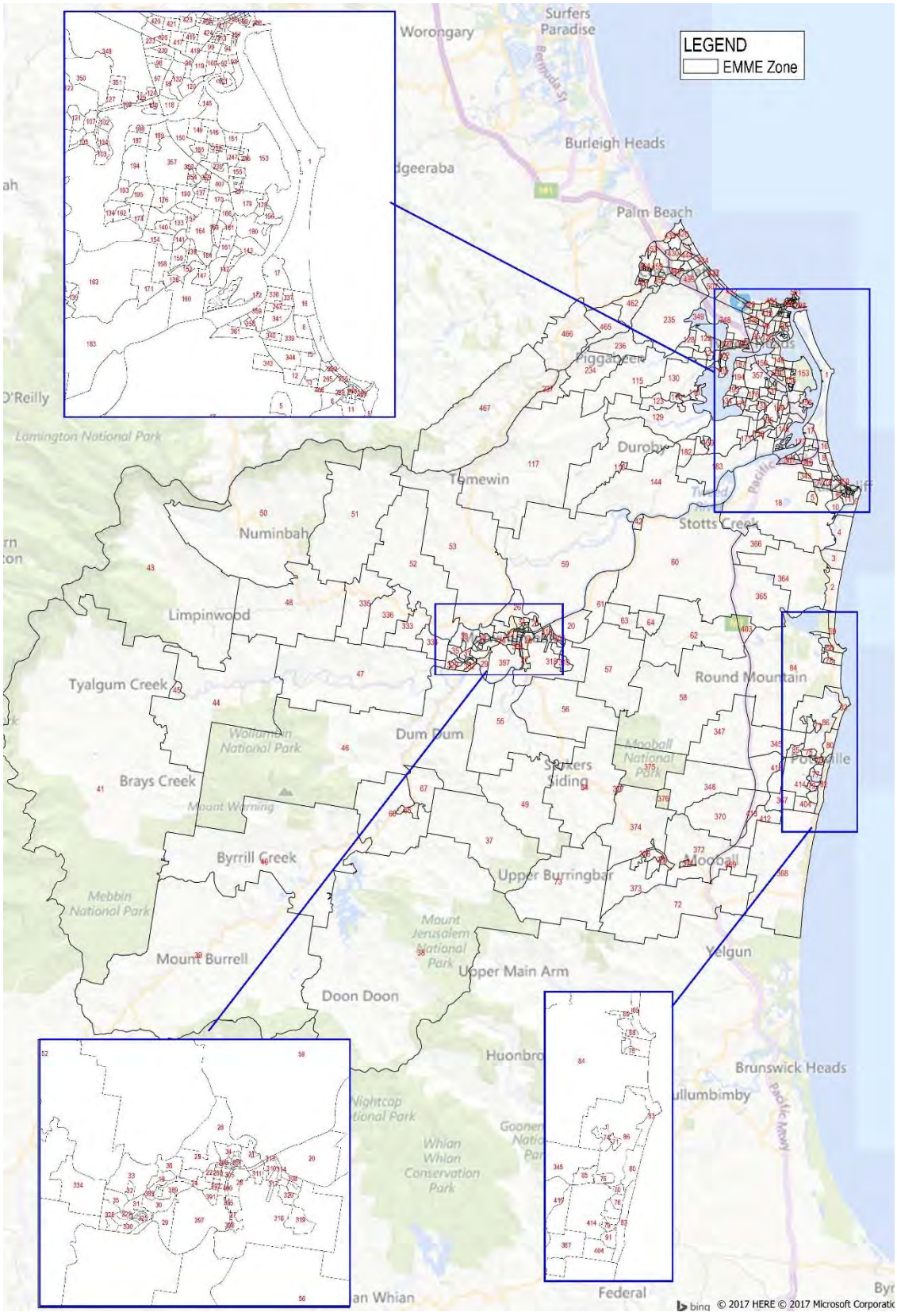


Figure 4.1: Strategic Model Study Area

Demographic data for the study area was sourced from Australian Bureau of Statistics (ABS) datasets. In the absence of demographic data for 2016, the datasets sourced from 2011 Australian Bureau of Statistics (ABS) have been extrapolated using representative growth rates. These growth rates gave been sourced from various TSC documents.

The demographic data is maintained in a spreadsheet and exported into the formats needed for the trip generation models in the TSTM-MM. The demographic inputs are contained within the four primary categories of:

- population (Figure 4.2);
- employment (Figure 4.3);
- education (Figure 4.4); and
- visitors (Figure 4.5).

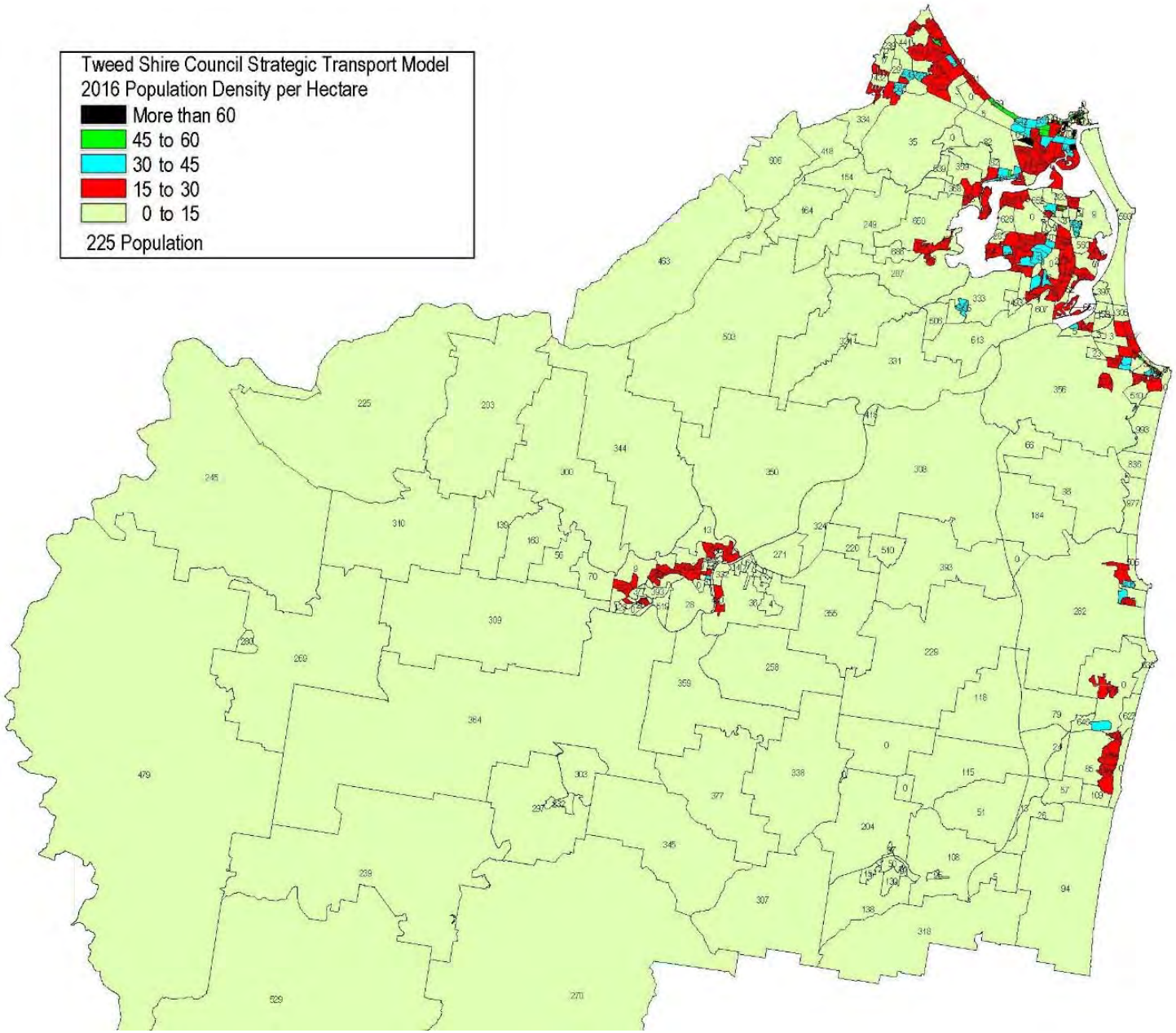


Figure 4.2: Tweed Shire Population Density (2016)

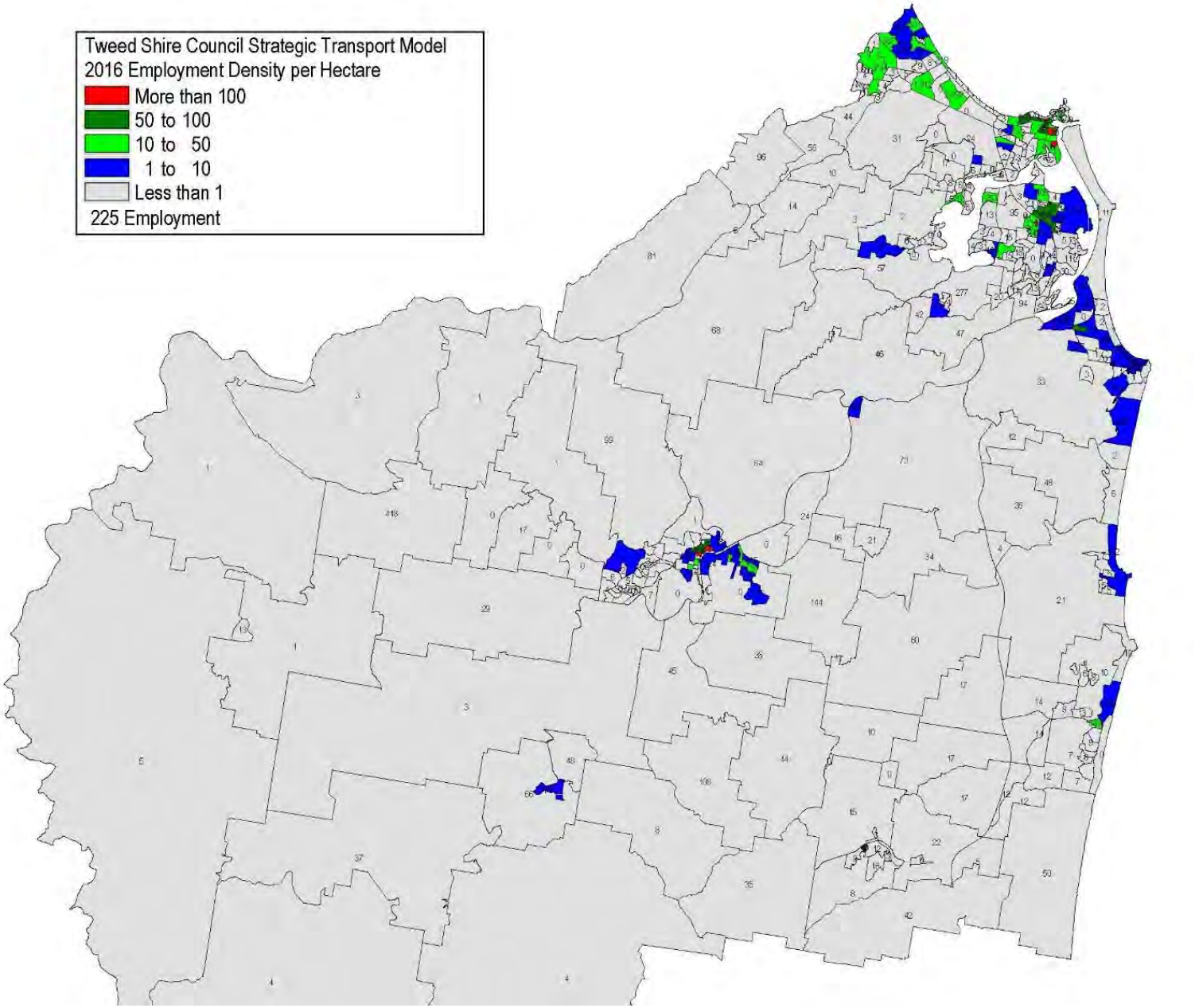


Figure 4.3: Tweed Shire Employment Density (2016)

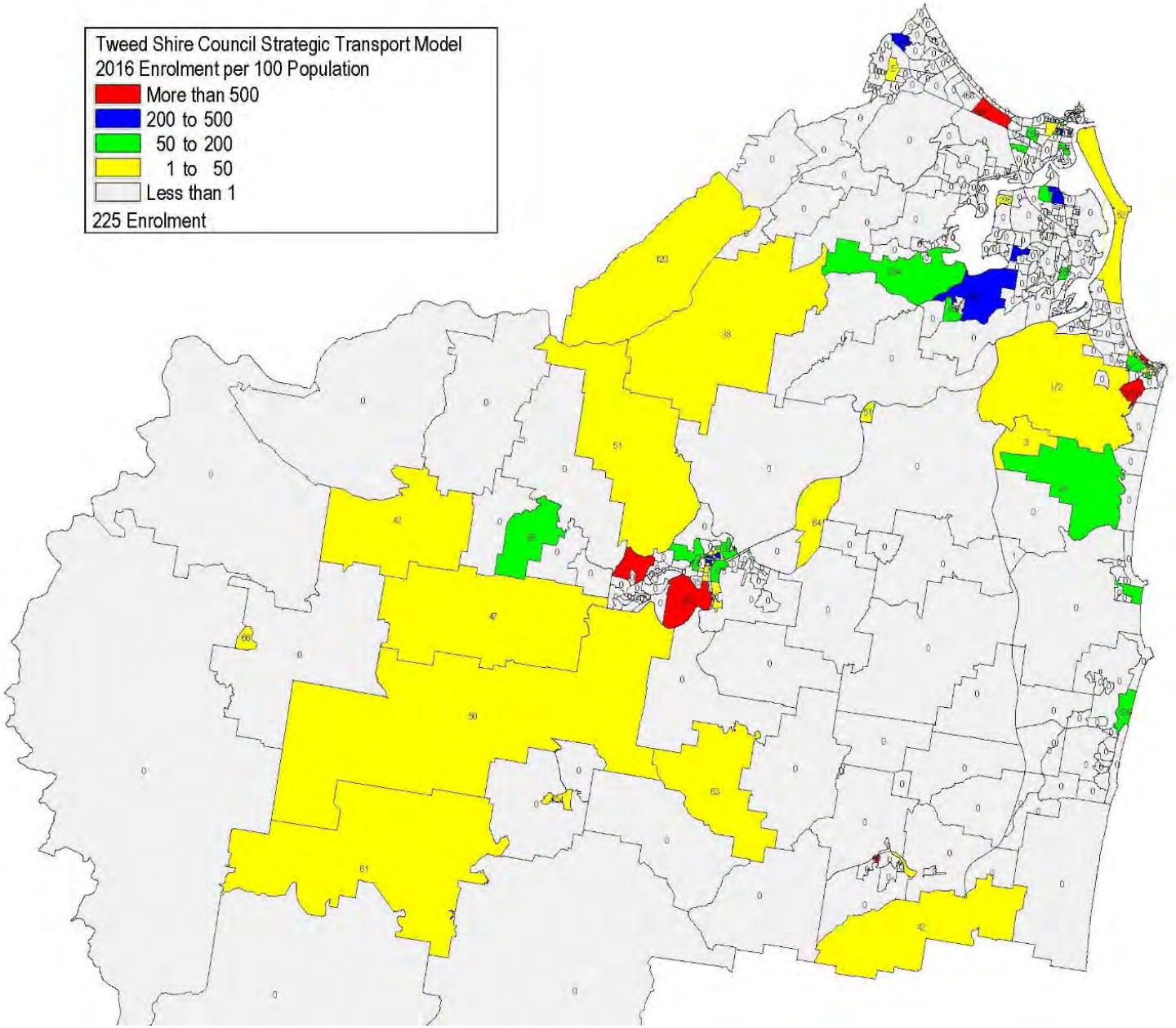


Figure 4.4: Tweed Shire Enrolment Density (2016)

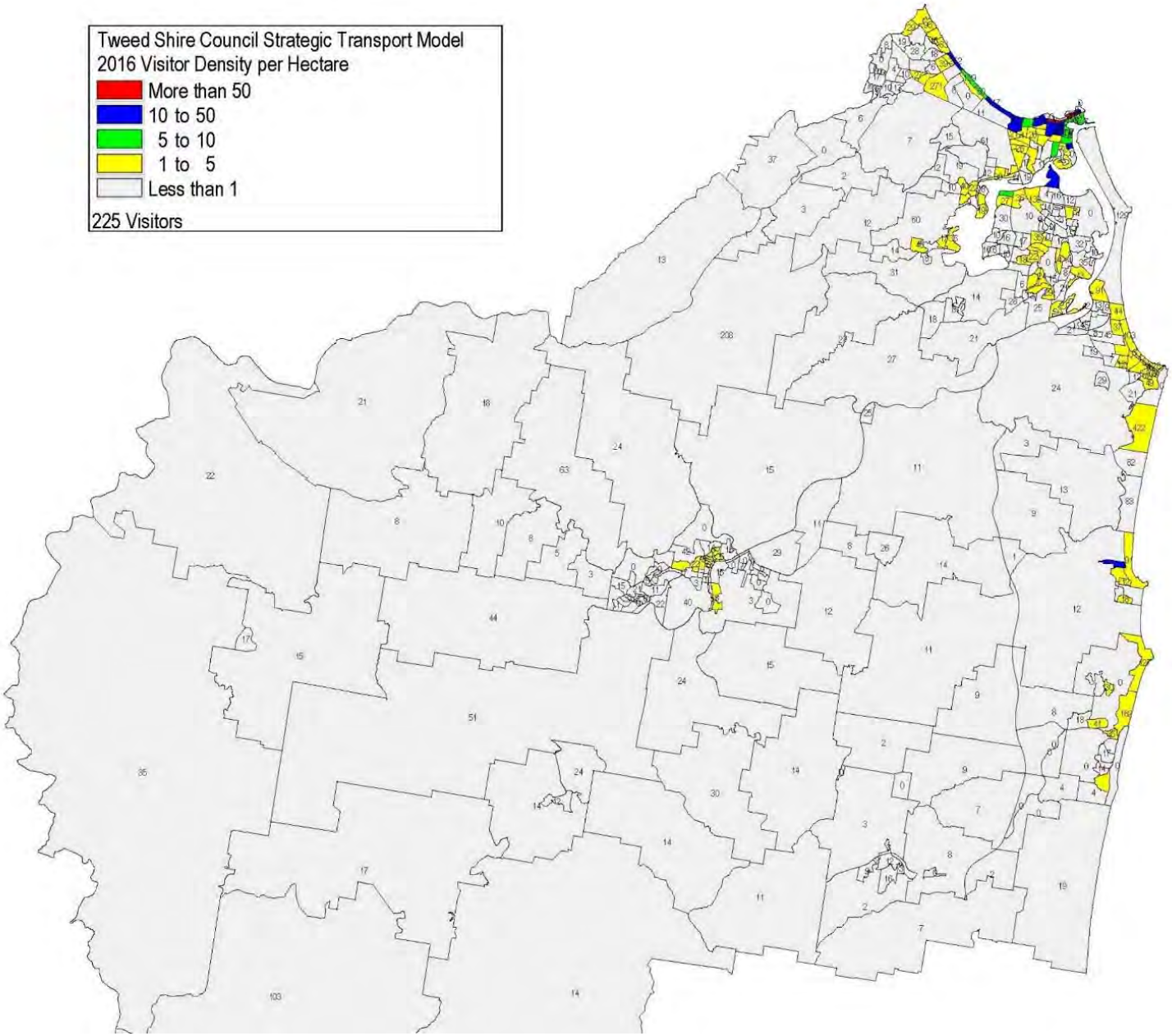


Figure 4.5: Tweed Shire Visitors (2016)

4.2.4 Model Calibration and Validation and

The transport modal choice and trip assignment parts of the model have not been calibrated beyond the calibration was done for the GCSTM-MM. Localised validation of bus passenger volumes is a future task to upgrade/refine the model. This section focusses on the traffic assignment calibration and validation.

The Roads and Maritime Services Traffic Modelling Guidelines stipulates the following network-wide and screenline/cordon criteria for the validation of a strategic traffic assignment. These criteria, which have been adopted for the validation of the 2016 Base TSTM-MM are:

- 95 percent of individual link volumes to have a GEH <= 5.0;
- all individual link and turn volumes should have GEH <=10;
- coefficient of determination, R^2 to be >0.9;
- all counts RMSE should be 30.0 or lower; and
- in each direction; the screenline or cordon total to have GEH <4.0.

Both screenline volume outputs and peak period travel time outputs are within the strategic model validation tolerances contained in the RMS guidelines. The level of validation is considered fit for the purpose of strategic network modelling, assessment of daily link volumes and for input into local area models (including the AIMSUN Model).

Notwithstanding the above, there may be specific roads where traffic volumes are not within 20% of observed volumes as is the nature and the limitations of strategic network modelling. The precision of models evolves over time as it is expected that further updates to traffic assignment will be needed as specific parts of the network are interrogated in more detail; and to suit the needs of specific local network studies.

4.3 TWEED MESOSCOPIC AIMSUN MODEL DEVELOPMENT

4.3.1 Model Overview

Whilst the EMME model incorporates the entirety TSC area, the level of detail required in the AIMSUN modelling as well as the intersection-based nature of this model suggested the need for a refined study area. The refined study area is bounded by the state border, Casuarina/Kings Forest and the Terranora Broadwater. This area incorporates several key regional roads including the Pacific Motorway, Wharf Street, Minjungbal Drive, Kennedy Drive and Fraser Drive.

An area of the road network north of the Queensland state border has been included within this model to ensure cross border interactions are reflected.

The study area and extent of modelled network is shown in Figure 4.6.

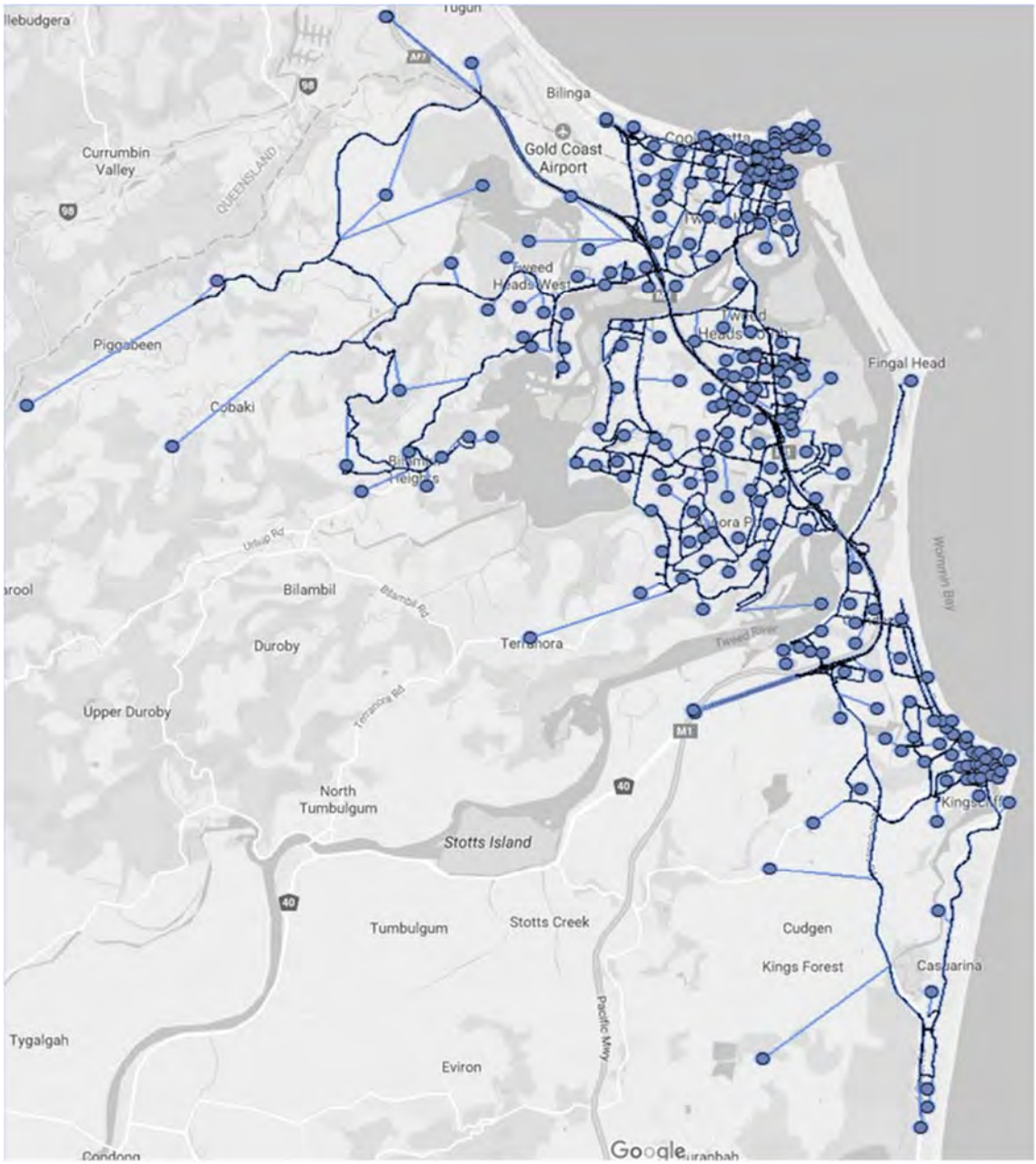


Figure 4.6: AIMSUN Model Study Area

4.3.2 Model Inputs

Key model inputs and the key characteristics of the AIMSUN model are summarised as follows:

- the network geometry and lane configurations were coded based on the Tweed Strategic Transport Model – Multi Modal (TSTM-MM) and intersection geometry was based on aerial photography;
- the base models were developed for the typical commuter peak periods which align to the corresponding strategic model time periods:
  - AM Base model peak period: 7:00 am to 9:00 am; and
  - PM Base model peak period: 4:00 pm to 6:00pm.

  The models include a 30 minute "warm up" period prior to the peak period and a 30 minute "cool down" period after the peak period;
- the traffic demands used within the TRDS AIMSUN base model have been firstly adopted from the TSTM-MM. Traffic demands have been separated into light vehicles and heavy vehicles. A static OD adjustment process was then undertaken in AIMSUN to manipulate the TSTM-MM "prior" matrices using datasets of turn and link counts at multiple locations;
- the traffic release profile used in the Aimsun modelling was based on a sample of six representative intersections within the study area; and

- vehicle classes used in the models are based on the default AIMSUN template vehicle classes. The vehicles/classes were split into "cars" and "trucks" with separate demands developed for each. The vehicle properties were amended to more accurately represent the average Australian vehicle sizes;

4.3.3 Model Calibration and Validation

The calibration and validation of the Base AM and Base PM weekday AIMSUN models was undertaken using:

- intersection survey counts;
- SCATS signal data;
- travel time surveys; and
- informal queue observations (including local knowledge).

The Base 2016 AIMSUN models developed for the AM and PM peak hour periods are considered to be appropriately calibrated and validated to 2016 traffic conditions given the data available. The models are considered fit-for-purpose given the context of this particular study.

The Aimsun models could be refined and improved in the future as more data becomes available.

Appendix B contains further details on the AIMSUN model calibration and validation.

5. EXISTING CONDITIONS ASSESSMENT

Figure 5.1, Figure 5.2, Figure 5.3 and Figure 5.4 present the identified existing issues with the Tweed Shire road network based on existing constraints and travel patterns. Traffic congestion and delays within the network are present during typical morning and afternoon peak periods. In addition, it is noted that traffic congestion is also apparent during the middle of the day within specific urban and commercial areas as well as on weekends and during holiday/seasonal periods. Key constraints on the existing road network are present.

Table 5.1: Existing Road Network Constraints

No.	Location	Road Network Constraint / Issue
1	Tweed Heads	Kennedy Drive, associated with peak periods traffic congestion at the Pacific Highway Interchange and Ducat Street signalised intersection.
2		Kennedy Drive/Norman Street/Boat Ramp access. The priority controlled intersection exhibits delays and queues during peak times and weekend periods.
3		Wharf Street/Boyd Street intersection. Peak period queues on all approach. Left turn slip lane from Kennedy Drive exhibits queues and conflicts with left turning traffic to Boyd Street.
4		Golan Drive / Kennedy Drive / Inlet Drive / Piggabeen Road intersection. Capacity limitations and proximity to bridge. Peak period queueing and turn movement delays.
5	South Tweed Heads	Minjungbal Drive between Kirkwood Road and Darlington Drive. Limited turn movement green time for side streets (i.e Machinery Drive, Shallow Bay Drive, Blundell Blvd, Kirkwood Road) occurs throughout the day including the middle of the day, School peak periods weekends and seasonal/holiday periods.
6		Greenway Drive and Machinery Drive. Delays at priority controlled intersections and multiple high use commercial/industrial driveway crossovers.
7		Dry Dock Road/Minjungbal Drive. Congested intersection during AM and PM peak periods.
8	Banora Point	Greenway Drive/Leisure Drive roundabout intersection. School peak period traffic movements and secondary access to/from South Tweed Heads.
9		Sextons Hills Drive/Darlington Drive/Minjungbal Drive intersection. Peak period queues on all approaches, attributed to being the primary access to/from South Tweed Heads from the south as well as access to the Pacific Highway for Banora Point, South Tweed Heads and Terranora catchments.
10		Leisure Drive. Major east-west through route as well as servicing Schools and retail developments. Incorporates priority controlled intersections as well as shared through-right turn lanes.
11	Terranora	Mahers Lane / Terranora Road intersection. School peak queues and turn movement delays.
12	Kingscliff	Tweed Coast Road/Cudgen Road intersection. Queues during morning and afternoon peak periods. Intersection includes short kerbside through lanes which limit utilisation and intersection throughput.
13		Wommin Bay Road and Phillip Street intersections. Peak period tidal traffic flow and queuing. This is also evident during weekend and holiday periods.
14	Chinderah	Tweed Coast Road / Morton Street intersection. Short weave to access left turn to Morton Street.
15	Tweed Coast	Coronation Avenue. Periods of slow moving queuing and congestion during peak periods, weekends and holiday periods. This is attributed to the high pedestrian activity and high traffic impedance associated with the Pottsville town centre.
16	Murwillumbah	Wollumbin Street on entry to the Murwillumbah CBD over the Tweed River bridge. Peak period queuing. This is attributed to the turning traffic at Commercial Road roundabout intersection on the western side of the bridge.
		Riverview Street and Nullum Street priority controlled intersection to Wollumbin Street. Right turn queues and delays which occurs during School peak times.
15		Byangum Road / Wollumbin Street Roundabout. Peak period queues and delays.

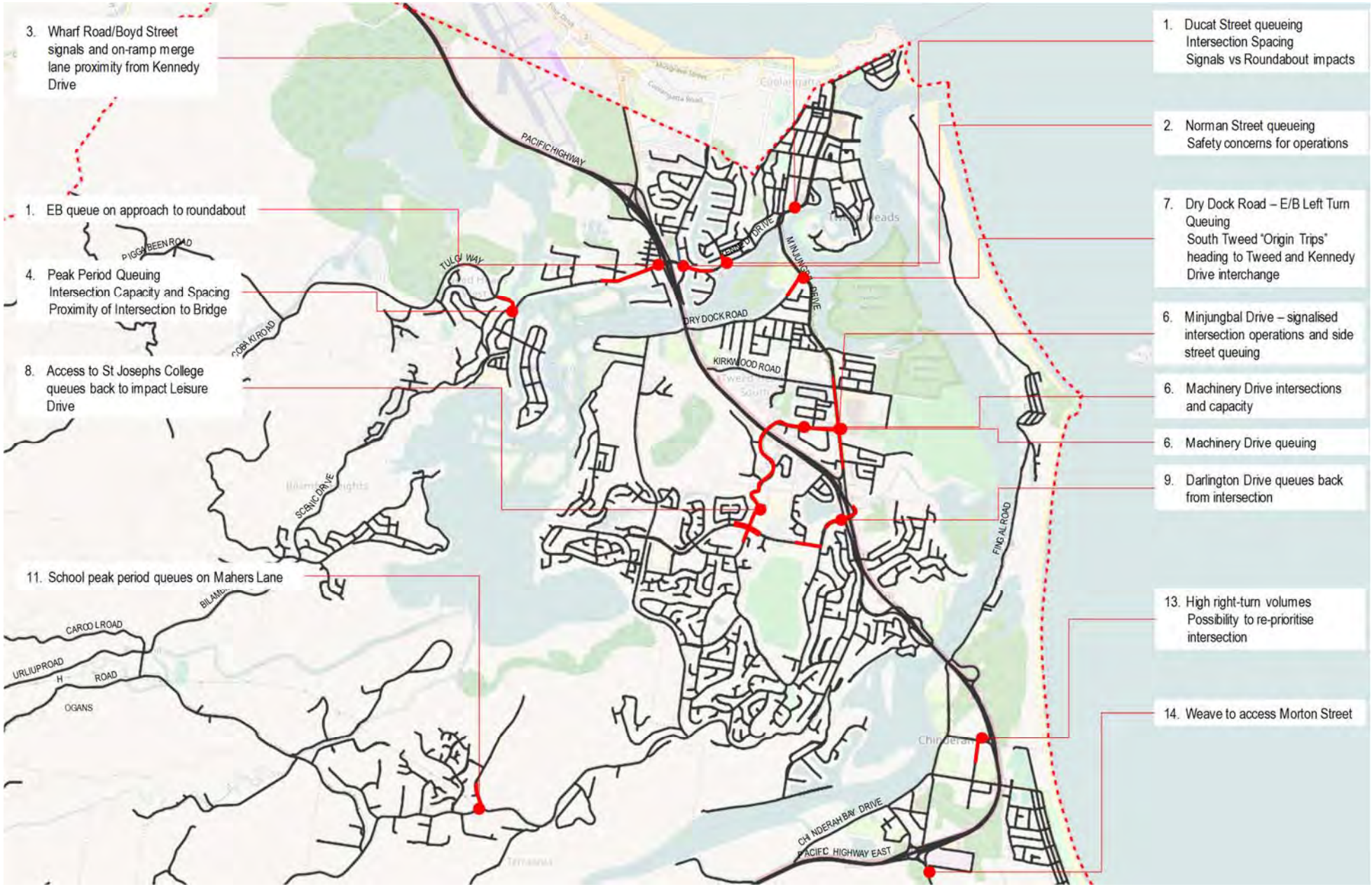


Figure 5.1: Existing Network Issues 2016 – Tweed Heads/Chinderah

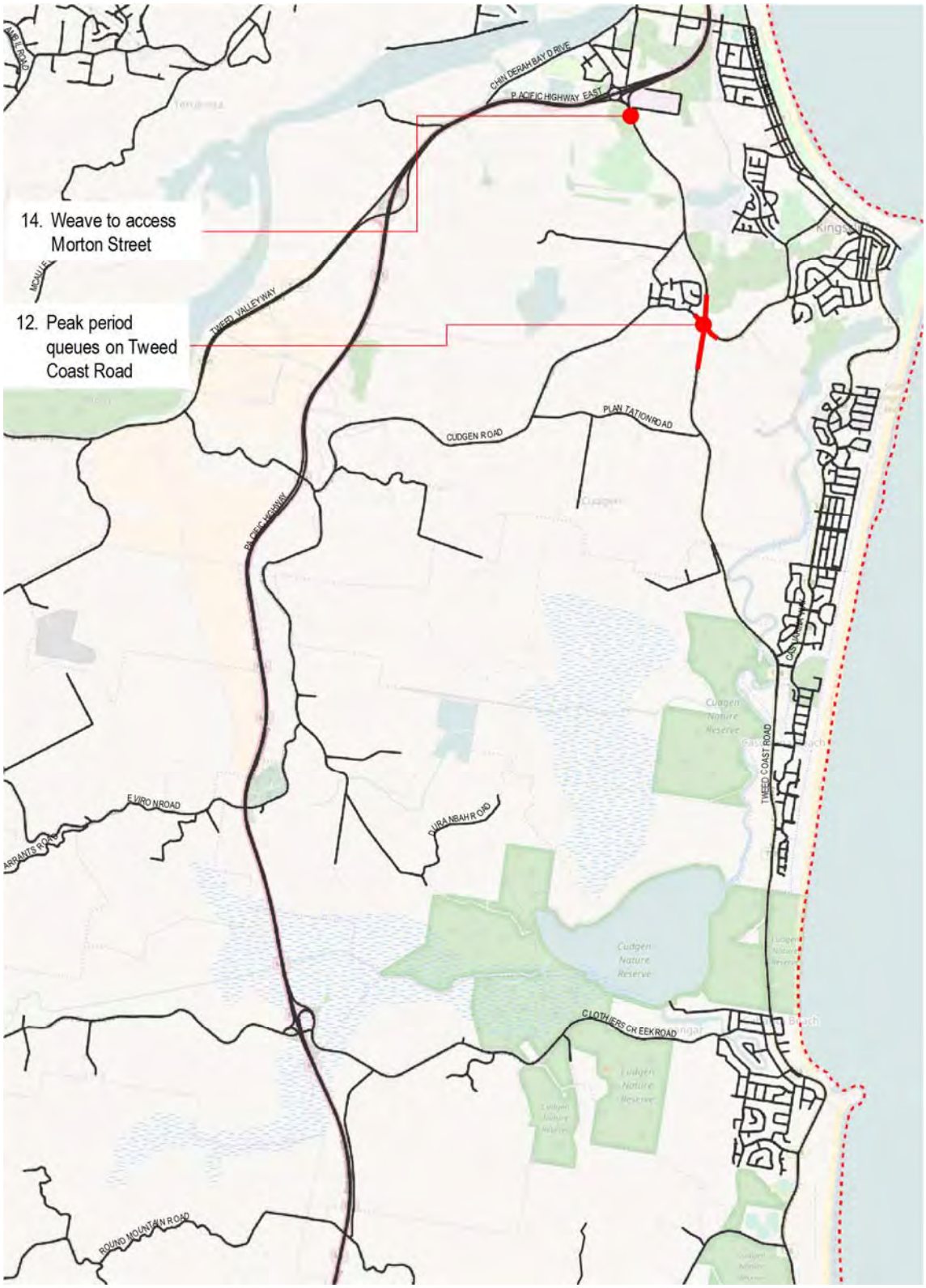


Figure 5.2: Existing Network Issues 2016 – Kingscliff/Cabarita

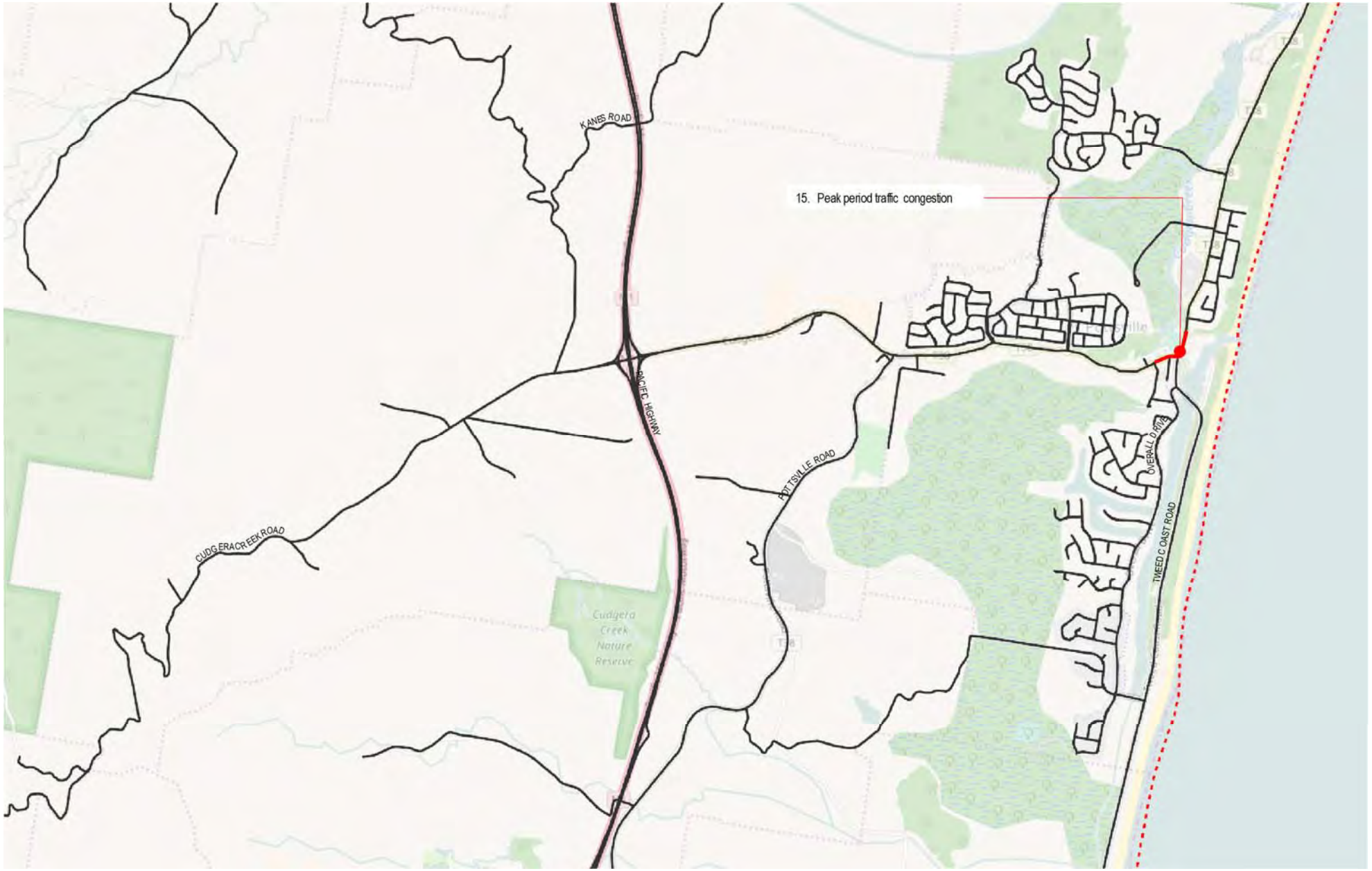


Figure 5.3: Existing Network Issues 2016 – Pottsville

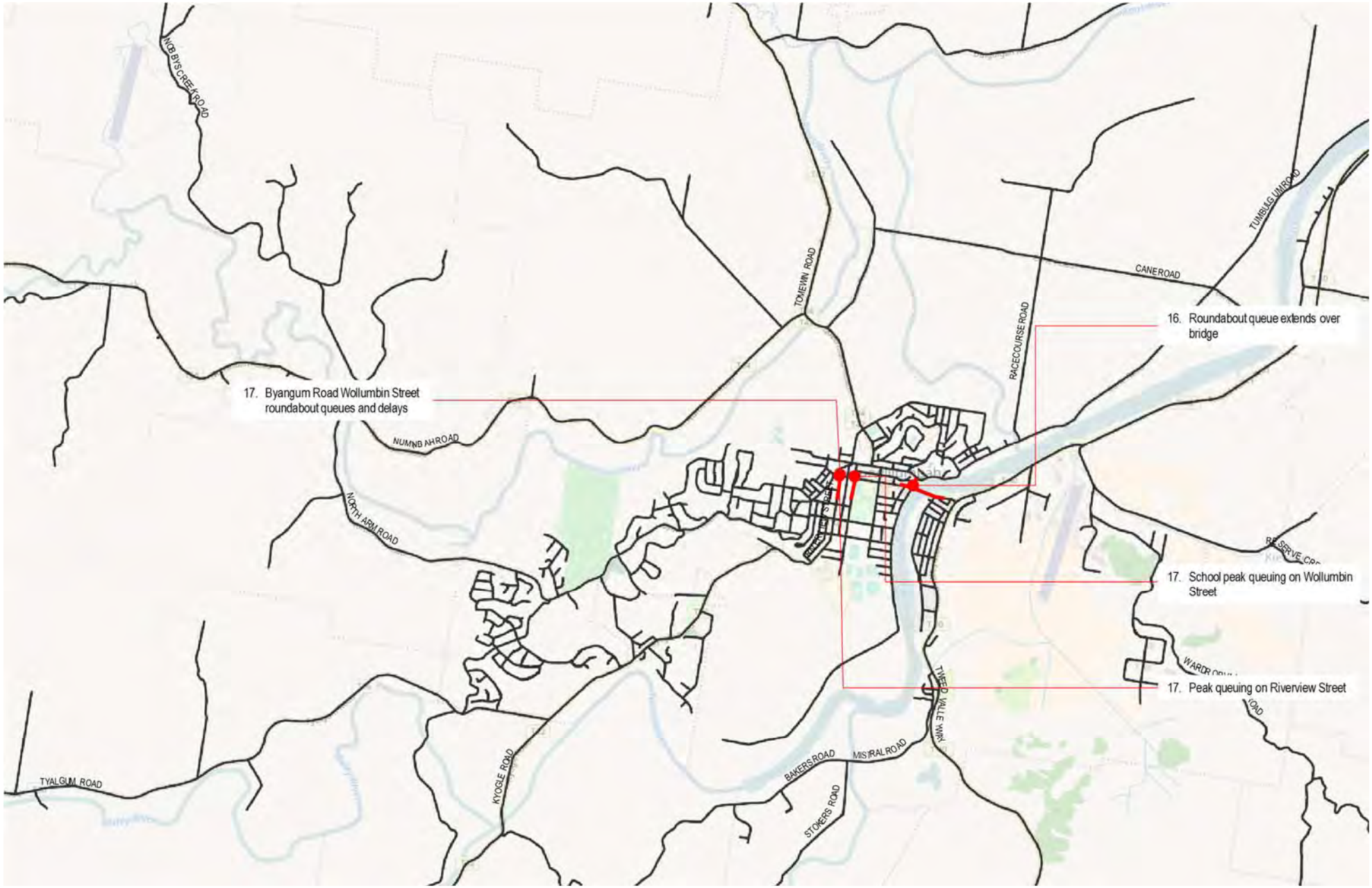


Figure 5.4: Existing Network Issues 2016 – Murwillumbah

6. YEAR 2041 FORECAST DEMOGRAPHICS

6.1 FORECASTING STRUCTURE AND SUMMARY

The TSTM-MM requires demographic inputs and future land release and development information needed to be converted into population, employment and enrolment data for an assumed ultimate year of 2041.

TSC future development planning information and current growth trends were used to determine the additional population, employment and enrolments to 2041. This "growth" data has then been added to the 2016 base data for each individual model zone.

This chapter describes the processes used and provides a summary for each of the key demographics types. Detailed zone-by-zone results are available in Appendix C.

Areas of the TSTM-MM in Queensland (i.e. Currumbin/Tallebudgera and Bilinga/Tugun) have been taken into consideration but are not included in the final forecast totals for the Tweed Shire and use projections from the GCSTM-MM.

Demographic forecasts based on TSC's data inputs are the maximum values expected representing an "ultimate" development scenario based on future planning. However, Council's land development strategy may take longer than 25 years to be released and the year 2041 should be considered as a notional future year. To allow some testing of this, the following forecast scenarios were created:

- High scenario - has applied the Gold Coast City rate of growth (5-year average) to the expected ultimate scenario totals, reflecting a compounding growth rate of 1.88% per annum;
- Medium scenario - has applied the Profile.ID rate of growth reflecting a compounding growth rate of 1.54% per annum; and
- Low scenario - has applied the NSW Department of Planning (DoP) projection rate of growth reflecting a compounding growth rate of 1.10% per annum.

6.2 POPULATION FORECASTS

6.2.1 Data Inputs

Population forecasting was based on the number of additional dwellings expected across the Tweed Shire based on future development planning. Future development information was provided by TSC and included the following:

- Vacant Residential Land - land that is part of existing development expansion areas where dwellings are yet to be built. These values were based on wastewater/water connections provided by Council;
- Infill Development - additional future dwelling growth expected in established areas. These values were based on wastewater/water connections as well as forecast ID data provided by Council; and
- New Land/Development - planned development areas outlined by Councils and zoned residential. These values were based on data from Council's Strategic Planning.

The data was interpreted using the following process:

- the calculated additional dwellings were placed into the relevant zones outlined in the TSTM-MM to provide an "ultimate" number of additional dwellings (the maximum known growth ability of the area);
- the zone by zone data was reviewed by Council's Strategic Planning. Manual balancing of certain large future developments was undertaken to provide a more reasonable dataset based on the expected time or probability of developments occurring during the 25-year design period and to what extent;
- PopulationID data (provided by TSC) was used to cross check total volumes and the zone by zone application of population data;
- the "ultimate" number of additional dwellings was converted to additional population by applying a "number of persons per dwelling" rate to each TSTM-MM zone's additional dwellings. This rate was defined based on the existing 2016 population and dwelling data for each zone. It should be noted that where an existing rate was not available for a zone, a Council specified rate of 2.4 persons per household was used; and
- Zone by Zone population data was also compiled into the relevant 13 Tweed Shire sectors defined by the TSTM-MM.

6.2.2 Scenario Totals

The scenarios totals are summarised below:

- High Scenario – results in an additional population of 55,408 across the Tweed Shire;
- Medium Scenario – results in an additional population of 41,518 across the Tweed Shire; and
- Low Scenario – results in an additional population of 28,027 across the Tweed Shire.

Equation 1: Zone by Zone Population Calculation

$$\text{Zone X Pop (scenario)} = Total\ Additional\ Pop\ (scenario) \times \frac{Zone\ X\ Pop\ (ultimate)}{Total\ Additonal\ Pop\ (ultimate)}$$

**Pop = Population*

The above High, Medium and Low scenario results were applied to the TSTM-MM as the 2041 forecast data. Each zone's population is calculated as the product of the population percentage (where percentage is based on the ultimate scenario population results) and the total additional population as per Equation 1.

6.2.3 Forecast Summary

Table 6.1 summarises the estimated 2041 population (2016 Base plus Growth Projections) by sector for the High, Medium and Low scenarios.

Table 6.1: Population Forecast Summary by Sector

Growth by Sector	2016 Population	2041 Population Forecast		
		Low	Medium	High
Tweed Heads	8,675	9,852	10,419	11,003
Tweed Heads South-Banora Point	6,016	7,709	8,525	9,364
Currumbin Valley -Tallebudgera	1,486	1,486	1486	1486
Cobaki-Piggabeen	602	9,813	14,246	18,811
Terranora - Bilambil	25,948	27,786	28,670	29,581
North Coast-Kingscliff	10,129	13,008	14,393	15,820
Cabarita	3,660	4,376	4,721	5,076
Mid Coast-Casuarina	2,099	7,670	10,351	13,113
South Coast - Pottsville	7,408	10,173	11,503	12,873
Murwillumbah	10,499	11,999	12,721	13,465
North East Hinterland - Tumbulgum	2,973	3,030	3,057	3,085
West Tweed - Uki -Tyalgum	5,500	5,849	6,017	6,190
Tweed Heads West	6,365	6,440	6,476	6,513
South East Hinterland - Burringbah	3,559	3,708	3,780	3,854
Bilinga - Tugun	22,814	22,862	22885	22908
*Total**	*93,433*	*121,413*	*134,880*	*148,747*

**Excludes QLD sectors, as marked in grey.*

Forecast population density for each scenario is presented in Appendix C.

6.3 EDUCATION/ENROLMENTS FORECAST

6.3.1 Data Inputs

Enrolments growth was based on a proportion of the estimated population growth across the Tweed Shire (see Section 6.2) for each sector as well as considering expected new education developments. Education enrolments are defined in the TSTM-MM as follows:

- Pre-Primary and Primary – 8.5% of population (based on 2016 data);
- Secondary – 6.7% of population (based on 2016 data); and
- Tertiary – 2.6% of population (based on 2016 data).

Based on the above percentages and the additional population for each forecast scenario the enrolment demand from each sector was calculated. The enrolment data was interpreted using the following process:

- the enrolment demand from each sector was allocated to sectors where education facilities currently exist. This allocation was based on the proximity of Schools to the demand and an understanding of local education facility catchment areas. The allocation to each sector is further defined in Appendix C;
- enrolments were then redistributed to consider new educational facilities such as Primary Schools in Cobaki and Kings Forest, a new High School in Pottsville and the expansion of the Southern Cross University in Bilinga (i.e. 4,500 Equivalent full time students); and
- zone by zone enrolments were then calculated by proportioning each sector's enrolments based on existing 2016 enrolment data splits.

6.3.2 Zonal Apportionment Methodology

As outlined above future enrolments have essentially been based on growth proportions using population forecast data for the Low, Medium and High scenarios and then added to the 2016 base enrolment data.

The zone by zone high, medium and low growth enrolment data have been applied as per Equation 2. The resulting total enrolments have then been cross checked for each sector and manual adjustments made for each zone that contains a new education facility.

Equation 2: Zone by Zone Enrolments Calculation

$$\text{Zone X Enrol (scenario)} = \frac{Zone\ X\ Enrol\ (2016\ Base)}{Corresponding\ Sector\ Enrol\ (2016\ Base)} \times Sector\ Enrol\ 2041\ (scenario)$$

**Enrol = Enrolments*

The High, Medium and Low scenario results were applied to the TSTM-MM as the 2041 forecast data.

6.3.3 Forecast Summary

Table 6.2 summarises the total estimated 2041 enrolments for each sector under the High, Medium and Low scenarios. A full breakdown of totals by education type is available in Appendix C.

Table 6.2: Total Education/Enrolments Forecast Summary by Sector

Growth by Sector	2016 Enrolments	2041 Enrolments Forecast		
		Low	Medium	High
Tweed Heads	1,466	1591	1651	1713
Tweed Heads South-Banora Point	4,539	5152	5446	5792
Currumbin Valley -Tallebudgera	120	120	120	120
Cobaki-Piggabeen	0	734	1087	1451
Terranora - Bilambil	1,453	2152	2488	2835
North Coast-Kingscliff	3,778	4817	5317	5832
Cabarita	278	339	369	399
Mid Coast-Casuarina	28	503	731	967
South Coast - Pottsville	639	1097	1318	1544
Murwillumbah	3,615	3930	4082	4238
North East Hinterland -Tumbulgum	141	146	148	150
West Tweed - Uki -Tyalgum	460	491	506	522
Tweed Heads West	0	0	0	0
South East Hinterland - Burringbah	207	213	216	219
Bilinga - Tugun	2,396	6,369	6,369	6,369
*Total**	16,604	*21,591*	*23,359*	*25,661*

**Excludes QLD sectors, as marked in grey.*

6.4 EMPLOYMENT FORECASTS

6.4.1 Data Inputs

Employment forecasting was primarily based on the areas of new employment lands planned across the Tweed Shire as well as the expansion of existing zones. Information regarding future employment zones was provided by Tweed Shire Council's Strategic Planning area.

Forecasting calculations have been based on the actual "useable" area of each set of new employment lands. Employment areas were analysed based on aerial imagery and a local understanding of the landscape to determine the percentage of "useable" area.

Four employment types were developed and applied within each "useable" area, as per proportions in the Base 2016 data. Table 6.3 outlines the splits for each area type.

Table 6.3: Employment Area Type Splits for Forecasting Purposes

Typical Split	Retail	Services	Professional	Industry
For retail skewed zones	62%	21%	12%	5%
For services skewed zones	12%	35%	32%	21%
For professional skewed zones	18%	30%	35%	17%
For industry skewed zones	27%	15%	14%	44%

In order to estimate the number of additional employees expected in each "usable" area, employees per 100m^2 rates have been developed to convert areas to number of employees. Employee rates for each of the four employment types applied in the forecasts include:

- Retail – 1.64 employees per 100m^2;
- Services – 7.5 employees per 100m^2;
- Professional – 6.0 employees per 100m^2; and
- Industry – 0.44 employees per 100m^2.

The above rates were based on various sources including the RMS Guide to Traffic Generating Developments (2002), ITE Trip Generation and existing employment areas within the Tweed Shire. It should be noted that where an employment type presented several different rates an average rate was developed.

In summary, employment forecasts were generated using the following process:

- approximated total land area values were designated zones outlined in the TSTM-MM based on their location;
- the percentage of total "usable" area or actual developable land for each zone was determined based on aerial imagery and a local understanding of the topography;
- each "useable" area was designated as skewed towards a particular "employment type" depending on its location, surrounding land uses, known development applications and discussions with Council. Following this the splits shown in Table 6.3 were applied;
- employment rates per 100m^2 of usable area were applied for each zone to determine the "ultimate" additional number of employees expected in each EMME Zone; and
- Zone by Zone employment data was then compiled into the relevant 13 Tweed Shire sectors defined by the TSTM-MM model.

6.4.2 Scenario Considerations

The "ultimate" design scenario forecasts were based on the 2016 "Base" employment data and the estimated maximum additional employment for each zone then added, for each scenario.

The methodology involved:

- each zone's additional employees being calculated as the product of the percentage difference between scenarios ultimate additional population scenarios and the number of additional ultimate scenario employees. See Equation 3. Additional employees are then added to the 2016 Base data to determine the total number of employees estimated out to the 2041 design year.0

Equation 3: Zone by Zone Employees Calculation

$$\text{Zone X Emp (scenario)} = \frac{Total\ Additional\ Pop\ (scenario)}{Total\ Additional\ Pop\ (ultimate)} \times Zone\ X\ Emp\ (ultimate)$$

**Emp = Employees, Pop = Population*

The above High, Medium and Low scenario results were applied to the TSTM-MM as the 2041 forecast data.

6.4.3 Forecast Summary

Table 6.4 summarises the total estimated 2041 employment data for each model sector under in High, Medium and Low scenarios. A full breakdown of totals by employment type is available in Appendix C.

Table 6.4: Total Employment Forecast Summary by Sector

Growth by Sector	2016 Employment	2041 Employment Forecast		
		Low	Medium	High
Tweed Heads	5895	6836	7290	7756
Tweed Heads South-Banora Point	5073	5877	6264	6662
Currumbin Valley -Tallebudgera	233	233	233	233
Cobaki-Piggabeen	60	60	60	60
Terranora - Bilambil	4225	4225	4225	4225
North Coast-Kingscliff	3750	5569	6445	7347
Cabarita	476	476	476	476
Mid Coast-Casuarina	104	104	104	104
South Coast - Pottsville	1165	5446	7507	9628
Murwillumbah	5362	13698	17711	21842
North East Hinterland -Tumbulgum	470	470	470	470
West Tweed - Uki -Tyalgum	742	742	742	742
Tweed Heads West	707	1596	2024	2465
South East Hinterland - Burringbah	558	558	558	558
Bilinga - Tugun	12,831	12,831	12831	12831
*Total**	*28,587*	*45,658*	*53,875*	*62,336*

**Excludes QLD sectors, as marked in grey.*

7. FUTURE ROAD INFRASTRUCTURE TESTING

7.1 OPTIONS ANALYSIS APPROACH

7.1.1 Strategic Modelling

The TSTM-MM was used to incrementally test a series of road network and infrastructure options to determine an appropriate preferred suite of upgrades required by 2041. These options were based on consultation with TSC and RMS, and designed to target known or expected network constraints as well as considering projects identified in the previous TRDS.

The options analysis used daily and peak hour traffic data to determine network performance statistics such as VHT and VKT. In addition, link volume and Degree of Saturation (DOS) plots were compared to determine the expected performance of major traffic routes within the network.

7.1.2 Mesoscopic Modelling

As the TSTM-MM base model provides only link-based performance outputs, the mesoscopic (AIMSUN) modelling was used to review intersection performance and test upgrades to generate the preferred configurations.

7.2 ROAD UPGRADE SCENARIOS

The Tweed Road Network was modelled under several upgrade scenarios to allow comparison of various road network upgrades under 2041 traffic volumes. A summary of each upgrade scenario is provided in Table 7.1.

Table 7.1: Upgrade Scenario Summary

Upgrade Scenario	Description/Inclusions
Base Case	No improvements on the 2016 road network.
Scenario 1	Do Minimum – Pacific Highway upgraded to six-lanes from Tugun to South Tweed.
Scenario 2	Interim Critical Infrastructure Requirements – Scenario 1 plus infrastructure upgrades which are considered critical to the road network such as the partial construction of the Kirkwood Road (NBD) interchange, four lane on Tweed Coast Road to Kings Forest and new east-west connections between Chinderah and Kingscliff.
Scenario 3	Kirkwood Road Interchange – Scenario 2 plus upgraded Kirkwood Road/Kennedy Drive interchange utilising existing bridge infrastructure (no service road bridges).
Scenario 4	Previous Road Development Strategy – network upgrades specified in the existing TRDS plus north-facing Boyd Street ramps and Broadwater Parkway connection.
Scenario 5	Localised Link Testing – Scenario 4 with some local area modifications to assess the benefits of adding/removing links.
Scenario 6	Preferred Network – Scenario 4 with modified Kennedy Drive/ Kirkwood Road interchange (as per Scenario 3).
Scenario 7	Preferred Network with Constrained Pacific Highway – Scenario 6 with four lane Pacific Highway from Tugun and South Tweed.

7.3 NETWORK STATISTICS

The network-wide statistics from the future year modelling provide an overall insight into the operations of the road network under the different scenarios. A summary of the network statistics from the TSTM-MM is provided in Table 7.2.

Table 7.2: Strategic Modelling Network Statistics (2041)

Network Statistics	Base Scenario	Scenario 1	Scenario 2	Scenario 3	Scenario 4	Scenario 5	Scenario 6	Scenario 7
Total Private Vehicle Trips – persons	612,635	612,931	611,767	612,025	611,838	612,147	612,164	611,854
Total Public Transport Trips – persons	10,471	10,439	8,291	8,297	8,554	8,359	8,531	8,585
Daily Private Vehicle Trips	448,093	448,291	448,775	448,972	448,816	449,024	449,061	448,858
Daily Commercial Vehicle Trips	19,985	21,041	21,042	21,043	21,044	21,045	21,046	21,047
Daily Vehicle Kilometres Travelled (VKT)	5,686,774	5,707,157	5,709,263	5,688,259	5,656,266	5,624,252	5,650,509	5,625,802
Daily Vehicle Hours Travelled (VHT)	131,205	121,120	117,224	116,664	118,063	116,080	116,928	124,702

7.4 SCENARIO TESTING

7.4.1 2041 Base Case

The 2041 Base Case provides a benchmark using the performance of the existing 2016 road network when subjected to 2041 traffic demands. This scenario assumes that no road infrastructure upgrades will be undertaken in the future. As such, the 2041 Base Case does not represent a pragmatic option but simply provides a point of comparison for upgrade options as well as for identifying the and extent of impacts to the road network should no upgrades be undertaken.

The TSTM-MM was run using the three forecast demographic scenarios. The performance of the road network under these three scenarios compared to 2016 traffic demands on the 2016 network are provided in Table 7.3 with network plots presented in Appendix D.

Table 7.3: Base Case Modelling Results

Network Statistics	2016 Base Case	2041 Base Case (Low Yield)	2041 Base Case (Medium Yield)	2041 Base Case (High Yield)
Total Private Vehicle Trips – persons	425,619	562,895	612,635	663,078
Total Public Transport Trips – persons	6,611	8,075	10,471	10,772
Daily Private Vehicle Trips	305,061	412,148	448,093	484,510
Daily Commercial Vehicle Trips	11,257	18,961	19,985	21,039
Daily Vehicle Kilometres Travelled (VKT)	3,477,044	5,334,902	5,686,774	6,046,132
Daily Vehicle Hours Travelled (VHT)	68,432	120,829	131,205	146,835
Average Speed (VKT / VHT)	50.8 km/h	44.2 km/h	43.3 km/h	41.2km/h
Average Trip Time (VHT / Total Vehicle Trips)	0:13:28	0:17:35	0:17:34	0:18:11

An additional 187,000 trips per day are expected to use the Tweed road network by 2041 under the Medium Yield scenario. These additional trips increase average trip times by over four minutes and decrease average speed by 7.5 km/h compared to 2016 Base Case. This represents a significant loss in network performance. Specifically, this reflects congestion issues growing for major road links such as the Pacific Highway, Tweed Coast Road, Tweed Valley Way and Kennedy Drive.

To assess the effectiveness of upgrade scenarios and for the purpose of determining road network requirements, the Medium Yield scenario was adopted for comparisons to the Base Case network performance

indicators. The effect of the Low and High scenarios would essentially change the recommended timing for particular upgrades (i.e. Low Scenario would delay the need and High Scenario would bring forward the need).

7.4.2 Scenario 1: Do Minimum (6 Lanes on the Pacific Highway Only)

Scenario 1 maintains the conditions of the 2041 Base Case with the exception of a six-lane upgrade for the Pacific Highway with three lanes in each direction from Tugun to South Tweed. It is anticipated that the TMR will upgrade the Pacific Highway north of Stewart Road (Currumbin) by 2041 consistent with current Queensland Government planning.

The performance of the road network under Scenario 1 is shown in Table 7.4 with Network Plots provided in Appendix D.

Table 7.4: Scenario 1 Modelling Results

Network Statistics	2016 Base Case	2041 Base Case (Medium Yield)	2041 Scenario 1 (Medium Yield)
Total Private Vehicle Trips – persons	425,619	612,635	612,931
Total Public Transport Trips – persons	6,611	10,471	10,439
Daily Private Vehicle Trips	305,061	448,093	448,291
Daily Commercial Vehicle Trips	11,257	19,985	21,041
Daily Vehicle Kilometres Travelled (VKT)	3,477,044	5,686,774	5,707,157
Daily Vehicle Hours Travelled (VHT)	68,432	131,205	121,120
Average Speed (VKT / VHT)	50.8 km/h	43.3 km/h	47.1 km/h
Average Trip Time (VHT / Total Vehicle Trips)	0:13:28	0:17:34	0:16:13

The network statistics show that the six-laning of the Pacific Highway encourages its use and hence facilitates longer average trip distances (VKT). This suggests that, in aggregate, the network is less constrained as a result of the upgrade, allowing longer trips to be undertaken with less delay. This would also suggest reduced use of the local road network for longer trips compared to the 2041 Base Case.

Whilst Scenario 1 increases the volume of traffic utilising the road network, the average trip time decreases. Under the 2041 Base Case, the Pacific Highway is forecast to exceed a DOS of 1.00, however, the increase in capacity provided under Scenario 1 reduces the DOS below 0.9 between Tugun and Tweed Heads South. This improvement to traffic flow decreases the extent of overall delay within the network, providing both economic and environmental benefits through “value of time” savings and emission reductions.

7.4.3 Scenario 2: – Interim Critical Infrastructure Requirements

Scenario 2 builds on Scenario 1 and adds upgrades to the network to cater for immediate and short term network deficiencies. Under Scenario 2, the Kirkwood Road interchange (northbound) is partially constructed to include an overpass over the Pacific Highway, a northbound off-ramp and connection to Fraser Drive, as shown in Figure 7.1.

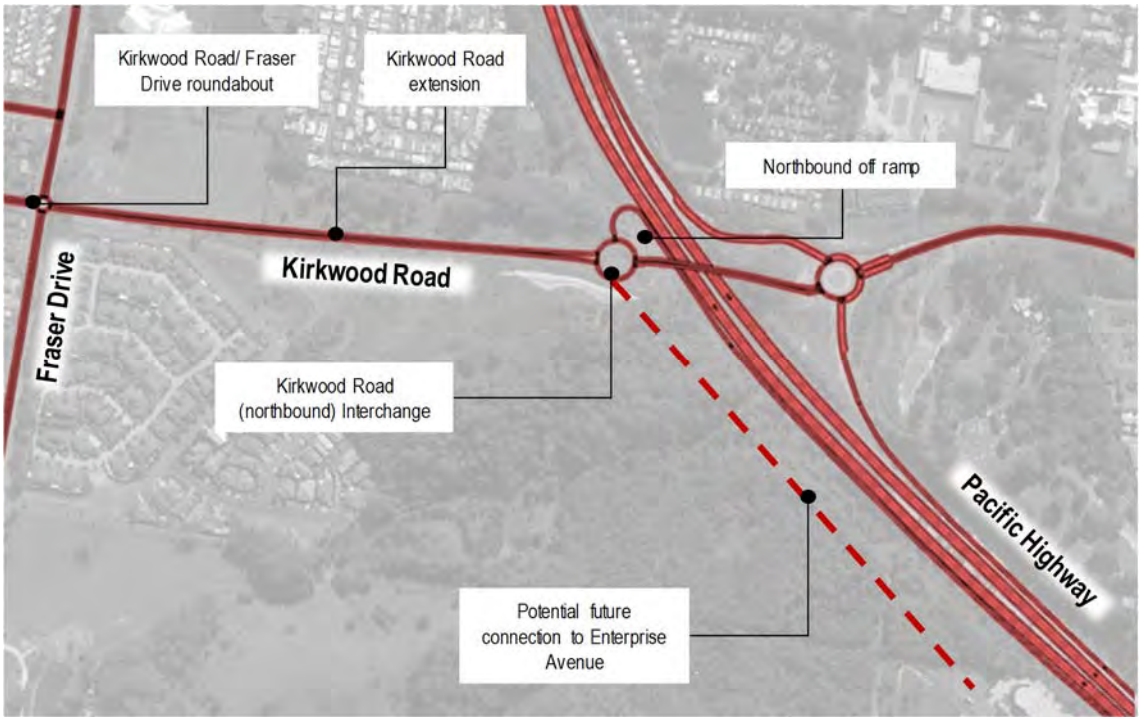


Figure 7.1: Scenario 2 Upgrade – Kirkwood Road Interchange

For the purposes of intersection modelling and staging assessment, the northbound off-ramp is extended underneath the Kirkwood Road overpass to cater for the future connection to Enterprise Avenue and to cater for northbound to eastbound flows across the Kirkwood overpass.

Scenario 2 also includes several improvements in Chinderah/Kingscliff. These upgrades are:

- four-laning to Tweed Coast Road from the Pacific Highway to Casuarina;
- connect Ozone Street to Tweed Coast Road at the Chinderah Golf Club Access via new roundabout;
- connect Turnock Street to Tweed Coast Road via new roundabout;
- extend Elrond Drive to connect to Ozone Street;
- retain the connection from the Pacific Highway offramp (southbound) to Morton Street;
- re-align the separated left turn from the Pacific Highway off-ramp (southbound) to increase its separation from the new Ozone Street connection;
- close section of Morton Street connecting to Tweed Coast Road; and
- connect Rotuma Street to the new Ozone Street connection.

The Scenario 2 road network changes for Chinderah/Kingscliff area is shown in Figure 7.2.

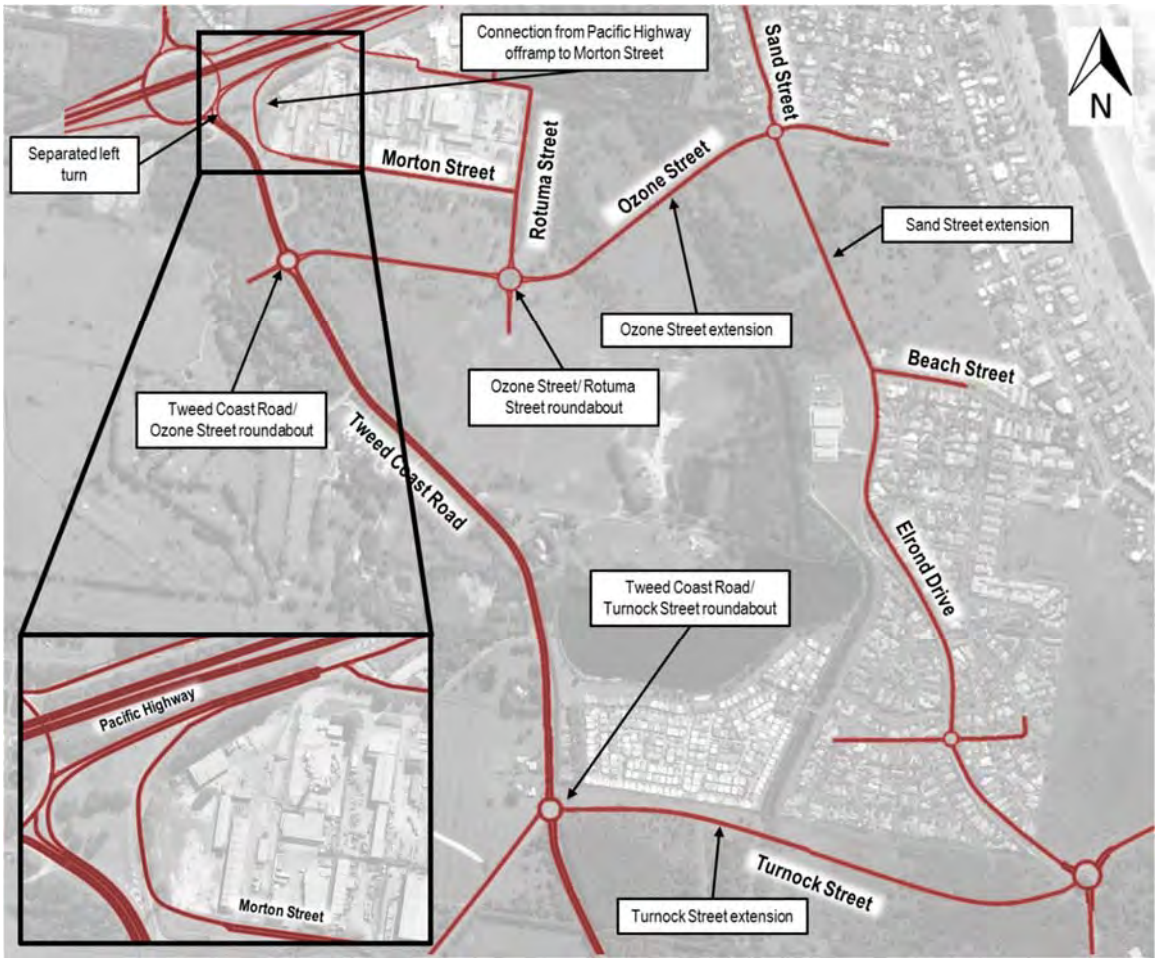


Figure 7.2: Scenario 2 Upgrades – Chinderah/ Kingscliff

The performance of the road network under Scenario 2 is shown in Table 7.5 with Network Plots provided in Appendix D.

Table 7.5: Scenario 2 Modelling Results

Network Statistics	2016 Base Case	2041 Base Case (Medium Yield)	2041 Scenario 1 (Medium Yield)	2041 Scenario 2 (Medium Yield)
Total Private Vehicle Trips – persons	425,619	612,635	612,931	611,767
Total Public Transport Trips – persons	6,611	10,471	10,439	8,291
Daily Private Vehicle Trips	305,061	448,093	448,291	448,775
Daily Commercial Vehicle Trips	11,257	19,985	21,041	21,042
Daily Vehicle Kilometres Travelled (VKT)	3,477,044	5,686,774	5,707,157	5,709,263
Daily Vehicle Hours Travelled (VHT)	68,432	131,205	121,120	117,224
Average Speed (VKT / VHT)	50.8 km/h	43.3 km/h	47.1 km/h	48.7 km/h
Average Trip Time (VHT / Total Vehicle Trips)	0:13:28	0:17:34	0:16:13	0:15:40

Scenario 2 improves the local road network and better to caters for forecast traffic at the Pacific Highway/Tweed Coast Road interchange compared to previous scenarios. The additional capacity at this interchange coupled with new east-west linkages between Kingscliff and Chinderah improves accessibility to Kingscliff town centre and reduces the dependence on constrained intersections at Cudgen Road/Tweed Coast Road as well as at the Kingscliff north interchange with the Pacific Highway at Waugh Street/Phillip Street intersection.

The partial construction of the Kirkwood Road (northbound) interchange and connection to Fraser Drive provides a benefit to the Kennedy Drive and the Darlington Drive interchanges. This is a result of providing a more direct route for traffic travelling to the western areas of South Tweed (i.e. Banora Point west, Hillcrest, Flame Tree Park) that would otherwise use other routes such as Leisure Drive or Dry Dock Road.

7.4.4 Scenario 3: Kirkwood Road Interchange

Scenario 3 builds on Scenario 2 and incorporates further network improvements to Tweed Coast Road and includes the complete Kirkwood Road Interchange upgrade, as shown in Figure 7.3. Under this scenario, the Kennedy Drive northbound offramp is removed due to its proximity to the proposed Kirkwood Road northbound on-ramp.

To maintain the northbound off-ramp to Kennedy Drive, it is proposed that Sugarwood Drive is converted to a two-lane service road (bi-directional), as shown in Figure 7.4. The rationale for this upgrade compared to the previous TRDS service road bridge plan is to make better use of existing infrastructure (i.e. the northern off-ramp and dual lane service road) given its under-utilisation and to provide a more efficient signalised configuration at the Kennedy Drive intersection. This is achieved by having three approaches instead of four and proving complimentary turn movement flows during peak periods.

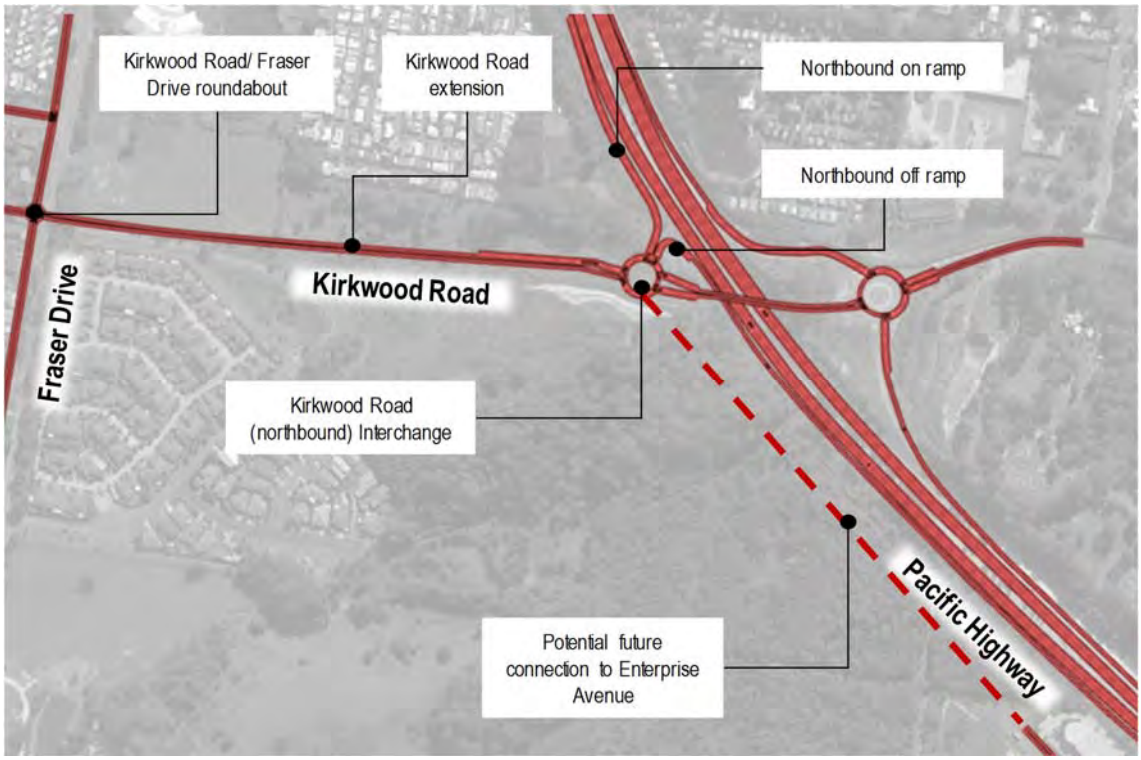


Figure 7.3: Scenario 3 Upgrades – Kirkwood Road Interchange

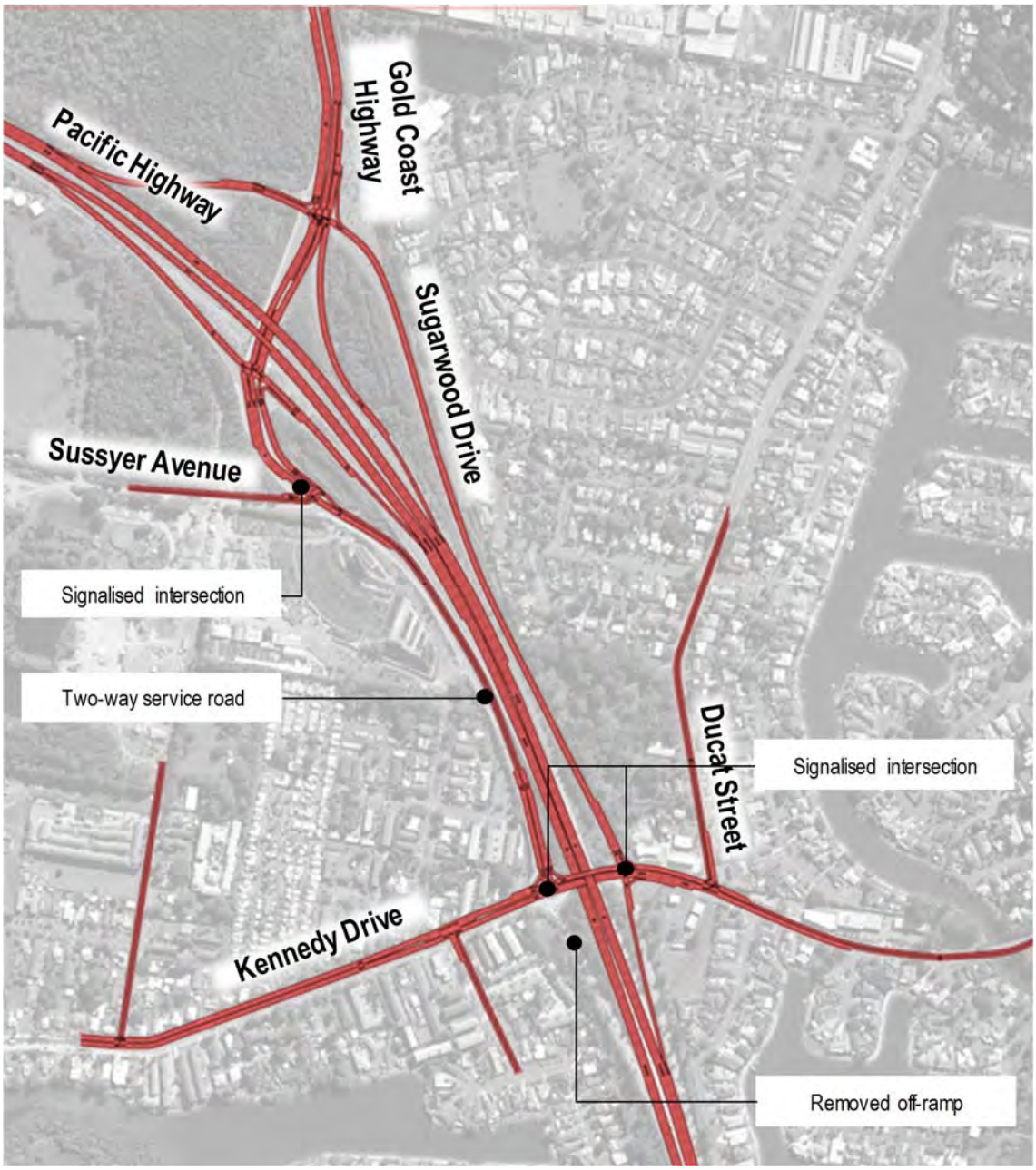


Figure 7.4: Scenario 3 Upgrades – Kennedy Drive Interchange

The network performance under Scenario 3 is shown in Table 7.6 with Network Plots provided in Appendix D.

Table 7.6: Scenario 3 Modelling Results

Network Statistics	2016 Base Case	2041 Base Case (Medium Yield)	2041 Scenario 2 (Medium Yield)	2041 Scenario 3 (Medium Yield)
Total Private Vehicle Trips – persons	425,619	612,635	611,767	612,025
Total Public Transport Trips – persons	6,611	10,471	8,291	8,297
Daily Private Vehicle Trips	305,061	448,093	448,775	448,972
Daily Commercial Vehicle Trips	11,257	19,985	21,042	21,043
Daily Vehicle Kilometres Travelled (VKT)	3,477,044	5,686,774	5,709,263	5,688,259
Daily Vehicle Hours Travelled (VHT)	68,432	131,205	117,224	116,664
Average Speed (VKT / VHT)	50.8 km/h	43.3 km/h	48.7 km/h	48.8 km/h
Average Trip Time (VHT / Total Vehicle Trips)	0:13:28	0:17:34	0:15:40	0:15:35

The implementation of the complete Kirkwood Road interchange upgrade increases the permeability of the road network taking pressure of other east-west connectors such as Dry Dock Road, Kennedy Drive and Leisure Drive. The closure of the Kennedy Drive northbound off-ramp increases the demand placed on the Pacific Highway/Gold Coast Highway interchange with significant intersection works necessary to increase capacity at that location.

7.4.5 Scenario 4: Previous Road Development Strategy

Scenario 4 incorporates all the road infrastructure upgrades proposed under the previous TRDS. Planned road links such as Davey Street and Bilambil links to Piggabeen Road are included within the model.

The network performance under Scenario 4 is shown in Table 7.7 with Network Plots provided in Appendix D.

The implementation of the previous TRDS is forecast to significantly improve the performance of the local road network with a 4.5 km/h increase in average travel speeds compared to the 2041 Base Case.

Compared to Scenario 3, average trip time was noted to increase and average speed to decrease. Whilst normally symptomatic of a more congested road network, it is expected that this reduction in speed is due to the inclusion of several lower-speed roads into the model, essentially forcing speeds downwards. By providing improved local road connections, the reliance on the Pacific Highway is reduced and more trips are assigned across the local road network but with a decreasing average travel speed as a result.

Table 7.7: Scenario 4 Modelling Results

Network Statistics	2016 Base Case	2041 Base Case (Medium Yield)	2041 Scenario 3 (Medium Yield)	2041 Scenario 4 (Medium Yield)
Total Private Vehicle Trips – persons	425,619	612,635	612,025	611,838
Total Public Transport Trips – persons	6,611	10,471	8,297	8,554
Daily Private Vehicle Trips	305,061	448,093	448,972	448,816
Daily Commercial Vehicle Trips	11,257	19,985	21,043	21,044
Daily Vehicle Kilometres Travelled (VKT)	3,477,044	5,686,774	5,688,259	5,656,266
Daily Vehicle Hours Travelled (VHT)	68,432	131,205	116,664	118,063
Average Speed (VKT / VHT)	50.8 km/h	43.3 km/h	48.8 km/h	47.9 km/h
Average Trip Time (VHT / Total Vehicle Trips)	0:13:28	0:17:34	0:15:35	0:15:47

7.4.6 Scenario 5: Sensitivity Testing

Scenario 5 has not been used to assess the overall network performance but rather to test and compare the impacts of various road upgrade options suggested by Council. The links added/ removed as part of this scenario are:

- Sensitivity Test 1 - east-west link across Cudgen Creek from Cudgen Road to Casuarina Way;
- Sensitivity Test 2 - an additional interchange on the Pacific Highway at Round Mountain Road/Reserve Creek Road; and
- Sensitivity Test 3 - the removal of the Kellehers Road extension (proposed under the RDS).

Scenario 5 maintains the road infrastructure upgrades proposed under the previous TRDS and hence runs the sensitivity test against the Scenario 4 network.

When reviewing the sensitivity test results, it is important to recognise that these are strategic modelling outcomes only and do not take into consideration other factors, including but not limited to, detailed intersection requirements and civil, environmental, economic, social, amenity or land use planning considerations.

Sensitivity Test 1 – Impacts of New Cudgen Creek Crossing

The Cudgen Creek Crossing connects Casuarina Way north of Salt Village to Cudgen Road west of TAFE New South Wales (Kingscliff Campus). The strategic modelling of the Cudgen Creek Crossing shows a significant diversion trips from the Kingscliff Town Centre and in particular from Tweed Coast Road (south of Cudgen Road). Daily volume plots are presented in Figure 7.5.

The diversion of trips to the Cudgen Creek Crossing link removes the need for upgrading Tweed Coast Road to four lanes south of Kings Forest Parkway to Casuarina Town Centre including the bridge widening. The intersection capacity at Cudgen Road/Tweed Coast Road would be expected to need to be increased given the additional turning traffic to/from Cudgen Road (east).

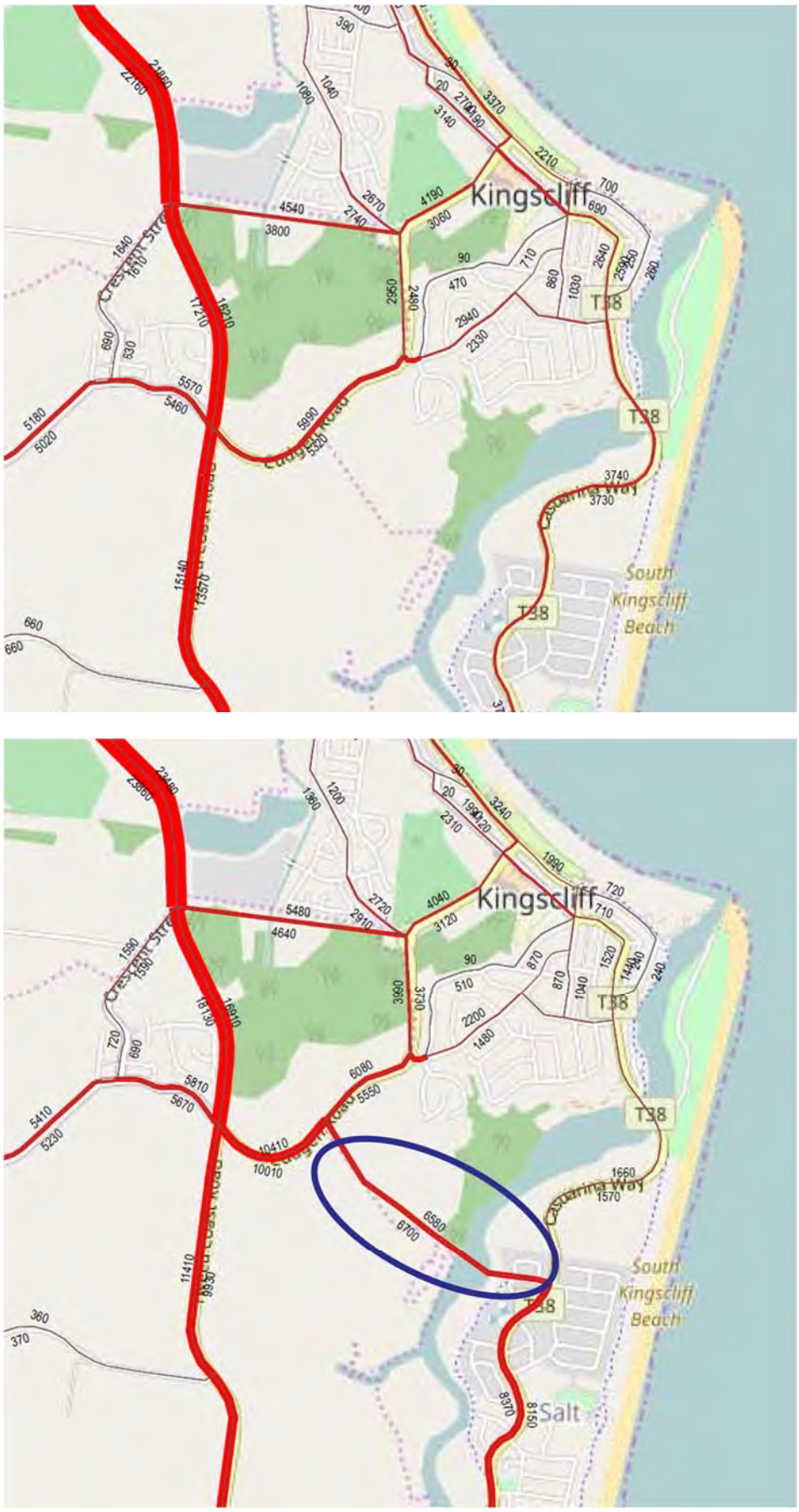


Figure 7.5: Sensitivity Test 1 Cudgen Creek Crossing - Daily Volume Comparison

Sensitivity Test 2 – Impacts of a Round Mountain Interchange with Pacific Highway

A new interchange at the existing Round Mountain Road bridge over the Pacific Highway has been tested to investigate the attractiveness of a more direct east-west connection between the highway and Murwillumbah and in particular to/from Wardrop Valley urban release area. The proposed interchange may also provide a more direct route to/from Hastings Point, reducing pressure on Clothiers Creek Road and Tweed Coast Road. A comparison of daily volume plots with and without the proposed interchange is provided in Figure 7.6.

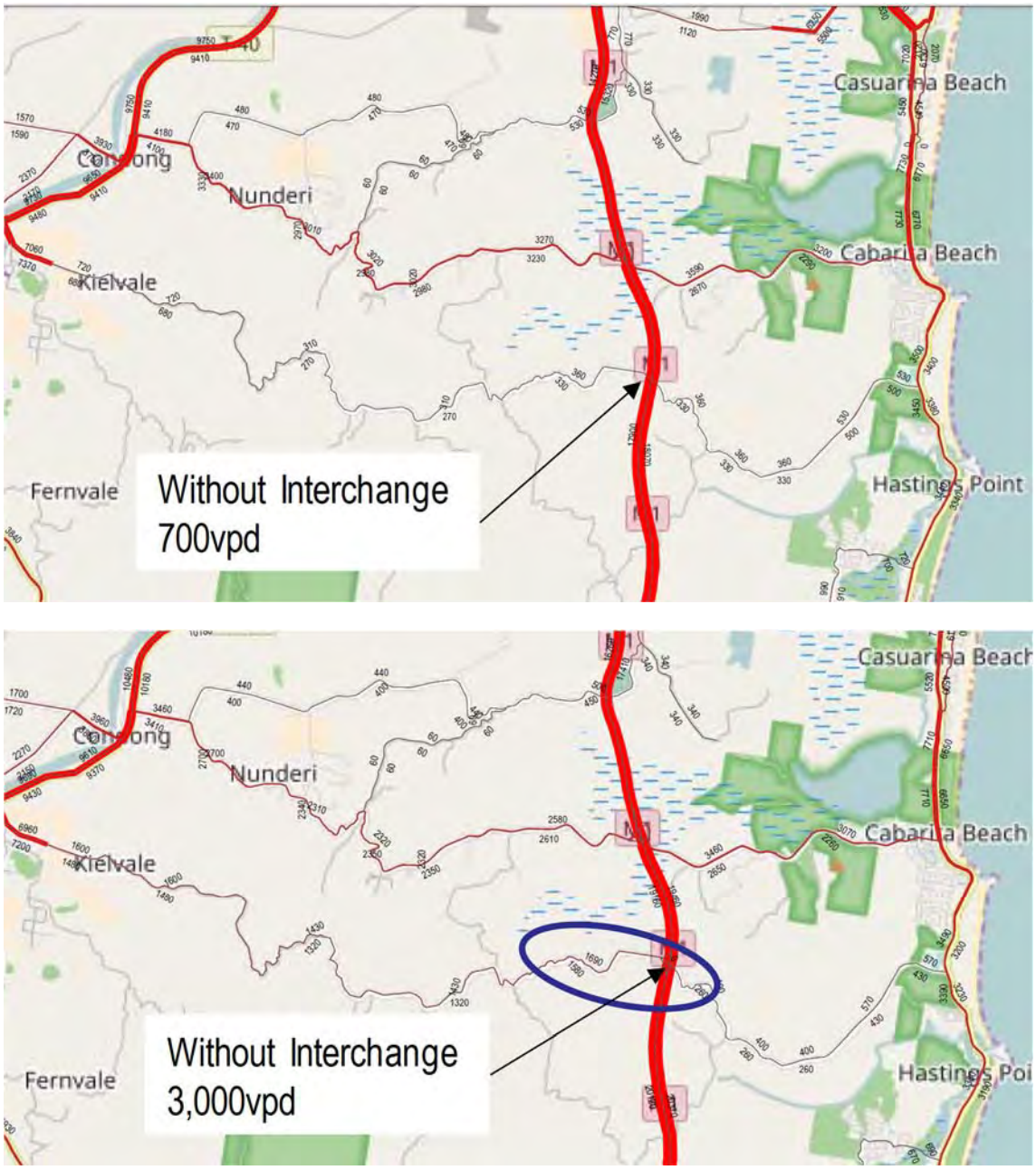


Figure 7.6: Sensitivity Test 2 Round Mountain Interchange – Daily Volume Comparison

An increase of 2,300 trips per day are expected on Reserve Creek Road with the inclusion of the Round Mountain Interchange at the Pacific Highway. This volume increase is not considered significant enough to warrant the need for the interchange.

Given the intent of this upgrade would be to provide improved connectivity to Murwillumbah for commercial vehicles, the configuration of Reserve Creek Road would also need to be considered and this rod would be likely to require significant upgrade works.

Sensitivity Test 3 – Impacts to Pottsville without Kellehers Road Extension to Black Rocks

A road link proposed under the previous TRDS is the connection of Kellehers Road to Pottsville Road. The Kellehers Road extension connects the proposed Dunloe Park Urban Release Area to Black Rocks estate as well as providing a bypass for the centre of Pottsville (Coronation Drive).

A comparison of daily volume plots with and without the proposed Kellehers Road extension is provided in Figure 7.7.

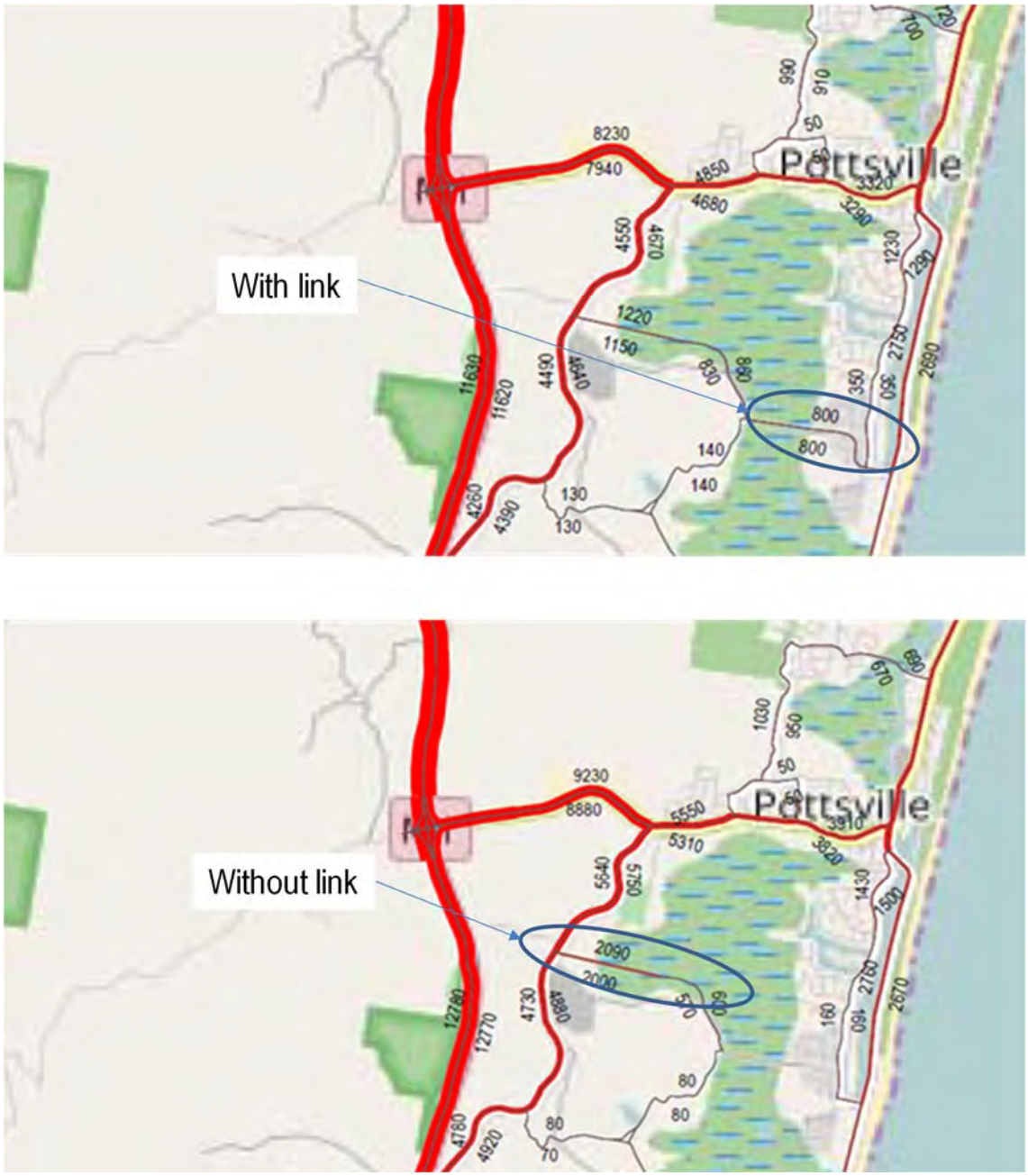


Figure 7.7: Scenario 3 With and Without Kellehers Road – Daily Traffic Volume Comparison

Traffic on Coronation Drive without the Kellehers Road link increases of around 1,100 vehicles per day through Pottsville Town Centre, which equates to around a 17% increase. It is important to note that this is for a typical weekday operation only. Traffic use of the proposed link may be much higher during weekday peak periods.

7.4.7 Scenario 6: Preferred Network

The Preferred Network is a variation of previous TRDS (Scenario 4) but with the Kirkwood Road and Kennedy Drive interchanges modified to reflect the upgrades proposed under Scenario 3. Mesoscopic Aimsun modelling was used to determine the form of the intersections proposed to be upgraded under Scenario 6 with a detailed list of upgrades provided in Section 8.

The network performance under Scenario 6 is presented Table 7.8 with network plots provided in Appendix D.

Table 7.8: Scenario 6 Network Statistics

Network Statistics	2016 Base Case	2041 Base Case (Medium Yield)	2041 Scenario 4 (Medium Yield)	2041 Scenario 6 (Medium Yield)
Total Private Vehicle Trips – persons	425,619	612,635	611,838	612,164
Total Public Transport Trips – persons	6,611	10,471	8,554	8,531
Daily Private Vehicle Trips	305,061	448,093	448,816	449,061
Daily Commercial Vehicle Trips	11,257	19,985	21,044	21,046
Daily Vehicle Kilometres Travelled (VKT)	3,477,044	5,686,774	5,656,266	5,650,509
Daily Vehicle Hours Travelled (VHT)	68,432	131,205	118,063	116,928
Average Speed (VKT / VHT)	50.8 km/h	43.3 km/h	47.9 km/h	48.3 km/h
Average Trip Time (VHT / Total Vehicle Trips)	0:13:28	0:17:34	0:15:47	0:15:37

The Preferred Network (Scenario 6) offers a slight improvement compared to previous TRDS (Scenario 4) with improvements to both average speed and travel time despite having more vehicles on the network. Whilst the network-wide performance statistics of Scenario 3 would appear better than Scenario 6, it is important to note that the inclusion of several lower-order roads within Scenario 6 improves accessibility and route choice, reducing trip lengths and hence reducing overall VKT.

Unlike the previous TRDS proposal, the Scenario 6 network does not necessitate the construction of additional "separate" bridges over Terranora Creek and Kennedy Drive for the proposed collector-distributor roads. Accordingly, the interchange upgrades proposed under Scenario 6 are expected to be implemented at a lower cost compared to the previous TRDS.

7.4.8 Scenario 7: Preferred Network with Constrained Pacific Highway

Whilst its planning and need is acknowledged by RMS within previous studies, the proposed widening of the Pacific Highway to six lanes is not yet designed or funded. This upgrade will require state significant funding and it falls outside the mechanisms of Council's TRDS and TRCP. Scenario 7 has been tested to check the effects of implementing the preferred upgrades in Scenario 6, but without the inclusion of the six-laning of the Pacific Highway between Sextons Hill and Stewart Road.

The performance of the network under Scenario 7 is presented in Table 7.9 with network plots provided in Appendix D.

Table 7.9: Scenario 7 Network Statistics

Network Statistics	2016 Base Case	2041 Base Case (Medium Yield)	2041 Scenario 6 (Medium Yield)	2041 Scenario 7 (Medium Yield)
Total Private Vehicle Trips – persons	425,619	612,635	612,164	611,854
Total Public Transport Trips – persons	6,611	10,471	8,531	8,585
Daily Private Vehicle Trips	305,061	448,093	449,061	448,858
Daily Commercial Vehicle Trips	11,257	19,985	21,046	21,047
Daily Vehicle Kilometres Travelled (VKT)	3,477,044	5,686,774	5,650,509	5,625,802
Daily Vehicle Hours Travelled (VHT)	68,432	131,205	116,928	124,702
Average Speed (VKT / VHT)	50.8 km/h	43.3 km/h	48.3 km/h	45.1 km/h
Average Trip Time (VHT / Total Vehicle Trips)	0:13:28	0:17:34	0:15:37	0:16:40

The results highlight that not upgrading the existing four lane configuration of the Pacific Highway from Stewart Road (Currumbin) to Sextons Hill (Banora Point) to six lanes significantly affects the performance of the Tweed road network. Arguable, this is the single-most important road project in the region to cater for traffic growth over the next 25+ years.

Without the upgrade, the overall network VKT reduces whist the overall VHT increases significantly reducing the attractiveness for movements to/from the Gold Coast, particularly during morning and afternoon peak periods.

The overall VHT increases by an additional 7,800 vehicle hours per day compared to the preferred network (Scenario 6). This represents losing over half of the overall network benefits of the Preferred Scenario when compared to the 2041 Base Case VHT.

8. TWEED ROAD DEVELOPMENT STRATEGY RECOMMENDATIONS

Table 8.1 details a total of 51 recommended road infrastructure upgrades for inclusion within the 2017 TRDS. This tables also identifies the authority responsible for the upgrade and likely priority or trigger for the upgrade.

Figure 8.1 to Figure 8.4 show the locations of each upgrade with Appendix E providing conceptual intersection layouts.

Table 8.1: TRDS Road Network Inclusions

ID#	Upgrade	Responsibility	Priority/ Trigger
1	Construct Cobaki Parkway	TSC	Dependent on land release area
2	Upgrade to Sandy Lane	TSC	Dependent on land release area
3	Piggabeen Road to McAllisters Road extension	TSC	Dependent on land release area
4	McAllisters Road extension to Scenic Drive	TSC	Dependent on land release area
5	Upgrade Kennedy Drive/ Piggabeen Road intersection to roundabout	TSC	Medium Term
6	Upgrade Pacific Highway ramp (southbound)/ Gold Coast Highway intersection.	RMS/ TSC	Medium Term / Kennedy Dr NBD off-ramp removal
7	Upgrade Pacific Highway ramp (northbound)/ Sugarwood Drive intersection	RMS/ TSC	Medium Term / Kennedy Dr NBD offramp removal
8	Six-laning of the Pacific Highway	RMS	Medium Term
9	Signalise Sugarwood Drive/ Parkes Drive intersection	TSC	Medium Term / Dependent on land release area
10	Convert Sugarwood Drive into a two-way service road	RMS/ TSC	Medium Term / Kennedy Dr NBD offramp removal
11	Signalise Kennedy Drive/ Sugarwood Drive intersection	RMS/ TSC	Medium Term / Kennedy Dr NBD offramp removal
12	Signalise Pacific Highway (southbound)/ Kennedy Drive intersection	RMS/ TSC	Short Term / Kennedy Dr NBD offramp removal
13	Upgrade Kennedy Drive/ Ducat Street intersection	TSC	Short Term / Kennedy Dr NBD offramp removal
14	Upgrade Wharf Street/ Florence Street intersection	TSC	Long Term
15	Remove NBD off/ramp on Pacific Highway at Kennedy Drive	RMS	Medium Term
16	Kirkwood Road extension to Fraser Drive	TSC	Medium Term
17	Pacific Highway (northbound)/ Kirkwood Road interchange (northbound)	RMS	Medium Term
18	Extend Enterprise Drive to Kirkwood Road	TSC	Medium Term
19	Four-laning of Fraser Drive	TSC	Medium Term
20	Signalise Greenway Drive/ Traders Way intersection	TSC	Medium Term
21	Four-laning of Greenway Drive	TSC	Medium Term
22	Signalise Leisure Drive/ Darlington Drive intersection	TSC	Short Term
23	Construct Fraser Drive/ Broadwater Parkway intersection	TSC	Dependent on land release area
24	Construct Broadwater Parkway	TSC	Dependent on land release area
25	Upgrade Terranora Road/ Mahers Lane intersection (roundabout)	TSC	Dependent on land release area
26	Extend Davey Street to Minjungbal Drive	TSC	Long Term
27	Upgrade Minjungbal Drive/ Machinery Drive intersection	TSC	Medium Term
28	Upgrade Sexton Hill Drive/ Darlington Drive intersection	TSC	Medium Term

ID#	Upgrade	Responsibility	Priority/ Trigger
29	Upgrade Waugh Street/ Phillip Street intersection (roundabout)	TSC	Short Term
30	Upgrade Wommin Bay Road/ Sand Street intersection (roundabout)	TSC	Medium Term / Dependant on Land Release Area
31	Upgrade Pacific Highway/ Tweed Coast Road interchange	RMS/ TSC	Medium Term
32	Construct direct connection between Pacific Highway offramp and Morton Street	TSC	Medium Term
33	Extend Ozone Street to Tweed Coast Road	TSC	Dependent on land release area
34	Four-laning of Tweed Coast Road	TSC	Dependent on land release area
35	Construct Tweed Coast Road/ Ozone Street intersection (roundabout)	TSC	Dependent on land release area
36	Connect Rotuma Street to Ozone Street extension	TSC	Dependent on land release area
37	Construct Ozone Street/ Rotuma Street intersection (roundabout)	TSC	Dependent on land release area
38	Upgrade Ozone Street/ Sand Street intersection (roundabout)	TSC	Dependent on land release area
39	Extend Elrond Drive to Ozone Street	TSC	Dependent on land release area
40	Upgrade Tweed Coast Road/ Crescent Street intersection (roundabout)	TSC	Dependent on land release area
41	Extend Turnock Street to Tweed Coast Road	TSC	Dependent on land release area
42	Upgrade Tweed Coast Road/ Depot Road intersection (roundabout)	TSC	Dependent on land release area
43	Upgrade Pacific Highway (northbound)/ Cudgera Creek Road intersection (roundabout)	RMS/ TSC	Medium Term / Dependent on Land Release Area
44	Upgrade Pacific Highway (southbound)/ Cudgera Creek Road intersection (roundabout)	RMS/ TSC	Medium Term / Dependent on Land Release Area
45	Upgrade Cudgera Creek Road/ Pottsville Road intersection (roundabout)	TSC	Long Term / Dependent on land release areas
46	Extend Kellehers Road to Pottsville Road	TSC	Medium Term / Dependent on Land Release Area
47	Construct Pottsville Road/ Kellehers Road (extension) intersection	TSC	Medium Term / Dependent on Land Release Area
48	Extend Cane Road to Rous River Way	TSC	Long Term / Dependent on land release area
49	Extend West End to Frances Street	TSC	Medium Term
50	Four-laning of Tweed Valley Way (River Street to Quarry Road)	TSC	Medium Term / Dependent on Land Release Area
51	Upgrade Tweed Valley Way/ Quarry Road intersection	TSC	Medium Term. Dependent on land release area

Note: *Short Term generally 0-5 years*
Medium Term generally 6-15 years
Long Term generally > 15 years

Figure 8.1: TRDS Inclusions – Tweed Heads, South Tweed Heads, West Tweed Heads and Chinderah

Figure 8.2: TRDS Inclusions – Kingscliff

Figure 8.3: TRDS Inclusions – Pottsville

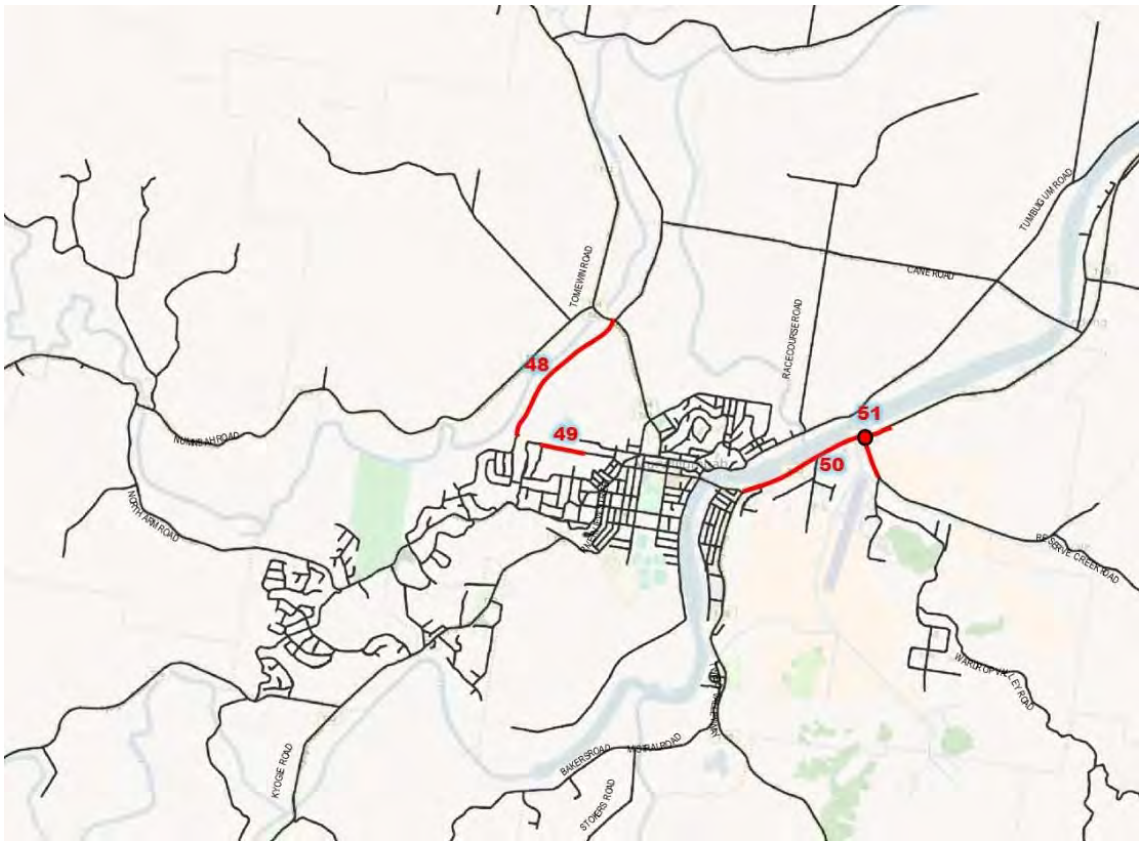


Figure 8.4: TRDS Inclusions – Murwillumbah

APPENDIX A

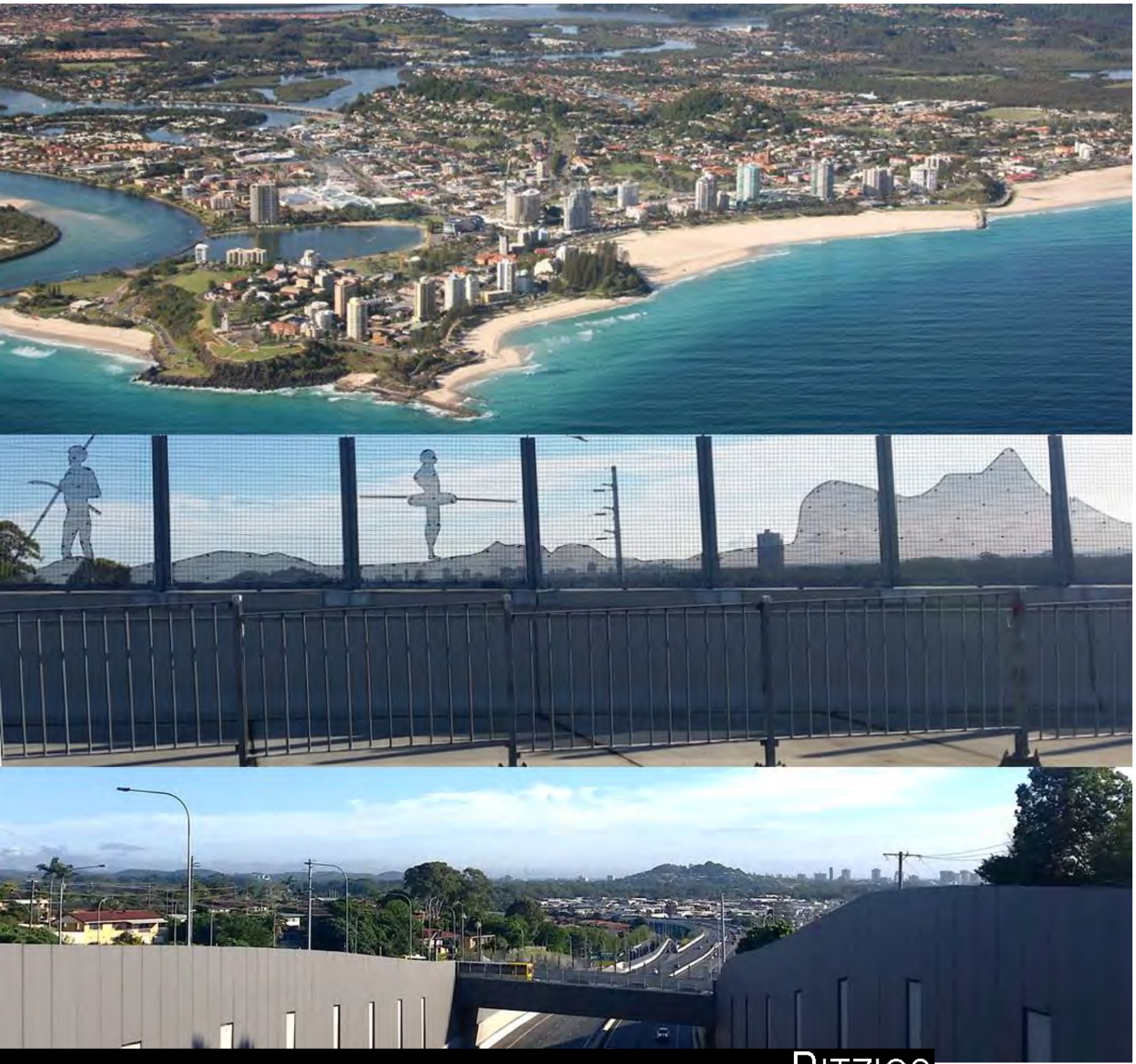
EMME BASE MODEL CALIBRATION AND VALIDATION

TWEED SHIRE STRATEGIC TRANSPORT MODEL

2016 Model Development Report

FOR

TWEED SHIRE COUNCIL



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1. INTRODUCTION

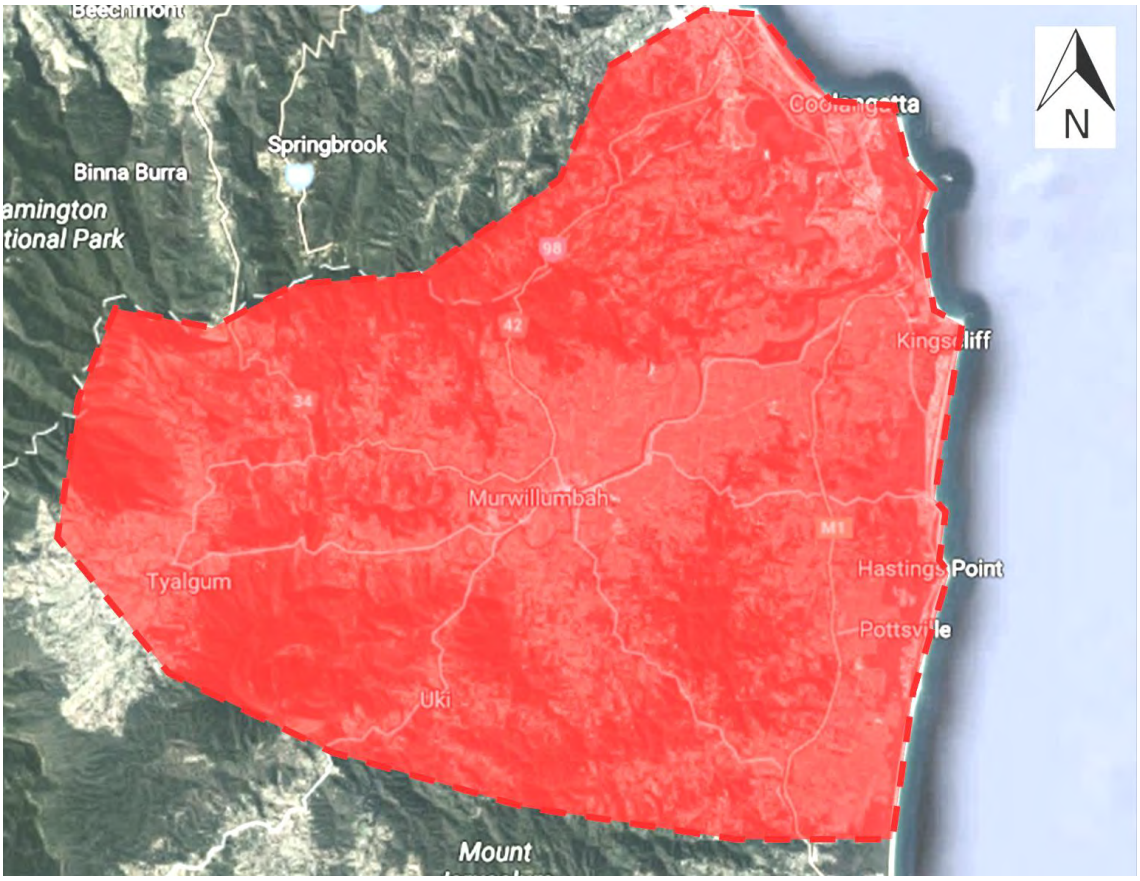
1.1 BACKGROUND

Bitzios Consulting has been commissioned by Tweed Shire Council (TSC) to develop a strategic transport model for the TSC Local Government Area (LGA). The model has been created within the EMME modelling package. In the absence of local datasets normally required to establish strategic transport models such as Household Travel Surveys and Preference Surveys, it was agreed to undertake this modelling as an extension of the Gold Coast Strategic Transport Model- Multi Modal V2.0 which is an existing strategic transport model developed for the City of Gold Coast (CoGC).

The multi modal strategic model for TSC has been named as the Tweed Strategic Transport Model - Multi Modal V1.0 (TSTM-MMV1.0). The purpose of the TSTM-MM is primarily to identify major road network needs for the preparation of long term road network plans for the LGA.

In addition to the strategic EMME model, a separate microsimulation model has been created for the core urban area bounded by the state border, Casuarina/Kings Forest and Terranora Broadwater.

Figure 1.1 shows the study area for the strategic model.



Source: Google

Figure 1.1: Model Study Area

1.2 CONTENTS OF THIS REPORT

This report provides the details regarding the creation of the 2016 Base Model. Specifically, it includes:

- Chapter 2: an outline of the modelling process;
- Chapter 3: the key inputs required by, and developed for, the modelling;
- Chapter 4: an overview of the base model development and the calibration of the various components;
- Chapter 5: an overview of the base model validation; and
- Chapter 6: recommendations for further improvements to the model.

2. MODEL STRUCTURE

2.1 OVERALL PROCESS

The 2016 Tweed Strategic Transport Model-Multi Modal V1.0 (TSTM-MM V1.0) is a four-step strategic model and incorporates a fully functional mode choice model. TSTM-MM V1.0 has been developed from Gold Coast Strategic Transport Model – Multi Modal V2.0 (GCSTM-MM V2.0). Due to the proximity and demographic similarities between the Gold Coast and the Tweed Shire, model attributes such as trip generation, distribution, mode choice and assignment parameters were retained. The overall model structure and platform remains same as GCSTM-MM V2.0 and only the relevant model inputs have been updated.

An overview of the model structure is provided in Figure 2.2 and further details are provided below for key stages of the process.

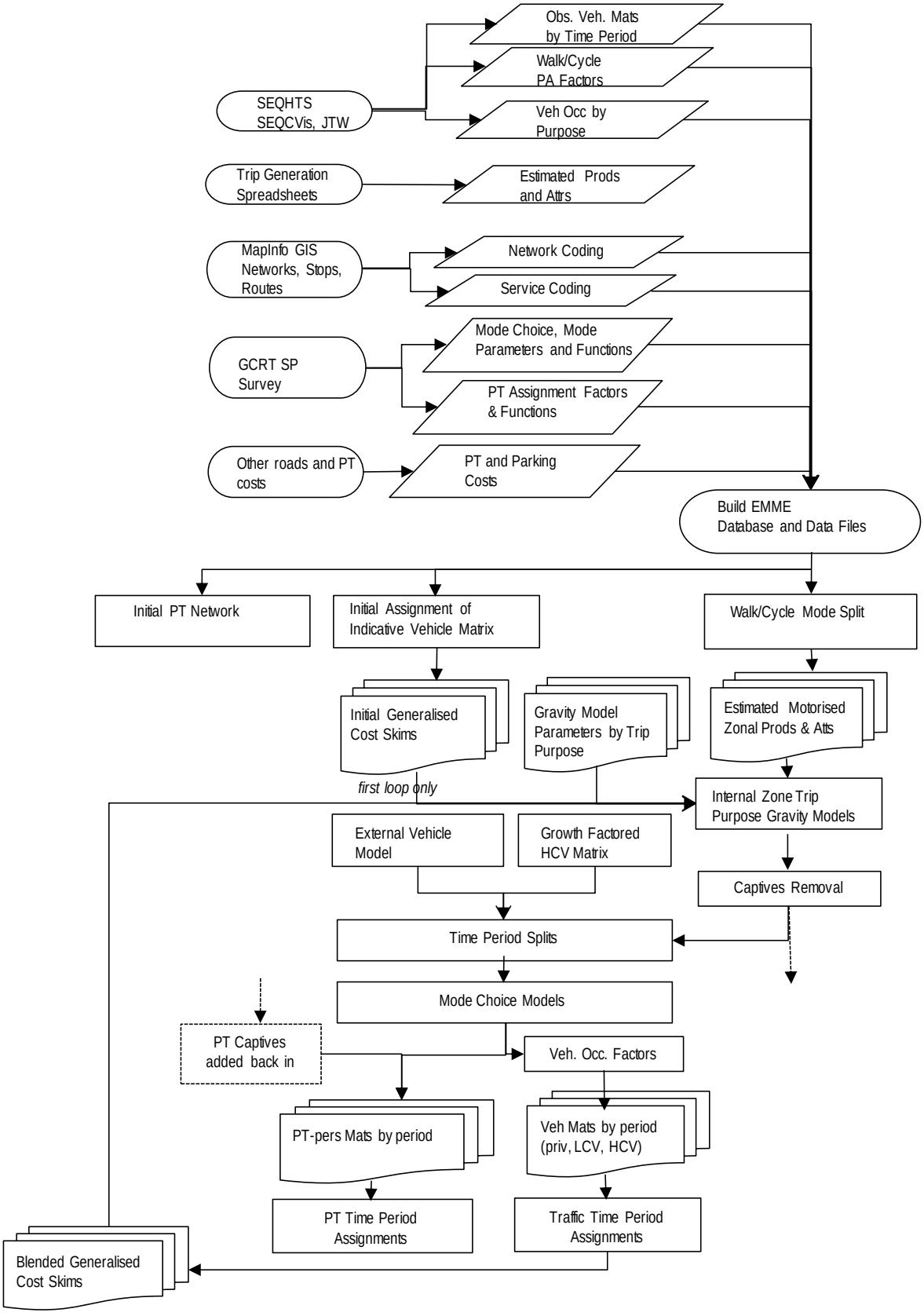


Figure 2.1: TSTM-MM Model Structure

2.2 DATA INPUT

2.2.1 Inputs Structure

The input and output files in TSTM-MM V1.0 are organised in the same structure as in the GSTM-MM V2.0 and consists of following main folders:

- TSTM_Inputs containing all model inputs within separate sub-directories;
- TSTM_Masters containing the main model software (i.e. macros and core parameters); and
- TSTM_Runs containing each run of the model is contained within separate sub-directories.

Figure 2.2 below shows the Graphical User Interface (GUI) used to run TSTM-MM V1.0. Each of the model inputs are stored in "TSTM_Inputs".

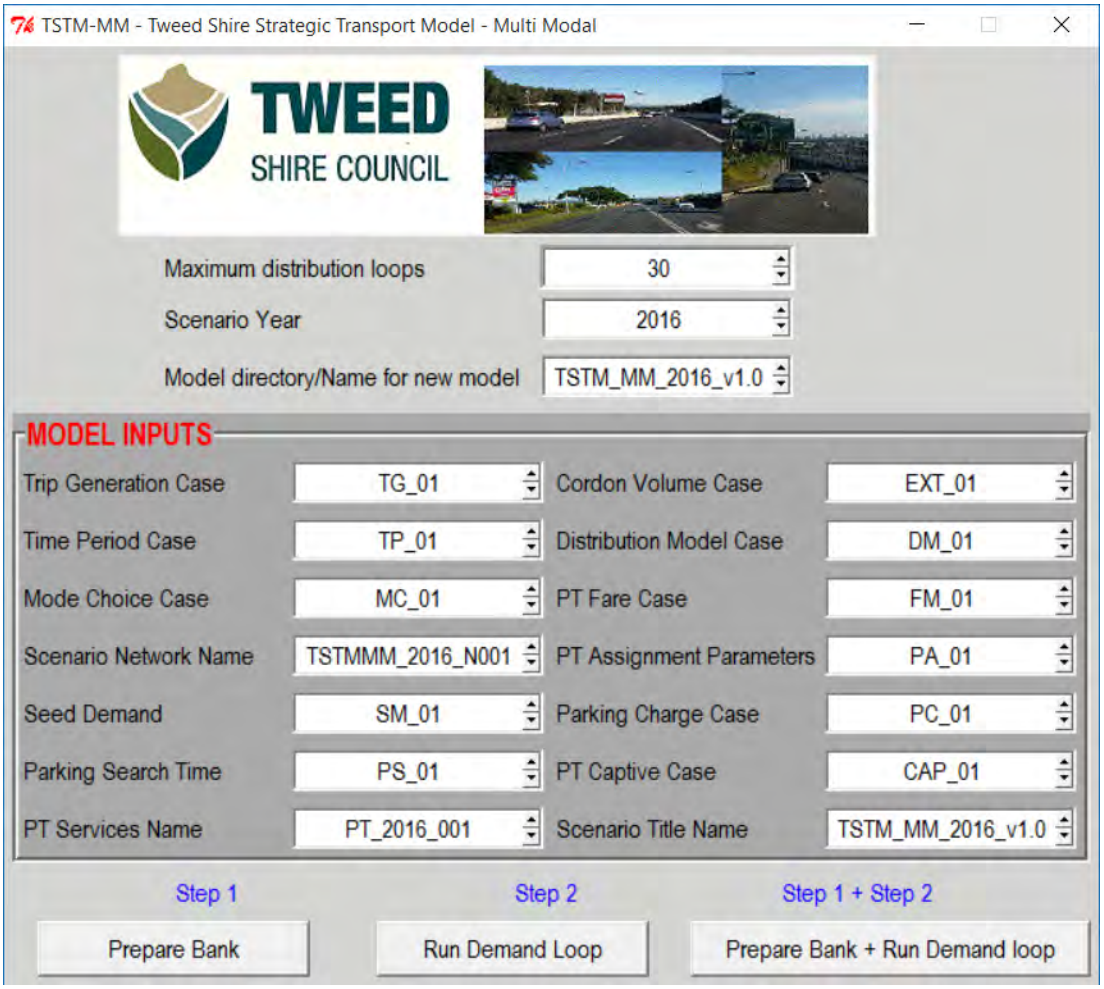


Figure 2.2: TSTM-MM Inputs

2.2.2 Trip Generation

Trip production and attraction totals for internal zones for each trip purpose are estimated in the trip generation spreadsheet which contains the tabs shown in Table 2.1.

.

Table 2.1: Trip Generation Spreadsheet Contents

Sheet	Description
TSTM Raw Data	Raw demographic data (prior to household segmentation model)
Zonal Description	Zoning system information (including new zonal splits)
HMS Perc	Household segmentation model
Full Demog 2016	Final demographic data used in trip generation, derived from inputs
Special Generators	Special generator factors, by zone
Prod Coeffs	Trip Production coefficients
Attr Coeffs	Trip Attraction coefficients
Prods	Trip production table (unbalanced)
Attr	Trip attraction table (unbalanced)
Airport Model	Airport Trip generation
prods_balancing	Working sheet
attr_balancing	Working sheet
attr_balancing_2	Working sheet
TSTM_Prods	Final trip production input files (balanced)
TSTM_Attrs	Final trip attraction input files (balanced)

This spreadsheet creates production and attraction trip ends files ready to be imported into EMME.

2.2.3 Time Period Factors

Time period factors (*e.g. hbwb_tp.fac*) are created for each trip purpose in text file (asci) format.

2.2.4 Active Transport Modal Split

Active transport split factors (*e.g. 2016_all_WC.fac*) are created for each trip purpose in text file (asci) format.

2.2.5 Network Scenarios

This includes network coding for the TSTM-MM V1.0 undertaken in the MapInfo GIS package. The main components of the network folder are:

- TSC_Nodes located in the "Common" data folder;
- TSC_Zones located in the "Common" data folder;
- TSC_Links located inside the "Scenario" network folder *(e.g. TSTMMM_2016_N001);*
- TSC_Connectors located inside the "Scenario" network folder;
- TSC_Turns located inside the "Scenario" network folder, containing the banned turns in the network; and
- a "Hierarchy" table containing network link classifications.

The MapInfo workspace *Export_Network_to_EMME.work* which is located inside the network folder is used to export the network into EMME format.

2.2.6 Seed Demand Matrices

A set of vehicle and public transport matrices by time period are stored for the calculation of initial cost matrices.

2.2.7 Parking Search Time

The ability to add a parking search time to the parking "cost" has been included in the TSTM_MM V1.0 to incorporate the effects of reduced relative parking supply influencing modal choice. While the capability to model parking search time has been added, it should be noted that no values have been added for any zones in the 2016 model.

2.2.8 Cordon Volumes

This includes user-defined "target" vehicle volumes for each cordon zone and the extremities of the network.

2.2.9 Distribution Model Parameters

This includes trip distribution parameters such as beta values, alpha values and constants for each trip purpose.

2.2.10 Public Transport Fares

The public transport fares are the 2016 Translink public transport adult and concession fares for both peak and off-peak periods.

2.2.11 Public Transport Assignment Parameters

This includes public transport assignment parameters such as boarding time at stops, wait time factor, wait time weight, auxiliary transit time weight and boarding time weight to calculate perceived travel times.

2.2.12 Parking Charges

The ability to model paid parking stations has been included in the TSTM_MM V1.0 to influence mode choice. While the capability to model parking charges has been added, it should be noted that no values have been included for any zones in the 2016 model.

2.2.13 Core Parameters

This includes the model parameters essential to run the model and are common for all the model runs. These are:

- Flow delay functions *(e.g. Function.in)*;
- Types of vehicles *(e.g. Vehicles.in);*
- Zone sectors *(e.g. SLA_Sect.in)*;
- EMME worksheets which contain general network displays;
- EMME views;
- EMME Modeller Setup files; and
- TSTM_MM macros to run the model.

2.3 PRIMARY COMPONENT MODELS

2.3.1 Trip Generation Model

The TSTM-MM V1.0 includes following resident trip purposes:

- Home Based Work – Blue;
- Home Based Work – White
- Home Based Education – Primary Secondary;
- Home Based Education –Tertiary;
- Home Based Others;
- Home Based Shopping;
- Other Non-Home Based;
- Work Based Work;
- Domestic Visitors-Home Based;
- International Visitors-Home based;
- Domestic Visitors-Home Based;
- International Visitors-Home based;
- Visitors-Theme Parks;

- Resident Based – Airport;
- Domestic Visitors – Airport; and
- International Visitors- Airport.

In addition to the above resident trip purposes, commercial vehicle trips and "external" trips are also included separately (discussed in Section 3.3.6 below).

The trip generation module is undertaken externally in a spreadsheet *(TSTM_16gen_TG01_V1.0.xlsm)* within the subfolder for each scenario *(e.g. TSTM_Inputs\Trip_Gen\TG_01\2016)* and the input trip end matrices (productions and attractions) for each trip purpose are converted into EMME input format. The trips are stored in as person trips.

A total of seventeen trip purposes have been included in the model. Eight of these are resident-based purposes, another five are for visitors, three trip purposes are for airport trips and one trip purpose is for commercial traffic. Trip productions and attractions for a zone are calculated using various independent variables and production/attraction coefficients derived from Household Travel Surveys. Table 2.2 lists various explanatory variables used in the TSTM-MM for calculating trip productions.

Table 2.2: Explanatory Variables for Trip Productions

Trip Purposes	Explanatory (Independent) Variables
Home based Work Blue	Blue Collar Workers
Home Based Work White	White Collar Workers
Home Based Education	Population aged 0-18 (Dependents A)
Home Based Education Tertiary	Population (dependents) aged 19-64 (Dependents B) and White Collared Workers
Home Based Shopping	Total Population and Total Workers
Home Based Others	Total Population and Total Workers
Work Based Work	Total Workers
Other Non-Home Based	Total Population
Visitor based purposes	Total Visitors
Commercial Vehicle	Total Population, Total Employment and Industrial Employment
Airport purposes	Total Number of Airport Passengers

Table 2.3 lists various explanatory variables used in the TSTM-MM for calculating trip attractions.

Table 2.3: Explanatory Variables for Trip Attractions

Trip Purposes	Explanatory (Independent) Variables
Home based Work Blue	Total Population and Employment (Service and Industry)
Home Based Work White	Employment (Retail, Service and Professional)
Home Based Education	Enrolments (Pre-primary and Secondary)
Home Based Education Tertiary	Enrolments (Tertiary)
Home Based Shopping	Total Population and Retail Employment
Home Based Others	Total Population Secondary Enrolment and Retail Employment
Work Based Work	Total Employment
Other Non-Home Based	Total Population and Employment (Retail and Services)
Visitor based purposes	Theme Park, Beach and Retail Employment
Commercial Vehicle	Total Population, Total Employment and Industrial Employment
Airport purposes	Total Number of Airport Passengers

The production and attraction totals of each trip purposes are balanced so that

2.3.2 Walk/Cycle Split

A proportion of walk/cycle trips are deducted from the total person trips to create motorised trips prior to the trip distribution process. It should be noted that TSTM-MM assigns motorised modes only (i.e. car, public

transport and commercial vehicles). The walk/cycle proportions are calculated from HTS data for each travel purpose by sector. The sectors are an aggregation of zones in the study area.

The walk/cycle spit factors are calculated externally in a spreadsheet *(Walk_Cycle_2016_MC01.xlsm)* within the subfolder for each scenario *(e.g. TSTM_Inputs\Mode_Choice\MC_01\2016)* and separate matrices (productions and attractions) for each trip purpose are converted into EMME input format.

2.3.3 Motorised Trip Distribution Models

The trip end motorised person trip matrices in PA (Production & Attraction only) undergo a trip distribution process to create person-trip demand matrices in origin destination (O-D) format. The trip distribution model is a doubly constrained standard "gravity" model and the calculations/balancing is performed within the EMME software. The trip distribution model uses a generalised cost function to distribute trips between alternative zones.

2.3.4 External Traffic

The GCSTM-MM V2.0 sources external data traffic to/from GCC LGA from the South East Queensland Strategic Transport Model-Multi Modal (SEQSTM-MM) using Select Link Analysis at the relevant cordon locations. However, the external model in TSTM-MM V1.0 balances vehicle targets at cordon zones between internal and external zones and subsequently calculates person trips by vehicle to internal zones by trip purpose before applying these values to the time period models. Travel through the study area (i.e. between pairs of external cordon zones) is estimated in an initial step using external to external seed matrices for private and heavy commercial vehicle trips. Cordon targets for both private and heavy commercial vehicles are adjusted to leave only trips to and from internal zones.

The external traffic calculated for each trip purpose is added to the internal-internal traffic matrices created after trip distribution process to complete the 24 hour person trip O-D matrices by purpose.

2.3.5 Time Period Splits

The time period factors convert the estimated daily trip matrices (motorised person trips and commercial vehicles) into four sets of time period-specific matrices. These are the AM peak (7-9 AM), day time off peak (9 AM-4 PM), PM peak (4-6 PM) and night time off-peak (6PM-7AM). These factors are applied in production-attraction format and capture the differences in the directionality and volume of trips in each time period. The TSTM-MM V1.0 uses same time period factors as in the GCSTM-MM V2.0.

2.3.6 **Mode Choice Models and "Captives"**

Public transport captives include those persons that are reliant on public transport and do not have access to a private vehicle. The public transport captives model forecasts public transport captive trip productions and attractions at a sector level. Public transport captive trips (by purpose) are deducted from total motorised person trips before the private versus public mode choice is applied and are subsequently added back into the public transport trip matrices after the mode choice step.

For each trip purpose, the motorised person trips are split into car and public transport modes for each trip purpose using a logit-based regression equation.

The mode choice process and equations are discussed in detail in Section 4.6.

2.3.7 Vehicle Occupancy Factors

The purpose of vehicle occupancy factor is to convert the estimated motorised person trips into private vehicles and commercial vehicle trips for each trip purpose. TSTM-MM V1.0 uses the same factors as in the GCSTM-MM V2.0 which were derived from 2009-10 HTS.

2.3.8 Commercial Vehicles Modes

The TSTM-MM V1.0 models two types of commercial vehicles:

- Heavy Commercial Vehicles (HCV), Class 6-12 (Austroads Vehicle Classification); and

- Medium Commercial Vehicles (MCV), Class 3-5 (Austroads Vehicle Classification).

The commercial vehicles are assigned as equivalent passenger car units (PCUs) and the factors to convert HCVs and MCVs to PCUs are 3.0 and 2.0 respectively.

2.4 TRIP ASSIGNMENT PROCESSES

The private vehicle and public transport matrices created after the modal choice processes (by purpose) are then aggregated into four-time period demand matrices and assigned separately. Private vehicle, commercial vehicle and public transport person trip matrices are then assigned to their networks.

2.4.1 Traffic Assignment

The traffic assignment in TSTM-MM V1.0 is a multi-class, path-based equilibrium assignment which assigns private and commercial vehicles together in EMME. The commercial vehicles are assigned in PCU's, by converting the heavy and commercial vehicles into private vehicle equivalents. Vehicle assignment is based on path-based generalised costs. These path costs are created in "cents" using the following factors:

- travel time, 20 cents per minute; and
- travel distance, 7.5 cents per kilometre.

2.4.2 Public Transport Trip Assignment

Public transport trip assignment uses the "Optimal Strategy" methodology built into the EMME package. An optimal strategy is composed of the transit routes that minimizes the expected auxiliary transit, wait and in-vehicle time for any transit trip from an origin to a destination. The public transport assignment in TSTM_MM V1.0 is capacity unrestrained, which means there is no limit to the capacity on all public transport services coded in the model. The user therefore needs to manually check for any over-used services and make any service adjustments accordingly.

2.5 LOOPING AND CONVERGENCE

The model convergence process uses a Root Mean Square Error (RMSE) approach, where the private vehicle matrices from successive iterations are compared on a cell-by-cell basis for each time period. The model is considered converged when the maximum RMSE (by time period) in two successive iterations drops below the user defined criterion.

This criterion has been set to 2.5% as per the GCSTM-MM V2.0.

3. MODEL INPUTS

3.1 KEY INPUTS

The following sections discusses the key model inputs that were updated to create TSTM-MM V1.0, along with the calibration/adjustments needed for specific sub-models.

3.2 NETWORK CREATION

3.2.1 Source Network

The 2016 Base Tweed Strategic Transport Model-Multi Modal V1.0 (TSTM-MM V1.0) was initially created as an extension of the Gold Coast Strategic Transport Model V2.0 (GCSTM). The original GCSTM-MM V2.0, extends to the Albert River in the north and was reduced to include only those zones and links to the south of Currumbin Creek. The TSTM-MM V1.0 Model incorporates the following eight SLAs (as per the Australian Bureau of Statistics classification):

- Bilinga;
- Coolangatta;
- Currumbin;
- Currumbin Valley;
- Currumbin Waters;
- Richmond-Tweed (NSW);
- Tugun; and
- Tweed Valley (NSW).

It should be noted that NSW SLAs are significantly larger than those in Queensland and that most of the trips and road links in the model's area are within the Tweed LGA.

3.2.2 Zoning System and Connectors

The model's zoning system has been based on the 2011 Australian Bureau of Statistics (ABS) SA1 zone boundaries. The major centres of Tweed Heads, Banora Point, Kingscliff, Pottsville and Murwillumbah have been further disaggregated into the finer ABS 2011 "Meshblock" zoning system. This resulted in a total of 508 internal zones and 10 external zones representing major road corridors connecting Tweed Shire with neighbouring LGA's. The internal zones are numbered from 1 to 508 and the external zones are numbered from 1001 to 1010. Figure 3.1 contains the zoning system used in TSTM-MM V1.0.

These zones were further aggregated into a 16-sector system for model estimation processes as shown in Figure 3.2.

Following the development of the zoning system, the zone connectors were reviewed (within the Gold Coast area) and added in the Tweed Shire LGA to provide a more detailed level of zone connectivity with the primary network of interest in the Tweed Shire.

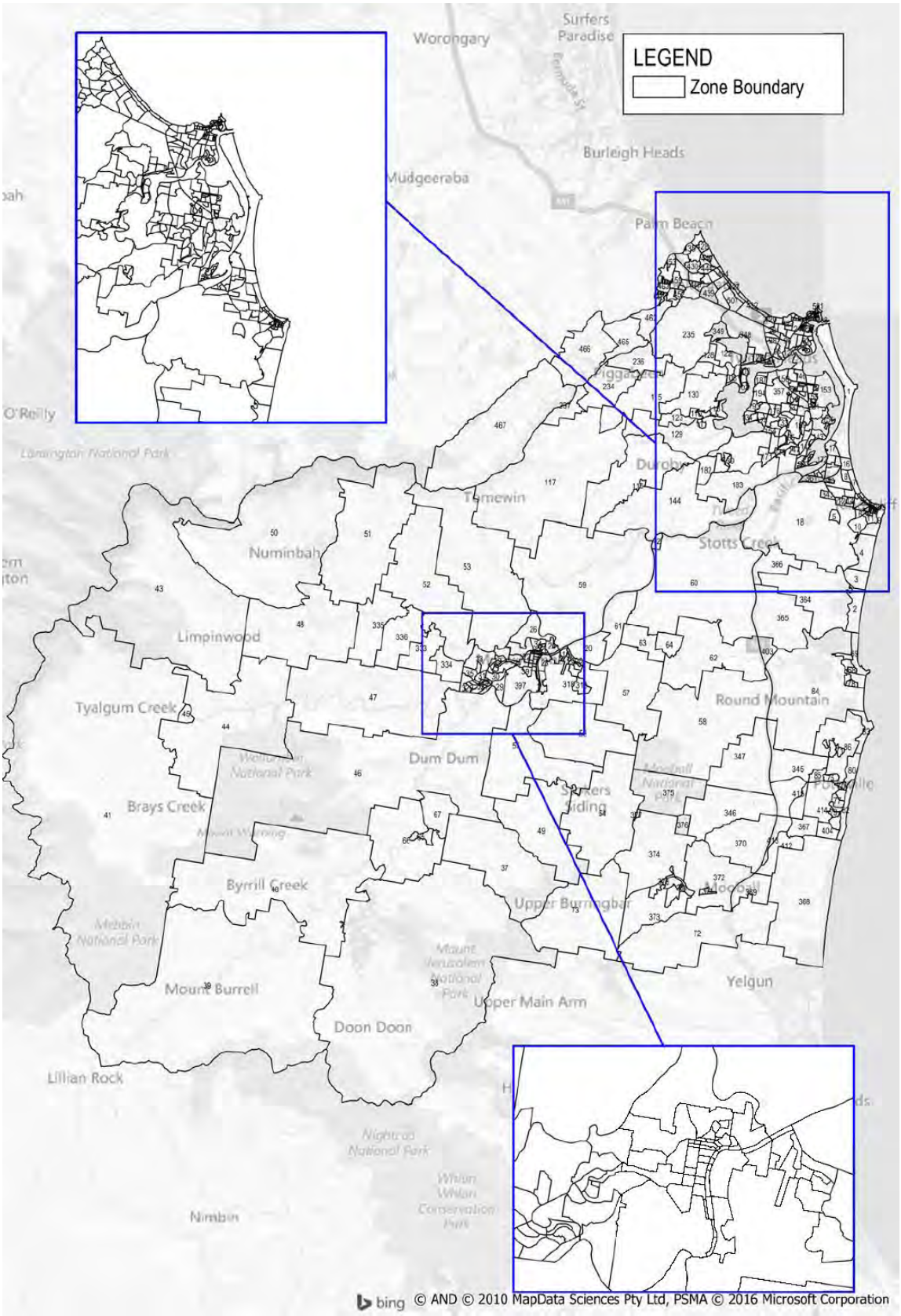


Figure 3.1: Zoning System

Sector	Area
1	Tweed Heads
2	Tweed Heads South-Banora Point
3	Currumbin Valley -Tallebudgera
4	Cobaki-Piggabeen
5	Terranora - Bilambil
6	North Coast-Kingscliff
7	Cabarita
	Mid Coast-Casuarina
9	South Coast - Pottsville
10	Murwillumbah
11	North East Hinterland - Tumbulgum
12	West Tweed - Uki -Tyalgum
13	Tweed Heads West
14	South East Hinterland - Burringbah
17	Bilinga - Tugun

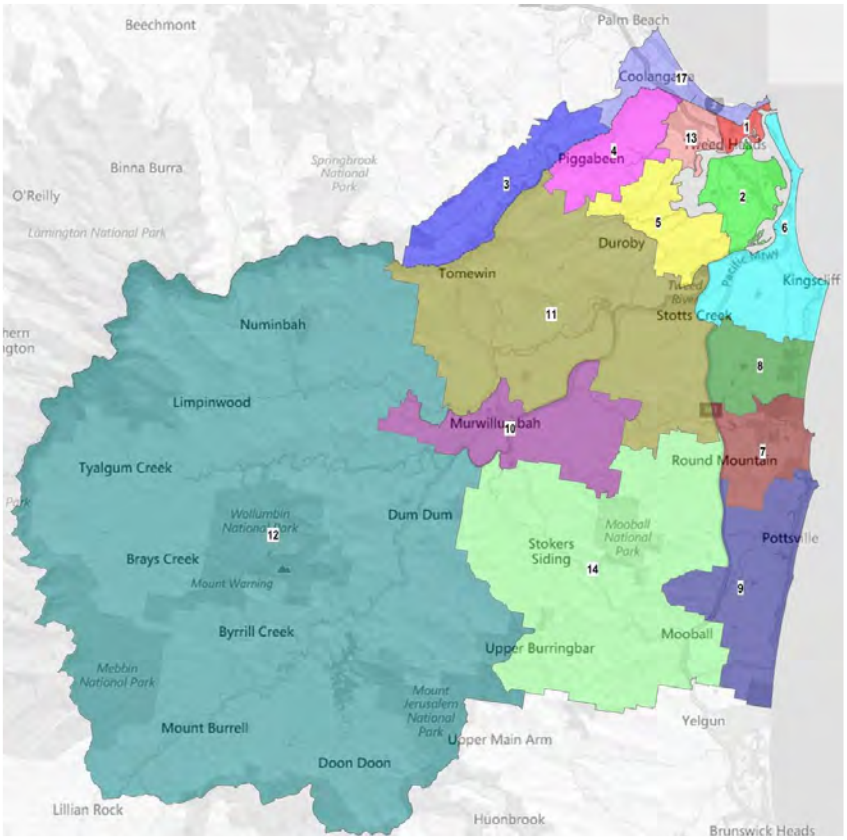


Figure 3.2: Sector System

3.2.3 Road Network

The major road network (defined at the "highway" network in EMME terminology) in the Tweed Shire Council LGA has been created using a similar network structure as in the Gold Coast Strategic Transport Model-Multi Modal V2.0. Nodes were added to the TSTM-MM network and with the node numbering commencing at a value of 10,000.

The data sources used to populate the road network inputs needed by the model as a part of network development were as follows:

- road GIS layers obtained from Tweed Shire Council. Several local streets such as "dead end" and minor access roads have been deleted to ensure that the level of road link detail aligns with the level of zone detail; and
- aerial photography (google maps) to determine numerous network attributes including number of lanes, posted speed, road types, etc.

The networks are maintained in GIS layers and converted into formats suitable for strategic modelling purposes. The road attributes coded for each link include:

- node numbers (at each end);
- number of lanes;
- posted speed;
- road hierarchy;
- road impedance levels (or the level of "friction" associated with adjacent parking and access);
- median-divided or undivided road; and
- lane capacity.

The relationships used in the TSTM-MM V1.0 between road hierarchy, impedance, lane capacity and transport modes permitted on in the link are detailed in Table 3.1 below.

Figure 3.3 shows the 2016 TSTM-MM V1.0 network by link hierarchy definition.

Table 3.1: Link Type Parameters

Hierarchy Name	Median	Traffic Impedence	Single Lane Capacity	Multi Lane Capacity	Modes Allowed
Interstate Highway	divided	Low	1,800	2,100	car, bus, truck
Interstate Highway	undivided	Low	1,700	1,750	car, bus, truck
Interstate Highway	divided	Medium	1,525	1,575	car, bus, truck
Interstate Highway	undivided	Medium	1,475	1,525	car, bus, truck
Interstate Highway	divided	High	1,300	1,350	car, bus, truck
Interstate Highway	undivided	High	1,250	1,300	car, bus, truck
Regional Arterial	divided	Low	1,250	1,300	car, bus, truck, pedestrians
Regional Arterial	undivided	Low	1,200	1,250	car, bus, truck, pedestrians
Regional Arterial	divided	Medium	1,075	1,125	car, bus, truck, pedestrians
Regional Arterial	undivided	Medium	1,025	1,075	car, bus, truck, pedestrians
Regional Arterial	divided	High	925	975	car, bus, truck, pedestrians
Regional Arterial	undivided	High	875	925	car, bus, truck, pedestrians
Arterial	divided	Low	1,250	1,300	car, bus, truck, pedestrians
Arterial	undivided	Low	1,200	1,250	car, bus, truck, pedestrians
Arterial	divided	Medium	1,075	1,125	car, bus, truck, pedestrians
Arterial	undivided	Medium	1,025	1,075	car, bus, truck, pedestrians
Arterial	divided	High	925	975	car, bus, truck, pedestrians
Arterial	undivided	High	875	925	car, bus, truck, pedestrians
Sub-Arterial	divided	Low	1,150	1,200	car, bus, truck, pedestrians
Sub-Arterial	undivided	Low	1,100	1,150	car, bus, truck, pedestrians
Sub-Arterial	divided	Medium	975	1,025	car, bus, truck, pedestrians
Sub-Arterial	undivided	Medium	925	975	car, bus, truck, pedestrians
Sub-Arterial	divided	High	825	875	car, bus, truck, pedestrians
Sub-Arterial	undivided	High	775	825	car, bus, truck, pedestrians
Distributor	divided	Low	950	1,000	car, bus, truck, pedestrians
Distributor	undivided	Low	900	950	car, bus, truck, pedestrians
Distributor	divided	Medium	800	850	car, bus, truck, pedestrians
Distributor	undivided	Medium	775	825	car, bus, truck, pedestrians
Distributor	divided	High	675	725	car, bus, truck, pedestrians
Distributor	undivided	High	650	700	car, bus, truck, pedestrians
Collector	divided	Low	750	800	car, bus, truck, pedestrians
Collector	undivided	Low	700	750	car, bus, truck, pedestrians
Collector	divided	Medium	650	700	car, bus, truck, pedestrians
Collector	undivided	Medium	600	650	car, bus, truck, pedestrians
Collector	divided	High	550	600	car, bus, truck, pedestrians
Collector	undivided	High	500	550	car, bus, truck, pedestrians
Bus only	divided	Low	1,800	2,100	bus only
Heavy Rail only	divided	Low	1,800	2,100	rail only
Light rail only	divided	Low	1,800	2,100	light rail only
Walk only	undivided	Low	1,800	2,100	pedestian only
Car only	undivided	Low	900	950	car only
Local	undivided	Low	500	500	car, bus, truck, pedestrians

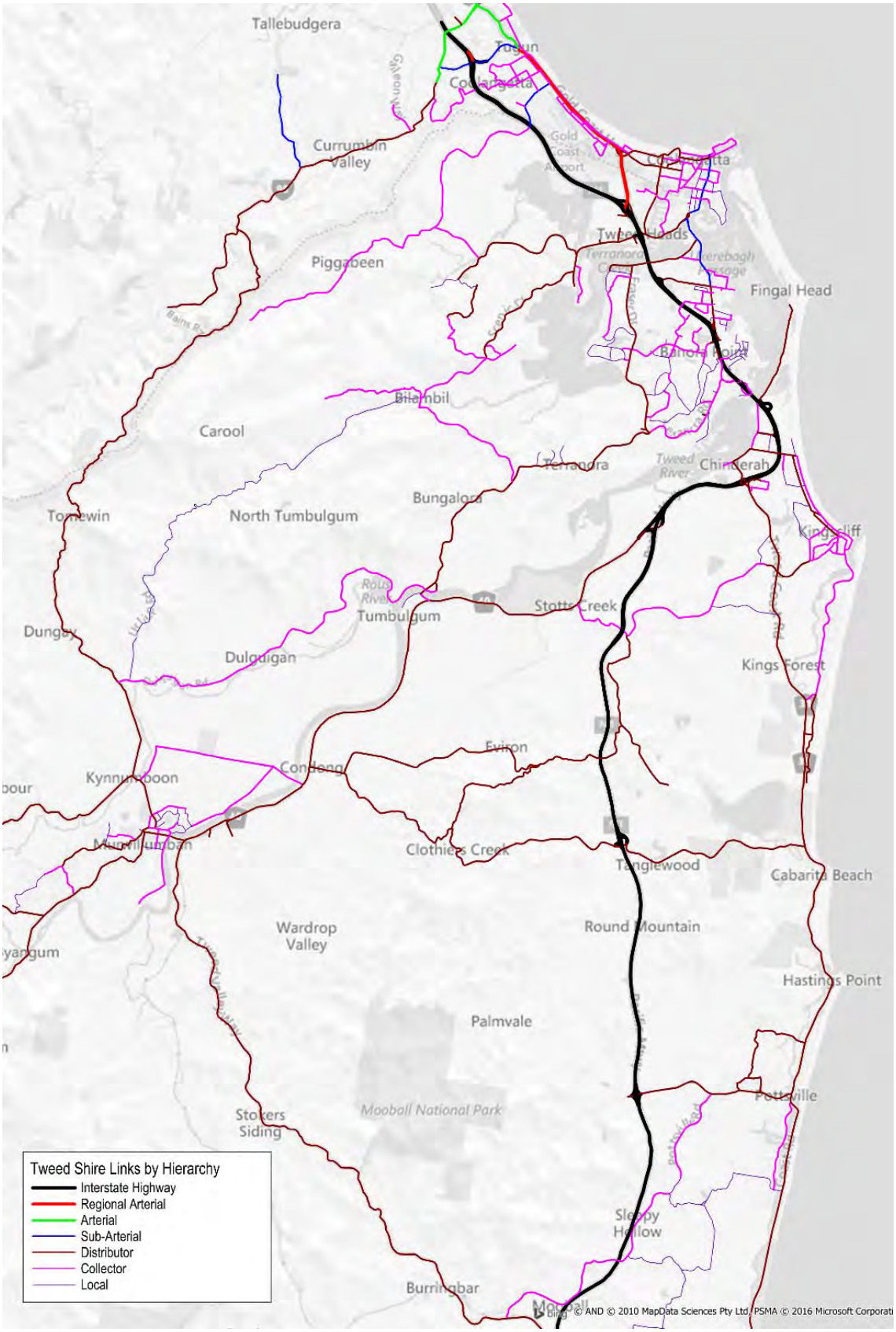


Figure 3.3: 2016 TSTM-MM Road Network

3.2.4 Public Transport

The public transport coding in the TSTM-MMV1.0 has been created using a similar structure and parameters as the GCSTM-MM V2.0. It includes “transit lines” which represent the route for each bus service or links within the road network.

The model coding also includes service headways (frequency), transit time functions, dwell times and bus stops locations. For the calculation of public transport travel cost in the mode choice model, zone-to-zone fares are required and a fare structure like GCSTM-MM, which uses Translink zone system, has been created.

Each bus route has been coded and maintained in GIS layers. Some modification of precise stop locations was required to locate them at nearby TSTM-MM nodes where possible and some additional nodes were added. To ensure that the walk access network was adequate, additional links were also added.

3.3 DEMOGRAPHIC DATA

3.3.1 Source Data

In the absence of demographic data for 2016, the datasets sourced from 2011 Australian Bureau of Statistics (ABS) have been extrapolated using representative growth rates. These growth rates gave been sourced from various Tweed Shire Council documents.

The demographic data is maintained in a spreadsheet and exported into the formats needed for the trip generation models. The demographic inputs are contained within four primary categories as below:

- population;
- employment;
- education; and
- visitors.

3.3.2 Population

The 2011 population datasets were extrapolated using a homogenous growth rate of 1.5% per annum *(source: Urban Land Release Strategy and Employment Lands Strategy (TSC) Table 3-4, Tweed Shire Council, 2009).* Table 3.2 contains 2016 population aggregated to sector level in Figure 3.2. The 2011 population datasets were sourced from GCSTM-MM V2.0 (original source ABS 2011) which also included datasets for Tweed Shire Council.

The population in each zone is further classified into further secondary categories to be used in the trip production and trip attraction equations. These include:

- blue collared workers;
- white collar worker;
- dependent A, age 0- 18 years;
- dependent B, age 19-64 years; and
- dependent C, age 65+ years.

Table 3.2: 2016 Population

Sector	Population	No. of Households	No. of Blue Collar Workers	No. of White Collar Workers	No. of Dependent A (Age 0-17 years)	No. of Dependent B (Age 18-64 years)	No. of Dependent C (Age 65+ years)
Tweed Heads	8,675	4,341	1,080	1,832	1,027	1,880	2,858
Tweed Heads South-Banora Point	6,016	2,993	817	1,170	978	1,269	1,783
Currumbin Valley -Tallebudgera[1]	1,486	523	185	506	355	239	201
Cobaki-Piggabeen	602	204	112	165	159	113	52
Terranora - Bilambil	25,948	10,420	3,772	6,619	5,201	4,204	6,151
North Coast-Kingscliff	10,129	4,510	1,329	2,650	1,876	1,976	2,298
Cabarita	3,660	1,474	673	995	879	725	388
Mid Coast-Casuarina	2,099	777	265	760	611	340	122
South Coast - Pottsville	7,408	2,934	1,077	1,831	1,853	1,370	1,277
Murwillumbah	10,499	4,148	1,602	2,352	2,429	2,229	1,888
North East Hinterland -Tumbulgum	2,973	1,108	465	863	607	703	335
West Tweed - Uki -Tyalgum	5,500	2,239	797	1,373	1,222	1,522	586
Tweed Heads West	6,365	2,952	1,012	1,260	1,049	1,324	1,719
South East Hinterland - Burringbah	3,559	1,356	595	935	797	859	373
Bilinga - Tugun[1]	22,814	10,723	3,668	6,547	3,534	4,885	4,181
Total	117,735	50,702	17,449	29,859	22,577	23,639	24,211

[1]GCC LGA

The provided population dataset was in SA1 zone level, wherever the TSC zones were disaggregated to meshblock zones (e.g. Tweed Heads, Banora Point, etc.), the population data was disaggregated based on the 2011 meshblock population sourced from ABS.

A density plot displaying population per hectare in 2016 using the above data is shown Figure 3.4. As expected, the major centres such as Tweed Heads, Banora Point, Kingscliff and Murwillumbah show the densest areas whereas the other parts of the LGA can be described as are sparsely populated.

Tweed Shire Council Strategic Transport Model
2016 Population Density per Hectare

More than 60
45 to 60
30 to 45
15 to 30
0 to 15

225 Population

3.3.3 Employment

The 2016 TSTM-MM V1.0 employment data has been extrapolated from the 2011 ABS employment data using a homogenous growth rate of 5% per annum (*Source: Overview of the Tweed LGA Labour Market, May 2013 Department of Employment, Australian Government*). The 2011 employment datasets were sourced from GCSTM-MM V2.0 (original source ABS 2011) which also included datasets for Tweed Shire Council.

Table 3.3: 2016 Employment

Sector No	Sector	Retail	Services	Professional	Industry	Total
1	Tweed Heads	967	3,131	946	851	5,894
2	Tweed Heads South-Banora Point	1,672	1,290	833	1,278	5,072
3	Currumbin Valley -Tallebudgera[1]	36	59	32	106	232
4	Cobaki-Piggabeen	13	8	12	27	59
5	Terranora - Bilambil	615	1,753	583	1,274	4,226
6	North Coast-Kingscliff	557	1,843	561	789	3,750
7	Cabarita	45	215	106	110	476
8	Mid Coast-Casuarina	15	35	18	36	104
9	South Coast - Pottsville	169	475	191	330	1,165
10	Murwillumbah	929	1,903	1,237	1,293	5,362
11	North East Hinterland - Tumbulgum	49	164	50	207	470
12	West Tweed - Uki -Tyalgum	88	309	131	214	741
13	Tweed Heads West	113	301	107	186	707
14	South East Hinterland - Burringbah	83	142	61	272	558
17	Bilinga - Tugun[1]	1,163	5,755	2,065	3,848	12,831
Total		6,512	17,382	6,930	10,821	41,645

[1]GCC LGA

The provided employment dataset was in SA1 zone level; wherever the TSC zones were disaggregated to meshblock zones (e.g. Tweed Heads, Banora Point, etc.), the employment data was disaggregated based on the area of the zones and visual inspection of aerial maps to identify employment zone.

Figure 3.5 shows a plot of employment per hectare in the TSTM-MM V10 area.

Tweed Shire Council Strategic Transport Model
2016 Employment Density per Hectare

More than 100
50 to 100
10 to 50
1 to 10
Less than 1

225 Employment

3.3.4 Enrolments

The 2016 TSTM-MM V1.0 enrolment dataset has been extrapolated from 2011 ABS enrolment data using a homogenous growth rate of 1.5% per annum, same as population growth. The 2011 enrolment datasets were sourced from GCSTM-MM V2.0 (original source ABS 2011) which also included datasets for Tweed Shire Council.

Table 3.4: 2016 Enrolment

Sector No	Sector	Pre-Primary, Primary	Secondary	Tertiary
1	Tweed Heads	718	0	747
2	Tweed Heads South-Banora Point	540	945	0
3	Currumbin Valley -Tallebudgera[1]	120	0	0
4	Cobaki-Piggabeen	0	0	0
5	Terranora - Bilambil	2,390	2,117	0
6	North Coast-Kingscliff	1,088	1,300	1,391
7	Cabarita	278	0	0
8	Mid Coast-Casuarina	28	0	0
9	South Coast - Pottsville	639	0	0
10	Murwillumbah	1,480	1,881	254
11	North East Hinterland -Tumbulgum	141	0	0
12	West Tweed - Uki -Tyalgum	437	23	0
13	Tweed Heads West	0	0	0
14	South East Hinterland - Burringbah	207	0	0
17	Bilinga - Tugun[1]	1,369	0	1,027
Total		9,435	6,266	3,420

[1]GCC LGA

During the zonal disaggregation process, the enrolments were allocated to the zone where an educational institution is located based on the visual inspection of aerial maps and local knowledge.

Figure 3.6 contains a plot of enrolments per hectare in TSTM-MM V1.0 area.

Tweed Shire Council Strategic Transport Model
2016 Enrolment per 100 Population

More than 500
200 to 500
50 to 200
1 to 50
Less than 1

225 Enrolments

3.3.5 Visitors

The 2016 visitor dataset has been extrapolated from 2011 visitor survey using the growth in international and domestic visitor nights between 2011 and 2016. Tourism Research Australia data suggests a 3% per annum growth in international visitor-nights and 7% per annum growth in domestic visitor nights are appropriate rates to use (*source: Tourism Research Australia, 2015*).

Table 3.5: 2016 Visitors

Sector No	Sector	Domestic[2] Visitors	International[2] Visitors	Total Visitors
1	Tweed Heads	1,496	195	1,690
2	Tweed Heads South-Banora Point	979	46	1,024
3	Currumbin Valley -Tallebudgera[1]	50	0	50
4	Cobaki-Piggabeen	20	5	24
5	Terranora - Bilambil	1,087	123	1,209
6	North Coast-Kingscliff	1,358	128	1,487
7	Cabarita	344	53	398
8	Mid Coast-Casuarina	151	40	190
9	South Coast - Pottsville	556	28	583
10	Murwillumbah	610	21	631
11	North East Hinterland -Tumbulgum	344	8	352
12	West Tweed - Uki -Tyalgum	467	45	511
13	Tweed Heads West	399	8	407
14	South East Hinterland - Burringbah	190	9	199
17	Bilinga - Tugun[1]	4,212	803	5,015
Total		12,261	1,510	13,771

[1] GCC LGA
[2] Per "average week night"

The visitor numbers were disaggregated based on the proportions of area of a zone.

Figure 3.7 contains a plot of visitors per hectare in TSTM-MM V1.0 area.

Tweed Shire Council Strategic Transport Model
2016 Visitor Density per Hectare

More than 50
10 to 50
5 to 10
1 to 5
Less than 1

225 Visitors

3.3.6 External Data

The internal-external component of the model has been constructed to divide vehicle targets at each nominated external cordon zone (numbered 1001 to 1010) into separate trip purpose markets and distributed to internal zones using an approach based on the resident trip distribution model.

The function used to calculate trips between external cordons points and internal zones have been sourced from GCSTM-MM V2.0. Table 3.6 contains the daily "target" volumes at cordon locations as input into the model.

Table 3.6: 2016 Daily Cordon Vehicle Targets

Zone	Cordon Name	2016 Target (Daily Two-way Total Volume)
1001	Gold Coast Highway - north of Currumbin Creek	9,461
1002	Pac Mway North - north of Currumbin Creek	47,422
1003	Galleon Way	1,913
1004	Tallebudgera Connection Road	3,155
1005	Nerang Murwillumbah Road	984
1006	Kyogle Road	579
1007	Blue Knob Road	818
1008	Pacific Motorway South	23,664
1009	Tweed Valley Way South of Wooyung Road	3,368
1010	Thrower Drive	11,578

4. COMPONENT MODELS AND CALIBRATION

4.1 TRIP GENERATION MODEL

4.1.1 General

The resident trip generation parameters and processes have been sourced from GCSTM-MM V2.0 which were res-estimated in 2014 based on the 2009-10 HTS for the Gold Coast.

4.1.2 Trip Production Equations

For the resident-based trip purposes, the number of trips produced by a zone is based on different household categories classified based on number of workers (blue and white collar) and dependents in three age categories (0-18 years, 19-65 years & 65+ years). The visitor trip productions are based on number of visitors in each zone. The trip production parameters are included in Appendix A.

4.1.3 Trip Attraction Equations

The trip attraction model calculates the number of trips attached to a zone based on population, employment (by type) and enrolment for resident-based trip purposes and total number of visitors and retail employment for visitor-based trip purposes. The trip attraction parameters are included in Appendix A.

4.1.4 Balancing Productions and Attractions

The use of different independent variables for trip productions and trip attractions models produces different total trip ends by zone. For some trip purposes, greater confidence is expected in trip production models whilst for other purposes trip attraction models have greater confidence associated with them. To overcome the issue of imbalance between trip production totals and trip attraction totals, it is common practice to scale the results of the trip ends calculated from the model with the lower confidence to the trip ends of the model with the higher confidence.

In GCSTM-MM V2.0, most of the home-based resident and visitor trip purposes have been balanced to the trip production totals. The exception to this is the Home-Based Education Tertiary (HBEt) trip purpose where the centralised nature of enrolments suggests greater confidence in the trip attraction model.

Non-Home Based trip purposes for both residents and visitors (WBW, NHB, DVNHB and IVNHB) are also balanced to the control totals from the trip attraction models.

4.2 TRIP DISTRIBUTION MODEL

The trip distribution model is a standard "gravity" model where the likelihood of trips between any two zones is calculated using a deterrence function:

$$Deterrrence_{ij} = e^{(-\beta * GCostij + constant),}$$ where,

The parameters β (beta) and the constant are estimated parameters by trip purpose and $GCost_{ij}$ is the generalized travel cost (in cents) between zones. The beta parameters are different for two classes of travel, those within each travel sector (intra-sector) and those from one sector to another (inter-sector).

The adopted trip distribution parameters are contained in Appendix A.

4.3 SECTOR - BASED INPUTS

Model parameters such as vehicle occupancy factors and time profile factors in the GCSTM-MM have been derived from the SEQ HTS at an "aggregated" sector level. In the absence of a Household Travel Survey for the Tweed Shire LGA, it was decided to adopt the source model parameters from GCSTM-MM V2.0 based on matching Tweed sectors to Gold Coast sectors with the most similar characteristics.

Based on population density and employment comparisons between the GCSTM-MM demographic dataset and the TSTM-MM demographic dataset, equivalent sectors have been identified as shown in Table 4.1.

Table 4.1: TSTM-MM and GCSTM-MM V2.0

TSTM Sector	TSTM Sector Name	Closest Equivalent GCSTM Sector	Equivalent GCSTM Sector
1	Tweed Heads	14	Miami
2	Tweed Heads South-Banora Point	14	Miami
3	Currumbin Valley -Tallebudgera	3	Currumbin Valley-Tallebudgera
4	Cobaki-Piggabeen	3	Currumbin Valley-Tallebudgera
5	Terranora - Bilambil	2	Upper Coomera
6	North Coast-Kingscliff	1	Ormeau-Ormeau Hills
7	Cabarita	2	Upper Coomera
8	Mid Coast-Casuarina	3	Currumbin Valley-Tallebudgera
9	South Coast - Pottsville	5	Helensvale
10	Murwillumbah	5	Helensvale
11	North East Hinterland -Tumbulgum	3	Currumbin Valley-Tallebudgera
12	West Tweed - Uki -Tyalgum	3	Currumbin Valley-Tallebudgera
13	Tweed Heads West	4	Pacific Pines-Gaven
14	South East Hinterland - Burringbah	3	Currumbin Valley-Tallebudgera
17	Bilinga - Tugun	17	Bilinga-Tugun

4.4 SPECIAL GENERATORS

Only one "special generator" is in the study area which is the Gold Coast Airport (Zone 506) and has been retained from GCSTM-MM V2.0. This zone's trip generation uses passenger forecasts sourced from Gold Coast Airport Masterplan multiplied by trip generation rates revealed from Airport surveys.

4.5 FACTOR FILE UPDATES

The vehicle occupancy factors and time profile factors have been sourced from GCSTM-MM V2.0 and applied in the model using the sector equivalences as shown in Table 4.1..

4.5.1 Vehicle Occupancy Factors

Vehicle occupancy factors were derived from 2009-10 SEQ HTS for residents and 2007 Gold Coast Visitor Survey for visitors. Table 4.2 contains the vehicle occupancy factors for different trip purposes.

Table 4.2: Vehicle Occupancy Factors

Trip Purpose	Vehicle Occupancy Factor
Home Based Work Blue	1.09
Home Based Work White	1.08
Home Based Education Primary	2.27
Home Based Education Tertiary	1.20
Home Based Others	1.52
Home Based Shopping	1.36
Other Non-Home Based	1.39
Work Based Work	1.10
Domestic Visitors-Home Based	2.97
International Visitors-Home Based	2.39
Domestic Visitors-Non-Home Based	2.28
International Visitors-Non-Home Based	2.59
Visitors-Theme Park	3.29
Commercial Vehicles	1.00

4.5.2 Time Profile Factors

The time profile factors have been sourced from GCSTM-MM V2.0. Resident-based time period factors were derived from the 2009-10 HTS and visitor time period factors from the 2007 GCVS. Table 3.12 below contains the calculated time period factors.

Table 4.3: Time Period Factors

Trip Purpose	AM		DT		PM		NT	
	P→A	A→P	P→A	A→P	P→A	A→P	P→A	A→P
Home Based Work- Blue Collar	0.113	0.008	0.101	0.210	0.030	0.167	0.256	0.115
Home Based Work- White Collar	0.187	0.009	0.199	0.135	0.015	0.246	0.099	0.110
Home Based Education- Prim Sec	0.375	0.058	0.102	0.366	0.012	0.070	0.011	0.006
Home Based Education- Tertiary	0.187	0.009	0.199	0.135	0.015	0.246	0.099	0.110
Home Based Shopping	0.058	0.021	0.251	0.246	0.079	0.107	0.112	0.126
Home Based Others	0.058	0.021	0.251	0.246	0.079	0.107	0.112	0.126
Others Non-Home Based	0.074	0.074	0.329	0.329	0.057	0.057	0.040	0.040
Work Based Work	0.074	0.074	0.329	0.329	0.057	0.057	0.040	0.040
Domestic Visitors Home Based	0.038	0.019	0.308	0.150	0.044	0.060	0.111	0.271
International Visitors Home Based	0.031	0.000	0.283	0.230	0.061	0.122	0.125	0.148
Domestic Visitors- Non-Home Based	0.007	0.007	0.253	0.253	0.109	0.109	0.131	0.131
International Visitors-Non-Home Based	0.006	0.006	0.229	0.229	0.100	0.100	0.165	0.165
Visitors-Theme park	0.017	0.000	0.398	0.173	0.058	0.285	0.027	0.042
Commercial Vehicles	0.070	0.070	0.225	0.225	0.055	0.055	0.150	0.150

4.5.3 Active Transport Split Factors

The active transport models have been sourced from GCSTM-MM V2.0. This includes a "direct demand" model created through linear regression of the SEQ Household Travel Survey. These models estimate active transport trips as a function of population, employment and enrolments for different trip purposes.

It should be noted that this module calculates the active transport demand only for deduction from total person trips and to create "motorised person trips". It does not assign active transport trips a network.

4.6 MODE CHOICE MODELS

4.6.1 Captives Model

Public transport captive trips are deducted from total motorised person trips before mode choice is applied. These trips are added back into the public transport trip matrices after mode choice. The captive trips estimation is calculated at SLA-level and then disaggregated into zone level based on the relative number of person trips generated by each zone in each SLA. The captive trips are calculated using the following equation:

Captive PT Trips (SLA) = (0.0614 X population SLA + 0.152 X employment SLA + 0.001 X total enrolments) X 0.472 X % of SLA within 400m of a PT access point

The above factors were derived via regression analysis on the Public Transport Origin Destination Survey (Queensland Transport, 2004) and sourced from GCRT modelling report.

4.6.2 Choice Model

The mode choice model in the TSTM-MM V1.0 is sourced from GCSTM-MM V2.0, which uses the same model parameters and inputs and the Gold Coast Rapid Transit model (GCRT).

The mode choice equation used is a simple binomial logit function which can be specified as:

$$\%\ Car\ Trips = \frac{e^{V}}{1 + e^{V}}$$

And for public transport:

$$\%\ PT\ Trips = 1 - \frac{e^{V}}{1 + e^{V}}$$

Where:

V = a x PT Access Time + b x PT Wait Time + C1 x Bus Time + C2 x LRT Time + C3 x BRT Time + C4 x Train Time + d x Transfer Time + e x PT Fare + f x Egress Time + g x Car Time + h x Parking Cost + i x PnR Access Time + j x PnR Egress Time + k x Parking search Time

Time is specified in minutes and costs in dollars.

Parameters such as Egress Time, PnR Access Time and PnR Egress time can be specifically coded and extracted from the VISUM modelling software (which was used for the GCRT model development) however they are not used in this EMME-based model as these parameters are already reflected in other parameters such as “PT Access Time” and “PT Wait Time”.

The parameter values used in the above equation were derived from the Stated Preference and Pedestrian Surveys conducted between 9 and 23 November 2006, as reported in the GCRT modelling documentation. These values are listed in Table 3.2 below.

Table 4.4: Public Transport Mode Choice Parameters

Variable	Trip Purpose				
	Work	Uni/TAFE	Visitor	Shop	Other
a	0.129624	0.183128	0.061412	0.090072	0.075812
b	0.096018	0.13565	0.04549	0.06672	0.056157
C1	0.096018	0.13565	0.04549	0.06672	0.056157
C2	0.079452	0.093125	0.037378	0.04527	0.045105
C3	0.103383	0.10707	0.032068	0.058265	0.03842
C4	0.061555	0.083371	0.03019	0.029466	0.042057
d	0.192035	0.13565	0.09098	0.133439	0.084236
e	0.368359	0.41501	0.222385	0.258944	0.170707
f	0.129862	0.183128	0.061412	0.090072	0.075812
g	-0.09662	-0.14816	-0.05164	-0.06474	-0.06271
h	-0.21042	-0.16197	-0.16026	-0.15629	-0.09518
i	0.129624	0.183128	0.061412	0.090072	0.075812
j	0.129624	0.183128	0.061412	0.090072	0.075812
k	-3.08011	-5.65669	-1.91603	-2.88153	-3.98271

The above mode choice equation and its associated parameters are applied to both the Resident travel and Visitor travel purposes to split the motorised trips (with choice) into car users and public transport users.

4.7 TRIP ASSIGNMENT

4.7.1 Private Vehicle and Commercial Vehicle Assignments

The traffic assignment is a multi-class, path-based assignment which assigns private and commercial vehicles separately. The speed-flow curves in the model are the Akcelik curves, with the link capacities and curve parameters remaining unchanged from GCSTM-MM V2.0. The generalised cost assignment parameters have been retained as:

Generalised Costs = time + 0.375*length

4.7.2 Public Transport Trip Assignment

The same public transport assignment processes used in the GCSTM-MM have been used in the TSTM-MM. The key parameters include:

- node specific boarding Time = 7 minutes (derived from Australian Transport Council Volume-4; 7 minutes for same mode-different facility and different mode-same facility);
- node specific wait time factor = 0.5 (adopted from BSTM), used for computing average waiting times by multiplying this factor by the headway of the PT service;
- wait time weight factor = 1.0 (derived from SPS data), which means that travellers perceive 1 minute spent waiting as equivalent to 1 minute spent on-board a vehicle;
- auxiliary transit time weight factor = 1.35 (derived from SPS data), this factor is applied to the walk/cycle access and egress to use the PT service;
- boarding time weight factor = 1.0 (derived from SPS data), applied to the boarding time mentioned above;
- in vehicle time weight = 1 (default in EMME); and
- Dwell Time per bus = 6 seconds x no. of boardings per service + 2 seconds x no. of alightings per service + 3 seconds for door opening/closing time + 10 seconds of clearance time.

It is important to highlight that these parameters are for determining the relative costs for alternative public transport paths in a relative sense, rather than for choosing between car and public transport which uses the mode choice functions and parameters.

5. MODEL VALIDATION

5.1 VALIDATION CRITERIA

The *Roads and Maritime Services' Traffic Modelling Guidelines* stipulates following network-wide and screenline/ codon criteria for the validation of a strategic traffic assignment. These criterion, which have been adopted for the validation of the 2016 Base TSTM-MM are:

- *95 percent of individual link volumes to have a GEH <= 5.0;*
- *All individual link and turn volumes should have GEH <=10;*
- *Coefficient of determination, R^2 to be >0.9;*
- *All counts RMSE should be 30.0 or lower; and*
- *In each direction; the screenline or cordon total to have GEH <4.0.*

5.2 SCREENLINE TRAFFIC VOLUME VALIDATION RESULTS

Traffic assignment validation was based on comparing the 24 hour screenline crossing volumes with the screenline counts. The comparison of model traffic volumes to observed traffic volumes is shown in Appendix B. It should be highlighted that most the 2016 observed counts were sourced from various years' data (post 2014 data only) and growth factors were applied to bring any historic counts to an equivalent base year of 2016.

Ideally, a consistent, complete and current data set would be preferred for the purposes of screenline validation, and some interpretation of the validity of some of the count data was required, based on local knowledge.

All of the 24-hour directional screenline totals provide a GEH < 4.0 meeting the RMS guideline criterion.

Table 5.1 shows a summary of the GEH results at the screenline level. The volumes compared are the daily volumes divided by 24, given that the GEH statistic and validation tolerances are established based on 1 hour volumes.

The screenline locations map is provided in Figure 5.1.

Table 5.1: Screenline Validation Comparison

Screenline	GEH			% Difference		
	Northbound	Southbound	Two-way	Northbound	Southbound	Two-way
Screenline 1: Tugun	2.4	3.2	3.9	5%	6%	5%
Screenline 2: Terranora Creek	1.8	1.9	2.6	-3%	-4%	-3%
Screenline 3: Tweed River	0.8	1.4	1.5	2%	3%	3%
Screenline 4: Kingscliff South	1.0	2.2	2.3	-2%	-5%	-4%
Screenline 5: Pottsville	1.2	1.0	1.5	-4%	-3%	3%
Screenline 6: Crabbes Creek - Wooyung	0.4	0.6	0.7	-1%	-5%	-4%
Screenline 7: Murwillumbah 1	2.0	2.6	3.2	-6%	-8%	-7%
Screenline 8: Murwillumbah 2	0.4	1.7	1.5	-2%	-7%	-4%
	Eastbound	Westbound	Two-way	Eastbound	Westbound	Two-way
Screenline 9: Pacific Motorway 1	0.4	1.9	1.1	-1%	4%	2%
Screenline 10: Pacific Motorway 2	2.6	0.3	2.1	5%	1%	3%
Screenline 11: Pacific Motorway 3	3.1	2.7	4.0	12%	8%	10%

In addition to the screenline GEH validation statistics, individual "spot" link volumes have also been checked against the RMS validation criteria as shown in Table 5.2 below.

Table 5.2: Validation Statistics – Link Volumes

Validation Statistics	Target (RMS)	Achieved
GEH <5	95%	95%
GEH < 10	100%	100%
RMSE	<30	4.35
R^2	>0.9	0.97
Equation Slope	y = 1.0142x	

A scatter plot of modelled-versus actual traffic volumes is presented in Figure 5.2 below. The R^2 of the modelled-versus-count data is 0.96 which is considered satisfactory for this level of strategic modelling.

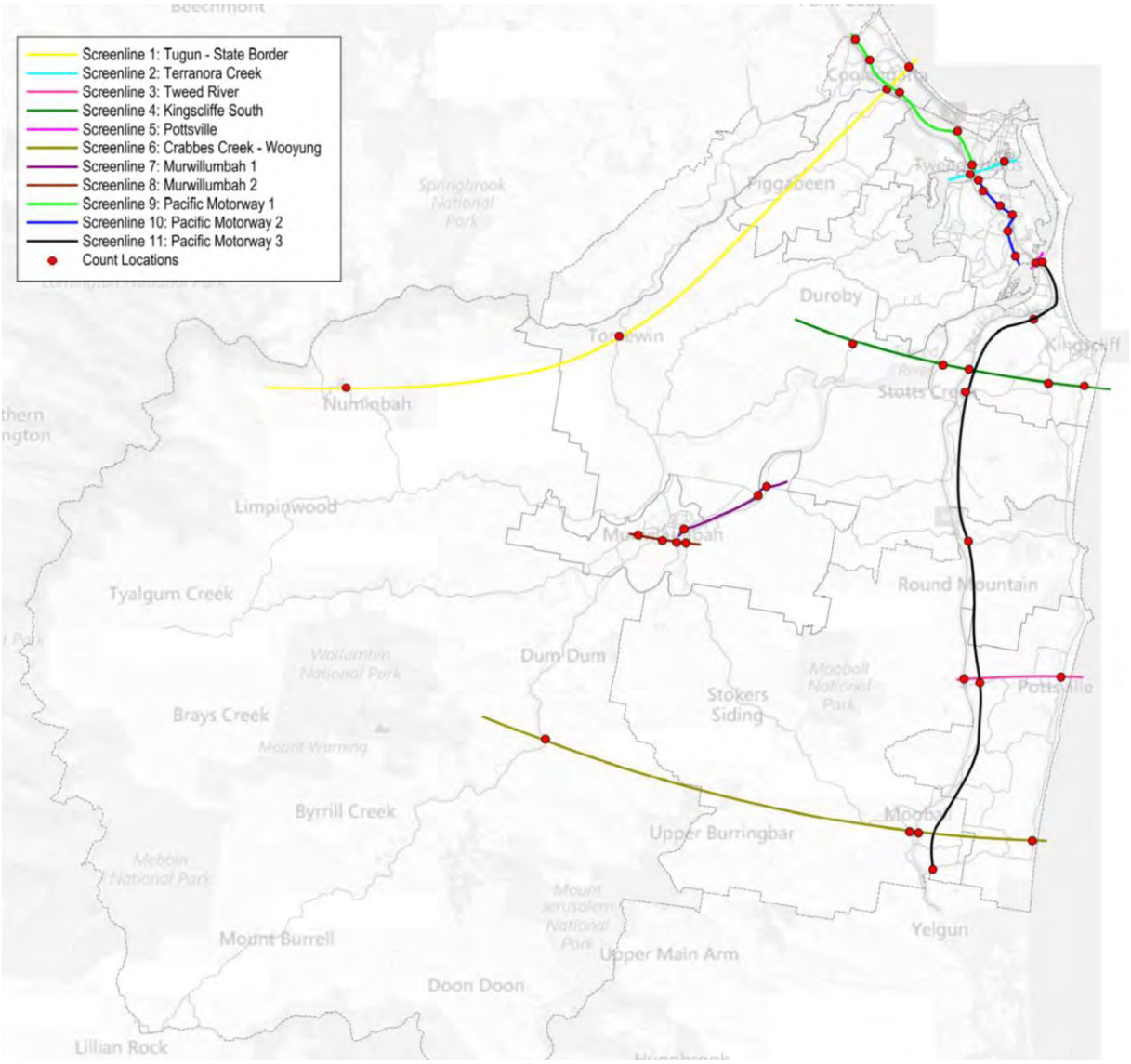


Figure 5.1: Screenline Locations Map

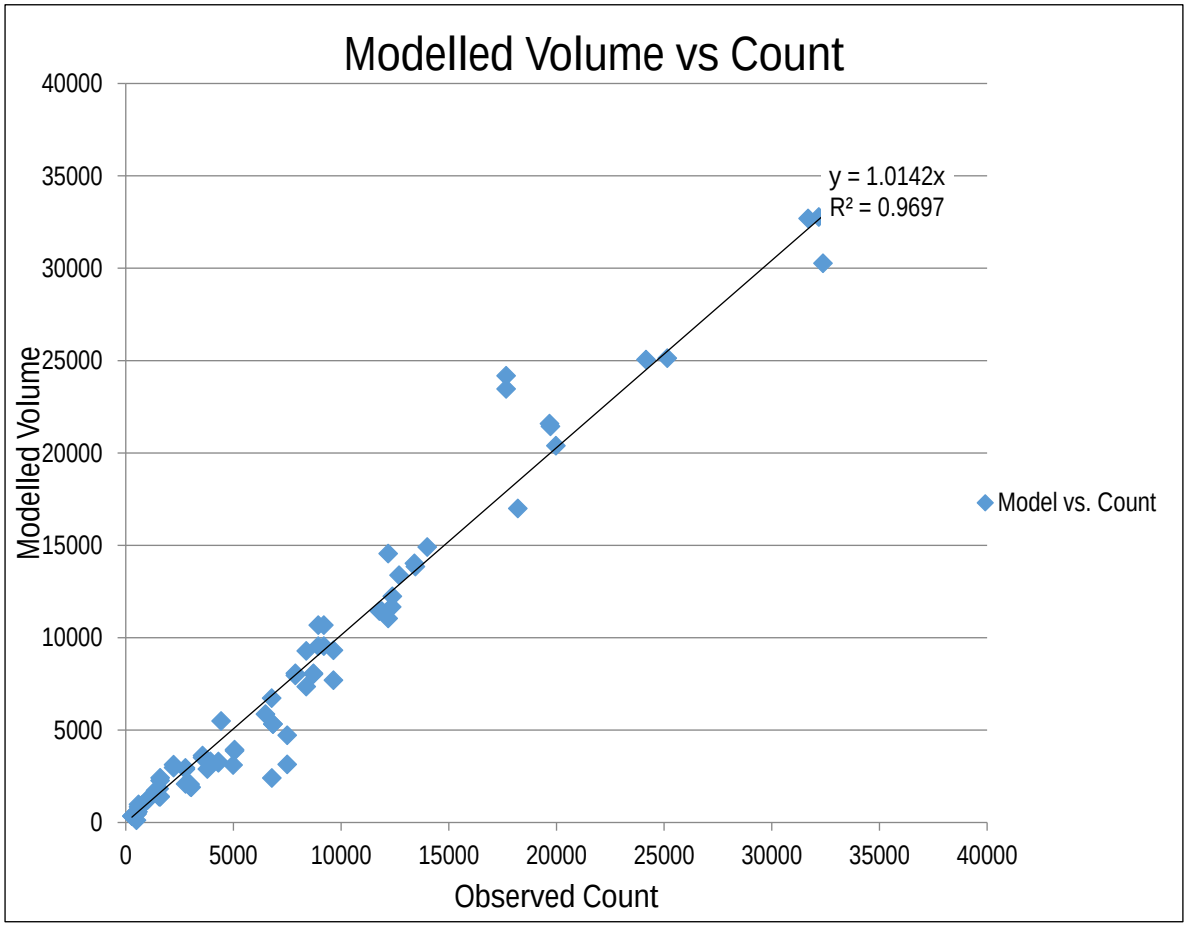


Figure 5.2: Scatter Plot of Modelled versus Observed Daily Volume (2016)

5.3 Travel Time Validation

The TSTM-MM V1.0 does not specifically include intersection delays in its travel time calculations and therefore caution should be exercised when comparing results to travel time surveys, particularly for urban routes with multiple intersections. The intersection delays are replicated in the network by applying link impedance factors and reducing the posted speed of links.

Travel times were "survey" using Google Real Time for various routes during the AM Peak and the PM peak periods. The surveyed routes are shown in Table 5.3.

Table 5.3: Travel Time Routes

Route	Road	Direction 1 (From-To)	Direction 2 (From-To)
1	Minjungbal Drive/Wharf Street	Darlington Drive to State Border	State Border to Darlington Drive
2	M1	Southern Tweed Shire Boundary to State Border	State order to Southern Tweed Shire Boundary
3	Tweed Valley Way	Pacific Highway to Bray Park	Bray Park to Pacific Highway
4	West Tweed - Gollan Drive - Kennedy Drive	Gollan Drive/Kennedy Drive to Boyd's Bay Bridge	Boyd's Bay Bridge to Gollan Drive/Kennedy Drive
5	Tweed Coast Road	Pottsville Bridge to Pacific Highway, Chinderah	Pacific Highway, Chinderah to Pottsville Bridge
6	Leisure Drive/Darlington Drive	Fraser Drive to Pacific Highway	Pacific Highway to Fraser Drive

Figure 5.3 and Figure 5.4 below compares private vehicle travel times in the TSTM-MM V1.0 to surveyed travel times, these are within ±15% of the average surveyed travel time (as per the RMS guideline).

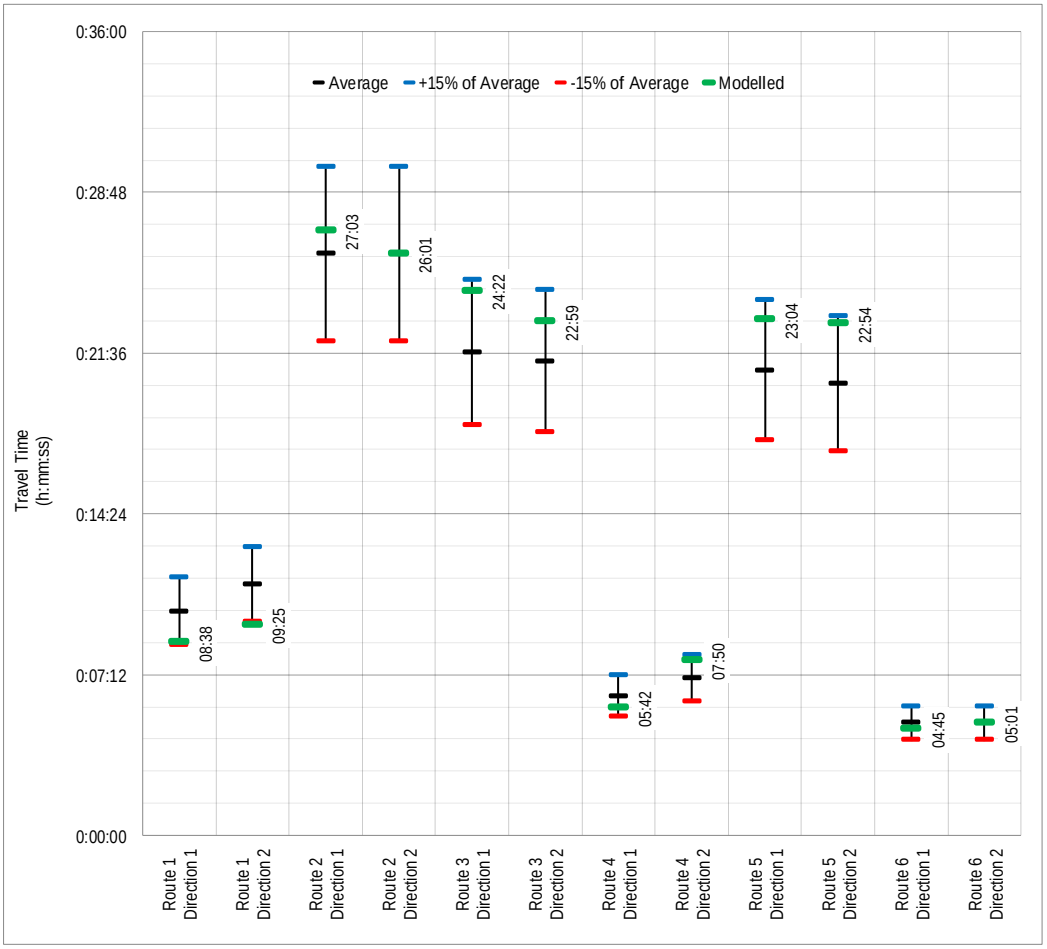


Figure 5.3: Travel Time Comparison - AM Peak Travel Time (7:00 – 9:00 AM)

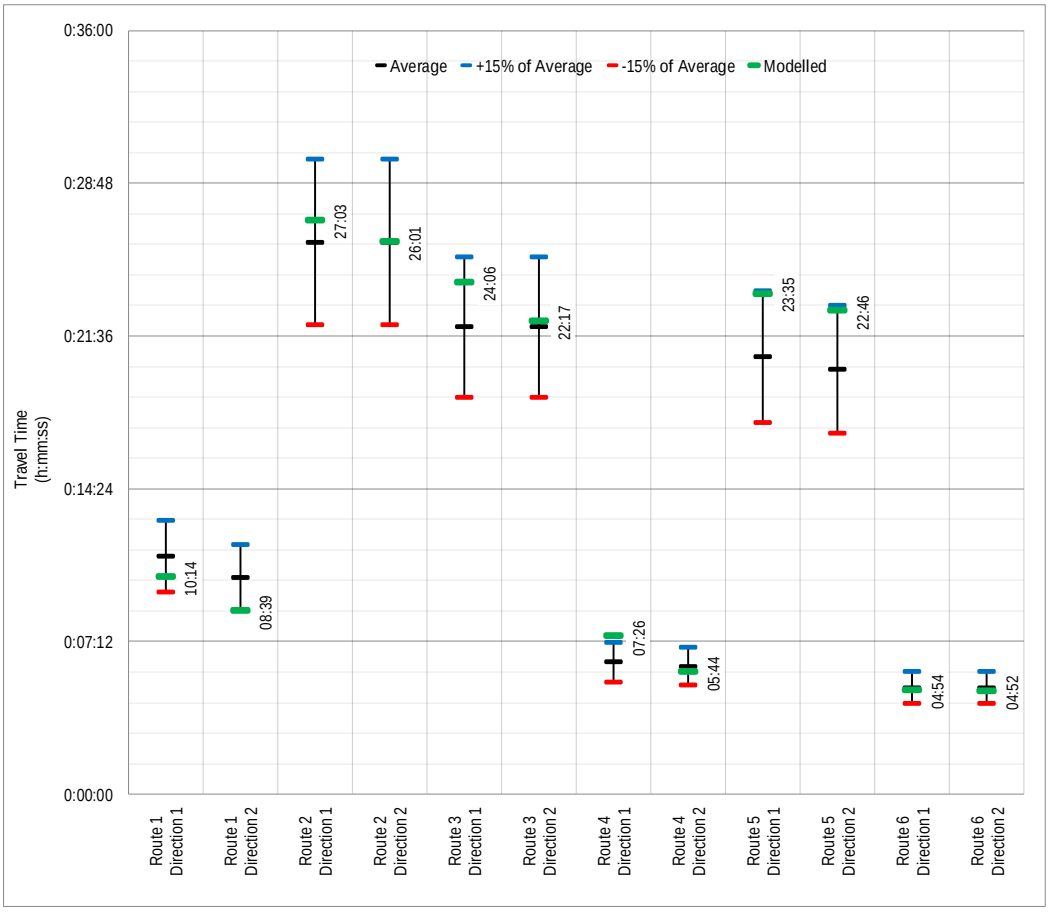


Figure 5.4: Travel Time Comparison - PM Peak Travel Time (4:00 – 6:00 PM)

5.4 MODEL OUTPUTS

Key network statistics have been extracted from the TSTM-MM V1.0. These statistics are provided in Table 5.4 below.

Table 5.4: Key EMME Network Statistics – 2016 TSTM-MM

Statistic	TSTM-MM Model Result
Daily Total Person Trips	578,877
Daily Active Transport Trips	39,132
Daily Public Transport Trips	11,615
Daily Private Transport Trips (Persons)	528,130
Daily Public Transport Mode Share	2.0%
Daily Private Vehicle Trips (Vehicles)	372,086
Daily Vehicle Kilometres Travelled (Private Vehicles)	4,014,417
Daily Vehicle Hours Travelled (Private Vehicles)	80,016
Daily Average Private Vehicle Speed (kph)	10.8
Daily Average Private Vehicle Distance (km)	10.79

5.5 VALIDATION CONCLUSION AND LIMITATIONS

Both screenline volume outputs and peak period travel time outputs are within the strategic model validation tolerances contained in the RMS guidelines. The level of validation is considered fit for the purpose of strategic network modelling, assessment of daily link volumes and for input into local area models (including the Tweed Aimsun Model).

Notwithstanding the above, there may be specific roads where traffic volumes are not within 20% of observed volumes as is the nature and the limitations of strategic network modelling. The precision of models evolves over time as it is expected that further updates to traffic assignment will be needed as specific parts of the network are interrogated in more detail, and to suit the needs of specific local network studies.

Furthermore, whilst peak period outputs are available from the TSTM-MM V1.0, they should not be relied upon and peak period outputs should rather be taken from the TSC Aimsun Model which operates in parallel to the TSTM-MM V1.0.

6. FUTURE IMPROVEMENTS

The TSTM-MM V1.0 has been developed from the GCSTM-MM V2.0 and fundamentally uses its model parameters and processes. Several potential improvements to the model have been identified as follows:

- conducting a Household Travel Survey (HTS) and to generate Tweed-specific trip data sets for model re-estimation;
- conducting preference surveys for public and active transport mode choice and captive parameter estimation;
- re-estimating trip generation, distribution and mode choice parameters based on HTS and preference survey data;
- re-generating time period spilt factors, active transport factors and vehicle occupancy factors based on the HTS survey data;
- updating the 2016 demographics when the ABS data is released; and
- using a homogenous set of traffic count data-set collected during a similar period and having similar levels of quality and confidence to re-assess traffic assignment validation.

7. REFERENCES

- Gold Coast Transport Model, Model Development and Calibration, SKM 2012;
- Gold Coast Strategic Transport Model-Multi Modal V1.0, Bitzios 2011;
- God Coast Strategic Transport Model-Multi Modal Improvement Report, Bitzios 2012; and
- Gold Coast Strategic Transport Model-Multi Modal V2.0, Bitzios 2014.

APPENDIX A

TRIP GENERATION, TRIP DISTRIBUTION PARAMETERS

Trip Production Parametres -Resident Trip Purposes

Household Variables	Home Based Work Blue		Home Based Work White		Home Based Education Pri Sec		Home Based Education Ter		Home Based Shopping		Home Based Others	
	Coefficient	t-statistic	Coefficient	t-statistic	Coefficient	t-statistic	Coefficient	t-statistic	Coefficient	t-statistic	Coefficient	t-statistic
Blue Collar												
Blu1	1.4299	31.3884							0.4171	4.7653	0.2458	2.7210
Blu2	2.8712	29.8220							0.8692	6.0424	0.4384	2.9535
Blu3p	3.2500	13.9909							0.8692	6.0424	0.4384	2.9535
White Collar												
Wht1			1.3801	27.7051			0.0015	0.0500	0.2173	2.5891	0.4017	4.6374
Wht2			2.7066	39.7813			0.0741	1.8491	0.7349	7.1320	0.9070	8.5304
Wht3p			4.7000	21.6033			0.5119	4.0147	0.9653	3.1463	1.2130	3.8317
Dependent A												
Depa1					2.6049	15.6074			0.2622	2.1411	0.2807	2.2220
Depa2					4.6472	28.6486			0.6170	5.1497	0.4630	3.7446
Depa3					6.8889	23.8299			0.7974	4.4437	1.1350	6.1301
Depa4p					10.2174	16.3104			0.7974	4.4437	1.1350	6.1301
Dependent B												
Depb1							0.2588	7.5583	0.8230	9.0748	0.8597	9.1868
Depb2							0.5972	9.4351	1.6195	10.4787	1.2993	8.1481
Depb3							1.2412	8.3047	1.9141	5.6670	1.3778	3.9533
Depb4p							3.7315	9.2716	1.9141	5.6670	1.3778	3.9533
Dependent C												
Depc1									0.8178	7.1167	0.9459	7.9779
Depc2									1.8342	13.3530	2.0215	14.2627
Depc3									1.8342	13.3530	2.0215	14.2627
Constant	0		0		0		0		0		0	
R^2	0.692		0.698		0.703		0.163		0.355		0.347	

Trip Production Parametres -Visitor Trip Purposes

Variables	Domestic Visitors Home Based		International Visitors-Home Based		Domestic Visitors -Non Home Based		International Visitors -Non Home Based	
	Coefficient	t-statistic	Coefficient	t-statistic	Coefficient	t-statistic	Coefficient	t-statistic
Visitors-Domestic	1.609	31.179			0.172	10.394	0.172	10.394
Visitors-International			1.5223	55.0138				
Constant	0		0		0		0	
R^2	0.914		0.962		0.574		0.574	

Trip Attraction Parametres -Resident Trip Purposes

Variables	Home Based Work Blue		Home Based Work White		Home Based Education Pri Sec		Home Based Education Ter		Home Based Shopping		Home Based Others		Work Based Work		Othe Non-Home Based	
	Coefficient	t-statistic	Coefficient	t-statistic	Coefficient	t-statistic	Coefficient	t-statistic	Coefficient	t-statistic	Coefficient	t-statistic	Coefficient	t-statistic	Coefficient	t-statistic
Population	0.0622	1.0438							0.1640	1.3231	0.1442	1.0480			0.0629	0.4014
Enrolment																
Pre, Primary					2.9985	2.1822										
Secondary					2.8802	1.3577					0.3692	0.2113				
Tertiary							1.0705	8.5104								
Employment																
Retail			1.4627	1.4192					3.4314	2.3041	3.2787	2.6474	0.2117	8.4849	4.8176	2.1713
Service	0.5775	2.1429	0.1858	0.3045									0.2117	8.4849	1.4665	1.8573
Professional			2.1131	1.7071									0.2117	8.4849		
Industry	0.6585	2.4454											0.2117	8.4849		
Constant	0		0		0		0		0		0		0		0	
R^2	0.789		0.821		0.701		0.751		0.751		0.795		0.750		0.810	

Trip Attraction Parametres -Visitor Trip Purposes

Variables	Domestic Visitors-Home Based		International Visitors-Home Based		Domestic Visitors-Non Home Based			
	Coefficient	t-statistic	Coefficient	t-statistic	Coefficient	t-statistic		
Number of Visitors Within 400 meters of Beach	2.720	17.750	2.099	3.608	0.262	7.551	0.292	5.917
Retail Employment	0.549	5.683	0.150	31.839	0.135	6.179	0.052	20.867
Constant	0		0		0		0	
R^2	0.844		0.928		0.631		0.876	

Trip Distribution "Beta" Values

Trip Purpose	Inter Sector		Intra-sector	
	Beta	T-Statistic	Beta	T-Statistic
Home Based Work Blue	0.00411	63.59	0.00413	7.55
Home Based Work White	0.00402	65.48	0.00877	16.73
Home Based Education Primary, Secondary	0.00453	58.01	0.00391	6.28
Home Based Education Tertiary	0.00421	55.17	-	-
Home Based Others	0.00414	58.59	0.00356	20.13
Home Based Shopping	0.00431	44.52	0.00370	15.15
Other Non-Home Based	0.00441	65.29	0.00440	15.34
Work Based Work	0.00423	56.39	0.00839	13.09

Trip Distribution Constants

Trip Purpose	Inter-Sector Constant		Intra Sector Constant	
	Constant	T-Statistic	Constant	T-Statistic
Home Based Work Blue	-	-	1.2266	7.39
Home Based Work White	-	-	0.2032	1.76
Home Based Education Primary, Secondary	-	-	1.2066	5.98
Home Based Education Tertiary	-	-	0.0000	-
Home Based Others	-	-	1.4926	34.59
Home Based Shopping	-	-	1.4370	26.069
Other Non-Home Based	-	-	1.2958	22.20
Work Based Work	-	-	0.4077	3.34

APPENDIX B

SCREENLINE VALIDATION TABLE

Tweed Shire Strategic Transport Model - Multi-Modal V1.0

2016 BASE

24 HOUR TRAFFIC VOLUME

Screenline	Screenline TAG	Direction	TAG	Anode	Bnode	Observed Volume - 2016 Daily	Modelled Volume - 2016 Daily	Difference (24Hrs)		GEH statistic
Screenline 1: Tugun										
1n Nerang Murwillumbah Road	1_1n	Northbound	11550_1005	11550	1005	557	587	30	5%	0.3
2n Tomewin Currumbin Creek Road	1_2n	Northbound	11552_12053	11552	12053	1,005	1,214	209	21%	1.5
3n Tugun Bypass	1_3n	Northbound	30020_32003	30020	32003	25,147	25,133	-15	0%	0.0
4n Gold Coast Highway (north of Boyd St)	1_4n	Northbound	33602_33601	33602	33601	19,675	21,595	1,920	10%	3.2
		Total Northbound				46,384	48,528	2,144	5%	2.4
1s Nerang Murwillumbah Road	1_1s	Southbound	1005_11550	1005	11550	557	587	30	5%	0.3
2s Tomewin Currumbin Creek Road	1_2s	Southbound	12053_11552	12053	11552	1,005	1,248	243	24%	1.7
3s Tugun Bypass	1_3s	Southbound	12396_30018	12396	30018	24,161	25,055	894	4%	1.4
4s Gold Coast Highway (north of Boyd St)	1_4s	Southbound	11533_30025	11533	30025	19,720	21,441	1,721	9%	2.9
		Total Southbound				45,443	48,330	2,887	6%	3.2
		Total 2-Way				91,827	96,858	5,031	5%	3.9
Screenline 2: Terranora Creek										
1n Pacific Highway (South of Kennedy Dr)	2_1n	Northbound	33586_12169	33586	12169	32,380	30,273	-2,107	-7%	2.9
2n Minjungbal Dr (South of Kennedy Dr)	2_2n	Northbound	11577_11572 11577_40809	11577 11577	11572 40809	19,975	20,398	423	2%	0.7
		Total Northbound				52,355	50,670	-1,685	-3%	1.8
1s Pacific Highway (South of Kennedy Dr)	2_1s	Southbound	12170_40632	12170	40632	33,928	33,298	-630	-2%	0.8
2s Minjungbal Dr (South of Kennedy Dr)	2_2s	Southbound	11572_11577	11572	11577	18,204	17,000	-1,205	-7%	2.2
		Total Southbound				52,132	50,297	-1,835	-4%	1.9
		Total 2-Way				104,487	100,968	-3,519	-3%	2.6
Screenline 3: Tweed River										
1n Pacific Motorway	3_1n	Northbound	12488_12028	12488	12028	32,186	32,780	594	2%	0.8
		Total Northbound				32,186	32,780	594	2%	0.8
1s Pacific Motorway	3_1s	Southbound	40806_33400	40806	33400	31,688	32,700	1,012	3%	1.4
		Total Southbound				31,688	32,700	1,012	3%	1.4
		Total 2-Way				63,874	65,480	1,606	3%	1.5
Screenline 4: Kingscliffe South										
1n Terranora Road - west of Fraser Drive	4_1n	Northbound	12070_11578	12070	11578	5,048	3,889	-1,159	-23%	4.2
2n Tweed Valley Way north of Cudgen Road	4_2n	Northbound	12497_12498	12497	12498	6,835	5,331	-1,503	-22%	4.6
3n Pacific Motorway	4_3n	Northbound	33413_33412	33413	33412	12,348	11,669	-679	-5%	1.5
4n Tweed Coast Road north of Cudgen Road	4_4n	Northbound	40431_11594	40431	11594	8,941	10,682	1,742	19%	4.2
5n Casuarina Way	4_5n	Northbound	12493_12499	12493	12499	1,594	2,418	824	52%	4.4
		Total Northbound				34,765	33,989	-776	-2%	1.0
1s Terranora Road - west of Fraser Drive	4_1s	Southbound	11578_12070	11578	12070	5,048	3,948	-1,100	-22%	3.9
2s Tweed Valley Way north of Cudgen Road	4_2s	Southbound	12498_12497	12498	12497	6,835	5,331	-1,504	-22%	4.6
3s Pacific Motorway	4_3s	Southbound	33412_33414	33412	33414	12,377	12,244	-132	-1%	0.3
4s Tweed Coast Road north of Cudgen Road	4_4s	Southbound	11594_40431	11594	40431	9,194	9,554	360	4%	0.9
5s Casuarina Way	4_5s	Southbound	12499_12493	12499	12493	1,594	2,277	683	43%	3.7
		Total Southbound				35,047	33,354	-1,693	-5%	2.2
		Total 2-Way				69,812	67,343	-2,469	-4%	2.3

Tweed Shire Strategic Transport Model - Multi-Modal V1.0

2016 BASE

24 HOUR TRAFFIC VOLUME

Screenline	Screenline TAG	Direction	TAG	Anode	Bnode	Observed Volume - 2016 Daily	Modelled Volume - 2016 Daily	Difference (24Hrs)		GEH statistic
Screenline 5: Pottsville										
1n Pacific Motorway	5_1n	Northbound	40389_40388	40389	40388	13,447	13,857	410	3%	0.8
2n Tweed Coast Road @ Pottsville Bowls Club	5_2n	Northbound	40407_40408	40407	40408	2,996	1,943	-1,052	-35%	5.1
		Total Northbound				16,443	15,801	-642	-4%	1.2
1s Pacific Motorway	5_1s	Southbound	40388_40389	40388	40389	13,401	14,025	624	5%	1.3
2s Tweed Coast Road @ Pottsville Bowls Club	5_2s	Southbound	40408_40407	40408	40407	3,040	1,907	-1,134	-37%	5.5
		Total Southbound				16,441	15,932	-510	-3%	1.0
		Total 2-Way				32,884	31,732	-1,152	-4%	1.5
Screenline 6: Crabbes Creek - Wooyung										
1n Kyogle Road- Uki	6_1n	Northbound	40344_40343	40344	40343	1,383	1,710	327	24%	2.0
2n Tweed Valey Way	6_2n	Northbound	40381_40380	40381	40380	1,595	1,398	-197	-12%	1.2
3n Pacific Motorway	6_3n	Northbound	40393_40394	40393	40394	11,775	11,449	-326	-3%	0.7
4n Tweed Coast Road	6_4n	Northbound	40401_40402	40401	40402	461	465	4	1%	0.0
		Total Northbound				15,214	15,023	-191	-1%	0.4
1s Kyogle Road- Uki	6_1s	Southbound	40343_40344	40343	40344	1,383	1,733	350	25%	2.1
2s Tweed Valey Way	6_2s	Southbound	40380_40381	40380	40381	1,595	1,406	-188	-12%	1.2
3s Pacific Motorway	6_3s	Southbound	40394_40393	40394	40393	11,889	11,451	-438	-4%	1.0
4s Tweed Coast Road	6_4s	Southbound	40402_40401	40402	40401	488	454	-34	-7%	0.4
		Total Southbound				15,355	15,044	-310	-2%	0.6
		Total 2-Way				30,568	30,067	-502	-2%	0.7
Screenline 7: Murwillumbah 1										
1n Cane Road @ bridge	7_1n	Eastbound	40301_40552	40301	40552	2,773	2,094	-679	-24%	3.3
2n Tweed Valley Way	7_2n	Northbound	40552_40571	40552	40571	7,875	8,075	199	3%	0.5
3e Wollumbin Srreet @bridge	7_3e	Eastbound	40307_40360	40307	40360	8,717	8,079	-638	-7%	1.7
		Total Northbound				19,365	18,247	-1,118	-6%	2.0
1s Cane Road @ bridge	7_1s	Westbound	40552_40301	40552	40301	2,984	2,071	-913	-31%	4.4
2s Tweed Valley Way	7_2s	Southbound	40571_40552	40571	40552	7,872	7,968	96	1%	0.3
3w Wollumbin Srreet @bridge	7_3w	Westbound	40360_40307	40360	40307	8,717	8,037	-679	-8%	1.8
		Total Southbound				19,572	18,076	-1,496	-8%	2.6
		Total 2-Way				38,937	36,323	-2,614	-7%	3.2
Screenline 8: Murwillumbah 2										
1n Byangum Road - west of Barnby Street	8_1n	Northbound	40479_40480	40479	40480	2,768	2,891	123	4%	0.6
2n Kyogle Road - north of Sylvan Street	8_2n	Northbound	40334_40333	40334	40333	3,565	3,521	-44	-1%	0.2
3n Tweed Valley Way - North of Holland Street	8_3n	Northbound	40362_40363	40362	40363	3,129	2,775	-354	-11%	1.6
4n Commercial Road	7_4n	Northbound	40331_40330	40331	40330	222	339		0%	1.7
		Total Northbound				9,683	9,526	-157	-2%	0.4
1s Byangum Road - west of Barnby Street	8_1s	Southbound	40480_40479	40480	40479	2,768	2,961	194	7%	0.9
2s Kyogle Road - north of Sylvan Street	8_2s	Southbound	40333_40334	40333	40334	3,565	3,622	57	2%	0.2
3s Tweed Valley Way - North of Holland Street	8_3s	Southbound	40363_40362	40363	40362	3,129	2,711	-417	-13%	1.9
4s Commercial Road	7_4s	Southbound	40330_40331	40330	40331	862	336	-527	-61%	5.2
		Total Southbound				10,323	9,630	-693	-7%	1.7
		Total 2-Way				20,006	19,156	-850	-4%	1.5

Tweed Shire Strategic Transport Model - Multi-Modal V1.0

2016 BASE

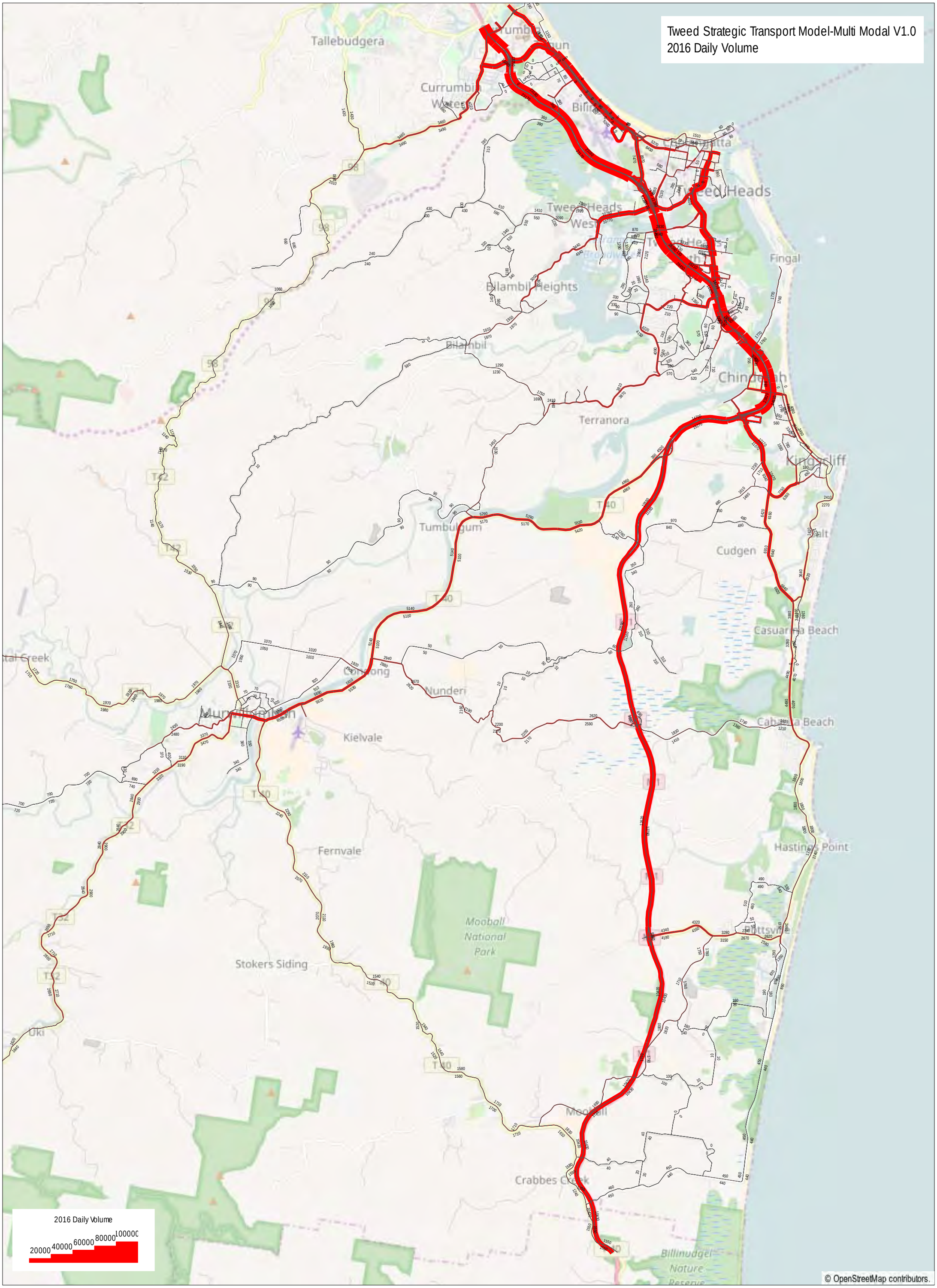
24 HOUR TRAFFIC VOLUME

Screenline	Screenline TAG	Direction	TAG	Anode	Bnode	Observed Volume - 2016 Daily	Modelled Volume - 2016 Daily	Difference (24Hrs)		GEH statistic
Screenline 9: Pacific Motorway 1										
1e Durringan Street	9_1e	Eastbound	33620_11972	33620	11972	6,785	5,909	-876	-13%	2.6
2e Tugun-Currumbin Road	9_2e	Eastbound	32000_12399	32000	12399	12,181	14,547	2,365	19%	4.9
3e Boyd Street east of Irene Street	9_3e	Eastbound	30024_40079	30024	40079	3,858	3,271	-587	-15%	2.4
4e Gold Coast highway	9_4e	Northbound	31019_12164	31019	12164	9,646	7,707	-1,939	-20%	5.0
5e Kennedy Drive	9_5e	Eastbound	12166_11573	12166	11573	12,694	13,392	697	5%	1.5
		Total Eastbound				45,165	44,826	-339	-1%	0.4
1w Durringan Street	9_1w	Westbound	11972_33620	11972	33620	6,482	5,867	-615	-9%	1.9
2w Tugun-Currumbin Road	9_2w	Westbound	12399_32000	12399	32000	12,181	14,555	2,374	19%	4.9
3w Boyd Street east of Irene Street	9_3w	Westbound	40079_30024	40079	30024	3,925	3,309	-616	-16%	2.5
4w Gold Coast highway	9_4w	Southbound	12165_31020	12165	31020	9,645	9,323	-322	-3%	0.8
5w Kennedy Drive	9_5w	Westbound	11573_12166	11573	12166	14,001	14,913	912	7%	1.8
		Total Westbound				46,235	47,967	1,732	4%	1.9
		Total 2-Way				91,400	92,792	1,393	2%	1.1
Screenline 10: Pacific Motorway 2										
1e Dry Dock Road	10_1e	Eastbound	12014_40764	12014	40764	3,787	2,894	-893	-24%	3.7
2e Kirkwood Road	10_2e	Eastbound	40517_40516	40517	40516	4,423	5,497	1,074	24%	3.7
3e Greenway Drive - west of Machinery Drive	10_3e	Eastbound	40765_40515	40765	40515	7,499	3,149	-4,349	-58%	14.3
4e Minjungbal Drive -south of Shallow Bay Drive	10_4e	Northbound	40648_33575	40648	33575	17,664	23,471	5,806	33%	9.7
5e Darlington Drive - north of Leisure Drive	10_5e	Eastbound	11581_33589	11581	33589	8,377	9,292	915	11%	2.3
6e Laura Street	10_6e	Eastbound	12017_12659	12017	12659	2,216	3,135	919	41%	4.3
7e Terranora Road - east of Pacific Drive	10_7e	Eastbound	12027_11582	12027	11582	4,297	3,235	-1,062	-25%	4.1
		Total Eastbound				48,262	50,673	2,411	5%	2.6
1w Dry Dock Road	10_1w	Westbound	40764_12014	40764	12014	4,984	3,110	-1,873	-38%	7.1
2w Kirkwood Road	10_2w	Westbound	40516_40517	40516	40517	491	127	-365	-74%	5.0
3w Greenway Drive	10_3w	Westbound	40515_40765	40515	40765	7,499	4,725	-2,773	-37%	8.5
4w Minjungbal Drive	10_4w	Southbound	33575_12189	33575	12189	17,664	24,182	6,518	37%	10.8
5w Darlington Drive	10_5w	Westbound	33589_11581	33589	11581	8,377	7,358	-1,019	-12%	2.8
6w Laura Street	10_6w	Westbound	12659_12017	12659	12017	2,216	2,977	761	34%	3.6
7w Terranora Road - east of Pacific Drive	10_7w	Westbound	11582_12027	11582	12027	4,297	3,307	-989	-23%	3.8
		Total Westbound				45,527	45,788	261	1%	0.3
		Total 2-Way				93,789	96,461	2,671	3%	2.1
Screenline 11: Pacific Motorway 3										
1e Fingal Road	11_1e	Eastbound	12500_40680	12500	40680	771	953	182	24%	1.5
2e Tweed Coast Road - north of Cudgen Road	11_2e	Northbound	11594_40431	11594	40431	8,941	9,554	614	7%	1.5
3e Cudgen Road east of Durnabah Road	11_3e	Eastbound	11590_11600	11590	11600	592	986	394	66%	3.4
4e Clothiers Creek Road	11_4e	Eastbound	40727_40726	40727	40726	1,553	1,832	280	18%	1.6
5e Cudgera Creek Road - west of Pacific Highway	11_5e	Eastbound	40673_40666	40673	40666	285	347	62	22%	0.8
6e Wooyung Road	11_6e	Eastbound	40381_40397	40381	40397	515	475	-40	-8%	0.4
		Total Eastbound				12,656	14,147	1,491	12%	3.1
1w Fingal Road	11_1w	Westbound	40680_12500	40680	12500	6,775	6,737	-38	-1%	0.1
2w Tweed Coast Road	11_2w	Southbound	40431_11594	40431	11594	9,194	10,682	1,488	16%	3.6
3w Cudgen Road	11_3w	Westbound	11600_11590	11600	11590	592	852	260	44%	2.3
4w Clothiers Creek Road	11_4w	Westbound	40726_40727	40726	40727	1,553	1,400	-152	-10%	0.9
5w Cudgera Creek Road	11_5w	Westbound	40392_40673	40392	40673	285	348	63	22%	0.8
6w Wooyung Road	11_6w	Westbound	40397_40381	40397	40381	508	464	-45	-9%	0.5
		Total Westbound				18,907	20,483	1,576	8%	2.7
		Total 2-Way				31,563	34,630	3,067	10%	4.0

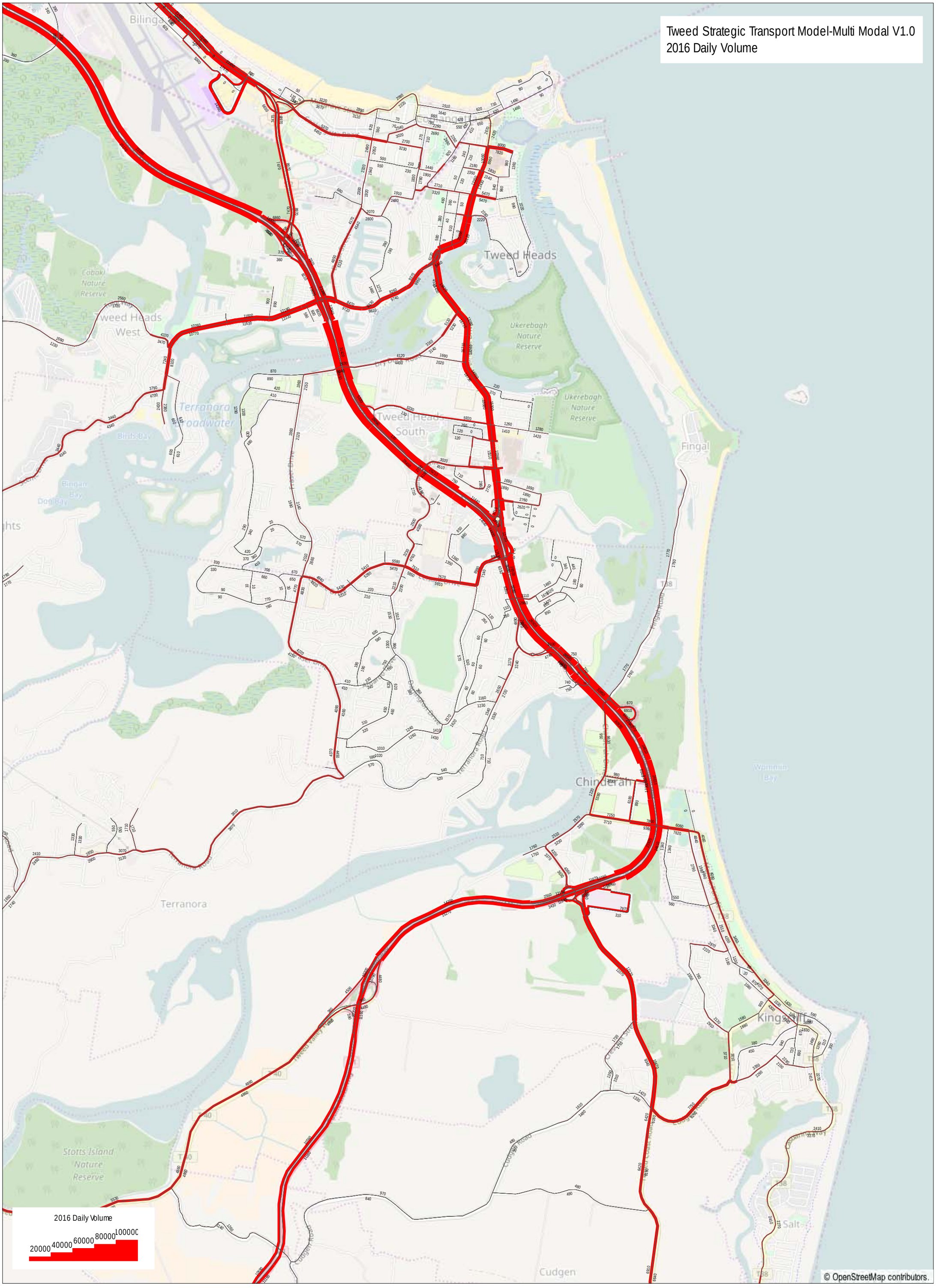
APPENDIX C

24 HOUR TRAFFIC VOLUME PLOTS: 2016

Tweed Strategic Transport Model-Multi Modal V1.0
2016 Daily Volume



Tweed Strategic Transport Model-Multi Modal V1.0
2016 Daily Volume



Tweed Strategic Transport Model-Multi Modal V1.0
2016 Daily Volume

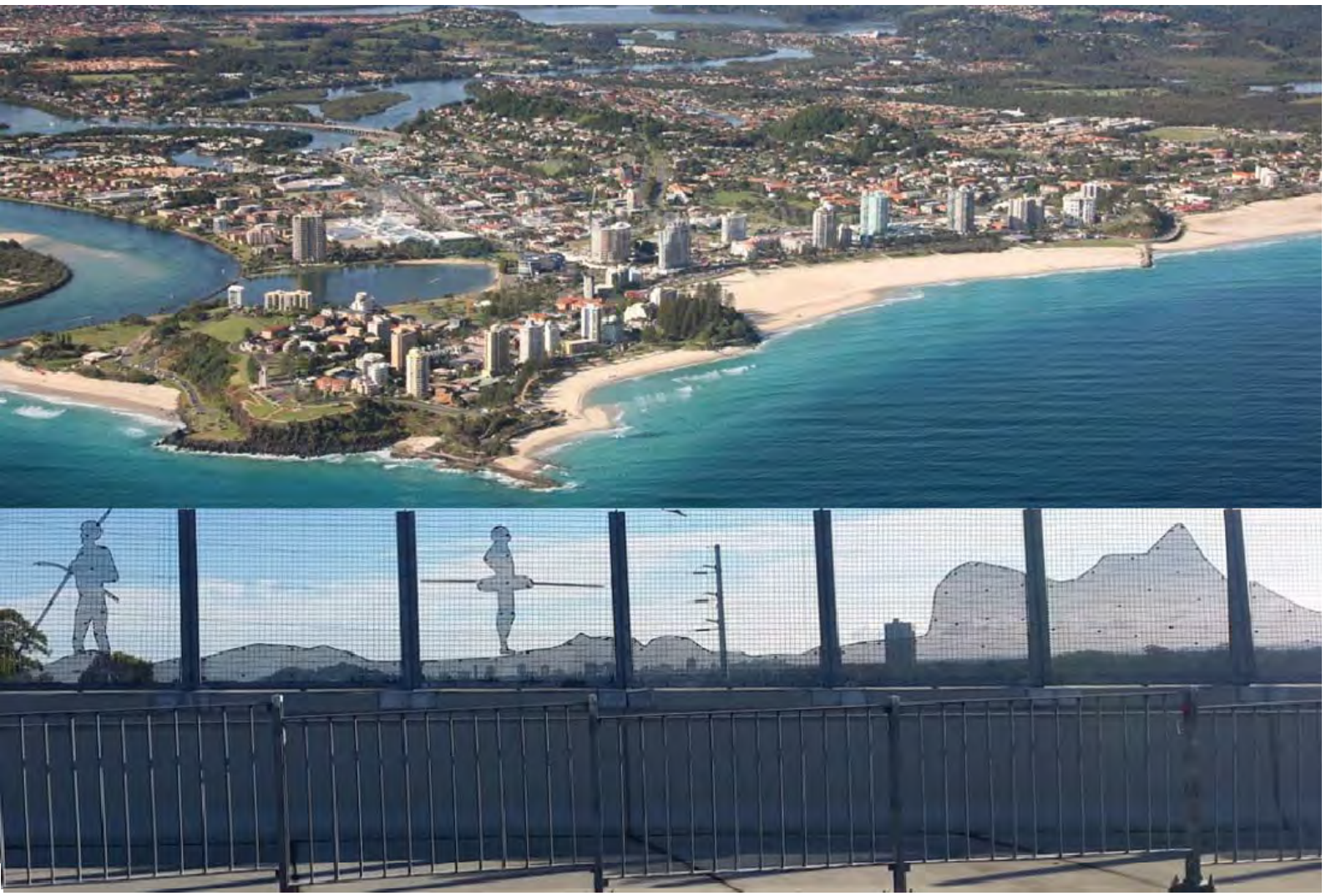
2016 Daily Volume
20000 40000 60000 80000 100000

APPENDIX B

AIMSUN BASE MODEL CALIBRATION AND VALIDATION

TWEED ROAD DEVELOPMENT STRATEGY

2016 AIMSUN Model Development Report



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P2702.001R TRDS AIMSUN Base Model Calibration and Validation Report	M. Bitzios	A. Eke	A. Eke	15/02/2017	Ray Clark Tweed Shire Council
P2702.002R TRDS AIMSUN Base Model Calibration and Validation Report	M. Bitzios	A. Eke/ A. Ahmed	A. Eke	21/03/2017	Michael Baldwin Roads and Maritime Services

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1. INTRODUCTION

1.1 BACKGROUND

Bitzios Consulting was commissioned by Tweed Shire Council (TSC) to forecast the future-year operation of the Tweed Shire road network and recommend cost-effective upgrades to improve performance. As previously agreed with TSC, all modelling shall be undertaken using EMME and AIMSUN. The EMME model used in this assessment is an extension of the Bitzios Consulting Gold Coast Strategic Transport Model (GCSTM). This model incorporates population, employment and enrolment projections to best anticipate future-year traffic demands.

Aimsun is a traffic modelling software which allows a user to create and run detailed traffic networks at a macroscopic, mesoscopic and microscopic level. The ability to create and run hybrid models differentiates it from other modelling software such as EMME (macroscopic) or Paramics (microscopic). Aimsun offers users the choice of static or dynamic trip assignment. Whilst a microsimulation model would provide a visual representation of anticipated queueing, large-scale microsimulation models require are extremely difficult to accurately validate. For the purposes of assessing the Tweed Road network, the 2016 Base Aimsun model was validated and run as a mesoscopic model.

This report provides details of the development, calibration and validation of the 2016 Base Aimsun Model which shall be used for the purpose of forecast traffic analysis. The position of the Base Model Calibration and Validation Report, in relation to the study process, is shown in Figure 1.1.

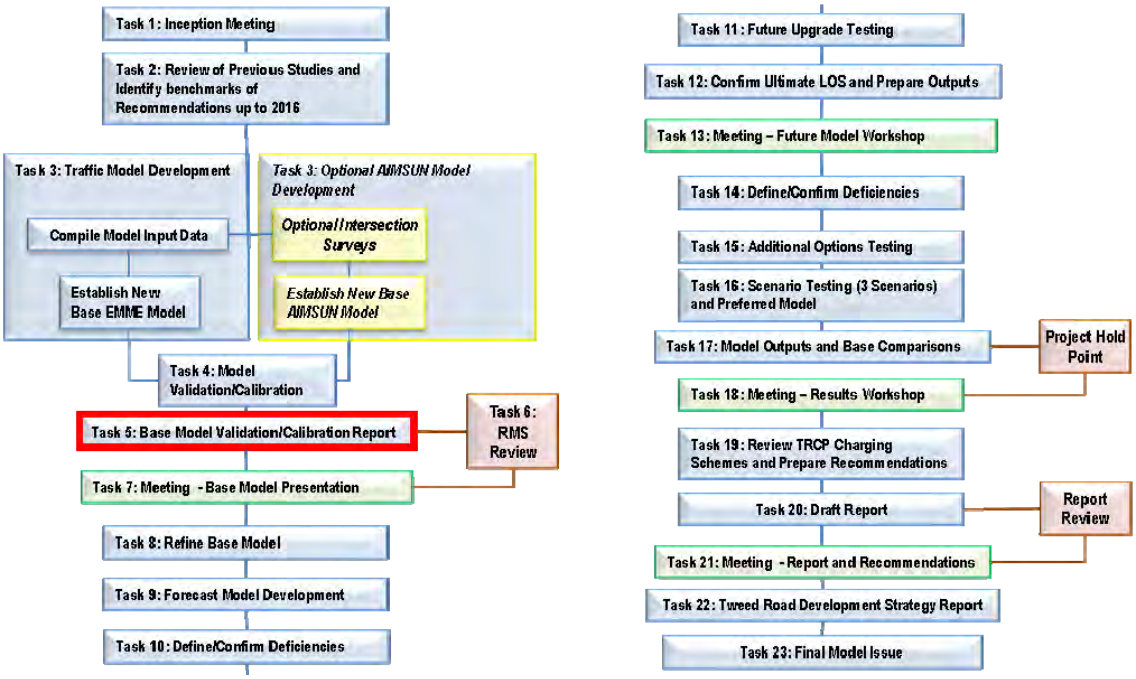
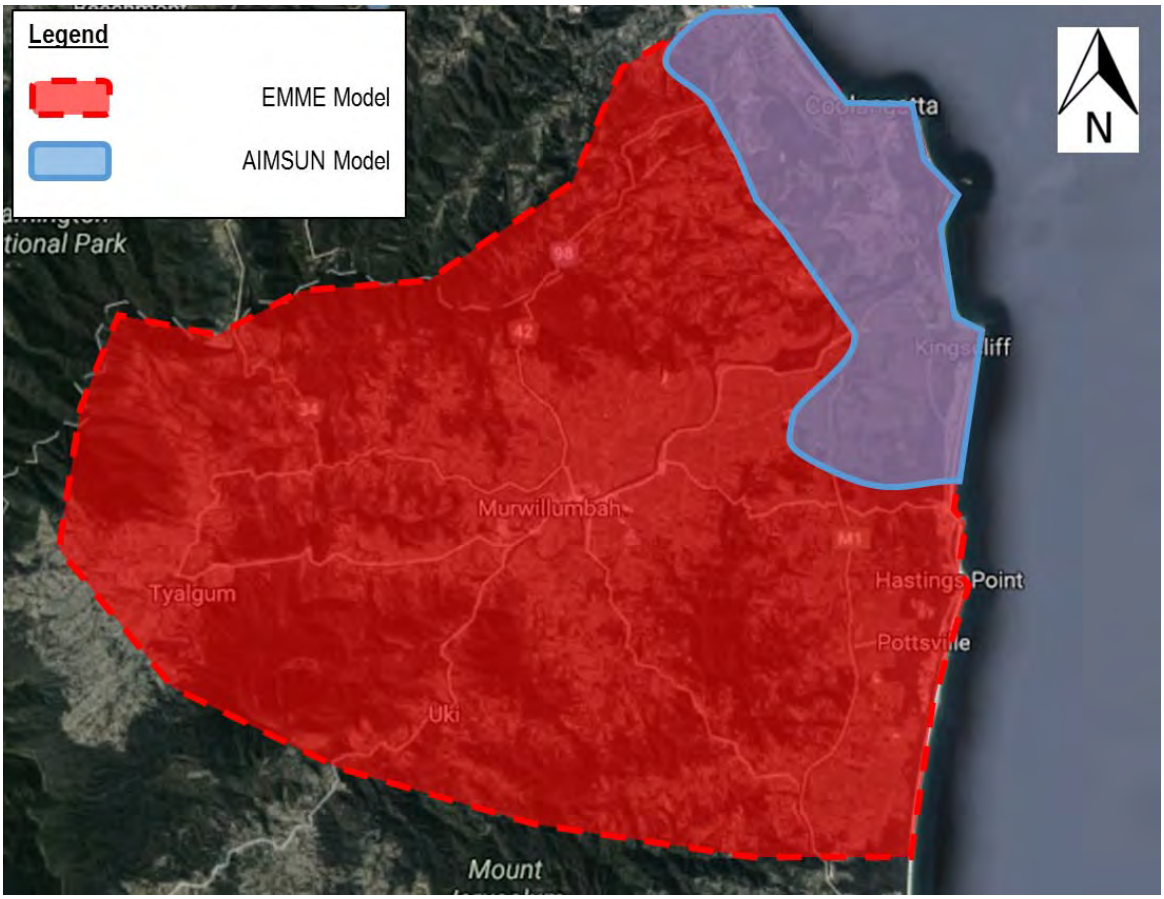


Figure 1.1: Study Process

1.2 LOCATION

Whilst the EMME model incorporates the entirety of the Tweed, the level of detail required in AIMSUN modelling necessitated the need for a refined scope. The refined study area is bounded by the State border, Casuarina/ Kings Forrest and the Terranora Broadwater. The above area incorporates several key regional roads including the Pacific Motorway, Wharf Street, Minjungbal Drive and Frasier Drive. The study area and extent of modelled network is shown in Figure 1.2.



SOURCE: Google Maps Australia

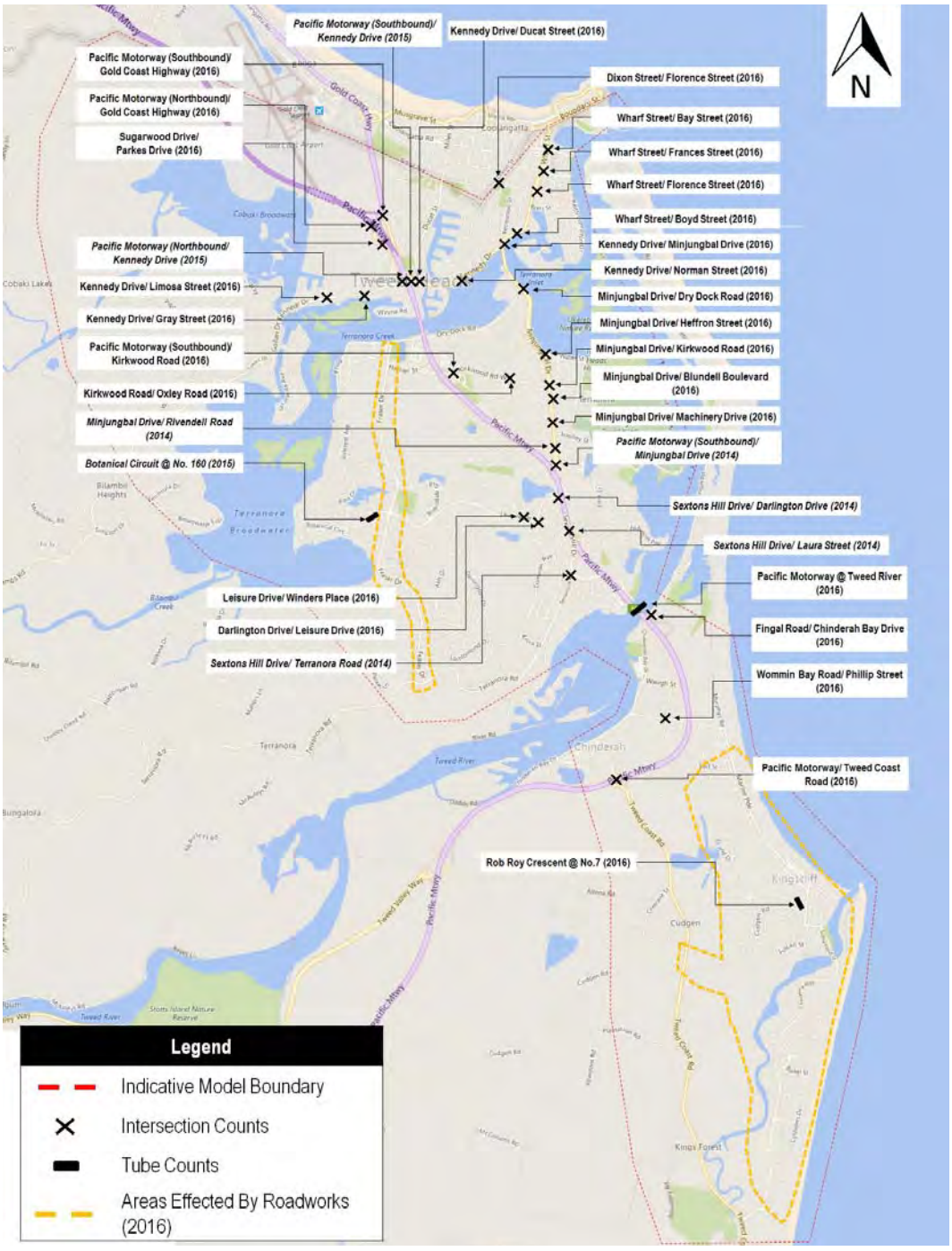
Figure 1.2: Study Area

An area of the road network north of the Queensland state border has been included within the model to best represent the travel patterns of those who regularly travel across the border. In addition, the AIMSUN mesoscopic model shall incorporate anticipated traffic generation for the developments proposed in Kings Forrest, Terranora and Cobaki. Links into these residential subdivisions have been included in the 2016 Base AIMSUN Model, however, these zones are yet to be populated. For the purpose of more detailed traffic analysis, future-year models shall include trips to/ from these zones.

2. DATA

2.1 INTERSECTION COUNTS

For the purpose of validation, a number of intersection and mid-block surveys were undertaken within the modelled area. Figure 2.1 shows the location of the intersection/ mid-block count data used in the validation of the 2016 Base AIMSUN Model.



SOURCE: Google Maps Australia

Figure 2.1: Traffic Survey Locations

2.2 SIGNAL DATA

Signal data was acquired from the SCATS Intersection Diagnostic Monitor (IDM) data provided by RMS for the signalised intersections within the model except for Transport and Main Roads (TMR) (QLD) controlled intersections. The assessment of TMR controlled intersections does not form part of this study. As such, dummy phasing (as observed on site) phasing was used in the model.

3. BASE MODEL DEVELOPMENT

3.1 NETWORK CODING

The network geometry and lane configurations were coded based on the Tweed Strategic Transport Model – MultiModal (TSTM-MM). Figure 3.1 shows the road network map and the zone centroid locations used.

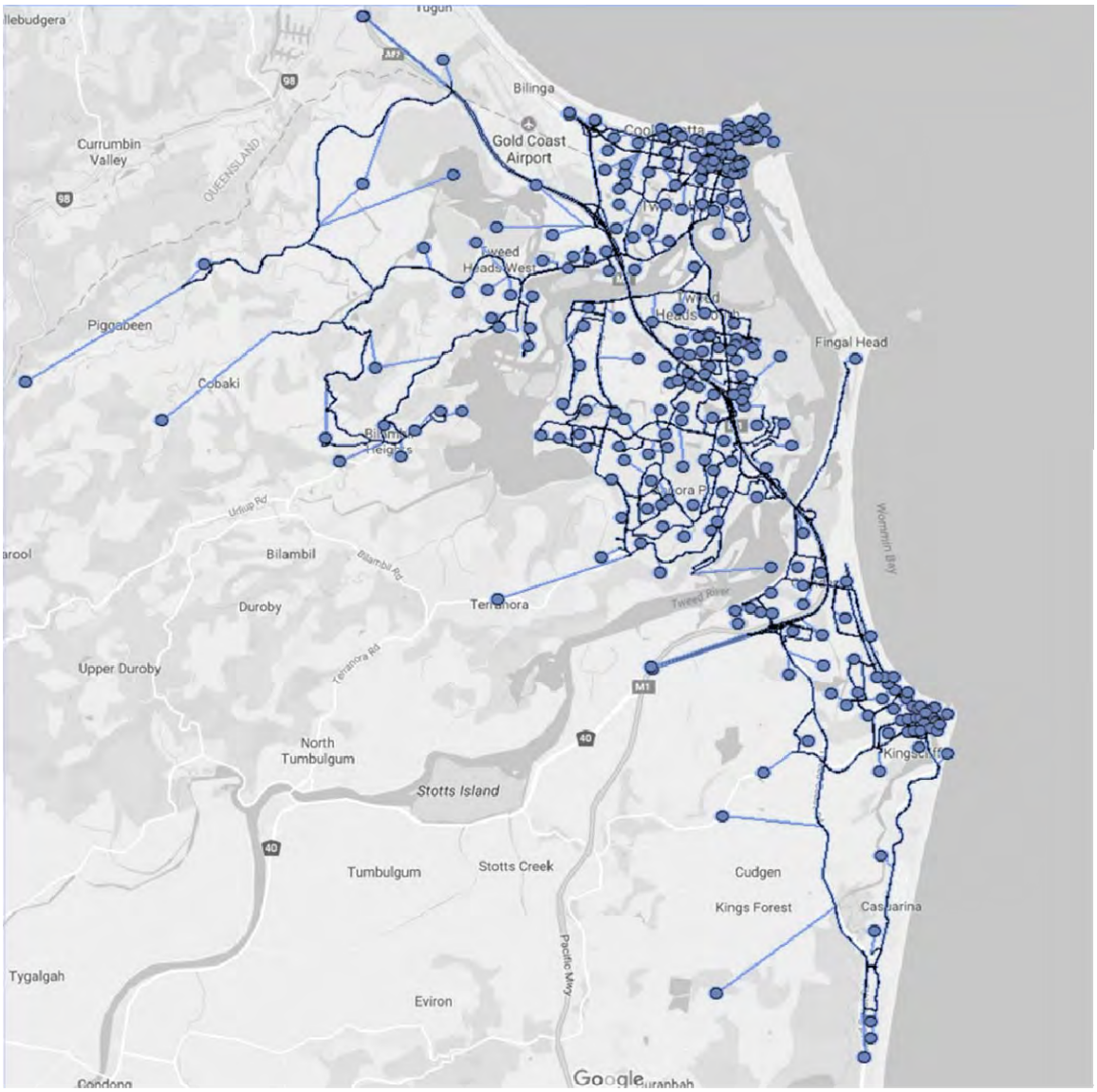


Figure 3.1: Base Model Network

The zone numbering system used in the 2016 Base Aimsun Model is provided in Appendix A.

3.2 TIME PERIODS

The base models were developed for the typical commuter peak periods which align to the corresponding strategic model time periods:

- AM Base model peak period: 7:00 am to 9:00 am; and
- PM Base model peak period: 4:00 pm to 6:00pm.

The models include a 30 minute 'warm up' period prior to the peak period and a 30 minute 'cool down' period after the peak period.

3.3 TRAFFIC DEMAND DEVELOPMENT

The traffic demands used within the TRDS Aimsun base model have been firstly adopted from the TSTM-MM EMME model. Traffic demands have been separated into light vehicles and heavy vehicles. A static OD adjustment process was then undertaken in Aimsun to manipulate the 'prior' matrices using datasets of turn and link counts at corresponding locations. The OD Matrices were also adjusted manually based on weighted distributions to more accurately replicate demands where balancing was required between survey locations. The two-hour demand matrices were then profiled to defined intervals as detailed in the following section.

3.4 TRAFFIC PROFILES

The traffic release profile used in the Aimsun modelling was based on a sample of six intersections within the study area. The sample intersections were spread across the modelled area and comprise of:

- Bay Street/ Wharf Street, Tweed Heads;
- Kennedy Drive (Eastbound)/ Minjungbal Drive, Tweed Heads;
- Minjungbal Drive/ Machinery Drive, Tweed Heads South;
- Sexton Hill Drive/ Minjungbal Drive; Tweed Heads South; and
- Sexton Hill Drive/ Laura Street, Banora Point;
- Wommin Bay Road/ Phillip Street, Kingscliff.

The demand flows to these six intersections were aggregated to provide an indication of the study area's traffic profile. Table 3.1 and Table 3.2 show the resultant traffic profiles for both the AM and PM peak periods.

Table 3.1: Traffic Profile – AM Peak Period

Intersection	07:00 - 08:00				08:00 - 09:00			
	7:00-7:15	7:15-7:30	7:30-7:45	7:45-8:00	8:00-8:15	8:15-8:30	8:30-8:45	8:45-9:00
Bay Street/ Wharf Street	289	349	377	540	535	604	615	670
Kennedy Drive Eastbound/ Minjungbal Drive	308	376	424	581	568	694	690	717
Minjungbal Drive/ Machinery Drive	377	455	584	772	811	903	941	987
Sexton Hill Drive/ Minjungbal Drive	272	415	476	568	624	700	700	697
Sexton Hill Drive/ Laura Street	179	199	247	298	378	368	368	368
Wommin Bay Road/ Phillip Street	123	164	158	198	187	267	259	242
SUM	1259	1609	1889	2417	2568	2932	2958	3011
AVERAGE	18%	22%	26%	34%	22%	26%	26%	26%

Table 3.2: Traffic Profile – PM Peak Period

Intersection	16:00 - 17:00				17:00 - 18:00			
	16:00-16:15	16:15-16:30	16:30-16:45	16:45-17:00	17:00-17:15	17:15-17:30	17:30-17:45	17:45-18:00
Kennedy Drive Eastbound/ Minjungbal Drive	768	705	743	637	631	589	521	465
Bay Street/ Wharf Street	753	699	701	616	616	573	499	434
Minjungbal Drive/ Machinery Drive	1001	900	922	830	829	781	722	592
Sexton Hill Drive/ Laura Street	299	333	294	317	318	337	279	282
Sexton Hill Drive/ Minjungbal Drive	599	591	602	562	522	587	522	474
Wommin Bay Road/ Phillip Street	234	231	251	230	218	239	218	199
SUM	3654	3459	3513	3192	3134	3106	2761	2446
AVERAGE	26%	25%	25%	23%	27%	27%	24%	21%

3.5 VEHICLES CLASSES

Vehicle classes used in the models are based on the default Aimsun template vehicle classes. The vehicles/classes were split into 'Cars' and 'Trucks' with separate demands developed for each. The vehicle properties were amended to more accurately represent the average Australian vehicle sizes. The dimensions of the average Australian vehicle were taken from Appendix A of AS2890.1. Table 3.3 details the changes to the length distributions properties for each vehicle class.

Table 3.3: Vehicle Length Properties

Vehicle / Class	Mean Length	Minimum Length	Maximum Length
Car	4.91m (B85)	3.8m	5.2m (B99)
Truck	10m (between MRV and HRV)	6.4m (SRV)	12.5m (HRV)

Separate data was not available for articulated vehicles and therefore they have been included within the rigid 'Truck' class.

3.6 TRAFFIC ASSIGNMENT METHOD

As per the traffic demand development, traffic assignment within the Base Aimsun Model was derived from TSTM-MM demand matrix. Demand assignment was further refined using count data and the Aimsun 'Static OD Adjustment' tool. In lieu of OD surveys, traffic assignment was determined through a combination of modelled route choice and survey volumes.

Aimsun's dynamic assignment simulation was used to assign traffic in the network. This was done by initially assigning paths for light vehicles using a macro-simulation path assignment over multiple iterations, and using the generated path assignment results as an estimated 'starting point' in the dynamic simulation. The methodology of obtaining the final traffic assignment is as follows:

- Run a macro adjustment across 50 iterations (20 gradient iterations) using the "conjugate Frank & Wolfe" method across the base car O-D matrix;
- Run a macro assignment across 50 iterations with the adjusted matrices to generate a path assignment file;
- Run a mesoscopic scenario with dynamic assignment (dynamic user equilibrium) across a maximum 20 iterations with a relative gap of 1.0% based on the stored path assignment from the macroscopic simulation. The route choice model used in the meso-model was "weighted MSA";
- Make small adjustments to model and matrix, such as altering the section attractiveness, lane-changing parameters, and signal timings to improve calibration;
- Re-run the dynamic assignment scenario until traffic volumes are calibrated to an acceptable level; and
- Once estimated to the target GEH criteria for comparison of traffic volumes, store the dynamic assignment file.

4. MODEL CALIBRATION AND VALIDATION

4.1 CALIBRATION AND VALIDATION DATA

The calibration and validation of the Base AM and PM weekday AIMSUN models was undertaken using intersection survey counts, SCATS signal data and informal queue observations (local knowledge). The following sections summarise the 2016 Base model calibration and validation.

4.2 TRAFFIC DEMAND ESTIMATION/CALIBRATION

4.2.1 Calibration Criteria

The comparison between the modelled and observed traffic counts data was undertaken using the commonly used GEH statistic as well as the regression R-squared value, based on the RMS Modelling Guidelines. The GEH statistic measures the degree of divergence of the modelled value from the observed value whilst accounting for the relative scale of each movement-volume (i.e. the higher volume movements are more important to match than the lower volume movements).

Three target criteria were used to ensure the model was adequately calibrated, as follows:

- A minimum of 85% of turn volumes with a GEH < 5;
- No volumes with a GEH > 10; and
- A minimum R-squared value of 0.9 for turning volumes.

The calibration comparisons were carried out for all one-hour peak periods. The comparison was done for 177 turn counts and 27 mid-block counts.

4.2.2 AM Base

A summary of the AM base demand calibration results are summarised in Table 4.1. Regression graphs with R-squared values for each turn movement for the AM peak model are shown in Figure 4.1 and Figure 4.2.

Table 4.1: AM Calibration - GEH

Statistic	07:00 - 08:00		08:00 - 09:00	
	Cars	Trucks	Cars	Trucks
Mean	2.6	2.2	2.8	2.4
GEH <5	91%	92%	85%	89%
GEH <10	100%	100%	100%	100%

Table 4.1 shows that the turn volumes were calibrated to the RMS modelling guidelines for GEH statistics. In addition, R-squared values of greater than 0.9 were achieved across both 07:00 – 08:00 and 08:00 – 09:00 peak hours. A detailed summary of the GEH statistics and turn calibration is provided in Appendix A.

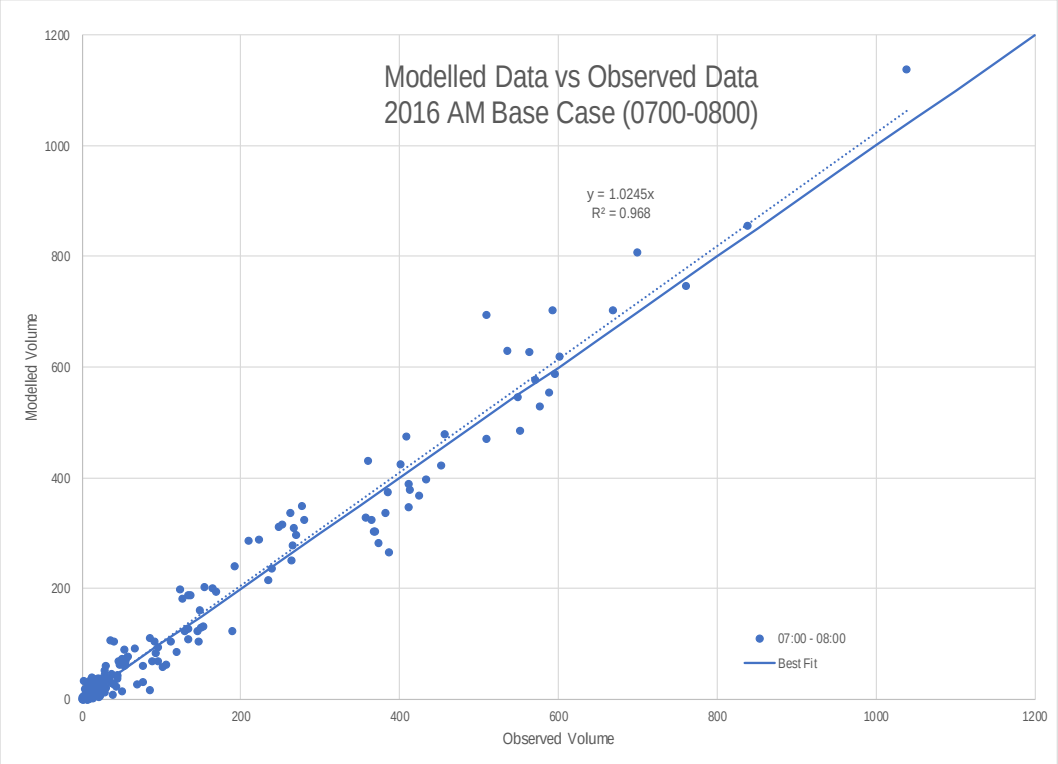


Figure 4.1: AM Observed v Modelled Volumes (Light Vehicles) Regression (0700-0800)

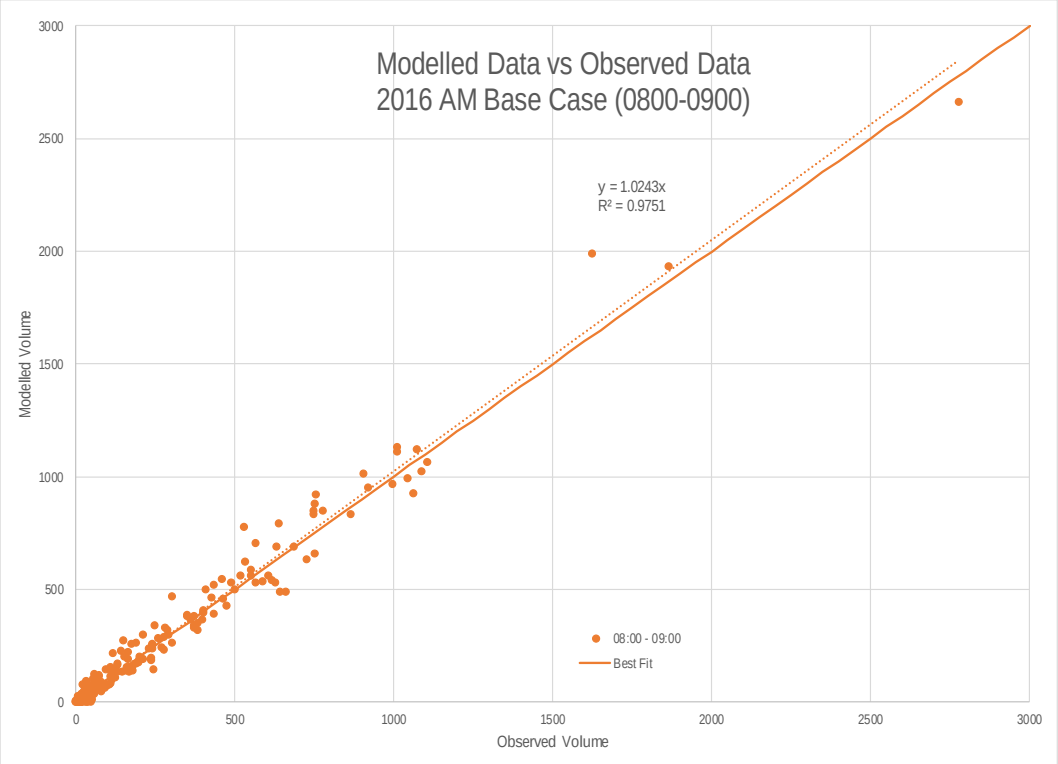


Figure 4.2: AM Observed v Modelled Volumes (Light Vehicles) Regression (0800-0900)

4.2.3 PM Base

The PM Base demand calibration results are summarised in Table 4.2 which shows that the turn volumes were calibrated to the RMS modelling guidelines for GEH statistics. Regression graphs with R-squared values for each turn movement for the AM peak model are shown in Figure 4.3 and Figure 4.4. R-squared values of greater than 0.9 were achieved across both 16:00 – 17:00 and 17:00 – 18:00 peak hours. A detailed summary of the GEH statistics and turn calibration is provided in Appendix A.

Table 4.2: PM Calibration – GEH

Statistic	16:00 - 17:00		17:00 - 18:00	
	Cars	Trucks	Cars	Trucks
Mean	2.7	1.7	2.7	1.3
GEH <5	87%	98%	87%	100%
GEH <10	100%	100%	100%	100%

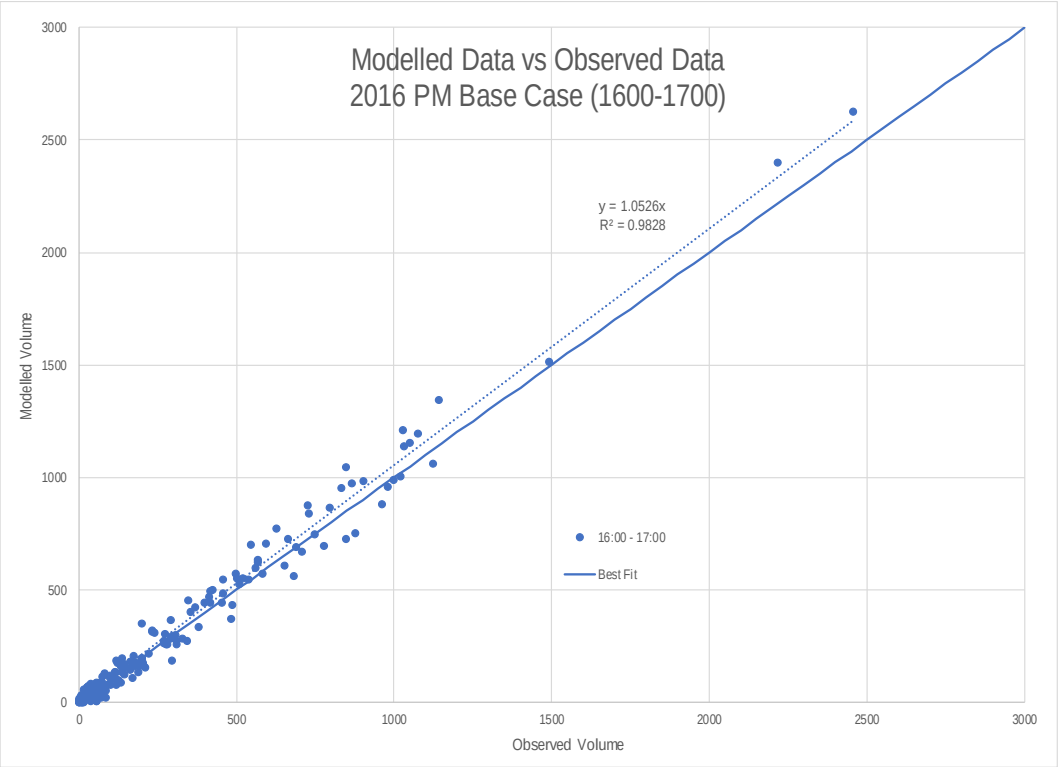


Figure 4.3: PM Observed v Average Modelled Volumes (Light Vehicles) Regression (1600-1700)

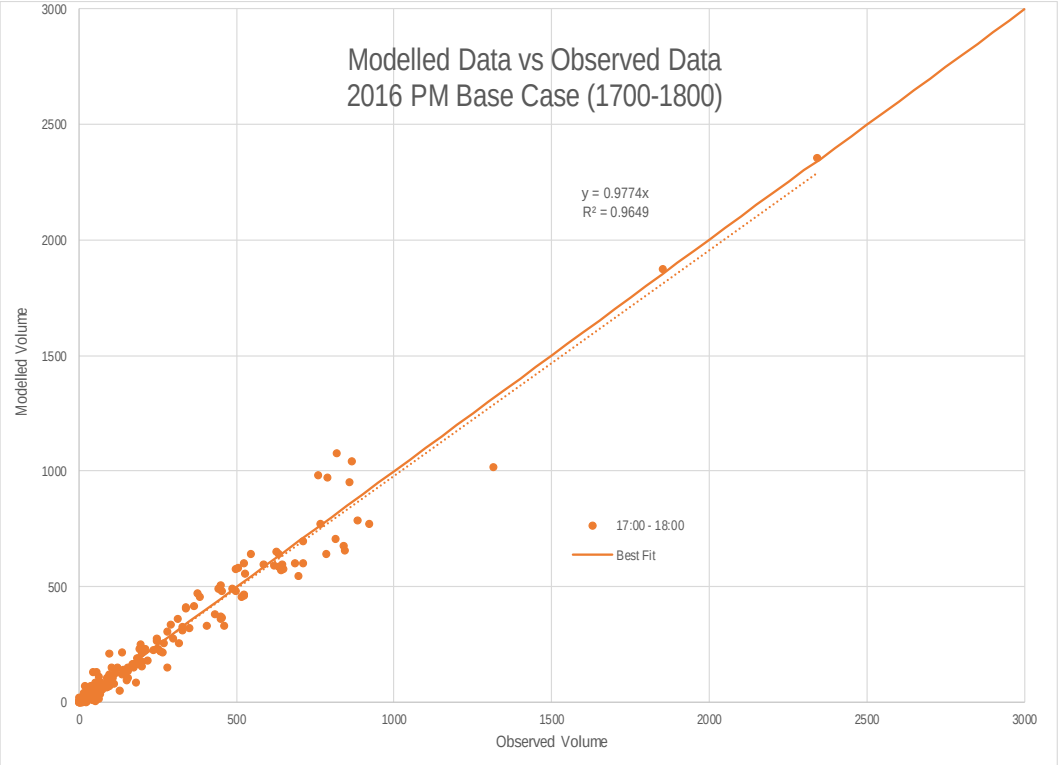


Figure 4.4: PM Observed v Modelled Volumes (Light Vehicles) Regression (1700-1800)

4.3 QUEUE LENGTH OBSERVATIONS AND COMPARISONS

Typical queueing was also compared to validate the base model based on site observations. It should be noted that no back-of-queue data was available at the time of counts to compare existing queues to the model. Nevertheless, based on site visits and detailed knowledge of the road network within the study area, the following notable queues were observed:

- During the AM Peak:
  - In the eastbound direction, queues extending along Dry Dock Road from the Minjungbal Drive intersection;
  - Queueing on the northbound and eastbound approaches to the Sexton Hill Drive/ Minjungbal Drive intersection;
  - In both direction, queues on Minjungbal Drive between Kirkwood Road and Machinery Drive; and
  - In the northbound direction, queues extending along Tweed Coast Road from the Cudgen Road intersection; and
- During the PM Peak:
  - In the westbound direction, queues extending along Kennedy Drive from the Ducat Street intersection;
  - Queuing on all approaches to the Minjungbal Drive/ Machinery Drive intersection; and
  - Queuing northbound on Wharf Road, from Brett Street to the Florence Street intersection.

In the absence of detailed queue data, model speed outputs were compared against Google's typical traffic conditions. Figure 4.5, Figure 4.6, Figure 4.7 and Figure 4.8 show the comparison of typical "slow points" within the study area in the AM and PM peak periods.

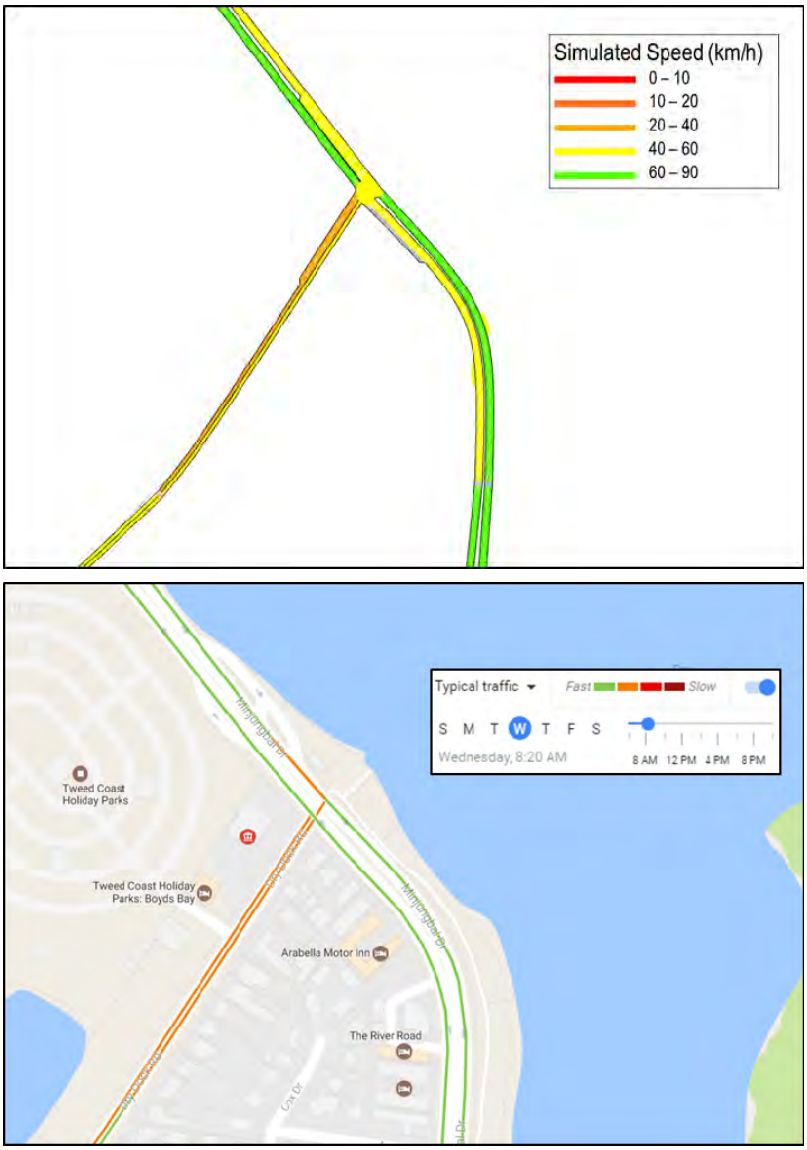


Figure 4.5: AM Slow Points Comparison – Minjungbal Drive/ Dry Dock Road

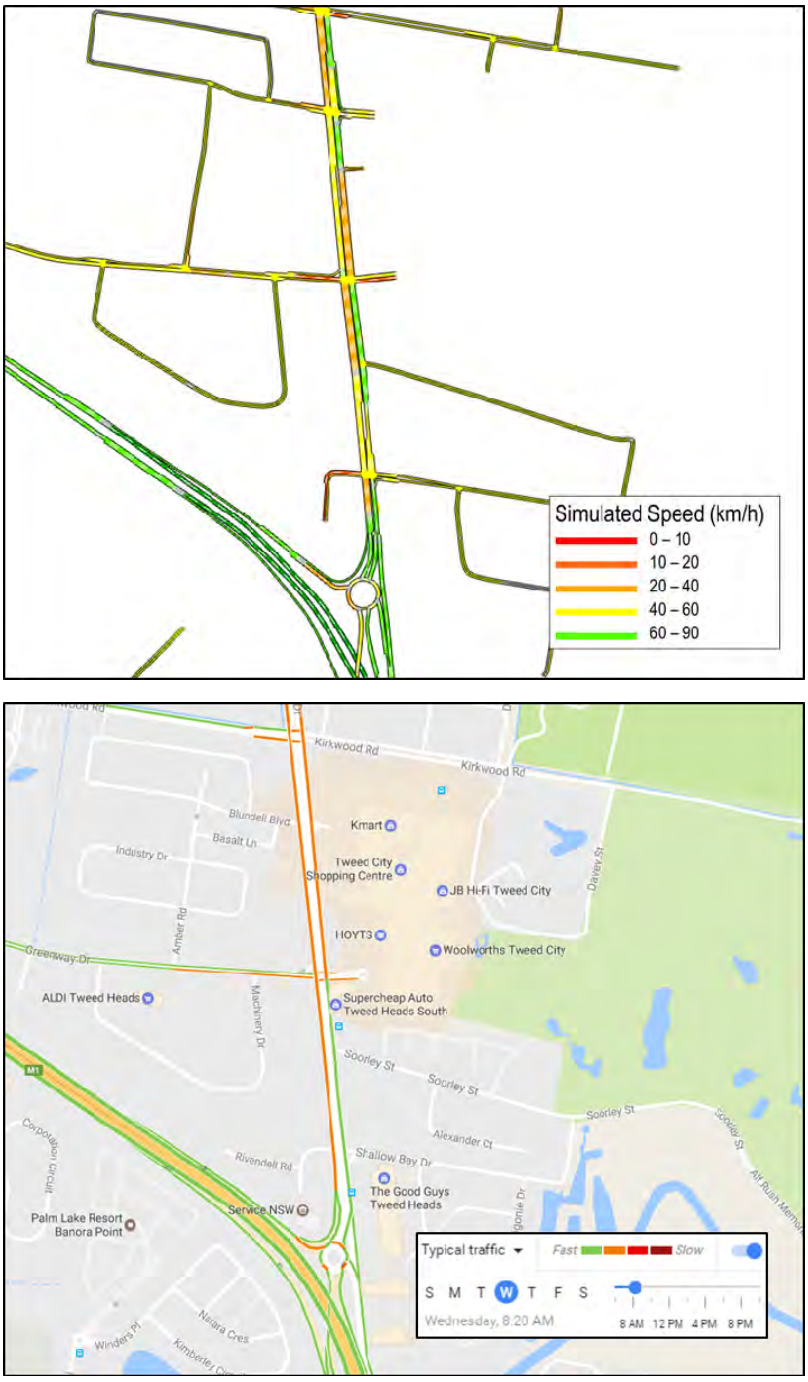


Figure 4.6: AM Slow Points Comparison – Minjungbal Drive (South)

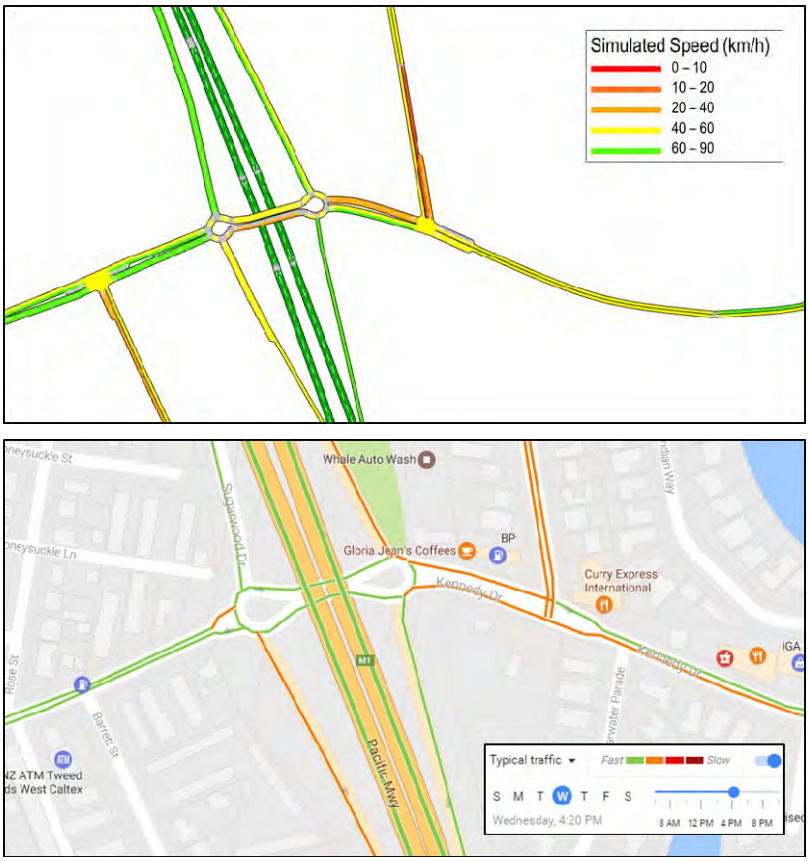


Figure 4.7: PM Slow Points Comparison – Kennedy Drive Interchange

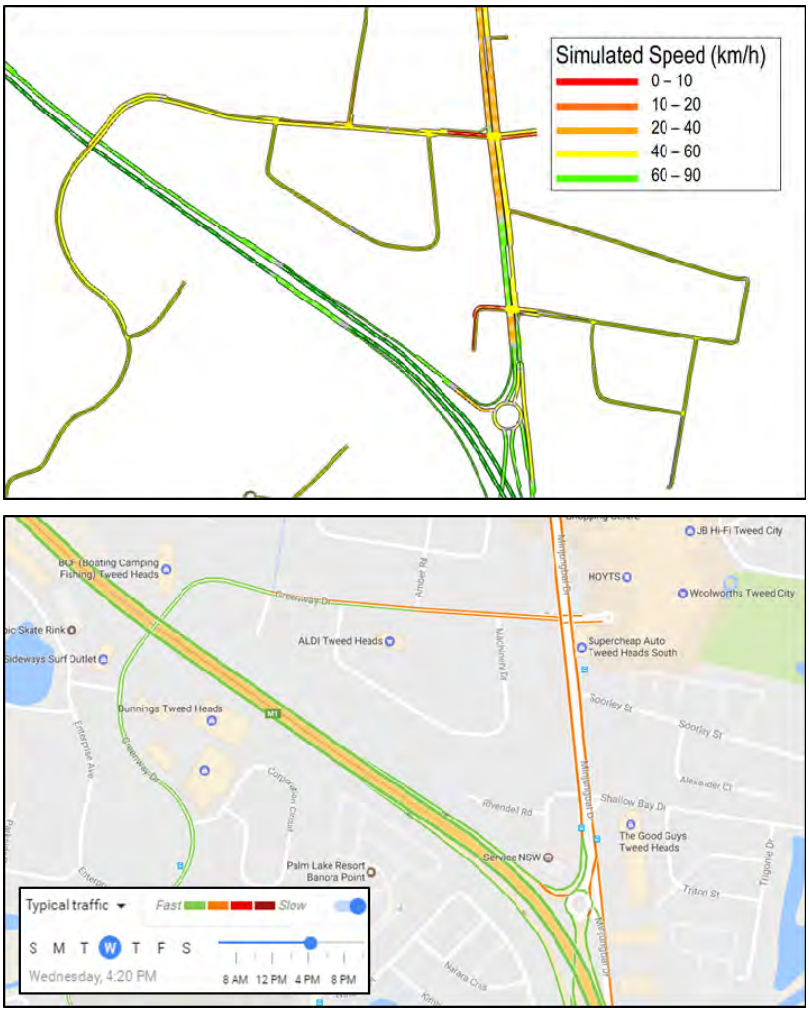


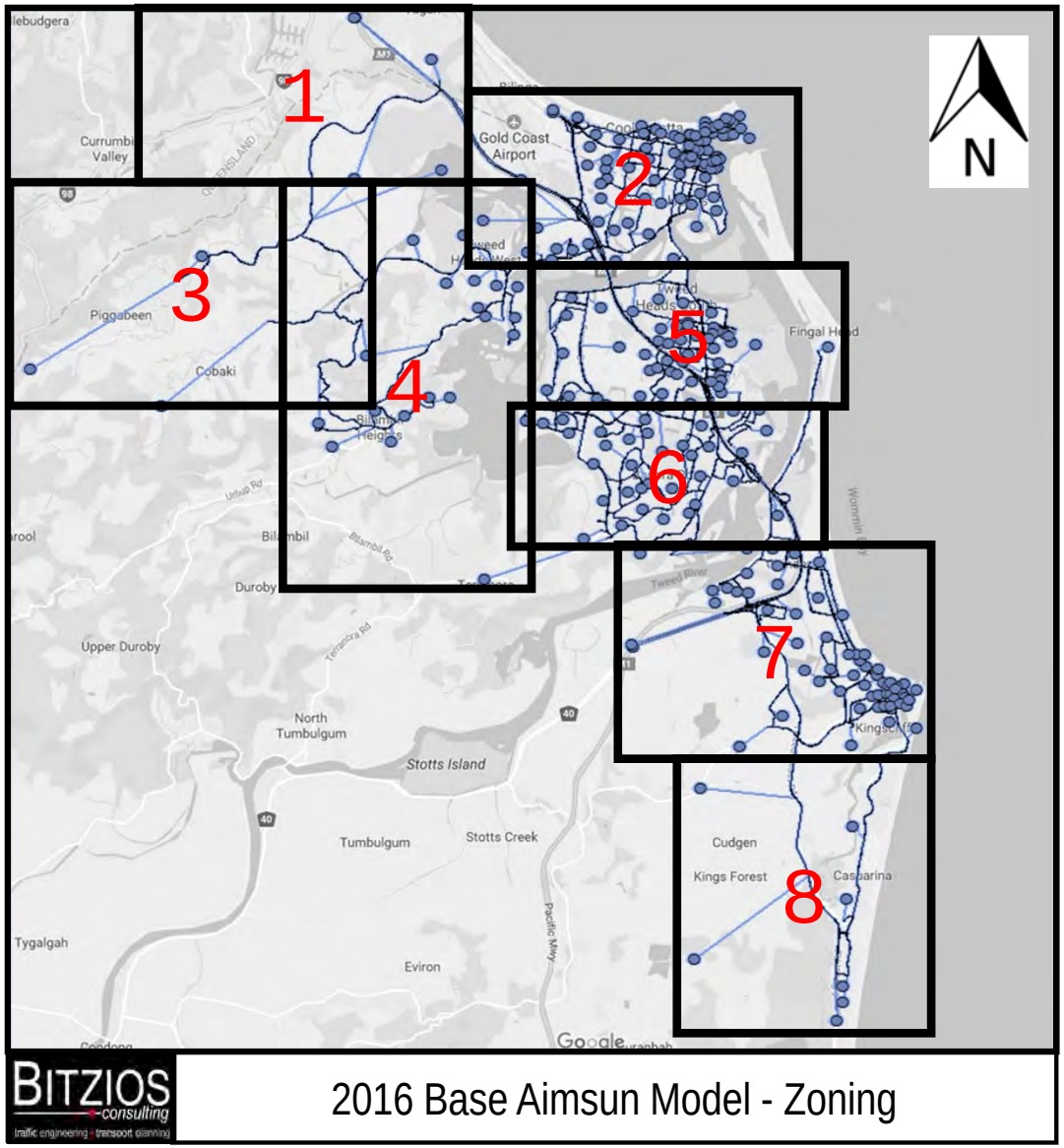
Figure 4.8: PM Slow Points Comparison – Minjungbal Drive (South)

5. MODEL CALIBRATION AND VALIDATION DECLARATION

The Base 2016 Aimsun models developed for the AM and PM peak hour periods are considered to be appropriately calibrated and validated to 2016 traffic conditions given the data available for the study. The models are considered fit-for-purpose given the context of this particular study.

APPENDIX A

MODEL ZONING SYSTEM



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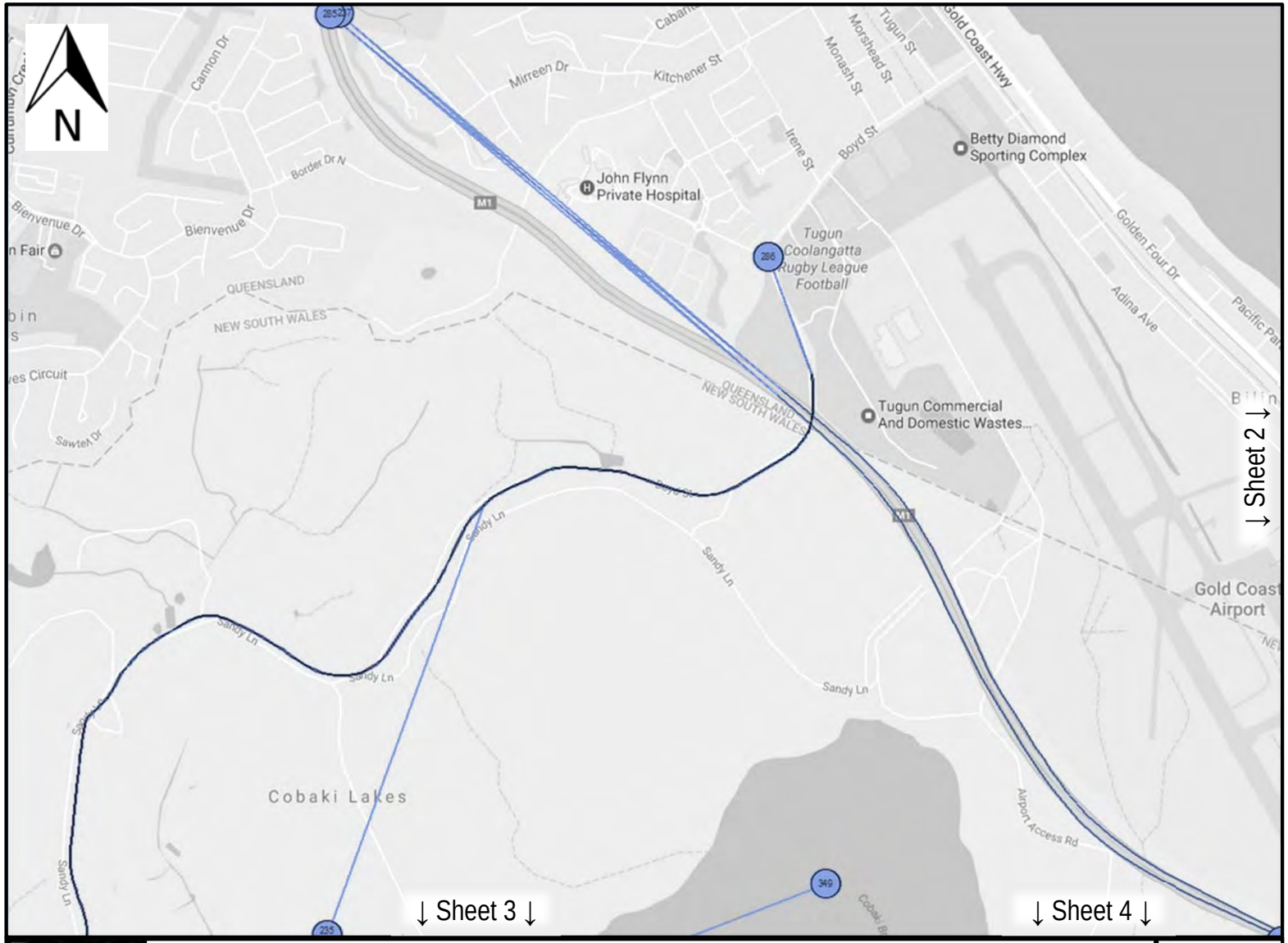
2016 Base Aimsun Model - Zoning



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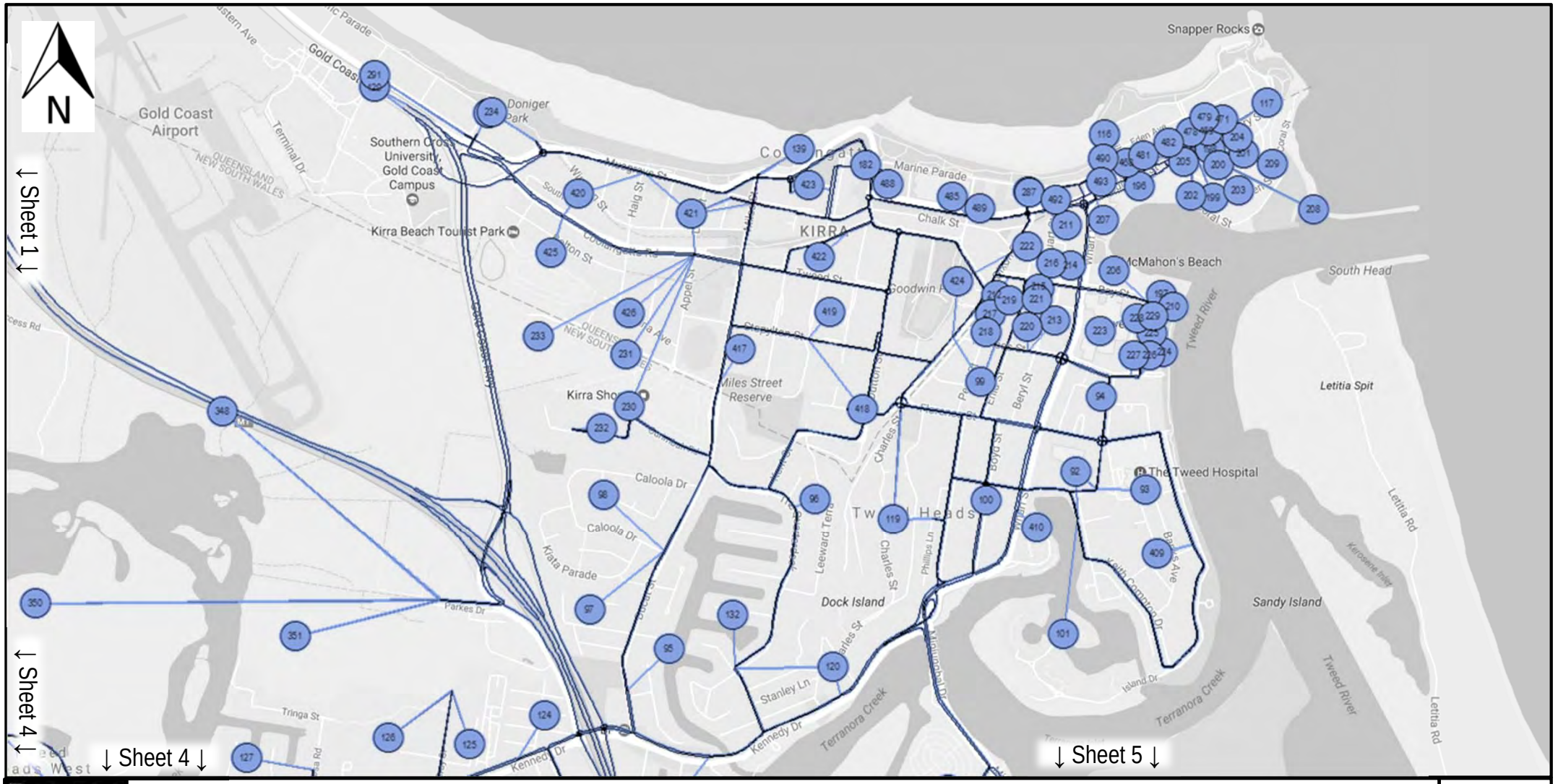
2016 Base Aimsun Model - Zoning



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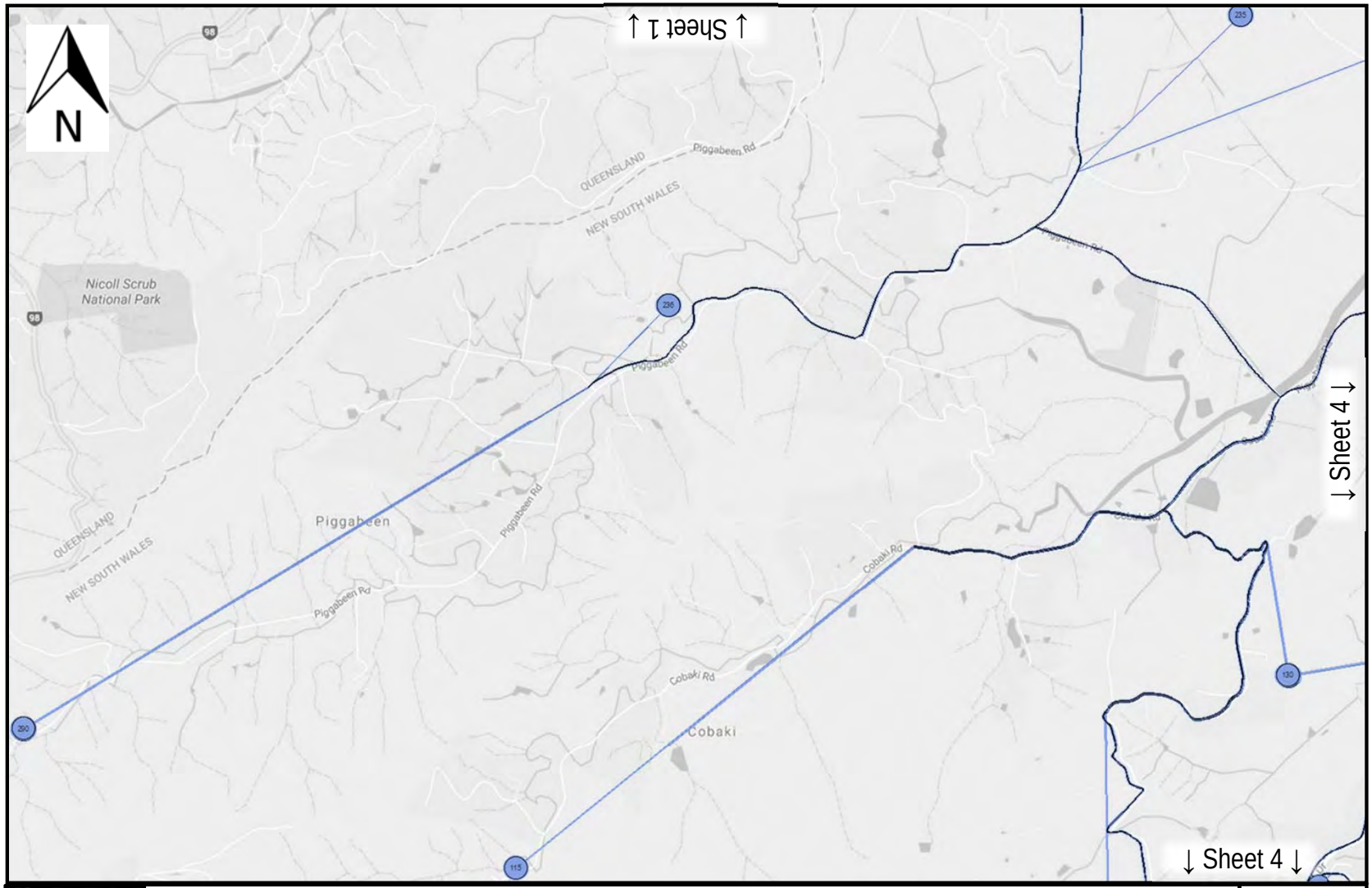

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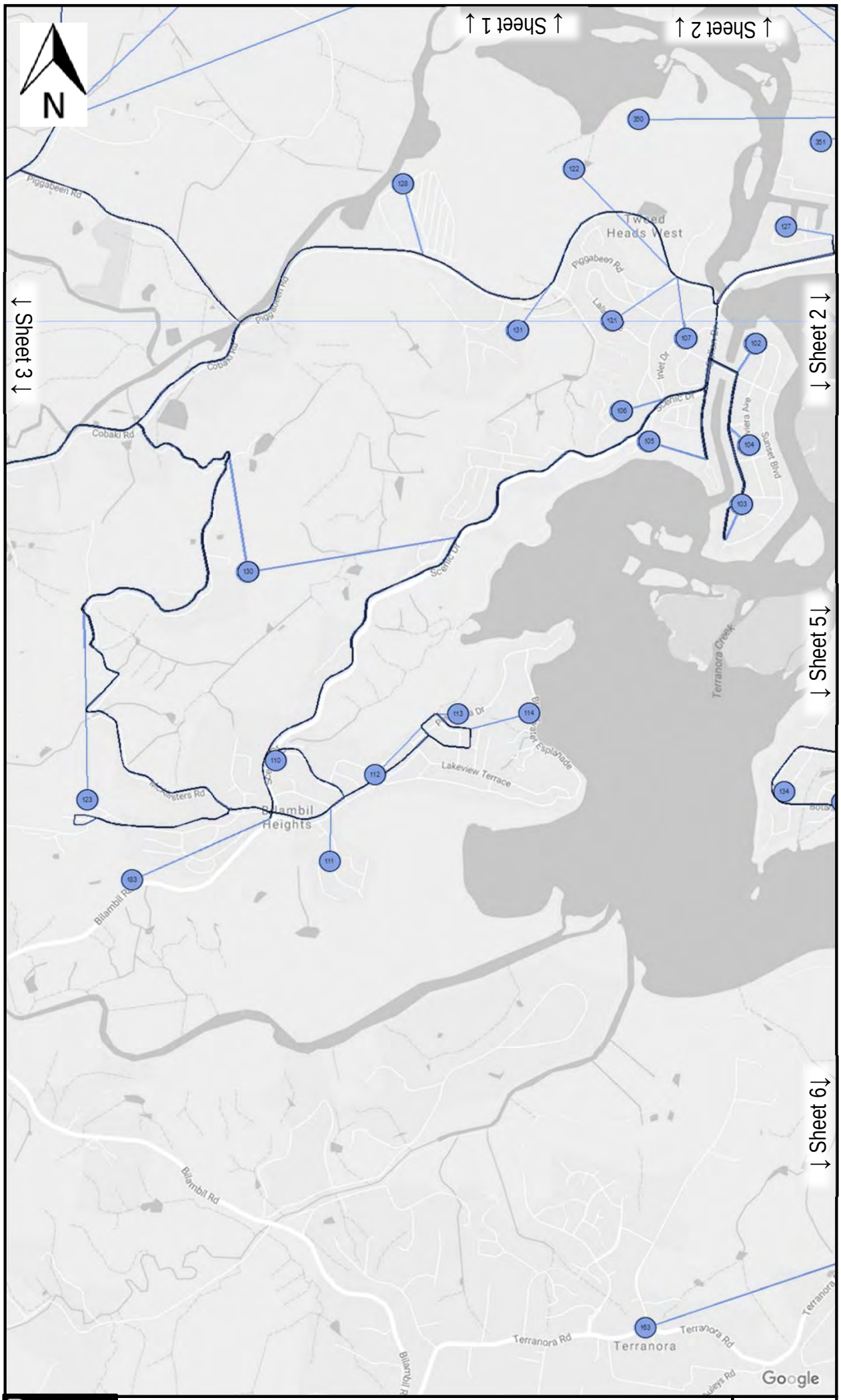
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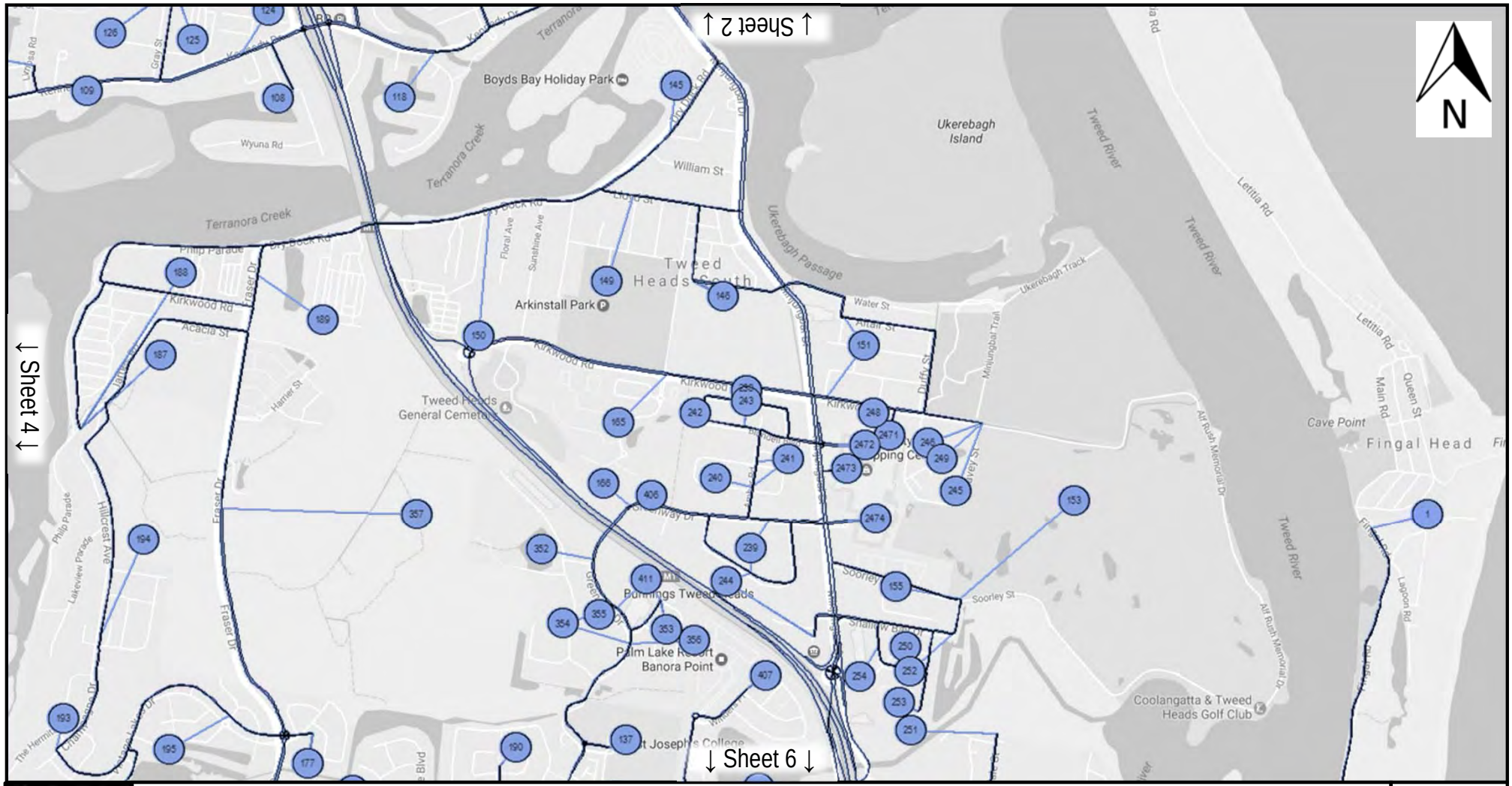
Tweed Heads West
Piggabeen Rd
Cobaki Rd
Scenic Dr
Inlet Dr
Sunset Blvd
Terranora Creek
Lakeview Terrace
Esplanade
Bilambil Heights
Bilambil Rd
Terranora Rd
Terranora
Google



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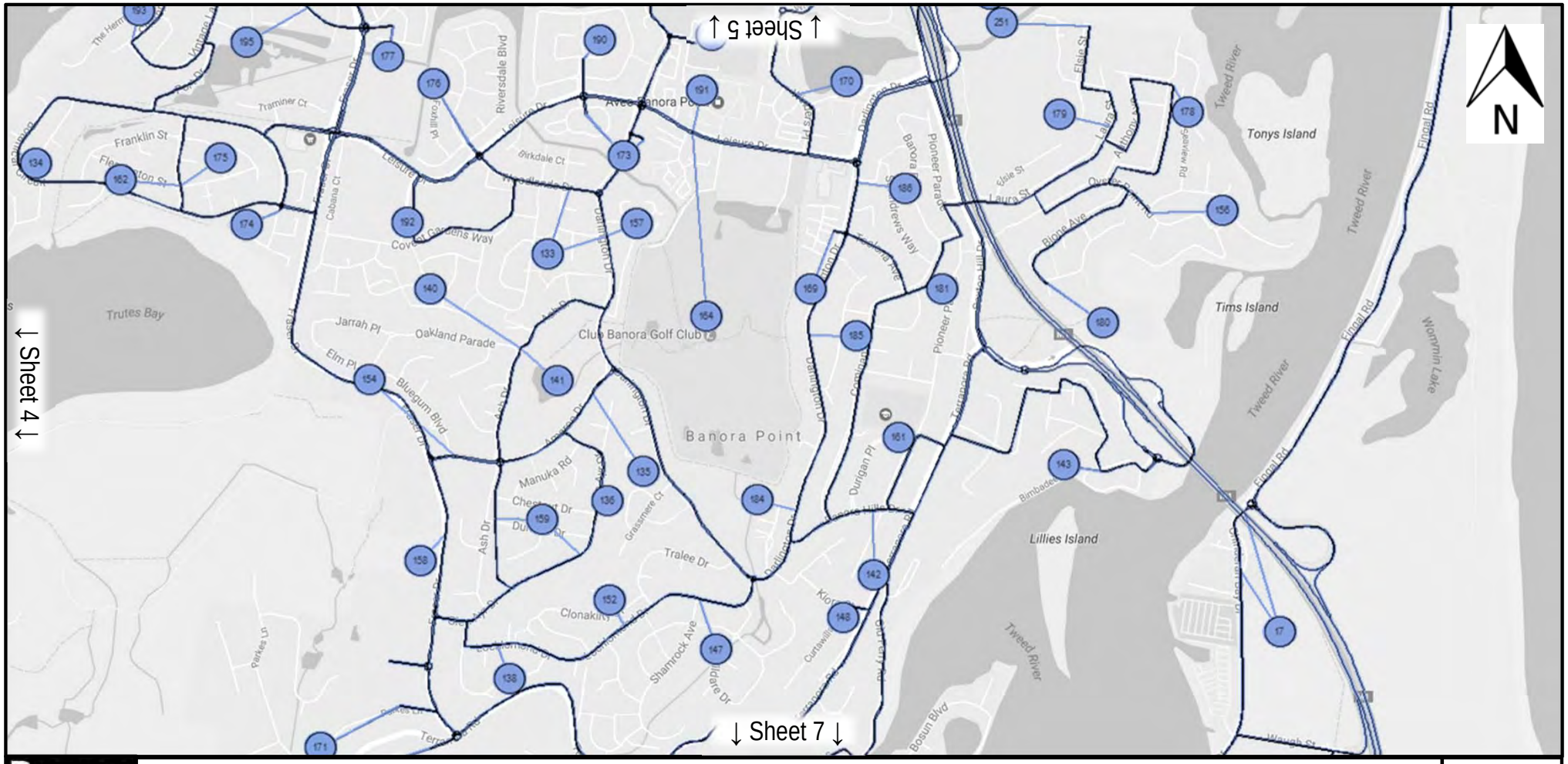
2016 Base Aimsun Model - Zoning



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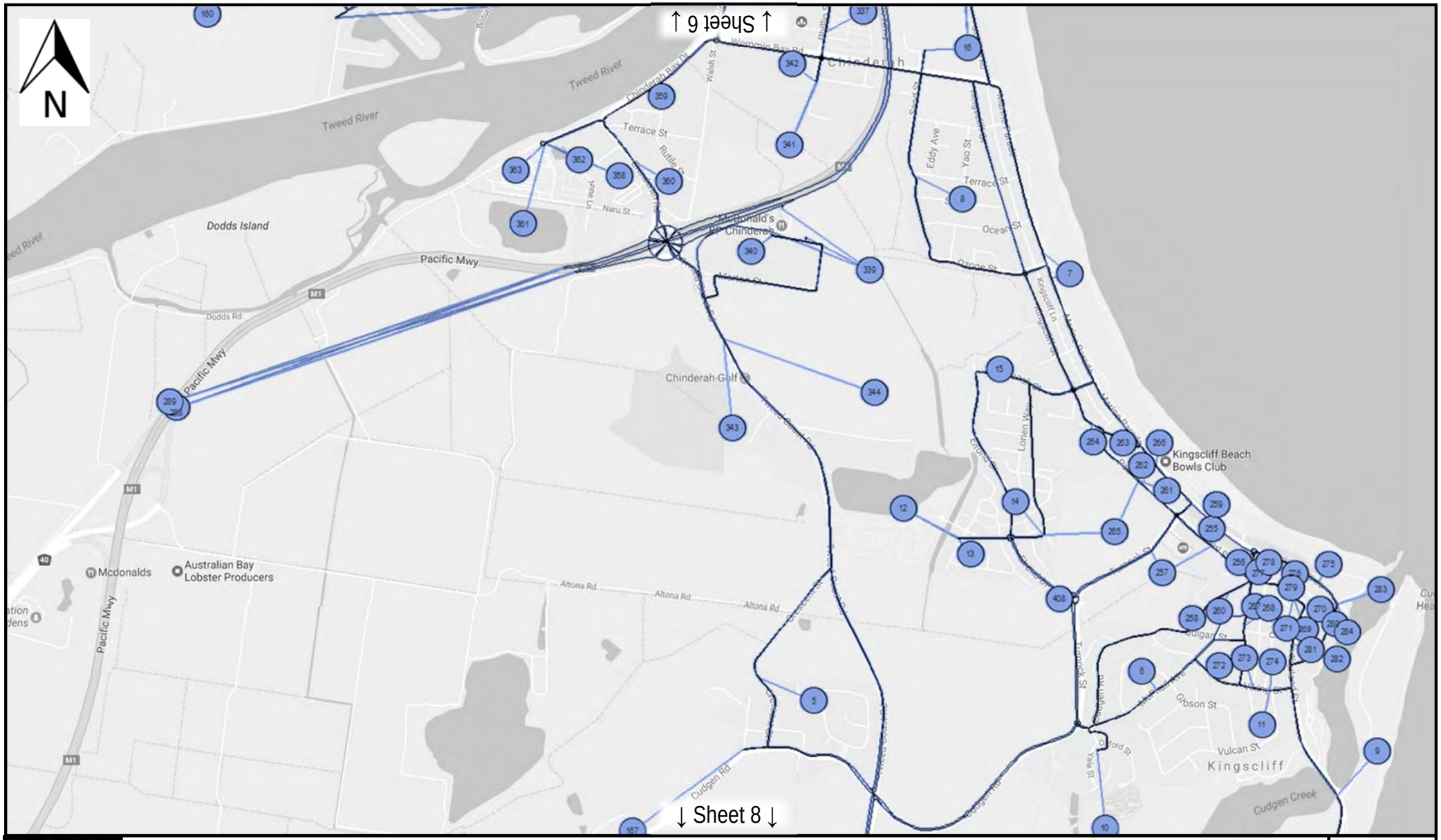
2016 Base Aimsun Model - Zoning

Sh. 6 of 8



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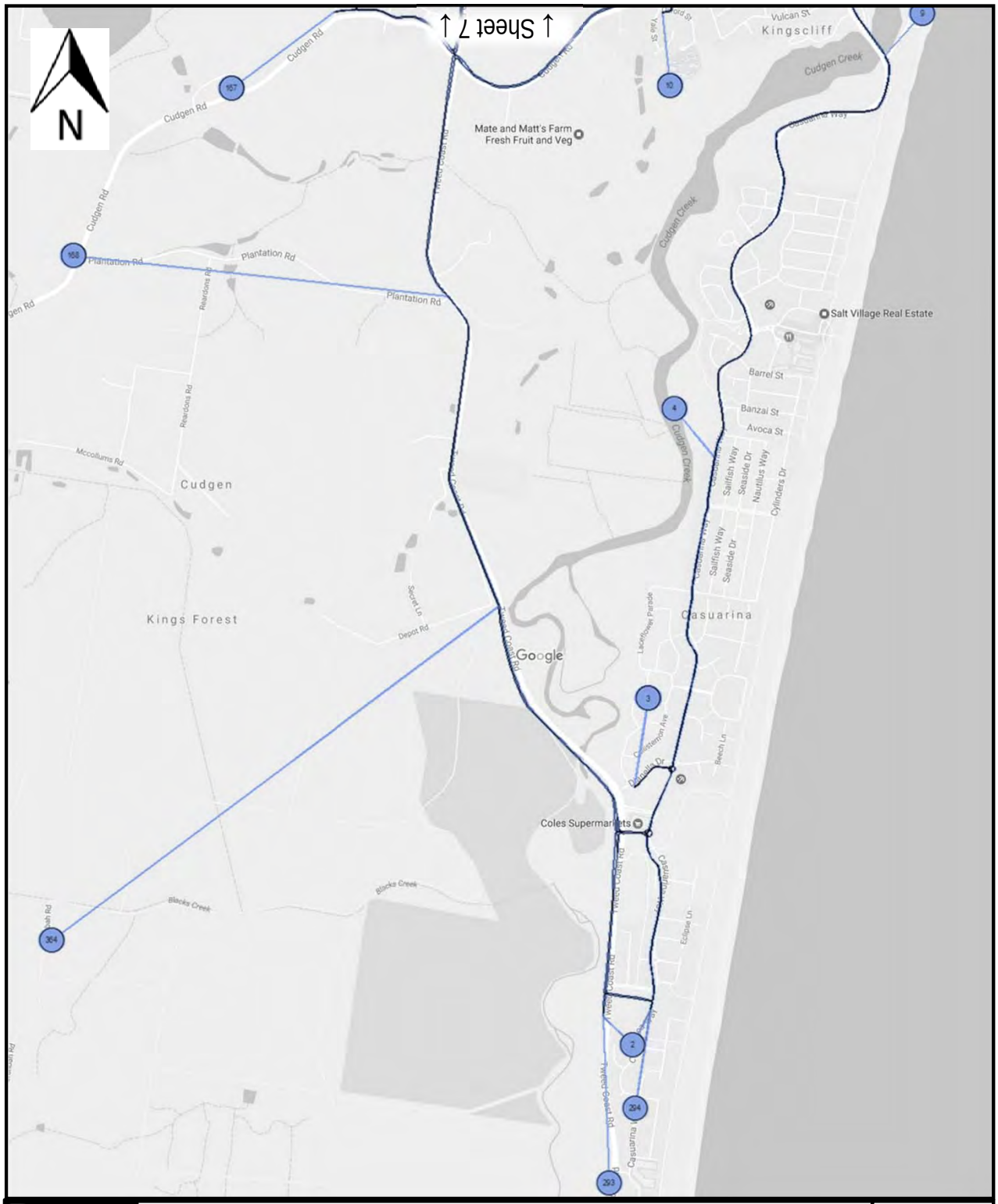

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2016 Base Aimsun Model - Zoning

Sh. 8 of 8

APPENDIX B

MODEL VOLUMES AND GEH

07:00 - 08:00							
Car				Truck			
ID	Count	Modelled	GEH	ID	Count	Modelled	GEH
PhillipSBD	54	52	0.3	PhillipSBD	6	3	1.4
40619-11567	128	211	6.4	40619-11567	1	5	2.3
11565-12003	377	337	2.1	11565-12003	38	23	2.7
12076-40643	126	95	2.9	12076-40643	13	5	2.7
12018-11581	338	471	6.6	12018-11581	6	8	0.8
11560-11567	154	156	0.2	11560-11567	0	4	2.8
11566-12003	306	354	2.6	11566-12003	41	5	7.5
33406-40641	700	633	2.6	33406-40641	37	39	0.3
12169-12167	306	452	7.5	12169-12167	1	29	7.2
12488-12028	2193	2409	4.5	12488-12028	205	221	1.1
CharlesStreet	43	26	2.9	CharlesStreet	0	0	0.0
12073-40435	395	440	2.2	12073-40435	11	25	3.3
40526-12003	48	50	0.3	40526-12003	8	5	1.2
40511-40512	27	40	2.2	40511-40512	5	0	3.2
11593-40435	147	160	1.0	11593-40435	15	17	0.5
40679-40675	192	171	1.6	40679-40675	21	9	3.1
40806-33400	1435	1336	2.7	40806-33400	292	210	5.2
RobRoy	18	38	3.8	RobRoy	2	0	2.0
40635-33581	158	120	3.2	40635-33581	20	20	0.0
PhillipNBD	14	24	2.3	PhillipNBD	1	1	0.0
40512-40511	91	77	1.5	40512-40511	4	0	2.8
40529-12003	57	99	4.8	40529-12003	4	0	2.8
11571-11567	161	104	5.0	11571-11567	2	7	2.4
33408-40642	74	101	2.9	33408-40642	15	15	0.0
33624-12171	638	743	4.0	33624-12171	35	32	0.5
40680-40674	41	31	1.7	40680-40674	5	1	2.3
40678-40676	74	90	1.8	40678-40676	15	16	0.3
1732	9	21	3.1	1732	1	0	1.4
1733	252	315	3.7	1733	28	15	2.8
1734	17	18	0.2	1734	0	0	0.0
1735	13	39	5.1	1735	0	1	1.4
1736	16	9	2.0	1736	0	11	4.7
1737	85	16	9.7	1737	7	4	1.3
1738	15	13	0.5	1738	9	0	4.2
1739	209	286	4.9	1739	33	4	6.7
1740	70	27	6.2	1740	1	3	1.4
1741	8	26	4.4	1741	6	2	2.0
1742	39	7	6.7	1742	2	4	1.2
1743	9	30	4.8	1743	1	15	4.9
1744	6	3	1.4	1744	1	0	1.4
1746	34	32	0.3	1746	1	6	2.7
1747	48	63	2.0	1747	1	2	0.8
1748	277	349	4.1	1748	38	5	7.1

1749	21	3	5.2	1749	1	0	1.4
1751	270	297	1.6	1751	30	23	1.4
1752	22	7	3.9	1752	0	0	0.0
1753	76	61	1.8	1753	0	0	0.0
1754	11	1	4.1	1754	0	0	0.0
1755	26	35	1.6	1755	1	1	0.0
1798	576	528	2.0	1798	26	8	4.4
1799	263	337	4.3	1799	13	34	4.3
1800	45	41	0.6	1800	7	0	3.7
1801	433	398	1.7	1801	25	30	1.0
1802	43	22	3.7	1802	11	3	3.0
1803	267	309	2.5	1803	38	21	3.1
1818	101	58	4.8	1818	11	11	0.0
1819	387	265	6.8	1819	24	0	6.9
1821	22	9	3.3	1821	1	0	1.4
1822	595	588	0.3	1822	24	12	2.8
1824	29	43	2.3	1824	3	5	1.0
1825	265	277	0.7	1825	6	19	3.7
1843	89	69	2.3	1843	6	0	3.5
1845	239	236	0.2	1845	8	0	4.0
1846	147	103	3.9	1846	6	4	0.9
1848	164	200	2.7	1848	12	0	4.9
1849	549	545	0.2	1849	16	4	3.8
1850	588	554	1.4	1850	27	26	0.2
1851	93	84	1.0	1851	6	1	2.7
1852	280	324	2.5	1852	22	16	1.4
1853	148	160	1.0	1853	8	3	2.1
1854	25	32	1.3	1854	0	0	0.0
1855	8	21	3.4	1855	3	0	2.4
1856	37	46	1.4	1856	5	2	1.6
1857	14	11	0.8	1857	1	3	1.4
1859	154	202	3.6	1859	28	43	2.5
1860	13	17	1.0	1860	1	0	1.4
1935	36	107	8.4	1935	1	11	4.1
1936	360	431	3.6	1936	27	23	0.8
1937	510	470	1.8	1937	39	11	5.6
1938	14	37	4.6	1938	6	0	3.5
1939	30	21	1.8	1939	3	2	0.6
1940	54	90	4.2	1940	3	7	1.8
2001	14	1	4.7	2001	0	0	0.0
2002	412	346	3.4	2002	21	9	3.1
2003	35	35	0.0	2003	4	0	2.8
2004	5	1	2.3	2004	0	0	0.0
2005	29	52	3.6	2005	0	1	1.4
2006	30	20	2.0	2006	3	0	2.4
2007	19	23	0.9	2007	0	0	0.0

2008	58	77	2.3	2008	3	0	2.4
2009	563	627	2.6	2009	22	12	2.4
2010	133	128	0.4	2010	6	0	3.5
2011	53	59	0.8	2011	0	0	0.0
2012	77	31	6.3	2012	4	0	2.8
2031	132	128	0.4	2031	2	0	2.0
2032	6	11	1.7	2032	0	0	0.0
2033	40	27	2.2	2033	2	0	2.0
2034	6	0	3.5	2034	0	0	0.0
2035	189	122	5.4	2035	12	10	0.6
2036	51	72	2.7	2036	5	0	3.2
2037	385	375	0.5	2037	16	0	5.7
2038	3	19	4.8	2038	0	0	0.0
2039	17	30	2.7	2039	2	0	2.0
2040	51	13	6.7	2040	1	0	1.4
2041	2	33	7.4	2041	0	0	0.0
2042	1	0	1.4	2042	0	0	0.0
2045	11	4	2.6	2045	0	0	0.0
2046	760	746	0.5	2046	22	38	2.9
2047	3	1	1.4	2047	0	0	0.0
2048	55	62	0.9	2048	0	0	0.0
2049	234	214	1.3	2049	30	9	4.8
2050	24	21	0.6	2050	0	0	0.0
2051	46	69	3.0	2051	13	0	5.1
2052	6	0	3.5	2052	4	0	2.8
2053	10	33	5.0	2053	5	0	3.2
2054	264	251	0.8	2054	25	9	3.9
2055	4	5	0.5	2055	2	0	2.0
2056	838	855	0.6	2056	22	37	2.8
2195	96	68	3.1	2195	7	10	1.0
2196	146	122	2.1	2196	8	0	4.0
2197	424	368	2.8	2197	12	0	4.9
2198	247	312	3.9	2198	10	1	3.8
2199	112	104	0.8	2199	17	0	5.8
2200	152	131	1.8	2200	13	0	5.1
2351	412	389	1.1	2351	10	68	9.3
2354	0	2	2.0	2354	0	0	0.0
2356	382	337	2.4	2356	15	1	4.9
2357	457	478	1.0	2357	16	1	5.1
2359	7	22	3.9	2359	3	0	2.4
2384	129	123	0.5	2384	3	0	2.4
2386	1039	1138	3.0	2386	43	29	2.3
2387	56	75	2.3	2387	5	2	1.6
2388	27	20	1.4	2388	0	0	0.0
2389	357	327	1.6	2389	36	60	3.5
2390	14	7	2.2	2390	0	1	1.4

2392	55	69	1.8	2392	3	2	0.6
2393	3	2	0.6	2393	0	0	0.0
2394	15	17	0.5	2394	3	1	1.4
2395	20	37	3.2	2395	4	19	4.4
2396	2	0	2.0	2396	0	0	0.0
2649	22	27	1.0	2649	3	0	2.4
2650	413	379	1.7	2650	19	8	3.0
2651	552	485	2.9	2651	16	9	2.0
2652	16	20	0.9	2652	1	0	1.4
2653	44	36	1.3	2653	2	2	0.0
2654	22	22	0.0	2654	3	0	2.4
2717	3	5	1.0	2717	4	0	2.8
2718	699	807	3.9	2718	27	0	7.3
2719	7	6	0.4	2719	0	0	0.0
2724	2	2	0.0	2724	2	0	2.0
2725	134	188	4.3	2725	1	0	1.4
2728	368	302	3.6	2728	13	1	4.5
2730	124	199	5.9	2730	8	0	4.0
2791	223	288	4.1	2791	2	4	1.2
2792	668	702	1.3	2792	48	17	5.4
2793	4	2	1.2	2793	0	0	0.0
2794	169	194	1.9	2794	3	1	1.4
2795	5	1	2.3	2795	0	0	0.0
2796	409	474	3.1	2796	23	29	1.2
3114	453	422	1.5	3114	27	10	4.0
3115	106	63	4.7	3115	2	0	2.0
3116	27	31	0.7	3116	1	0	1.4
3117	602	619	0.7	3117	22	3	5.4
3118	44	43	0.2	3118	1	1	0.0
3120	6	15	2.8	3120	0	0	0.0
3121	7	4	1.3	3121	0	0	0.0
3122	5	7	0.8	3122	0	0	0.0
3123	12	20	2.0	3123	0	0	0.0
3124	66	92	2.9	3124	1	9	3.6
4514	40	103	7.5	4514	1	5	2.3
4541	29	11	4.0	4541	4	0	2.8
4599	3	2	0.6	4599	0	0	0.0
4602	369	302	3.7	4602	19	3	4.8
4603	126	181	4.4	4603	3	5	1.0
4605	510	695	7.5	4605	25	18	1.5
4607	401	425	1.2	4607	19	23	0.9
4608	192	241	3.3	4608	22	6	4.3
4624	119	86	3.3	4624	15	5	3.2
4908	536	630	3.9	4908	23	0	6.8
4917	364	324	2.2	4917	4	0	2.8
4928	37	28	1.6	4928	6	3	1.4

4930	136	188	4.1	4930	3	0	2.4
4934	12	25	3.0	4934	5	0	3.2
4945	1	3	1.4	4945	1	0	1.4
5029	91	105	1.4	5029	7	4	1.3
5030	19	10	2.4	5030	1	0	1.4
5031	8	7	0.4	5031	0	0	0.0
5032	2	5	1.6	5032	0	0	0.0
5033	8	0	4.0	5033	0	0	0.0
5034	21	37	3.0	5034	2	0	2.0
5035	96	93	0.3	5035	6	0	3.5
5036	570	577	0.3	5036	27	12	3.4
5037	2	0	2.0	5037	0	0	0.0
5038	7	0	3.7	5038	3	0	2.4
5039	374	282	5.1	5039	17	5	3.6
5040	22	6	4.3	5040	3	0	2.4
5083	25	35	1.8	5083	0	0	0.0
5089	14	19	1.2	5089	1	5	2.3
5097	150	129	1.8	5097	11	0	4.7
5163	30	61	4.6	5163	1	8	3.3
5714	134	109	2.3	5714	9	10	0.3
5723	85	111	2.6	5723	8	0	4.0
7460	593	702	4.3	7460	12	1	4.3
7734	0	0	0.0	7734	0	0	0.0
Average			2.6	Average			2.2
GEH <5			91%	GEH <5			92%
GEH <10			100%	GEH <10			100%

08:00 - 09:00							
Car				Truck			
ID	Count	Modelled	GEH	ID	Count	Modelled	GEH
PhillipSBD	112	100	1.2	PhillipSBD	2	2	0.0
40619-11567	260	284	1.5	40619-11567	2	11	3.5
11565-12003	460	546	3.8	11565-12003	44	20	4.2
12076-40643	155	139	1.3	12076-40643	16	5	3.4
12018-11581	566	707	5.6	12018-11581	9	4	2.0
11560-11567	241	257	1.0	11560-11567	4	2	1.2
11566-12003	618	541	3.2	11566-12003	37	5	7.0
33406-40641	921	954	1.1	33406-40641	44	40	0.6
12169-12167	530	775	9.6	12169-12167	0	30	7.7
12488-12028	2776	2661	2.2	12488-12028	221	247	1.7
CharlesStreet	48	61	1.8	CharlesStreet	0	0	0.0
12073-40435	499	501	0.1	12073-40435	21	22	0.2
40526-12003	118	217	7.6	40526-12003	7	6	0.4
40511-40512	60	74	1.7	40511-40512	5	0	3.2
11593-40435	279	328	2.8	11593-40435	18	17	0.2
40679-40675	372	329	2.3	40679-40675	21	4	4.8
40806-33400	1866	1932	1.5	40806-33400	87	116	2.9
RobRoy	30	64	5.0	RobRoy	4	0	2.8
40635-33581	167	151	1.3	40635-33581	25	13	2.8
PhillipNBD	21	31	2.0	PhillipNBD	3	4	0.5
40512-40511	145	136	0.8	40512-40511	3	0	2.4
40529-12003	129	164	2.9	40529-12003	0	6	3.5
11571-11567	351	383	1.7	11571-11567	1	9	3.6
33408-40642	153	201	3.6	33408-40642	19	19	0.0
33624-12171	904	1016	3.6	33624-12171	39	50	1.6
40680-40674	38	42	0.6	40680-40674	9	3	2.4
40678-40676	132	135	0.3	40678-40676	11	7	1.3
1732	18	20	0.5	1732	1	0	1.4
1733	286	322	2.1	1733	33	18	3.0
1734	13	20	1.7	1734	1	0	1.4
1735	47	59	1.6	1735	0	0	0.0
1736	29	20	1.8	1736	0	10	4.5
1737	141	226	6.3	1737	1	2	0.8
1738	43	19	4.3	1738	4	0	2.8
1739	302	470	8.6	1739	27	4	5.8
1740	122	112	0.9	1740	10	2	3.3
1741	9	13	1.2	1741	5	0	3.2
1742	45	1	9.2	1742	3	1	1.4
1743	14	22	1.9	1743	0	8	4.0
1744	16	3	4.2	1744	2	0	2.0
1746	50	36	2.1	1746	1	2	0.8
1747	78	46	4.1	1747	2	1	0.8
1748	586	538	2.0	1748	31	5	6.1

1749	47	23	4.1	1749	0	0	0.0
1751	361	369	0.4	1751	30	22	1.6
1752	28	13	3.3	1752	0	0	0.0
1753	75	90	1.7	1753	1	0	1.4
1754	35	0	8.4	1754	1	0	1.4
1755	57	60	0.4	1755	4	0	2.8
1798	778	850	2.5	1798	26	15	2.4
1799	464	457	0.3	1799	35	49	2.2
1800	58	37	3.0	1800	10	0	4.5
1801	552	560	0.3	1801	27	33	1.1
1802	96	81	1.6	1802	8	1	3.3
1803	348	388	2.1	1803	14	12	0.6
1818	178	142	2.8	1818	6	19	3.7
1819	661	489	7.2	1819	36	4	7.2
1821	18	14	1.0	1821	0	0	0.0
1822	1062	925	4.3	1822	36	12	4.9
1824	68	68	0.0	1824	2	0	2.0
1825	400	410	0.5	1825	6	3	1.4
1843	168	133	2.9	1843	10	0	4.5
1845	372	382	0.5	1845	13	0	5.1
1846	188	173	1.1	1846	5	0	3.2
1848	236	196	2.7	1848	12	0	4.9
1849	1043	991	1.6	1849	20	3	5.0
1850	747	850	3.6	1850	32	43	1.8
1851	278	233	2.8	1851	3	1	1.4
1852	409	498	4.2	1852	20	5	4.2
1853	277	291	0.8	1853	14	1	4.7
1854	77	56	2.6	1854	1	0	1.4
1855	30	36	1.0	1855	0	3	2.4
1856	78	88	1.1	1856	2	2	0.0
1857	42	66	3.3	1857	1	1	0.0
1859	188	266	5.2	1859	27	14	2.9
1860	67	82	1.7	1860	2	0	2.0
1935	56	125	7.3	1935	7	4	1.3
1936	565	529	1.5	1936	34	24	1.9
1937	685	689	0.2	1937	42	16	4.8
1938	33	83	6.6	1938	2	0	2.0
1939	84	77	0.8	1939	8	1	3.3
1940	71	121	5.1	1940	2	11	3.5
2001	31	19	2.4	2001	2	0	2.0
2002	724	632	3.5	2002	29	6	5.5
2003	104	80	2.5	2003	8	0	4.0
2004	7	10	1.0	2004	0	0	0.0
2005	54	57	0.4	2005	6	1	2.7
2006	62	58	0.5	2006	6	0	3.5
2007	78	55	2.8	2007	0	0	0.0

2008	109	156	4.1	2008	5	3	1.0
2009	1072	1124	1.6	2009	27	10	4.0
2010	242	240	0.1	2010	3	0	2.4
2011	124	138	1.2	2011	4	0	2.8
2012	121	141	1.7	2012	2	1	0.8
2031	177	163	1.1	2031	0	0	0.0
2032	31	17	2.9	2032	0	0	0.0
2033	48	24	4.0	2033	4	0	2.8
2034	28	2	6.7	2034	1	0	1.4
2035	303	265	2.3	2035	17	4	4.0
2036	47	73	3.4	2036	3	0	2.4
2037	626	533	3.9	2037	20	0	6.3
2038	5	26	5.3	2038	1	0	1.4
2039	25	24	0.2	2039	0	0	0.0
2040	114	131	1.5	2040	4	0	2.8
2041	8	23	3.8	2041	0	0	0.0
2042	16	3	4.2	2042	0	0	0.0
2045	10	2	3.3	2045	0	0	0.0
2046	865	834	1.1	2046	24	48	4.0
2047	7	3	1.8	2047	1	0	1.4
2048	74	64	1.2	2048	4	0	2.8
2049	383	321	3.3	2049	23	21	0.4
2050	44	42	0.3	2050	3	0	2.4
2051	59	88	3.4	2051	4	0	2.8
2052	9	1	3.6	2052	0	0	0.0
2053	32	49	2.7	2053	4	0	2.8
2054	435	392	2.1	2054	20	21	0.2
2055	7	3	1.8	2055	0	0	0.0
2056	995	968	0.9	2056	23	50	4.5
2195	160	156	0.3	2195	7	4	1.3
2196	243	146	7.0	2196	10	0	4.5
2197	632	692	2.3	2197	18	0	6.0
2198	371	342	1.5	2198	11	4	2.6
2199	129	172	3.5	2199	25	0	7.1
2200	236	185	3.5	2200	15	0	5.5
2351	428	463	1.7	2351	25	39	2.5
2354	3	2	0.6	2354	1	0	1.4
2356	399	367	1.6	2356	22	0	6.6
2357	533	622	3.7	2357	16	0	5.7
2359	7	6	0.4	2359	2	0	2.0
2384	164	190	2.0	2384	2	0	2.0
2386	1622	1990	8.7	2386	52	47	0.7
2387	94	146	4.7	2387	6	2	2.0
2388	45	29	2.6	2388	1	0	1.4
2389	551	588	1.6	2389	48	22	4.4
2390	36	21	2.8	2390	0	0	0.0

2392	99	72	2.9	2392	1	1	0.0
2393	2	8	2.7	2393	0	0	0.0
2394	50	30	3.2	2394	2	0	2.0
2395	17	38	4.0	2395	7	6	0.4
2396	4	6	0.9	2396	0	0	0.0
2649	80	90	1.1	2649	1	0	1.4
2650	746	834	3.1	2650	16	8	2.3
2651	756	921	5.7	2651	20	5	4.2
2652	24	49	4.1	2652	4	0	2.8
2653	90	62	3.2	2653	3	0	2.4
2654	31	59	4.2	2654	2	0	2.0
2717	4	5	0.5	2717	1	0	1.4
2718	639	793	5.8	2718	25	0	7.1
2719	1	9	3.6	2719	2	0	2.0
2724	5	2	1.6	2724	0	0	0.0
2725	110	113	0.3	2725	3	0	2.4
2728	384	352	1.7	2728	11	0	4.7
2730	149	275	8.7	2730	4	0	2.8
2791	475	426	2.3	2791	4	4	0.0
2792	1009	1130	3.7	2792	42	11	6.0
2793	15	6	2.8	2793	0	0	0.0
2794	290	299	0.5	2794	9	5	1.5
2795	17	1	5.3	2795	0	0	0.0
2796	516	563	2.0	2796	47	34	2.0
3114	751	657	3.5	3114	35	7	6.1
3115	212	192	1.4	3115	3	0	2.4
3116	73	116	4.4	3116	2	0	2.0
3117	1105	1064	1.2	3117	32	8	5.4
3118	110	83	2.7	3118	1	0	1.4
3120	21	13	1.9	3120	0	0	0.0
3121	11	1	4.1	3121	2	0	2.0
3122	21	22	0.2	3122	1	0	1.4
3123	38	27	1.9	3123	0	1	1.4
3124	174	259	5.8	3124	3	5	1.0
4514	54	103	5.5	4514	4	12	2.8
4541	37	3	7.6	4541	3	0	2.4
4599	6	0	3.5	4599	0	0	0.0
4602	433	523	4.1	4602	21	3	5.2
4603	240	252	0.8	4603	2	6	2.0
4605	1089	1023	2.0	4605	20	12	2.0
4607	605	563	1.7	4607	27	24	0.6
4608	211	298	5.5	4608	15	16	0.3
4624	247	339	5.4	4624	15	8	2.1
4908	489	529	1.8	4908	30	0	7.7
4917	402	399	0.1	4917	12	0	4.9
4928	76	63	1.6	4928	5	10	1.8

4930	115	113	0.2	4930	3	0	2.4
4934	6	8	0.8	4934	3	0	2.4
4945	0	3	2.4	4945	0	0	0.0
5029	229	238	0.6	5029	6	5	0.4
5030	50	11	7.1	5030	0	0	0.0
5031	20	13	1.7	5031	0	0	0.0
5032	8	17	2.5	5032	0	0	0.0
5033	5	0	3.2	5033	2	0	2.0
5034	23	79	7.8	5034	3	0	2.4
5035	200	204	0.3	5035	6	1	2.7
5036	1012	1110	3.0	5036	30	10	4.5
5037	8	5	1.2	5037	0	0	0.0
5038	18	0	6.0	5038	4	0	2.8
5039	642	489	6.4	5039	29	1	7.2
5040	27	41	2.4	5040	6	0	3.5
5083	70	83	1.5	5083	1	0	1.4
5089	25	21	0.8	5089	4	0	2.8
5097	268	242	1.6	5097	15	2	4.5
5163	34	94	7.5	5163	1	5	2.3
5714	196	174	1.6	5714	13	4	3.1
5723	165	224	4.2	5723	10	0	4.5
7460	752	878	4.4	7460	31	0	7.9
7734	0	0	0.0	7734	0	0	0.0
Average			2.8	Average			2.4
GEH <5			85%	GEH <5			89%
GEH <10			100%	GEH <10			100%

16:00 - 17:00							
Car				Truck			
ID	Count	Modelled	GEH	ID	Count	Modelled	GEH
PhillipSBD	122	92	2.9	PhillipSBD	7	5	0.8
40619-11567	144	171	2.2	40619-11567	0	5	3.2
11565-12003	689	690	0.0	11565-12003	26	40	2.4
12076-40643	187	132	4.4	12076-40643	12	6	2.0
12018-11581	342	271	4.1	12018-11581	5	1	2.3
11560-11567	311	271	2.3	11560-11567	3	1	1.4
11566-12003	583	572	0.5	11566-12003	18	1	5.5
33406-40641	747	748	0.0	33406-40641	45	30	2.4
12169-12167	537	545	0.3	12169-12167	0	13	5.1
12488-12028	2215	2399	3.8	12488-12028	169	156	1.0
CharlesStreet	43	49	0.9	CharlesStreet	0	0	0.0
12073-40435	353	401	2.5	12073-40435	17	11	1.6
40526-12003	272	305	1.9	40526-12003	3	3	0.0
40511-40512	141	149	0.7	40511-40512	8	0	4.0
11593-40435	414	471	2.7	11593-40435	21	23	0.4
40679-40675	569	632	2.6	40679-40675	12	6	2.0
40806-33400	2457	2628	3.4	40806-33400	123	104	1.8
RobRoy	38	55	2.5	RobRoy	1	0	1.4
40635-33581	210	155	4.1	40635-33581	43	14	5.4
PhillipNBD	10	27	4.0	PhillipNBD	2	4	1.2
40512-40511	82	55	3.3	40512-40511	2	0	2.0
40529-12003	118	187	5.6	40529-12003	1	2	0.8
11571-11567	417	493	3.6	11571-11567	3	13	3.5
33408-40642	144	123	1.8	33408-40642	22	8	3.6
33624-12171	834	953	4.0	33624-12171	24	19	1.1
40680-40674	60	43	2.4	40680-40674	3	0	2.4
40678-40676	81	71	1.1	40678-40676	8	3	2.1
1732	33	23	1.9	1732	1	0	1.4
1733	398	445	2.3	1733	26	35	1.6
1734	16	56	6.7	1734	0	0	0.0
1735	39	84	5.7	1735	0	5	3.2
1736	26	67	6.0	1736	4	0	2.8
1737	182	174	0.6	1737	2	4	1.2
1738	50	59	1.2	1738	1	0	1.4
1739	346	452	5.3	1739	21	0	6.5
1740	115	133	1.6	1740	0	1	1.4
1741	39	44	0.8	1741	2	1	0.8
1742	68	71	0.4	1742	0	1	1.4
1743	38	70	4.4	1743	0	4	2.8
1744	39	17	4.2	1744	2	0	2.0
1746	97	81	1.7	1746	0	7	3.7
1747	43	76	4.3	1747	0	1	1.4
1748	502	550	2.1	1748	13	1	4.5

1749	25	65	6.0	1749	1	0	1.4
1751	652	606	1.8	1751	17	6	3.2
1752	70	21	7.3	1752	1	0	1.4
1753	41	58	2.4	1753	1	2	0.8
1754	54	5	9.0	1754	0	0	0.0
1755	56	85	3.5	1755	1	1	0.0
1798	497	572	3.2	1798	11	10	0.3
1799	328	285	2.5	1799	43	22	3.7
1800	78	73	0.6	1800	9	0	4.2
1801	1049	1153	3.1	1801	20	10	2.6
1802	67	71	0.5	1802	5	0	3.2
1803	295	293	0.1	1803	8	14	1.8
1818	280	257	1.4	1818	3	2	0.6
1819	876	754	4.3	1819	14	8	1.8
1821	33	20	2.5	1821	1	0	1.4
1822	997	988	0.3	1822	20	8	3.2
1824	53	28	3.9	1824	1	1	0.0
1825	208	160	3.5	1825	7	2	2.4
1843	231	316	5.1	1843	9	0	4.2
1845	163	143	1.6	1845	5	3	1.0
1846	120	79	4.1	1846	2	2	0.0
1848	187	165	1.7	1848	5	2	1.6
1849	456	545	4.0	1849	22	16	1.4
1850	367	422	2.8	1850	22	17	1.1
1851	189	165	1.8	1851	0	1	1.4
1852	902	985	2.7	1852	13	5	2.7
1853	270	272	0.1	1853	9	4	2.0
1854	46	35	1.7	1854	2	0	2.0
1855	73	114	4.2	1855	0	0	0.0
1856	306	299	0.4	1856	2	0	2.0
1857	77	80	0.3	1857	0	0	0.0
1859	486	431	2.6	1859	11	9	0.6
1860	99	77	2.3	1860	2	0	2.0
1935	98	113	1.5	1935	2	0	2.0
1936	1029	1211	5.4	1936	15	8	2.1
1937	484	369	5.6	1937	8	10	0.7
1938	82	129	4.6	1938	2	0	2.0
1939	67	77	1.2	1939	1	0	1.4
1940	37	69	4.4	1940	2	2	0.0
2001	28	18	2.1	2001	1	0	1.4
2002	960	881	2.6	2002	13	15	0.5
2003	85	23	8.4	2003	2	0	2.0
2004	30	36	1.0	2004	1	0	1.4
2005	133	159	2.2	2005	4	0	2.8
2006	163	149	1.1	2006	3	0	2.4
2007	71	37	4.6	2007	1	0	1.4

2008	68	81	1.5	2008	4	4	0.0
2009	864	973	3.6	2009	19	12	1.8
2010	137	157	1.6	2010	1	2	0.8
2011	64	60	0.5	2011	0	0	0.0
2012	75	65	1.2	2012	2	2	0.0
2031	114	134	1.8	2031	3	0	2.4
2032	8	2	2.7	2032	0	0	0.0
2033	18	15	0.7	2033	1	0	1.4
2034	54	4	9.3	2034	1	0	1.4
2035	425	497	3.4	2035	12	3	3.3
2036	174	161	1.0	2036	2	1	0.8
2037	308	258	3.0	2037	9	5	1.5
2038	6	2	2.0	2038	0	0	0.0
2039	36	50	2.1	2039	1	0	1.4
2040	47	76	3.7	2040	1	0	1.4
2041	8	29	4.9	2041	0	0	0.0
2042	14	7	2.2	2042	1	0	1.4
2045	13	11	0.6	2045	0	0	0.0
2046	510	524	0.6	2046	20	16	0.9
2047	13	11	0.6	2047	0	0	0.0
2048	38	37	0.2	2048	1	0	1.4
2049	979	958	0.7	2049	18	6	3.5
2050	71	57	1.8	2050	3	1	1.4
2051	59	76	2.1	2051	0	0	0.0
2052	11	15	1.1	2052	1	0	1.4
2053	67	85	2.1	2053	1	0	1.4
2054	1125	1058	2.0	2054	19	7	3.3
2055	8	4	1.6	2055	2	0	2.0
2056	560	597	1.5	2056	19	16	0.7
2195	202	176	1.9	2195	2	3	0.6
2196	169	106	5.4	2196	4	2	1.2
2197	291	363	4.0	2197	11	3	3.0
2198	707	669	1.4	2198	6	4	0.9
2199	415	441	1.3	2199	7	16	2.7
2200	456	485	1.3	2200	15	1	4.9
2351	683	559	5.0	2351	14	7	2.2
2354	1	3	1.4	2354	0	1	1.4
2356	452	442	0.5	2356	16	24	1.8
2357	380	334	2.4	2357	10	18	2.1
2359	9	28	4.4	2359	0	0	0.0
2384	135	197	4.8	2384	2	5	1.6
2386	849	1047	6.4	2386	17	33	3.2
2387	30	72	5.9	2387	1	7	3.0
2388	133	89	4.2	2388	0	0	0.0
2389	1491	1513	0.6	2389	20	17	0.7
2390	28	13	3.3	2390	0	0	0.0

2392	124	96	2.7	2392	0	0	0.0
2393	0	17	5.8	2393	0	0	0.0
2394	48	21	4.6	2394	0	0	0.0
2395	43	67	3.2	2395	0	5	3.2
2396	2	2	0.0	2396	0	0	0.0
2649	63	46	2.3	2649	0	3	2.4
2650	662	725	2.4	2650	6	2	2.0
2651	794	864	2.4	2651	10	3	2.7
2652	22	47	4.3	2652	0	1	1.4
2653	33	26	1.3	2653	0	3	2.4
2654	17	14	0.8	2654	0	0	0.0
2717	1	6	2.7	2717	1	1	0.0
2718	626	773	5.6	2718	9	21	3.1
2719	1	2	0.8	2719	0	0	0.0
2724	1	3	1.4	2724	1	1	0.0
2725	198	193	0.4	2725	2	14	4.2
2728	276	256	1.2	2728	10	11	0.3
2730	113	107	0.6	2730	4	7	1.3
2791	296	183	7.3	2791	1	5	2.3
2792	731	838	3.8	2792	21	11	2.5
2793	11	1	4.1	2793	1	0	1.4
2794	521	552	1.3	2794	5	2	1.6
2795	18	12	1.5	2795	1	0	1.4
2796	1143	1345	5.7	2796	20	13	1.7
3114	1020	1003	0.5	3114	32	5	6.3
3115	137	136	0.1	3115	3	10	2.7
3116	60	58	0.3	3116	1	1	0.0
3117	726	875	5.3	3117	20	11	2.3
3118	37	7	6.4	3118	0	4	2.8
3120	70	54	2.0	3120	0	0	0.0
3121	12	15	0.8	3121	0	0	0.0
3122	20	24	0.9	3122	2	0	2.0
3123	50	71	2.7	3123	1	1	0.0
3124	201	166	2.6	3124	0	5	3.2
4514	201	351	9.0	4514	0	11	4.7
4541	38	55	2.5	4541	2	4	1.2
4599	17	17	0.0	4599	1	0	1.4
4602	239	308	4.2	4602	5	9	1.5
4603	101	116	1.4	4603	5	1	2.3
4605	776	693	3.1	4605	14	7	2.2
4607	1074	1193	3.5	4607	16	5	3.4
4608	593	703	4.3	4608	12	10	0.6
4624	233	319	5.2	4624	6	0	3.5
4908	544	698	6.2	4908	6	14	2.5
4917	268	262	0.4	4917	0	0	0.0
4928	174	207	2.4	4928	3	2	0.6

4930	199	193	0.4	4930	3	14	3.8
4934	9	32	5.1	4934	2	0	2.0
4945	1	3	1.4	4945	0	0	0.0
5029	199	197	0.1	5029	1	6	2.7
5030	33	11	4.7	5030	0	0	0.0
5031	6	21	4.1	5031	0	0	0.0
5032	12	10	0.6	5032	0	0	0.0
5033	11	1	4.1	5033	1	0	1.4
5034	51	43	1.2	5034	2	0	2.0
5035	59	43	2.2	5035	2	8	2.7
5036	1030	1140	3.3	5036	21	6	4.1
5037	15	0	5.5	5037	0	0	0.0
5038	8	2	2.7	5038	2	0	2.0
5039	848	728	4.3	5039	14	9	1.5
5040	30	27	0.6	5040	0	0	0.0
5083	87	52	4.2	5083	2	2	0.0
5089	107	106	0.1	5089	1	0	1.4
5097	293	284	0.5	5097	3	0	2.4
5163	121	173	4.3	5163	1	4	1.9
5714	222	216	0.4	5714	6	3	1.4
5723	162	182	1.5	5723	6	0	3.5
7460	568	624	2.3	7460	8	4	1.6
7734	0	0	0.0	7734	0	0	0.0
Average			2.7	Average			1.7
GEH <5			87%	GEH <5			98%
GEH <10			100%	GEH <10			100%

17:00 - 18:00							
Car				Truck			
ID	Count	Modelled	GEH	ID	Count	Modelled	GEH
PhillipSBD	114	124	0.9	PhillipSBD	3	5	1.0
40619-11567	103	152	4.3	40619-11567	1	3	1.4
11565-12003	525	467	2.6	11565-12003	38	20	3.3
12076-40643	172	148	1.9	12076-40643	5	3	1.0
12018-11581	329	312	0.9	12018-11581	1	0	1.4
11560-11567	270	254	1.0	11560-11567	2	0	2.0
11566-12003	488	491	0.1	11566-12003	15	4	3.6
33406-40641	635	643	0.3	33406-40641	35	27	1.4
12169-12167	524	601	3.2	12169-12167	0	14	5.3
12488-12028	1854	1875	0.5	12488-12028	100	106	0.6
CharlesStreet	33	37	0.7	CharlesStree	0	0	0.0
12073-40435	340	406	3.4	12073-40435	6	7	0.4
40526-12003	199	156	3.2	40526-12003	2	4	1.2
40511-40512	144	136	0.7	40511-40512	4	1	1.9
11593-40435	383	457	3.6	11593-40435	14	18	1.0
40679-40675	496	479	0.8	40679-40675	12	6	2.0
40806-33400	2341	2355	0.3	40806-33400	97	100	0.3
RobRoy	41	47	0.9	RobRoy	0	2	2.0
40635-33581	251	228	1.5	40635-33581	26	13	2.9
PhillipNBD	13	11	0.6	PhillipNBD	1	3	1.4
40512-40511	71	63	1.0	40512-40511	4	0	2.8
40529-12003	97	119	2.1	40529-12003	0	3	2.4
11571-11567	351	323	1.5	11571-11567	2	4	1.2
33408-40642	174	166	0.6	33408-40642	13	9	1.2
33624-12171	760	980	7.5	33624-12171	11	17	1.6
40680-40674	55	62	0.9	40680-40674	2	0	2.0
40678-40676	87	74	1.4	40678-40676	4	0	2.8
1732	14	18	1.0	1732	5	0	3.2
1733	313	360	2.6	1733	18	20	0.5
1734	7	15	2.4	1734	0	0	0.0
1735	36	51	2.3	1735	1	3	1.4
1736	26	16	2.2	1736	1	0	1.4
1737	153	93	5.4	1737	2	0	2.0
1738	44	8	7.1	1738	1	2	0.8
1739	338	409	3.7	1739	15	1	4.9
1740	97	72	2.7	1740	1	4	1.9
1741	21	42	3.7	1741	6	1	2.7
1742	62	15	7.6	1742	1	0	1.4
1743	38	65	3.8	1743	0	4	2.8
1744	25	7	4.5	1744	2	2	0.0
1746	56	20	5.8	1746	2	2	0.0
1747	47	24	3.9	1747	0	5	3.2
1748	377	471	4.6	1748	11	2	3.5

1749	18	72	8.0	1749	0	0	0.0
1751	522	462	2.7	1751	11	0	4.7
1752	51	5	8.7	1752	0	0	0.0
1753	44	46	0.3	1753	0	0	0.0
1754	28	13	3.3	1754	1	0	1.4
1755	37	65	3.9	1755	0	2	2.0
1798	453	481	1.3	1798	8	7	0.4
1799	293	337	2.5	1799	13	9	1.2
1800	74	53	2.6	1800	2	0	2.0
1801	816	1079	8.5	1801	13	7	1.9
1802	72	67	0.6	1802	2	0	2.0
1803	319	255	3.8	1803	4	9	2.0
1818	266	213	3.4	1818	4	0	2.8
1819	686	601	3.4	1819	20	4	4.6
1821	38	51	1.9	1821	1	1	0.0
1822	857	954	3.2	1822	15	5	3.2
1824	33	15	3.7	1824	0	0	0.0
1825	197	237	2.7	1825	5	2	1.6
1843	281	151	8.8	1843	2	0	2.0
1845	149	128	1.8	1845	3	4	0.5
1846	123	149	2.2	1846	0	5	3.2
1848	157	148	0.7	1848	5	2	1.6
1849	459	332	6.4	1849	12	7	1.6
1850	212	231	1.3	1850	4	10	2.3
1851	92	96	0.4	1851	1	0	1.4
1852	815	706	4.0	1852	8	6	0.8
1853	154	107	4.1	1853	2	0	2.0
1854	36	37	0.2	1854	0	2	2.0
1855	63	88	2.9	1855	1	0	1.4
1856	297	274	1.4	1856	0	0	0.0
1857	63	108	4.9	1857	0	1	1.4
1859	432	381	2.5	1859	9	7	0.7
1860	43	38	0.8	1860	0	6	3.5
1935	89	103	1.4	1935	2	0	2.0
1936	867	1042	5.7	1936	15	7	2.4
1937	406	329	4.0	1937	12	7	1.6
1938	56	129	7.6	1938	4	0	2.8
1939	57	40	2.4	1939	1	0	1.4
1940	46	128	8.8	1940	3	0	2.4
2001	39	42	0.5	2001	0	0	0.0
2002	710	599	4.3	2002	6	8	0.8
2003	60	64	0.5	2003	4	0	2.8
2004	32	51	2.9	2004	0	0	0.0
2005	90	63	3.1	2005	2	0	2.0
2006	140	139	0.1	2006	2	1	0.8
2007	67	33	4.8	2007	0	0	0.0

2008	72	87	1.7	2008	3	0	2.4
2009	785	642	5.4	2009	15	8	2.1
2010	104	108	0.4	2010	1	1	0.0
2011	48	51	0.4	2011	0	0	0.0
2012	63	67	0.5	2012	0	1	1.4
2031	107	106	0.1	2031	3	0	2.4
2032	3	1	1.4	2032	0	0	0.0
2033	32	30	0.4	2033	0	0	0.0
2034	46	9	7.1	2034	0	0	0.0
2035	450	359	4.5	2035	8	4	1.6
2036	200	177	1.7	2036	0	1	1.4
2037	258	220	2.5	2037	11	5	2.1
2038	5	1	2.3	2038	0	0	0.0
2039	46	53	1.0	2039	2	0	2.0
2040	33	27	1.1	2040	2	2	0.0
2041	2	7	2.4	2041	0	0	0.0
2042	6	5	0.4	2042	0	0	0.0
2045	9	7	0.7	2045	0	0	0.0
2046	444	493	2.3	2046	4	17	4.0
2047	16	11	1.4	2047	0	0	0.0
2048	44	56	1.7	2048	0	0	0.0
2049	841	674	6.1	2049	7	10	1.0
2050	49	47	0.3	2050	1	0	1.4
2051	38	68	4.1	2051	0	0	0.0
2052	6	4	0.9	2052	0	0	0.0
2053	51	83	3.9	2053	0	0	0.0
2054	921	773	5.1	2054	9	10	0.3
2055	7	3	1.8	2055	0	0	0.0
2056	506	580	3.2	2056	7	18	3.1
2195	180	85	8.3	2195	3	4	0.5
2196	128	51	8.1	2196	1	1	0.0
2197	280	305	1.5	2197	8	6	0.8
2198	712	697	0.6	2198	13	8	1.5
2199	365	414	2.5	2199	2	14	4.2
2200	517	456	2.8	2200	4	1	1.9
2351	632	584	1.9	2351	15	9	1.7
2354	1	2	0.8	2354	0	0	0.0
2356	453	366	4.3	2356	11	13	0.6
2357	330	327	0.2	2357	3	9	2.4
2359	5	16	3.4	2359	0	0	0.0
2384	194	233	2.7	2384	2	7	2.4
2386	642	569	3.0	2386	11	18	1.8
2387	8	14	1.8	2387	2	5	1.6
2388	136	118	1.6	2388	0	0	0.0
2389	1314	1018	8.7	2389	11	14	0.8
2390	5	7	0.8	2390	0	0	0.0

2392	112	81	3.2	2392	1	0	1.4
2393	0	0	0.0	2393	0	1	1.4
2394	16	15	0.3	2394	2	0	2.0
2395	30	57	4.1	2395	0	5	3.2
2396	5	1	2.3	2396	0	0	0.0
2649	56	52	0.5	2649	1	2	0.8
2650	620	589	1.3	2650	10	5	1.8
2651	644	597	1.9	2651	11	11	0.0
2652	16	39	4.4	2652	0	0	0.0
2653	40	23	3.0	2653	0	2	2.0
2654	16	20	0.9	2654	0	1	1.4
2717	2	5	1.6	2717	0	0	0.0
2718	528	556	1.2	2718	11	16	1.4
2719	1	6	2.7	2719	0	0	0.0
2724	5	3	1.0	2724	0	0	0.0
2725	184	189	0.4	2725	3	2	0.6
2728	246	276	1.9	2728	3	4	0.5
2730	88	66	2.5	2730	4	5	0.5
2791	237	223	0.9	2791	2	6	2.0
2792	586	596	0.4	2792	13	5	2.7
2793	8	7	0.4	2793	0	0	0.0
2794	451	372	3.9	2794	2	1	0.8
2795	21	0	6.5	2795	0	0	0.0
2796	789	974	6.2	2796	12	9	0.9
3114	844	654	6.9	3114	12	5	2.4
3115	76	74	0.2	3115	0	2	2.0
3116	50	46	0.6	3116	0	0	0.0
3117	695	544	6.1	3117	15	6	2.8
3118	23	8	3.8	3118	0	0	0.0
3120	50	46	0.6	3120	0	0	0.0
3121	12	5	2.4	3121	1	0	1.4
3122	10	11	0.3	3122	0	3	2.4
3123	41	31	1.7	3123	1	2	0.8
3124	170	167	0.2	3124	4	2	1.2
4514	97	209	9.1	4514	0	7	3.7
4541	28	16	2.6	4541	2	1	0.8
4599	7	0	3.7	4599	0	0	0.0
4602	186	166	1.5	4602	6	5	0.4
4603	93	98	0.5	4603	0	2	2.0
4605	627	650	0.9	4605	10	6	1.4
4607	767	774	0.3	4607	9	6	1.1
4608	496	577	3.5	4608	5	4	0.5
4624	191	232	2.8	4624	3	0	2.4
4908	450	507	2.6	4908	8	11	1.0
4917	248	264	1.0	4917	2	0	2.0
4928	138	213	5.7	4928	2	3	0.6

4930	189	190	0.1	4930	3	2	0.6
4934	2	22	5.8	4934	0	0	0.0
4945	0	2	2.0	4945	0	0	0.0
5029	156	133	1.9	5029	1	3	1.4
5030	21	15	1.4	5030	0	0	0.0
5031	18	33	3.0	5031	0	0	0.0
5032	3	9	2.4	5032	0	0	0.0
5033	6	0	3.5	5033	0	0	0.0
5034	43	42	0.2	5034	3	0	2.4
5035	71	66	0.6	5035	1	1	0.0
5036	884	789	3.3	5036	20	9	2.9
5037	12	0	4.9	5037	0	0	0.0
5038	8	0	4.0	5038	2	0	2.0
5039	648	577	2.9	5039	11	5	2.1
5040	13	26	2.9	5040	1	0	1.4
5083	39	45	0.9	5083	1	2	0.8
5089	85	69	1.8	5089	0	1	1.4
5097	216	182	2.4	5097	2	0	2.0
5163	117	144	2.4	5163	0	9	4.2
5714	197	248	3.4	5714	5	4	0.5
5723	198	216	1.3	5723	3	2	0.6
7460	547	643	3.9	7460	5	9	1.5
7734	0	0	0.0	7734	0	0	0.0
Average			2.7	Average			1.3
GEH <5			87%	GEH <5			100%
GEH <10			100%	GEH <10			100%

APPENDIX C

SURVEY DATA

A Standard Bitzios Report

Report Id - CustomList-13
Site Name - 34
Description - Botanical circuit at No 165
Direction - East

Thursday, 3 September 2015

Time	Total	Cls 1	Cls 2	Cls 3	Cls 4	Cls 5	Cls 6	Cls 7	Cls 8	Cls 9	Cls 10	Cls 11	Cls 12	Mean	Vpp 85
0000	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-
0015	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-
0030	1	1	0	0	0	0	0	0	0	0	0	0	0	55.8	-
0045	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-
0100	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-
0115	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-
0130	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-
0145	2	2	0	0	0	0	0	0	0	0	0	0	0	48.6	-
0200	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-
0215	1	1	0	0	0	0	0	0	0	0	0	0	0	42.4	-
0230	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-
0245	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-
0300	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-
0315	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-
0330	1	1	0	0	0	0	0	0	0	0	0	0	0	54.5	-
0345	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-
0400	1	1	0	0	0	0	0	0	0	0	0	0	0	53.7	-
0415	2	2	0	0	0	0	0	0	0	0	0	0	0	46.7	-
0430	4	4	0	0	0	0	0	0	0	0	0	0	0	54.8	-
0445	7	7	0	0	0	0	0	0	0	0	0	0	0	41.1	-
0500	8	7	0	1	0	0	0	0	0	0	0	0	0	49.3	-
0515	7	6	0	1	0	0	0	0	0	0	0	0	0	47	-
0530	6	6	0	0	0	0	0	0	0	0	0	0	0	45.5	-
0545	7	7	0	0	0	0	0	0	0	0	0	0	0	50.3	-
0600	17	15	0	2	0	0	0	0	0	0	0	0	0	49.9	56.4
0615	11	11	0	0	0	0	0	0	0	0	0	0	0	54.7	65.4
0630	9	8	0	0	0	0	1	0	0	0	0	0	0	52.3	-
0645	17	15	1	1	0	0	0	0	0	0	0	0	0	47.7	64.6
0700	12	11	0	1	0	0	0	0	0	0	0	0	0	52.9	61.1
0715	16	16	0	0	0	0	0	0	0	0	0	0	0	47.1	59.2
0730	25	25	0	0	0	0	0	0	0	0	0	0	0	46.6	51.8
0745	42	39	1	2	0	0	0	0	0	0	0	0	0	47.5	54.5
0800	59	59	0	0	0	0	0	0	0	0	0	0	0	48.7	59.6
0815	29	29	0	0	0	0	0	0	0	0	0	0	0	46.3	54.5
0830	33	32	0	1	0	0	0	0	0	0	0	0	0	49.2	57.2
0845	27	25	0	2	0	0	0	0	0	0	0	0	0	49.1	61.6
0900	28	27	0	1	0	0	0	0	0	0	0	0	0	48.1	54.9
0915	16	15	0	1	0	0	0	0	0	0	0	0	0	46.8	52.3
0930	30	30	0	0	0	0	0	0	0	0	0	0	0	45.7	53.4
0945	18	18	0	0	0	0	0	0	0	0	0	0	0	46.7	55.7
1000	23	23	0	0	0	0	0	0	0	0	0	0	0	49.4	58.1
1015	24	24	0	0	0	0	0	0	0	0	0	0	0	44.9	53.5
1030	16	16	0	0	0	0	0	0	0	0	0	0	0	49.5	57.6
1045	10	10	0	0	0	0	0	0	0	0	0	0	0	47.7	-
1100	18	17	0	1	0	0	0	0	0	0	0	0	0	48.5	54.8
1115	13	13	0	0	0	0	0	0	0	0	0	0	0	46.5	56.4
1130	16	15	0	0	1	0	0	0	0	0	0	0	0	47.8	55.6
1145	19	19	0	0	0	0	0	0	0	0	0	0	0	46.4	55.3
1200	21	21	0	0	0	0	0	0	0	0	0	0	0	48.2	55.9
1215	21	21	0	0	0	0	0	0	0	0	0	0	0	46	57.4
1230	14	14	0	0	0	0	0	0	0	0	0	0	0	48.4	60.4
1245	14	13	1	0	0	0	0	0	0	0	0	0	0	45.4	57.4
1300	19	19	0	0	0	0	0	0	0	0	0	0	0	47.9	58.7
1315	17	17	0	0	0	0	0	0	0	0	0	0	0	47.8	55.7
1330	14	14	0	0	0	0	0	0	0	0	0	0	0	50.8	61.3
1345	19	18	1	0	0	0	0	0	0	0	0	0	0	48.5	55.1
1400	15	15	0	0	0	0	0	0	0	0	0	0	0	47.5	52.9
1415	18	18	0	0	0	0	0	0	0	0	0	0	0	49.4	59.3

1430	25	25	0	0	0	0	0	0	0	0	0	0	0	48.9	55
1445	18	18	0	0	0	0	0	0	0	0	0	0	0	46.9	54.5
1500	21	21	0	0	0	0	0	0	0	0	0	0	0	44.7	52.5
1515	19	19	0	0	0	0	0	0	0	0	0	0	0	48.7	59.6
1530	19	18	0	1	0	0	0	0	0	0	0	0	0	49.5	60.3
1545	21	21	0	0	0	0	0	0	0	0	0	0	0	45.6	54.3
1600	26	25	1	0	0	0	0	0	0	0	0	0	0	50	60.6
1615	22	22	0	0	0	0	0	0	0	0	0	0	0	48.8	59.7
1630	18	18	0	0	0	0	0	0	0	0	0	0	0	51.3	58.6
1645	18	17	0	1	0	0	0	0	0	0	0	0	0	48.4	58.1
1700	19	18	0	1	0	0	0	0	0	0	0	0	0	47.2	57.2
1715	19	18	0	1	0	0	0	0	0	0	0	0	0	49.1	56
1730	21	21	0	0	0	0	0	0	0	0	0	0	0	48.9	54.6
1745	16	14	0	2	0	0	0	0	0	0	0	0	0	47	55.1
1800	10	10	0	0	0	0	0	0	0	0	0	0	0	46.3	-
1815	17	17	0	0	0	0	0	0	0	0	0	0	0	47.5	54.3
1830	22	21	0	0	0	0	0	0	0	0	1	0	0	45.4	54.3
1845	5	5	0	0	0	0	0	0	0	0	0	0	0	52.4	-
1900	2	1	0	1	0	0	0	0	0	0	0	0	0	51.9	-
1915	6	6	0	0	0	0	0	0	0	0	0	0	0	48	-
1930	5	5	0	0	0	0	0	0	0	0	0	0	0	48.9	-
1945	1	1	0	0	0	0	0	0	0	0	0	0	0	44.8	-
2000	6	6	0	0	0	0	0	0	0	0	0	0	0	46.5	-
2015	7	7	0	0	0	0	0	0	0	0	0	0	0	47.6	-
2030	6	6	0	0	0	0	0	0	0	0	0	0	0	45.1	-
2045	3	3	0	0	0	0	0	0	0	0	0	0	0	50.3	-
2100	3	3	0	0	0	0	0	0	0	0	0	0	0	43.2	-
2115	1	1	0	0	0	0	0	0	0	0	0	0	0	46.4	-
2130	3	3	0	0	0	0	0	0	0	0	0	0	0	48	-
2145	4	4	0	0	0	0	0	0	0	0	0	0	0	42.7	-
2200	1	1	0	0	0	0	0	0	0	0	0	0	0	48.2	-
2215	3	2	0	1	0	0	0	0	0	0	0	0	0	49	-
2230	3	3	0	0	0	0	0	0	0	0	0	0	0	36.5	-
2245	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-
2300	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-
2315	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-
2330	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-
2345	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-
07-09	**243**	**236**	**1**	**6**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**48.2**	**55.7**
09-16	**526**	**519**	**2**	**4**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**47.5**	**55.1**
16-18	**159**	**153**	**1**	**5**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**48.9**	**57.8**
00-00	**1137**	**1107**	**5**	**22**	**1**	**0**	**1**	**0**	**0**	**0**	**1**	**0**	**0**	**47.9**	**55.5**

A Standard Bitzios Report

Report Id - CustomList-12
Site Name - 34
Description - Botanical circuit at No 165
Direction - West

Thursday, 3 September 2015

Time	Total	Cls 1	Cls 2	Cls 3	Cls 4	Cls 5	Cls 6	Cls 7	Cls 8	Cls 9	Cls 10	Cls 11	Cls 12	Mean	Vpp 85
0000	0	0	0	0	0	0	0	0	0	0	0	0	0	-	
0015	0	0	0	0	0	0	0	0	0	0	0	0	0	-	
0030	0	0	0	0	0	0	0	0	0	0	0	0	0	-	
0045	0	0	0	0	0	0	0	0	0	0	0	0	0	-	
0100	0	0	0	0	0	0	0	0	0	0	0	0	0	-	
0115	0	0	0	0	0	0	0	0	0	0	0	0	0	-	
0130	1	1	0	0	0	0	0	0	0	0	0	0	0	46.1	-
0145	1	1	0	0	0	0	0	0	0	0	0	0	0	49	-
0200	0	0	0	0	0	0	0	0	0	0	0	0	0	-	
0215	0	0	0	0	0	0	0	0	0	0	0	0	0	-	
0230	0	0	0	0	0	0	0	0	0	0	0	0	0	-	
0245	1	1	0	0	0	0	0	0	0	0	0	0	0	43.3	-
0300	0	0	0	0	0	0	0	0	0	0	0	0	0	-	
0315	1	1	0	0	0	0	0	0	0	0	0	0	0	44.8	-
0330	0	0	0	0	0	0	0	0	0	0	0	0	0	-	
0345	0	0	0	0	0	0	0	0	0	0	0	0	0	-	
0400	0	0	0	0	0	0	0	0	0	0	0	0	0	-	
0415	0	0	0	0	0	0	0	0	0	0	0	0	0	-	
0430	0	0	0	0	0	0	0	0	0	0	0	0	0	-	
0445	1	1	0	0	0	0	0	0	0	0	0	0	0	30.6	-
0500	1	1	0	0	0	0	0	0	0	0	0	0	0	63.3	-
0515	0	0	0	0	0	0	0	0	0	0	0	0	0	-	
0530	0	0	0	0	0	0	0	0	0	0	0	0	0	-	
0545	0	0	0	0	0	0	0	0	0	0	0	0	0	-	
0600	3	2	0	1	0	0	0	0	0	0	0	0	0	52.9	-
0615	2	2	0	0	0	0	0	0	0	0	0	0	0	50.3	-
0630	3	3	0	0	0	0	0	0	0	0	0	0	0	50.7	-
0645	2	1	0	1	0	0	0	0	0	0	0	0	0	53.8	-
0700	6	5	0	1	0	0	0	0	0	0	0	0	0	51.7	-
0715	10	8	0	2	0	0	0	0	0	0	0	0	0	52.2	-
0730	8	7	0	1	0	0	0	0	0	0	0	0	0	51.6	-
0745	8	7	0	1	0	0	0	0	0	0	0	0	0	47.5	-
0800	12	12	0	0	0	0	0	0	0	0	0	0	0	50.1	60.7
0815	21	18	0	3	0	0	0	0	0	0	0	0	0	48.3	54.8
0830	16	16	0	0	0	0	0	0	0	0	0	0	0	53.6	64
0845	16	14	0	2	0	0	0	0	0	0	0	0	0	49.6	57.6
0900	8	8	0	0	0	0	0	0	0	0	0	0	0	50.5	-
0915	18	17	0	1	0	0	0	0	0	0	0	0	0	47.9	55
0930	12	11	0	1	0	0	0	0	0	0	0	0	0	50.4	61.5
0945	15	15	0	0	0	0	0	0	0	0	0	0	0	48.6	57
1000	14	13	1	0	0	0	0	0	0	0	0	0	0	49.2	57.6
1015	16	14	1	1	0	0	0	0	0	0	0	0	0	50.3	58.6
1030	23	23	0	0	0	0	0	0	0	0	0	0	0	48.5	59.5
1045	13	13	0	0	0	0	0	0	0	0	0	0	0	51.4	59.1
1100	30	29	0	1	0	0	0	0	0	0	0	0	0	46.2	56.6
1115	23	21	0	1	1	0	0	0	0	0	0	0	0	48.6	57.3
1130	23	22	0	1	0	0	0	0	0	0	0	0	0	48.6	55.8
1145	18	18	0	0	0	0	0	0	0	0	0	0	0	47.8	55.5
1200	25	23	1	1	0	0	0	0	0	0	0	0	0	50.1	58
1215	29	27	1	1	0	0	0	0	0	0	0	0	0	50.9	59
1230	15	15	0	0	0	0	0	0	0	0	0	0	0	52.3	63.5
1245	20	20	0	0	0	0	0	0	0	0	0	0	0	49.4	58.5
1300	16	15	0	1	0	0	0	0	0	0	0	0	0	53.8	61.3
1315	22	21	0	1	0	0	0	0	0	0	0	0	0	52.8	61.6
1330	21	19	0	2	0	0	0	0	0	0	0	0	0	50	59.5
1345	18	17	0	1	0	0	0	0	0	0	0	0	0	47.3	56.6
1400	19	18	0	1	0	0	0	0	0	0	0	0	0	50.9	56.2
1415	20	20	0	0	0	0	0	0	0	0	0	0	0	51.9	57.3

1430	30	28	0	2	0	0	0	0	0	0	0	0	0	48.9	53.6
1445	22	20	0	2	0	0	0	0	0	0	0	0	0	51.3	59.8
1500	34	30	1	3	0	0	0	0	0	0	0	0	0	48.6	54.8
1515	37	34	0	3	0	0	0	0	0	0	0	0	0	49.4	55.1
1530	32	31	0	1	0	0	0	0	0	0	0	0	0	50.1	60.8
1545	31	30	0	1	0	0	0	0	0	0	0	0	0	48.5	53.9
1600	41	39	1	1	0	0	0	0	0	0	0	0	0	50	56.3
1615	36	32	1	3	0	0	0	0	0	0	0	0	0	49.4	55.1
1630	39	39	0	0	0	0	0	0	0	0	0	0	0	49	55.4
1645	33	31	0	2	0	0	0	0	0	0	0	0	0	49.2	56.7
1700	39	39	0	0	0	0	0	0	0	0	0	0	0	49.7	55.4
1715	38	36	0	2	0	0	0	0	0	0	0	0	0	49.5	58.9
1730	37	36	0	1	0	0	0	0	0	0	0	0	0	48.5	53
1745	34	33	0	1	0	0	0	0	0	0	0	0	0	50.5	56.1
1800	33	31	0	2	0	0	0	0	0	0	0	0	0	53	58.5
1815	25	22	0	3	0	0	0	0	0	0	0	0	0	48.5	60.1
1830	22	21	0	1	0	0	0	0	0	0	0	0	0	50.7	56.4
1845	33	32	0	1	0	0	0	0	0	0	0	0	0	48.5	58.4
1900	11	11	0	0	0	0	0	0	0	0	0	0	0	53.2	64.6
1915	7	6	0	1	0	0	0	0	0	0	0	0	0	49.2	-
1930	15	15	0	0	0	0	0	0	0	0	0	0	0	48.5	55.6
1945	9	9	0	0	0	0	0	0	0	0	0	0	0	50.2	-
2000	11	10	0	1	0	0	0	0	0	0	0	0	0	49.1	54.8
2015	9	9	0	0	0	0	0	0	0	0	0	0	0	53.1	-
2030	9	9	0	0	0	0	0	0	0	0	0	0	0	49.4	-
2045	7	6	0	1	0	0	0	0	0	0	0	0	0	51.4	-
2100	14	12	0	2	0	0	0	0	0	0	0	0	0	50.2	55.7
2115	11	11	0	0	0	0	0	0	0	0	0	0	0	52.7	57.8
2130	5	5	0	0	0	0	0	0	0	0	0	0	0	49.6	-
2145	7	7	0	0	0	0	0	0	0	0	0	0	0	52	-
2200	3	3	0	0	0	0	0	0	0	0	0	0	0	50.6	-
2215	4	3	0	1	0	0	0	0	0	0	0	0	0	49.4	-
2230	6	6	0	0	0	0	0	0	0	0	0	0	0	49.5	-
2245	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-
2300	2	2	0	0	0	0	0	0	0	0	0	0	0	49.3	-
2315	3	3	0	0	0	0	0	0	0	0	0	0	0	51.6	-
2330	2	2	0	0	0	0	0	0	0	0	0	0	0	48.3	-
2345	2	2	0	0	0	0	0	0	0	0	0	0	0	48.8	-
07-09	**97**	**87**	**0**	**10**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**50.4**	**58.4**
09-16	**604**	**572**	**5**	**26**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**49.6**	**56.7**
16-18	**297**	**285**	**2**	**10**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**49.5**	**56**
00-00	**1264**	**1195**	**7**	**61**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**49.8**	**56.6**

A Standard Bitzios Report

Report Id - CustomList-11
Site Name - 415
Description - Rob Roy Crescent @ No 7. (50kph).
Direction - North

Thursday, 9 June 2016

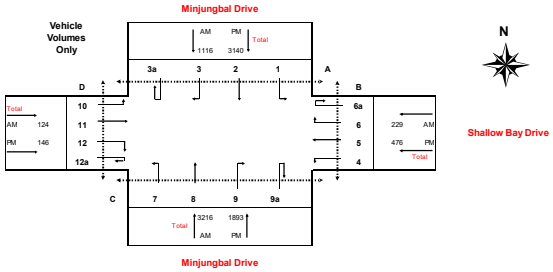
Time	Total	Cls 1	Cls 2	Cls 3	Cls 4	Cls 5	Cls 6	Cls 7	Cls 8	Cls 9	Cls 10	Cls 11	Cls 12	Mean	Vpp 85
0000	0	0	0	0	0	0	0	0	0	0	0	0	0	-	
0015	0	0	0	0	0	0	0	0	0	0	0	0	0	-	
0030	0	0	0	0	0	0	0	0	0	0	0	0	0	-	
0045	0	0	0	0	0	0	0	0	0	0	0	0	0	-	
0100	0	0	0	0	0	0	0	0	0	0	0	0	0	-	
0115	0	0	0	0	0	0	0	0	0	0	0	0	0	-	
0130	0	0	0	0	0	0	0	0	0	0	0	0	0	-	
0145	0	0	0	0	0	0	0	0	0	0	0	0	0	-	
0200	0	0	0	0	0	0	0	0	0	0	0	0	0	-	
0215	0	0	0	0	0	0	0	0	0	0	0	0	0	-	
0230	0	0	0	0	0	0	0	0	0	0	0	0	0	-	
0245	0	0	0	0	0	0	0	0	0	0	0	0	0	-	
0300	0	0	0	0	0	0	0	0	0	0	0	0	0	-	
0315	0	0	0	0	0	0	0	0	0	0	0	0	0	-	
0330	0	0	0	0	0	0	0	0	0	0	0	0	0	-	
0345	0	0	0	0	0	0	0	0	0	0	0	0	0	-	
0400	0	0	0	0	0	0	0	0	0	0	0	0	0	-	
0415	0	0	0	0	0	0	0	0	0	0	0	0	0	-	
0430	0	0	0	0	0	0	0	0	0	0	0	0	0	-	
0445	0	0	0	0	0	0	0	0	0	0	0	0	0	-	
0500	0	0	0	0	0	0	0	0	0	0	0	0	0	-	
0515	0	0	0	0	0	0	0	0	0	0	0	0	0	-	
0530	2	2	0	0	0	0	0	0	0	0	0	0	0	31.4	-
0545	2	2	0	0	0	0	0	0	0	0	0	0	0	26.3	-
0600	3	3	0	0	0	0	0	0	0	0	0	0	0	35.8	-
0615	2	2	0	0	0	0	0	0	0	0	0	0	0	35	-
0630	1	1	0	0	0	0	0	0	0	0	0	0	0	31.9	-
0645	5	5	0	0	0	0	0	0	0	0	0	0	0	28.6	-
0700	2	2	0	0	0	0	0	0	0	0	0	0	0	32.8	-
0715	4	4	0	0	0	0	0	0	0	0	0	0	0	31.2	-
0730	6	5	0	1	0	0	0	0	0	0	0	0	0	33.9	-
0745	8	7	0	1	0	0	0	0	0	0	0	0	0	35.8	-
0800	6	5	0	1	0	0	0	0	0	0	0	0	0	31	-
0815	3	2	0	1	0	0	0	0	0	0	0	0	0	37.3	-
0830	10	10	0	0	0	0	0	0	0	0	0	0	0	33.2	-
0845	15	13	1	1	0	0	0	0	0	0	0	0	0	33.3	39
0900	10	10	0	0	0	0	0	0	0	0	0	0	0	33.3	-
0915	8	8	0	0	0	0	0	0	0	0	0	0	0	26.1	-
0930	10	10	0	0	0	0	0	0	0	0	0	0	0	31.2	-
0945	10	10	0	0	0	0	0	0	0	0	0	0	0	34	-
1000	4	3	0	1	0	0	0	0	0	0	0	0	0	33.4	-
1015	9	9	0	0	0	0	0	0	0	0	0	0	0	34.2	-
1030	8	7	0	1	0	0	0	0	0	0	0	0	0	31.1	-
1045	8	7	0	1	0	0	0	0	0	0	0	0	0	29.1	-
1100	13	13	0	0	0	0	0	0	0	0	0	0	0	31.9	38.2
1115	8	5	0	1	0	1	0	1	0	0	0	0	0	31.1	-
1130	6	6	0	0	0	0	0	0	0	0	0	0	0	29.6	-
1145	6	6	0	0	0	0	0	0	0	0	0	0	0	30.5	-
1200	7	6	0	1	0	0	0	0	0	0	0	0	0	34.5	-
1215	6	5	0	1	0	0	0	0	0	0	0	0	0	32.1	-
1230	8	7	0	1	0	0	0	0	0	0	0	0	0	31.1	-
1245	2	2	0	0	0	0	0	0	0	0	0	0	0	29.1	-
1300	2	2	0	0	0	0	0	0	0	0	0	0	0	33.8	-
1315	11	11	0	0	0	0	0	0	0	0	0	0	0	30.2	38.9
1330	9	7	0	2	0	0	0	0	0	0	0	0	0	37.2	-
1345	5	5	0	0	0	0	0	0	0	0	0	0	0	39.9	-
1400	10	10	0	0	0	0	0	0	0	0	0	0	0	32.5	-
1415	6	5	0	1	0	0	0	0	0	0	0	0	0	32.2	-

1430	7	5	0	2	0	0	0	0	0	0	0	0	0	36	-
1445	7	6	0	1	0	0	0	0	0	0	0	0	0	29.9	-
1500	2	2	0	0	0	0	0	0	0	0	0	0	0	33.6	-
1515	10	9	0	1	0	0	0	0	0	0	0	0	0	34.3	-
1530	11	11	0	0	0	0	0	0	0	0	0	0	0	30.5	35.6
1545	12	12	0	0	0	0	0	0	0	0	0	0	0	32.5	37.3
1600	8	8	0	0	0	0	0	0	0	0	0	0	0	30.4	-
1615	8	8	0	0	0	0	0	0	0	0	0	0	0	29.5	-
1630	10	10	0	0	0	0	0	0	0	0	0	0	0	32.8	-
1645	13	12	0	1	0	0	0	0	0	0	0	0	0	30.7	37.7
1700	13	13	0	0	0	0	0	0	0	0	0	0	0	30.3	35.3
1715	6	6	0	0	0	0	0	0	0	0	0	0	0	35.7	-
1730	9	9	0	0	0	0	0	0	0	0	0	0	0	30.4	-
1745	13	13	0	0	0	0	0	0	0	0	0	0	0	31.9	37.8
1800	2	2	0	0	0	0	0	0	0	0	0	0	0	37.5	-
1815	2	2	0	0	0	0	0	0	0	0	0	0	0	34.4	-
1830	5	5	0	0	0	0	0	0	0	0	0	0	0	32	-
1845	5	5	0	0	0	0	0	0	0	0	0	0	0	32.5	-
1900	3	3	0	0	0	0	0	0	0	0	0	0	0	36.6	-
1915	2	2	0	0	0	0	0	0	0	0	0	0	0	34.2	-
1930	1	1	0	0	0	0	0	0	0	0	0	0	0	39.4	-
1945	2	2	0	0	0	0	0	0	0	0	0	0	0	31.3	-
2000	1	1	0	0	0	0	0	0	0	0	0	0	0	40.9	-
2015	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-
2030	2	2	0	0	0	0	0	0	0	0	0	0	0	29.9	-
2045	1	0	0	1	0	0	0	0	0	0	0	0	0	38.1	-
2100	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-
2115	1	1	0	0	0	0	0	0	0	0	0	0	0	39	-
2130	2	2	0	0	0	0	0	0	0	0	0	0	0	36.4	-
2145	1	1	0	0	0	0	0	0	0	0	0	0	0	31.9	-
2200	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-
2215	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-
2230	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-
2245	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-
2300	1	1	0	0	0	0	0	0	0	0	0	0	0	24.8	-
2315	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-
2330	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-
2345	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-
07-09	**54**	**48**	**1**	**5**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**33.5**	**38.5**
09-16	**215**	**199**	**0**	**14**	**0**	**1**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**32.2**	**38.1**
16-18	**80**	**79**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**31.3**	**36.5**
00-00	**395**	**371**	**1**	**21**	**0**	**1**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**32.3**	**37.9**

TDC
Traffic Data & Control

Site ID: 5
Location: Minjungbal Dr & Shallow Bay Dr
Suburb: Tweed Heads South
Weather: Fine
Duration: 7:00am-9:00am & 4:00pm-6:00pm
Day/Date: Thursday, 22 May 2014
AM Peak 09:00 (hour ending)
PM Peak 17:00 (hour ending)
Traffic Control: Signals

HOME



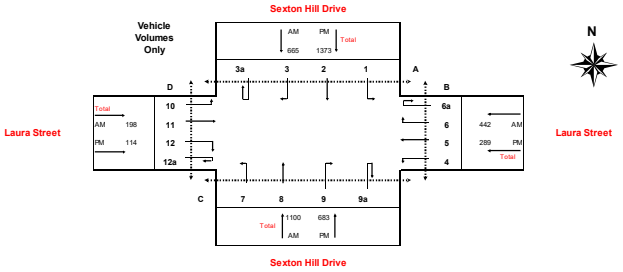
TIME	Minjungbal Drive (Southbound)												Shallow Bay Drive (Westbound)												Minjungbal Drive (Northbound)												Rivendell (Eastbound)												
	Movement 1 (Left Turn)			Movement 2 (Through)			Movement 3 (Right Turn)			Movement 3a Turn)	(U		Movement 4 (Left Turn)			Movement 5 (Through)			Movement 6 (Right Turn)			Movement 6a (U Turn)			Movement 7 (Left Turn)			Movement 8	(Through)		Movement 9 Turn)	(Right		Movement 9a Turn)	(U		Movement 10 (Left Turn)			Movement 11 (Through)			Movement 12 (Right Turn)			Movement 12a Turn)	(U		Hourly Total
15 MINUTE PERIOD ENDING	Cars, Utilities & Motorcycles	Rigid Trucks	Articulated Trucks	Cars, Utilities & Motorcycles	Rigid Trucks	Articulated Trucks	Cars, Utilities & Motorcycles	Rigid Trucks	Articulated Trucks	Cars, Utilities & Motorcycles	Rigid Trucks	Articulated Trucks	Cars, Utilities & Motorcycles	Rigid Trucks	Articulated Trucks	Cars, Utilities & Motorcycles	Rigid Trucks	Articulated Trucks	Cars, Utilities & Motorcycles	Rigid Trucks	Articulated Trucks	Cars, Utilities & Motorcycles	Rigid Trucks	Articulated Trucks	Cars, Utilities & Motorcycles	Rigid Trucks	Articulated Trucks	Cars, Utilities & Motorcycles	Rigid Trucks	Articulated Trucks	Cars, Utilities & Motorcycles	Rigid Trucks	Articulated Trucks	Cars, Utilities & Motorcycles	Rigid Trucks	Articulated Trucks	Cars, Utilities & Motorcycles	Rigid Trucks	Articulated Trucks	Cars, Utilities & Motorcycles	Rigid Trucks	Articulated Trucks	Cars, Utilities & Motorcycles	Rigid Trucks	Articulated Trucks	
1 7:15 AM	2	0	0	71	9	1	5	0	0	1	0	0	10	0	0	1	0	0	10	0	0	0	0	0	6	0	0	148	8	1	23	0	0	0	0	0	2	0	1	0	0	0	3	0	0	0	0	0	
2 7:30 AM	7	0	0	82	4	2	0	0	0	0	0	0	4	0	0	1	0	0	13	0	0	0	0	0	17	3	0	231	16	1	27	1	0	0	0	0	5	0	0	0	0	0	4	1	0	0	0	0	
3 7:45 AM	4	0	0	95	8	2	4	0	0	0	0	0	5	0	0	0	0	0	14	1	0	0	0	0	10	2	0	286	6	1	39	2	0	0	0	0	5	2	0	1	0	0	6	3	0	0	0	0	
4 8:00 AM	14	0	0	109	9	1	5	0	0	0	0	0	11	1	0	1	0	0	18	2	0	0	0	0	23	0	0	374	8	2	40	0	0	0	0	0	3	0	0	1	0	0	7	0	0	0	0	0	1846
5 8:15 AM	6	0	0	95	12	0	6	0	0	0	0	0	3	0	0	1	0	0	12	1	0	0	0	0	24	0	0	344	15	0	35	0	0	0	0	0	9	0	0	2	0	0	3	3	0	0	0	0	2115
6 8:30 AM	11	0	0	154	8	2	11	0	0	0	0	0	11	0	0	0	0	0	24	0	0	0	0	0	21	3	0	431	10	4	25	0	0	0	0	0	13	0	0	0	0	0	5	1	0	0	0	0	2430
7 8:45 AM	9	0	0	146	9	1	7	0	0	0	0	0	7	0	0	1	0	0	38	0	0	0	0	0	26	1	0	406	15	0	46	0	0	1	0	0	10	1	0	1	0	0	2	2	1	0	0	0	2664
8 9:00 AM	10	1	0	158	16	0	12	0	0	0	0	0	13	1	0	0	0	0	25	4	0	0	0	0	23	2	0	441	8	0	58	2	0	0	0	0	18	4	1	1	0	0	7	10	1	0	0	0	2839
2HR Total	72	1	0	909	75	9	50	0	0	1	0	0	64	2	0	5	0	0	154	4	0	0	0	0	150	11	0	2861	86	9	293	5	0	1	0	0	65	4	1	6	0	0	37	19	1	0	0	0	
Peak Hour Total	45	1	0	551	45	3	36	0	0	0	0	0	34	1	0	2	0	0	99	1	0	0	0	0	94	6	0	1622	48	4	164	2	0	1	0	0	50	2	0	4	0	0	17	6	1	0	0	0	

TIME	Minjungbal Drive (Southbound)												Shallow Bay Drive (Westbound)												Minjungbal Drive (Northbound)												Rivendell (Eastbound)												
	Movement 1 (Left Turn)			Movement 2 (Through)			Movement 3 (Right Turn)			Movement 3a Turn)	(U		Movement 4 (Left Turn)			Movement 5 (Through)			Movement 6 (Right Turn)			Movement 6a (U Turn)			Movement 7 (Left Turn)			Movement 8	(Through)		Movement 9 Turn)	(Right		Movement 9a Turn)	(U		Movement 10 (Left Turn)			Movement 11 (Through)			Movement 12 (Right Turn)			Movement 12a Turn)	(U		Hourly Total
15 MINUTE PERIOD ENDING	Cars, Utilities & Motorcycles	Rigid Trucks	Articulated Trucks	Cars, Utilities & Motorcycles	Rigid Trucks	Articulated Trucks	Cars, Utilities & Motorcycles	Rigid Trucks	Articulated Trucks	Cars, Utilities & Motorcycles	Rigid Trucks	Articulated Trucks	Cars, Utilities & Motorcycles	Rigid Trucks	Articulated Trucks	Cars, Utilities & Motorcycles	Rigid Trucks	Articulated Trucks	Cars, Utilities & Motorcycles	Rigid Trucks	Articulated Trucks	Cars, Utilities & Motorcycles	Rigid Trucks	Articulated Trucks	Cars, Utilities & Motorcycles	Rigid Trucks	Articulated Trucks	Cars, Utilities & Motorcycles	Rigid Trucks	Articulated Trucks	Cars, Utilities & Motorcycles	Rigid Trucks	Articulated Trucks	Cars, Utilities & Motorcycles	Rigid Trucks	Articulated Trucks	Cars, Utilities & Motorcycles	Rigid Trucks	Articulated Trucks	Cars, Utilities & Motorcycles	Rigid Trucks	Articulated Trucks	Cars, Utilities & Motorcycles	Rigid Trucks	Articulated Trucks	
1 4:15 PM	35	0	0	366	2	1	12	0	0	1	0	0	35	1	0	0	0	0	39	0	0	0	0	0	13	0	0	233	2	1	27	0	0	0	0	0	12	0	0	1	0	0	8	0	0	0	0	0	
2 4:30 PM	31	0	0	336	2	0	10	0	0	1	0	0	33	0	0	0	0	0	24	0	0	0	0	0	7	1	0	230	7	1	35	1	0	0	0	0	12	0	0	0	0	0	7	0	0	0	0	0	
3 4:45 PM	30	0	0	415	12	0	3	0	0	0	0	0	25	0	0	0	0	0	28	0	0	0	0	0	5	0	0	195	3	1	29	0	0	0	0	0	11	0	0	0	0	0	16	0	0	0	0	0	
4 5:00 PM	37	0	0	374	3	0	3	0	0	0	0	0	28	0	0	0	0	0	33	0	0	0	0	0	5	0	0	191	2	0	44	1	0	0	0	0	13	0	0	1	0	0	12	0	0	0	0	0	3047
5 5:15 PM	36	0	0	344	6	0	1	0	0	0	0	0	27	0	0	0	0	0	38	1	0	0	0	0	4	0	2	135	3	0	44	0	0	0	0	0	7	0	0	3	0	0	16	0	0	0	0	0	2925
6 5:30 PM	41	0	0	438	2	0	3	0	0	0	0	0	27	0	0	0	0	0	25	0	0	0	0	0	3	0	0	154	2	0	56	1	0	0	0	0	2	0	2	2	0	0	8	0	0	0	0	0	2953
7 5:45 PM	33	0	0	289	1	0	1	0	0	0	0	0	35	0	0	0	0	0	28	0	0	0	0	0	1	0	0	194	3	0	42	0	0	0	0	0	5	0	0	0	0	0	3	0	0	0	0	0	2815
8 6:00 PM	28	0	0	243	2	0	0	0	0	0	0	0	28	0	0	0	0	0	21	1	0	0	0	0	0	1	2	159	3	0	52	1	0	0	0	0	2	0	0	0	0	0	3	0	0	0	0	0	2608
2HR Total	280	0	0	2805	30	1	33	0	0	2	0	0	238	1	0	0	0	0	236	1	0	0	0	0	36	1	2	1491	25	3	329	4	0	0	0	0	64	0	2	7	0	0	73	0	0	0	0	0	
Peak Hour Total	133	0	0	1491	19	1	28	0	0	2	0	0	121	1	0	0	0	0	124	0	0	0	0	0	30	1	0	849	14	3	135	2	0	0	0	0	48	0	0	2	0	0	43	0	0	0	0	0	

TDC
Traffic Data & Control

Site ID: 2
Location: Sexton Hill Dr & Laura St
Suburb: Banora Point
Weather: Fine
Duration: 7:00am-9:00am & 4:00pm-6:00pm
Day/Date: Thursday, 22 May 2014
AM Peak 09:00 (hour ending)
PM Peak 17:30 (hour ending)
Traffic Control: Signals

HOME



TIME	Sexton Hill Drive (Southbound)												Laura Street (Westbound)												Sexton Hill Drive (Northbound)												Laura Street (Eastbound)												
	Movement 1 (Left Turn)			Movement 2 (Through)			Movement 3 (Right Turn)			Movement 3a Turn)	(U		Movement 4 (Left Turn)			Movement 5 (Through)			Movement 6 (Right Turn)			Movement 6a (U Turn)			Movement 7 (Left Turn)			Movement 8 (Through)			Movement 9 Turn)	(Right		Movement 9a Turn)	(U		Movement 10 (Left Turn)			Movement 11 (Through)			Movement 12 (Right Turn)			Movement 12a Turn)	(U		
15 MINUTE PERIOD ENDING	Cars, Utilities & Motorcycles	Rigid Trucks	Articulated Trucks	Cars, Utilities & Motorcycles	Rigid Trucks	Articulated Trucks	Cars, Utilities & Motorcycles	Rigid Trucks	Articulated Trucks	Cars, Utilities & Motorcycles	Rigid Trucks	Articulated Trucks	Cars, Utilities & Motorcycles	Rigid Trucks	Articulated Trucks	Cars, Utilities & Motorcycles	Rigid Trucks	Articulated Trucks	Cars, Utilities & Motorcycles	Rigid Trucks	Articulated Trucks	Cars, Utilities & Motorcycles	Rigid Trucks	Articulated Trucks	Cars, Utilities & Motorcycles	Rigid Trucks	Articulated Trucks	Cars, Utilities & Motorcycles	Rigid Trucks	Articulated Trucks	Cars, Utilities & Motorcycles	Rigid Trucks	Articulated Trucks	Cars, Utilities & Motorcycles	Rigid Trucks	Articulated Trucks	Cars, Utilities & Motorcycles	Rigid Trucks	Articulated Trucks	Cars, Utilities & Motorcycles	Rigid Trucks	Articulated Trucks	Cars, Utilities & Motorcycles	Rigid Trucks	Articulated Trucks	Hourly Total
1 7:15 AM	14	1	0	39	2	0	1	0	0	0	0	0	11	0	0	0	0	0	34	0	0	0	0	0	0	0	0	61	3	0	2	0	0	0	0	0	9	1	0	0	0	0	1	0	0	0	0	0	
2 7:30 AM	10	2	0	43	5	0	0	0	0	0	0	0	8	0	0	1	0	0	22	1	0	0	0	0	0	0	0	95	3	0	2	0	0	0	0	0	7	0	0	0	0	0	0	0	0	0	0	0	
3 7:45 AM	8	1	0	46	3	0	2	0	0	0	0	0	10	2	0	0	0	0	37	1	0	0	0	0	0	0	0	106	6	0	5	2	0	0	0	0	18	0	0	0	0	0	0	0	0	0	0	0	
4 8:00 AM	19	1	0	61	1	1	3	0	0	0	0	0	11	0	0	5	0	0	39	0	0	0	0	0	3	0	0	123	4	0	8	0	0	0	0	0	17	0	0	1	0	0	1	0	0	0	0	0	923
5 8:15 AM	7	0	0	66	3	0	8	0	0	1	0	0	14	1	0	6	0	0	55	0	0	0	0	0	2	0	0	178	7	0	6	0	0	0	0	0	16	0	0	5	0	0	3	0	0	0	0	0	1122
6 8:30 AM	7	1	0	85	3	0	4	0	0	0	0	0	14	3	0	3	0	0	49	0	0	0	0	0	0	1	0	158	3	0	6	0	0	0	0	0	26	2	0	0	0	0	3	0	0	0	0	0	1291
7 8:45 AM	10	0	0	90	7	0	3	0	0	0	0	0	13	0	0	13	0	0	32	0	0	0	0	0	1	0	0	149	2	0	7	0	0	0	0	0	38	0	0	3	0	0	0	0	0	0	0	0	1412
8 9:00 AM	23	2	0	82	4	0	13	1	0	2	0	0	7	0	0	9	0	0	41	0	0	0	0	0	2	1	0	141	8	0	4	2	0	0	0	0	34	5	0	17	0	0	2	0	0	1	0	0	1482
2HR Total	98	8	0	482	28	1	34	1	0	3	0	0	83	6	0	37	0	0	309	2	0	0	0	0	8	1	0	1011	36	0	42	2	0	0	0	0	165	5	0	17	0	0	10	0	0	1	0	0	
Peak Hour Total	47	3	0	303	17	0	28	1	0	3	0	0	48	4	0	31	0	0	177	0	0	0	0	0	5	1	0	626	20	0	25	0	0	0	0	0	114	4	0	16	0	0	8	0	0	1	0	0	

TIME	Sexton Hill Drive (Southbound)												Laura Street (Westbound)												Sexton Hill Drive (Northbound)												Laura Street (Eastbound)												
	Movement 1 (Left Turn)			Movement 2 (Through)			Movement 3 (Right Turn)			Movement 3a Turn)	(U		Movement 4 (Left Turn)			Movement 5 (Through)			Movement 6 (Right Turn)			Movement 6a (U Turn)			Movement 7 (Left Turn)			Movement 8 (Through)			Movement 9 Turn)	(Right		Movement 9a Turn)	(U		Movement 10 (Left Turn)			Movement 11 (Through)			Movement 12 (Right Turn)			Movement 12a Turn)	(U		
15 MINUTE PERIOD ENDING	Cars, Utilities & Motorcycles	Rigid Trucks	Articulated Trucks	Cars, Utilities & Motorcycles	Rigid Trucks	Articulated Trucks	Cars, Utilities & Motorcycles	Rigid Trucks	Articulated Trucks	Cars, Utilities & Motorcycles	Rigid Trucks	Articulated Trucks	Cars, Utilities & Motorcycles	Rigid Trucks	Articulated Trucks	Cars, Utilities & Motorcycles	Rigid Trucks	Articulated Trucks	Cars, Utilities & Motorcycles	Rigid Trucks	Articulated Trucks	Cars, Utilities & Motorcycles	Rigid Trucks	Articulated Trucks	Cars, Utilities & Motorcycles	Rigid Trucks	Articulated Trucks	Cars, Utilities & Motorcycles	Rigid Trucks	Articulated Trucks	Cars, Utilities & Motorcycles	Rigid Trucks	Articulated Trucks	Cars, Utilities & Motorcycles	Rigid Trucks	Articulated Trucks	Cars, Utilities & Motorcycles	Rigid Trucks	Articulated Trucks	Cars, Utilities & Motorcycles	Rigid Trucks	Articulated Trucks	Cars, Utilities & Motorcycles	Rigid Trucks	Articulated Trucks	Hourly Total
1 4:15 PM	37	2	0	100	3	0	14	1	0	0	0	0	5	1	0	3	0	0	34	2	0	0	0	0	2	0	0	66	0	0	9	1	0	0	0	0	13	0	0	4	1	0	1	0	0	0	0	0	
2 4:30 PM	51	0	0	107	1	0	12	0	0	0	0	0	5	0	0	2	0	0	25	1	0	0	0	0	1	0	0	104	6	0	5	0	0	0	0	0	8	0	0	3	0	0	2	0	0	0	0	0	
3 4:45 PM	35	0	0	99	4	0	14	0	0	0	0	0	2	0	0	3	0	0	25	0	0	0	0	0	2	0	0	78	0	0	11	0	0	0	0	0	16	1	0	3	0	0	1	0	0	0	0	0	
4 5:00 PM	51	0	0	119	4	0	14	0	0	0	0	0	6	0	0	0	0	0	30	0	0	0	0	0	1	0	0	60	3	0	11	0	0	0	0	0	10	0	0	4	0	0	4	0	0	0	0	0	1243
5 5:15 PM	40	0	0	121	3	0	11	0	0	1	0	0	12	0	0	1	0	0	33	0	0	0	0	0	1	0	0	64	3	0	12	1	0	0	0	0	12	0	0	2	0	0	1	0	0	0	0	0	1262
6 5:30 PM	64	0	0	140	1	0	14	0	0	0	0	0	7	0	0	0	0	0	19	1	0	0	0	0	0	0	0	69	2	0	11	1	0	0	0	0	5	1	0	1	0	0	1	0	0	0	0	0	1266
7 5:45 PM	47	0	0	82	1	0	10	0	0	0	0	0	7	0	0	1	0	0	35	2	0	0	0	0	1	0	0	60	2	0	19	0	0	0	0	0	11	0	0	1	0	0	0	0	0	0	0	0	1251
8 6:00 PM	45	0	0	107	3	0	11	1	0	0	0	0	5	0	0	1	0	0	29	0	0	0	0	0	3	0	0	68	4	0	4	0	0	1	0	0	10	3	0	2	0	0	0	0	0	0	0	0	1216
2HR Total	374	2	0	675	20	0	100	1	0	1	0	0	50	1	0	11	0	0	221	6	0	0	0	0	11	0	0	566	20	0	82	3	0	1	0	0	80	3	0	20	1	0	10	0	0	0	0	0	
Peak Hour Total	190	0	0	479	12	0	53	0	0	1	0	0	27	0	0	4	0	0	107	1	0	0	0	0	4	0	0	271	8	0	45	2	0	0	0	0	43	2	0	10	0	0	7	0	0	0	0	0	

Study Name T0384 Sexton Hill Dr & Darlington Dr
Start Date 05/22/2014
Start Time 7:00 AM
Site Code T0384

Light Vehs	Sexton Hill Drive Southbound				Darlington Drive Westbound				Sexton Hill Drive Northbound				Darlington Drive Eastbound			
Start Time	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn
7:00 AM	0	0	0	0	30	43	29	0	22	85	0	0	117	0	26	0
7:15 AM	0	0	0	0	27	45	30	0	26	102	0	0	135	0	21	0
7:30 AM	0	0	0	0	34	69	21	0	39	111	0	0	175	0	27	0
7:45 AM	0	0	0	0	61	90	32	0	59	126	0	0	166	0	22	0
8:00 AM	0	0	0	0	61	80	23	0	78	149	0	0	175	0	29	0
8:15 AM	0	0	0	0	64	121	32	0	66	160	0	0	191	0	36	0
8:30 AM	0	0	0	0	54	79	31	0	53	163	0	0	224	0	54	0
8:45 AM	0	0	0	0	57	91	43	0	46	160	0	0	162	0	41	0
4:00 PM	0	0	0	0	106	156	120	0	35	76	0	0	148	0	50	0
4:15 PM	0	0	0	0	121	188	104	0	60	80	0	0	125	0	48	0
4:30 PM	0	0	0	0	100	203	97	0	40	77	0	0	142	0	45	0
4:45 PM	0	0	0	0	129	160	94	0	34	58	0	0	153	0	59	0
5:00 PM	0	0	0	0	120	165	118	0	44	72	0	0	148	0	53	0
5:15 PM	0	0	0	0	160	199	96	0	31	61	0	0	138	0	56	0
5:30 PM	0	0	0	0	117	174	77	0	29	79	0	0	156	0	37	0
5:45 PM	0	0	0	0	120	174	74	0	24	68	0	0	105	0	34	0

Study Name T0384 Sexton Hill Dr & Darlington Dr
Start Date 05/22/2014
Start Time 7:00 AM
Site Code T0384

Medium Vehs	Sexton Hill Drive Southbound				Darlington Drive Westbound				Sexton Hill Drive Northbound				Darlington Drive Eastbound			
Start Time	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn
7:00 AM	0	0	0	0	3	2	5	0	0	4	0	0	0	0	2	0
7:15 AM	0	0	0	0	4	4	1	0	2	3	0	0	7	0	3	0
7:30 AM	0	0	0	0	4	2	4	0	3	4	0	0	1	0	1	0
7:45 AM	0	0	0	0	2	0	3	0	2	1	0	0	4	0	0	0
8:00 AM	0	0	0	0	2	2	6	0	4	6	0	0	7	0	1	0
8:15 AM	0	0	0	0	3	2	5	0	1	5	0	0	10	0	1	0
8:30 AM	0	0	0	0	3	3	1	0	2	1	0	0	7	0	4	0
8:45 AM	0	0	0	0	7	3	9	0	3	6	0	0	5	0	1	0
4:00 PM	0	0	0	0	5	2	1	0	0	2	0	0	1	0	0	0
4:15 PM	0	0	0	0	0	3	1	0	2	6	0	0	2	0	1	0
4:30 PM	0	0	0	0	6	1	2	0	1	1	0	0	3	0	1	0
4:45 PM	0	0	0	0	3	0	3	0	1	2	0	0	2	0	0	0
5:00 PM	0	0	0	0	1	5	2	0	0	3	0	0	0	0	1	0
5:15 PM	0	0	0	0	1	1	0	0	0	1	0	0	2	0	0	0
5:30 PM	0	0	0	0	0	5	0	0	0	2	0	0	0	0	1	0
5:45 PM	0	0	0	0	2	2	0	0	1	2	0	0	2	0	1	0

Study Name T0384 Sexton Hill Dr & Darlington Dr
Start Date 05/22/2014
Start Time 7:00 AM
Site Code T0384

Articulated Vehs	Sexton Hill Drive Southbound				Darlington Drive Westbound				Sexton Hill Drive Northbound				Darlington Drive Eastbound			
Start Time	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn
7:00 AM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	2	0	1	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	1	1	0	0	0	0	0	0	0	1	0
8:00 AM	0	0	0	0	0	1	1	0	0	0	0	0	1	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0
8:30 AM	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Study Name T0384 Sexton Hill Dr & Darlington Dr
Start Date 05/22/2014
Start Time 7:00 AM
Site Code T0384

Total Vehs	Sexton Hill Drive Southbound				Darlington Drive Westbound				Sexton Hill Drive Northbound				Darlington Drive Eastbound			
Start Time	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn
7:00 AM	0	0	0	0	33	45	35	0	22	89	0	0	117	0	28	0
7:15 AM	0	0	0	0	31	50	31	0	28	105	0	0	142	0	24	0
7:30 AM	0	0	0	0	38	71	27	0	43	115	0	0	176	0	28	0
7:45 AM	0	0	0	0	63	91	36	0	61	127	0	0	170	0	23	0
8:00 AM	0	0	0	0	63	83	30	0	82	155	0	0	183	0	30	0
8:15 AM	0	0	0	0	67	123	37	0	67	165	0	0	202	0	37	0
8:30 AM	0	0	0	0	57	82	34	0	55	164	0	0	231	0	58	0
8:45 AM	0	0	0	0	64	94	53	0	49	166	0	0	167	0	42	0
4:00 PM	0	0	0	0	111	158	121	0	35	78	0	0	149	0	50	0
4:15 PM	0	0	0	0	122	191	105	0	62	86	0	0	127	0	49	0
4:30 PM	0	0	0	0	106	204	99	0	41	78	0	0	145	0	46	0
4:45 PM	0	0	0	0	132	160	97	0	35	60	0	0	155	0	59	0
5:00 PM	0	0	0	0	121	170	120	0	44	75	0	0	148	0	54	0
5:15 PM	0	0	0	0	161	200	96	0	31	62	0	0	140	0	56	0
5:30 PM	0	0	0	0	117	179	77	0	29	81	0	0	157	0	38	0
5:45 PM	0	0	0	0	122	176	74	0	25	70	0	0	107	0	35	0

Study Name T0384 Sexton Hill Dr & Minjungbal Dr
Start Date 05/22/2014
Start Time 7:00 AM
Site Code T0384

Light Vehs	Minjungbal Drive Southbound			Sexton Hill Drive Northbound			Pacific Highway Off Ramp Eastbound		
Start Time	Left	Thru	U-Turn	Thru	Right	U-Turn	Left	Thru	Right
7:00 AM	0	30	0	121	3	4	46	50	0
7:15 AM	0	37	0	192	7	6	84	56	1
7:30 AM	0	48	1	217	1	6	105	75	0
7:45 AM	0	44	2	276	6	3	130	91	0
8:00 AM	2	44	1	307	3	2	130	106	0
8:15 AM	1	64	1	359	5	2	140	106	1
8:30 AM	1	74	1	387	12	2	129	65	0
8:45 AM	1	69	1	366	1	3	149	78	0
4:00 PM	2	172	1	183	11	9	75	134	2
4:15 PM	2	164	0	180	4	6	70	155	0
4:30 PM	2	192	0	172	2	8	61	152	1
4:45 PM	2	191	1	167	2	5	51	131	2
5:00 PM	2	176	2	148	2	5	39	141	0
5:15 PM	5	191	2	169	9	2	37	164	0
5:30 PM	1	119	0	194	2	10	43	149	0
5:45 PM	4	112	1	156	4	6	40	146	1

Study Name T0384 Sexton Hill Dr & Minjungbal Dr
Start Date 05/22/2014
Start Time 7:00 AM
Site Code T0384

Medium Vehs	Minjungbal Drive Southbound			Sexton Hill Drive Northbound			Pacific Highway Off Ramp Eastbound		
Start Time	Left	Thru	U-Turn	Thru	Right	U-Turn	Left	Thru	Right
7:00 AM	0	3	1	4	1	1	4	3	0
7:15 AM	0	4	0	11	1	0	10	5	0
7:30 AM	0	6	0	6	0	0	7	2	0
7:45 AM	0	4	0	7	0	0	2	0	0
8:00 AM	1	4	0	15	0	0	4	2	0
8:15 AM	0	0	0	10	1	1	2	2	0
8:30 AM	0	6	0	12	0	0	6	4	0
8:45 AM	0	4	0	9	1	0	8	6	0
4:00 PM	0	0	0	2	0	0	2	5	0
4:15 PM	0	0	0	3	2	1	4	0	0
4:30 PM	0	5	0	1	0	0	2	3	0
4:45 PM	0	1	0	3	0	0	2	2	0
5:00 PM	0	2	0	0	0	0	0	4	0
5:15 PM	0	2	0	0	0	0	2	1	0
5:30 PM	0	0	0	1	0	0	0	3	0
5:45 PM	0	0	0	2	0	0	0	1	0

Study Name T0384 Sexton Hill Dr & Minjungbal Dr
Start Date 05/22/2014
Start Time 7:00 AM
Site Code T0384

Articulated Vehs	Minjungbal Drive Southbound			Sexton Hill Drive Northbound			Pacific Highway Off Ramp Eastbound		
Start Time	Left	Thru	U-Turn	Thru	Right	U-Turn	Left	Thru	Right
7:00 AM	0	0	0	1	0	0	0	0	0
7:15 AM	0	1	0	0	0	0	0	0	0
7:30 AM	0	0	0	1	1	0	0	0	0
7:45 AM	0	0	0	1	0	0	1	1	0
8:00 AM	0	1	0	0	0	1	1	0	0
8:15 AM	0	0	0	3	0	0	2	0	0
8:30 AM	0	0	0	0	0	0	1	0	0
8:45 AM	0	0	0	0	0	0	1	0	0
4:00 PM	0	0	0	0	0	0	1	0	0
4:15 PM	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	1	0	0
4:45 PM	0	0	0	0	0	0	2	0	0
5:00 PM	0	0	0	1	0	0	0	0	0
5:15 PM	0	0	0	3	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	1	0	0	0	0	0

Study Name T0384 Sexton Hill Dr & Minjungbal Dr
Start Date 05/22/2014
Start Time 7:00 AM
Site Code T0384

Total Vehs	Minjungbal Drive Southbound			Sexton Hill Drive Northbound			Pacific Highway Off Ramp Eastbound		
Start Time	Left	Thru	U-Turn	Thru	Right	U-Turn	Left	Thru	Right
7:00 AM	0	33	1	126	4	5	50	53	0
7:15 AM	0	42	0	203	8	6	94	61	1
7:30 AM	0	54	1	224	2	6	112	77	0
7:45 AM	0	48	2	284	6	3	133	92	0
8:00 AM	3	49	1	322	3	3	135	108	0
8:15 AM	1	64	1	372	6	3	144	108	1
8:30 AM	1	80	1	399	12	2	136	69	0
8:45 AM	1	73	1	375	2	3	158	84	0
4:00 PM	2	172	1	185	11	9	78	139	2
4:15 PM	2	164	0	183	6	7	74	155	0
4:30 PM	2	197	0	173	2	8	64	155	1
4:45 PM	2	192	1	170	2	5	55	133	2
5:00 PM	2	178	2	149	2	5	39	145	0
5:15 PM	5	193	2	172	9	2	39	165	0
5:30 PM	1	119	0	195	2	10	43	152	0
5:45 PM	4	112	1	159	4	6	40	147	1

Study Name T0384 Sexton Hill Dr & Terranora Rd
Start Date 05/22/2014
Start Time 7:00 AM
Site Code T0384

Light Vehs	Sexton Hill Drive Southbound			Sexton Hill Drive Northbound			Terranora Road Eastbound		
Start Time	Thru	Right	U-Turn	Left	Thru	U-Turn	Left	Right	U-Turn
7:00 AM	26	23	0	17	23	0	39	28	0
7:15 AM	32	18	0	16	34	0	58	32	0
7:30 AM	34	22	0	22	46	0	76	39	0
7:45 AM	42	26	0	30	61	0	66	48	0
8:00 AM	47	43	0	39	78	0	91	42	0
8:15 AM	49	55	0	45	65	0	100	51	0
8:30 AM	61	43	0	49	53	0	91	52	0
8:45 AM	39	27	0	32	40	0	90	43	0
4:00 PM	52	54	1	42	34	0	46	34	0
4:15 PM	59	57	0	39	66	0	44	30	0
4:30 PM	50	52	0	43	50	0	40	32	0
4:45 PM	61	68	0	38	37	0	33	24	0
5:00 PM	59	62	0	47	39	0	38	24	0
5:15 PM	65	88	0	48	45	0	42	23	0
5:30 PM	32	57	0	51	38	0	33	33	0
5:45 PM	41	74	0	52	35	0	36	43	0

Study Name T0384 Sexton Hill Dr & Terranora Rd
Start Date 05/22/2014
Start Time 7:00 AM
Site Code T0384

Medium Vehs	Sexton Hill Drive Southbound			Sexton Hill Drive Northbound			Terranora Road Eastbound		
Start Time	Thru	Right	U-Turn	Left	Thru	U-Turn	Left	Right	U-Turn
7:00 AM	1	1	0	1	0	0	2	3	0
7:15 AM	4	0	0	0	2	0	3	0	0
7:30 AM	2	4	0	4	7	0	0	1	0
7:45 AM	1	1	0	3	3	0	3	2	0
8:00 AM	3	1	0	1	3	0	6	0	0
8:15 AM	2	3	0	2	3	0	1	2	0
8:30 AM	7	2	0	1	2	0	1	1	0
8:45 AM	1	4	0	4	4	0	5	1	0
4:00 PM	2	1	0	2	0	0	2	0	0
4:15 PM	1	1	0	0	3	0	2	0	0
4:30 PM	2	3	0	2	0	0	0	1	0
4:45 PM	1	4	0	2	2	0	1	1	0
5:00 PM	2	0	0	1	2	0	2	0	0
5:15 PM	1	0	0	2	1	0	0	0	0
5:30 PM	0	0	0	0	1	0	0	0	0
5:45 PM	2	2	0	0	1	0	1	0	0

Study Name T0384 Sexton Hill Dr & Terranora Rd
Start Date 05/22/2014
Start Time 7:00 AM
Site Code T0384

Articulated Vehs	Sexton Hill Drive Southbound			Sexton Hill Drive Northbound			Terranora Road Eastbound		
Start Time	Thru	Right	U-Turn	Left	Thru	U-Turn	Left	Right	U-Turn
7:00 AM	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0
7:45 AM	1	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	1	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	1	0
8:45 AM	0	0	0	1	0	0	0	0	0
4:00 PM	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0

Study Name T0384 Sexton Hill Dr & Terranora Rd
Start Date 05/22/2014
Start Time 7:00 AM
Site Code T0384

Total Vehs	Sexton Hill Drive Southbound			Sexton Hill Drive Northbound			Terranora Road Eastbound		
Start Time	Thru	Right	U-Turn	Left	Thru	U-Turn	Left	Right	U-Turn
7:00 AM	27	24	0	18	23	0	41	31	0
7:15 AM	36	18	0	16	36	0	61	32	0
7:30 AM	36	26	0	26	53	0	76	40	0
7:45 AM	44	27	0	33	64	0	69	50	0
8:00 AM	50	44	0	41	81	0	97	42	0
8:15 AM	51	58	0	47	68	0	101	53	0
8:30 AM	68	45	0	50	55	0	92	54	0
8:45 AM	40	31	0	37	44	0	95	44	0
4:00 PM	54	55	1	44	34	0	48	34	0
4:15 PM	60	58	0	39	69	0	46	30	0
4:30 PM	52	55	0	45	50	0	40	33	0
4:45 PM	62	72	0	40	39	0	34	25	0
5:00 PM	61	62	0	48	41	0	40	24	0
5:15 PM	66	88	0	50	46	0	42	23	0
5:30 PM	32	57	0	51	39	0	33	33	0
5:45 PM	43	76	0	52	36	0	37	43	0

TDC
Traffic Data & Control

SURVEY INFORMATION

Site ID:	9
Location:	Kennedy Dr and Pacific Hwy Interchange WB
Date:	28 / May / 2015
Time Period 1:	07:00 to 09:00
Time Period 2:	16:00 to 18:00

	Primary Classes:	Secondary Classes:
1	Light Vehicles	Pedestrians
2	Trucks	None
3	Bicycles on Road	
4	None	
5	None	

Weather Conditions 1: Fine **Weather Conditions 2:** Fine

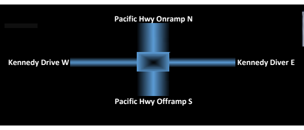
Intersection Legs:		
North	✓ Ch	Pacific Hwy Onramp N
East	✓ Ch	Kennedy Diver E
South	✓ Ch	Pacific Hwy Offramp S
West	✓ Ch	Kennedy Drive W

Output time interval: 15 mins

MAP

Site ID: 9
Location: Kennedy Dr and Pacific Hwy Interchange WB
Date: 28-May-2015
Period 1 Time: 7:00 AM to 9:00 AM
Weather: Fine

Period 1 Peak Hour: 8:00 AM to 9:00 AM



TOTALS AND PEAKS

Time Starting	Pacific Hwy Onramp N	Pacific Hwy Onramp N	Pacific Hwy Onramp N	Pacific Hwy Onramp N	Pacific Hwy Onramp N	Pacific Hwy Onramp N	Pacific Hwy Onramp N	Pacific Hwy Onramp N	Pacific Hwy Onramp N	Pacific Hwy Onramp N	Pacific Hwy Onramp N	Pacific Hwy Onramp N	Pacific Hwy Onramp N
	Left	Left	Left	Through	Through	Through	Right	Right	Right	U-turn	U-turn	U-turn	Cross 1
	Light Vehicles	Trucks	Bicycles on Road	Light Vehicles	Trucks	Bicycles on Road	Light Vehicles	Trucks	Bicycles on Road	Light Vehicles	Trucks	Bicycles on Road	Pedestrians
Period 1 Total	0	0	0	0	0	0	0	0	0	0	0	0	6
Period 1 Peak Hr	0	0	0	0	0	0	0	0	0	0	0	0	0
07:00	0	0	0	0	0	0	0	0	0	0	0	0	2
07:15	0	0	0	0	0	0	0	0	0	0	0	0	2
07:30	0	0	0	0	0	0	0	0	0	0	0	0	2
07:45	0	0	0	0	0	0	0	0	0	0	0	0	0
08:00	0	0	0	0	0	0	0	0	0	0	0	0	0
08:15	0	0	0	0	0	0	0	0	0	0	0	0	0
08:30	0	0	0	0	0	0	0	0	0	0	0	0	0
08:45	0	0	0	0	0	0	0	0	0	0	0	0	0

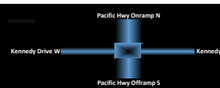
Time Starting	Kennedy Diver E	Kennedy Diver E	Kennedy Diver E	Kennedy Diver E	Kennedy Diver E	Kennedy Diver E	Kennedy Diver E	Kennedy Diver E	Kennedy Diver E	Kennedy Diver E	Kennedy Diver E	Kennedy Diver E	Kennedy Diver E
	Left	Left	Left	Through	Through	Through	Right	Right	Right	U-turn	U-turn	U-turn	Cross 1
	Light Vehicles	Trucks	Bicycles on Road	Light Vehicles	Trucks	Bicycles on Road	Light Vehicles	Trucks	Bicycles on Road	Light Vehicles	Trucks	Bicycles on Road	Pedestrians
Period 1 Total	0	0	0	557	0	2	670	0	0	0	0	0	0
Period 1 Peak Hr	0	0	0	362	0	1	351	0	0	0	0	0	0
07:00	0	0	0	38	0	1	54	0	0	0	0	0	0
07:15	0	0	0	46	0	0	76	0	0	0	0	0	0
07:30	0	0	0	42	0	0	89	0	0	0	0	0	0
07:45	0	0	0	69	0	0	100	0	0	0	0	0	0
08:00	0	0	0	55	0	0	66	0	0	0	0	0	0
08:15	0	0	0	108	0	1	83	0	0	0	0	0	0
08:30	0	0	0	100	0	0	87	0	0	0	0	0	0
08:45	0	0	0	99	0	0	115	0	0	0	0	0	0

Time Starting	Pacific Hwy Offramp S	Pacific Hwy Offramp S	Pacific Hwy Offramp S	Pacific Hwy Offramp S	Pacific Hwy Offramp S	Pacific Hwy Offramp S	Pacific Hwy Offramp S	Pacific Hwy Offramp S	Pacific Hwy Offramp S	Pacific Hwy Offramp S	Pacific Hwy Offramp S	Pacific Hwy Offramp S	Pacific Hwy Offramp S
	Left	Left	Left	Through	Through	Through	Right	Right	Right	U-turn	U-turn	U-turn	Cross 1
	Light Vehicles	Trucks	Bicycles on Road	Light Vehicles	Trucks	Bicycles on Road	Light Vehicles	Trucks	Bicycles on Road	Light Vehicles	Trucks	Bicycles on Road	Pedestrians
Period 1 Total	164	0	0	14	0	0	658	0	1	0	0	0	18
Period 1 Peak Hr	104	0	0	6	0	0	420	0	0	0	0	0	9
07:00	13	0	0	2	0	0	44	0	0	0	0	0	3
07:15	17	0	0	2	0	0	48	0	0	0	0	0	2
07:30	15	0	0	2	0	0	66	0	0	0	0	0	3
07:45	15	0	0	2	0	0	80	0	1	0	0	0	1
08:00	21	0	0	3	0	0	83	0	0	0	0	0	4
08:15	18	0	0	2	0	0	114	0	0	0	0	0	0
08:30	26	0	0	0	0	0	96	0	0	0	0	0	3
08:45	39	0	0	1	0	0	127	0	0	0	0	0	2

Time Starting	Kennedy Drive W	Kennedy Drive W	Kennedy Drive W	Kennedy Drive W	Kennedy Drive W	Kennedy Drive W	Kennedy Drive W	Kennedy Drive W	Kennedy Drive W	Kennedy Drive W	Kennedy Drive W	Kennedy Drive W	Kennedy Drive W	GRAND TOTAL	Pacific Hwy Onramp N	Kennedy Diver E	Pacific Hwy Offramp S	Kennedy Drive W
	Left	Left	Left	Through	Through	Through	Right	Right	Right	U-turn	U-turn	U-turn	Cross 1		TOTAL	TOTAL	TOTAL	TOTAL
	Light Vehicles	Trucks	Bicycles on Road	Light Vehicles	Trucks	Bicycles on Road	Light Vehicles	Trucks	Bicycles on Road	Light Vehicles	Trucks	Bicycles on Road	Pedestrians	TOTALS	All Classes	All Classes	All Classes	All Classes
Period 1 Total	681	0	0	1406	0	0	0	0	0	0	0	0	0	4153	0	1229	837	2087
Period 1 Peak Hr	286	0	0	846	0	0	0	0	0	0	0	0	0	2376	0	714	530	1132
07:00	102	0	0	80	0	0	0	0	0	0	0	0	0	**334**	0	93	59	182
07:15	99	0	0	121	0	0	0	0	0	0	0	0	0	**409**	0	122	67	220
07:30	99	0	0	176	0	0	0	0	0	0	0	0	0	**489**	0	131	83	275
07:45	95	0	0	183	0	0	0	0	0	0	0	0	0	**545**	0	169	98	278
08:00	85	0	0	210	0	0	0	0	0	0	0	0	0	**523**	0	121	107	295
08:15	69	0	0	227	0	0	0	0	0	0	0	0	0	**622**	0	192	134	296
08:30	64	0	0	202	0	0	0	0	0	0	0	0	0	**575**	0	187	122	266
08:45	68	0	0	207	0	0	0	0	0	0	0	0	0	**656**	0	214	167	275

Site ID: 9
Location: Kennedy Dr and Pacific Hwy Interchange WB
Date: 28-May-2015
Period 2 Time: 4:00 PM to 6:00 PM
Weather: Fine

Period 2 Peak Hour: 4:00 PM to 5:00 PM



TDC Traffic Data & Control

TOTALS AND PEAKS

	Pacific Hwy Onramp N	Pacific Hwy Onramp N	Pacific Hwy Onramp N	Pacific Hwy Onramp N	Pacific Hwy Onramp N	Pacific Hwy Onramp N	Pacific Hwy Onramp N	Pacific Hwy Onramp N	Pacific Hwy Onramp N	Pacific Hwy Onramp N	Pacific Hwy Onramp N	Pacific Hwy Onramp N	Pacific Hwy Onramp N
	Left	Left	Left	Through	Through	Through	Right	Right	Right	U-turn	U-turn	U-turn	Cross 1
Time Starting	Light Vehicles	Trucks	Bicycles on Road	Light Vehicles	Trucks	Bicycles on Road	Light Vehicles	Trucks	Bicycles on Road	Light Vehicles	Trucks	Bicycles on Road	Pedestrians
Period 2 Total	0	0	0	0	0	0	0	0	0	0	0	0	4
Period 2 Peak Hr	0	0	0	0	0	0	0	0	0	0	0	0	4
16:00	0	0	0	0	0	0	0	0	0	0	0	0	0
16:15	0	0	0	0	0	0	0	0	0	0	0	0	1
16:30	0	0	0	0	0	0	0	0	0	0	0	0	2
16:45	0	0	0	0	0	0	0	0	0	0	0	0	1
17:00	0	0	0	0	0	0	0	0	0	0	0	0	0
17:15	0	0	0	0	0	0	0	0	0	0	0	0	0
17:30	0	0	0	0	0	0	0	0	0	0	0	0	0
17:45	0	0	0	0	0	0	0	0	0	0	0	0	0

	Kennedy Diver E	Kennedy Diver E	Kennedy Diver E	Kennedy Diver E	Kennedy Diver E	Kennedy Diver E	Kennedy Diver E	Kennedy Diver E	Kennedy Diver E	Kennedy Diver E	Kennedy Diver E	Kennedy Diver E	Kennedy Diver E
	Left	Left	Left	Through	Through	Through	Right	Right	Right	U-turn	U-turn	U-turn	Cross 1
Time Starting	Light Vehicles	Trucks	Bicycles on Road	Light Vehicles	Trucks	Bicycles on Road	Light Vehicles	Trucks	Bicycles on Road	Light Vehicles	Trucks	Bicycles on Road	Pedestrians
Period 2 Total	0	0	0	1944	0	1	710	0	0	6	0	0	0
Period 2 Peak Hr	0	0	0	1006	0	1	348	0	0	5	0	0	0
16:00	0	0	0	226	0	0	90	0	0	2	0	0	0
16:15	0	0	0	267	0	0	80	0	0	2	0	0	0
16:30	0	0	0	260	0	1	96	0	0	0	0	0	0
16:45	0	0	0	253	0	0	82	0	0	1	0	0	0
17:00	0	0	0	246	0	0	92	0	0	0	0	0	0
17:15	0	0	0	215	0	0	96	0	0	1	0	0	0
17:30	0	0	0	255	0	0	89	0	0	0	0	0	0
17:45	0	0	0	222	0	0	85	0	0	0	0	0	0

	Pacific Hwy Offramp S	Pacific Hwy Offramp S	Pacific Hwy Offramp S	Pacific Hwy Offramp S	Pacific Hwy Offramp S	Pacific Hwy Offramp S	Pacific Hwy Offramp S	Pacific Hwy Offramp S	Pacific Hwy Offramp S	Pacific Hwy Offramp S	Pacific Hwy Offramp S	Pacific Hwy Offramp S	Pacific Hwy Offramp S
	Left	Left	Left	Through	Through	Through	Right	Right	Right	U-turn	U-turn	U-turn	Cross 1
Time Starting	Light Vehicles	Trucks	Bicycles on Road	Light Vehicles	Trucks	Bicycles on Road	Light Vehicles	Trucks	Bicycles on Road	Light Vehicles	Trucks	Bicycles on Road	Pedestrians
Period 2 Total	560	0	0	7	0	0	494	0	0	0	0	0	11
Period 2 Peak Hr	286	0	0	5	0	0	246	0	0	0	0	0	4
16:00	70	0	0	2	0	0	59	0	0	0	0	0	2
16:15	64	0	0	2	0	0	73	0	0	0	0	0	1
16:30	71	0	0	0	0	0	59	0	0	0	0	0	1
16:45	81	0	0	1	0	0	55	0	0	0	0	0	0
17:00	75	0	0	0	0	0	57	0	0	0	0	0	4
17:15	75	0	0	0	0	0	70	0	0	0	0	0	1
17:30	63	0	0	1	0	0	62	0	0	0	0	0	1
17:45	61	0	0	1	0	0	59	0	0	0	0	0	1

	Kennedy Drive W	Kennedy Drive W	Kennedy Drive W	Kennedy Drive W	Kennedy Drive W	Kennedy Drive W	Kennedy Drive W	Kennedy Drive W	Kennedy Drive W	Kennedy Drive W	Kennedy Drive W	Kennedy Drive W	Kennedy Drive W
	Left	Left	Left	Through	Through	Through	Right	Right	Right	U-turn	U-turn	U-turn	Cross 1
Time Starting	Light Vehicles	Trucks	Bicycles on Road	Light Vehicles	Trucks	Bicycles on Road	Light Vehicles	Trucks	Bicycles on Road	Light Vehicles	Trucks	Bicycles on Road	Pedestrians
Period 2 Total	348	0	0	1029	0	0	0	0	0	0	0	0	0
Period 2 Peak Hr	168	0	0	546	0	0	0	0	0	0	0	0	0
16:00	44	0	0	145	0	0	0	0	0	0	0	0	0
16:15	46	0	0	123	0	0	0	0	0	0	0	0	0
16:30	44	0	0	148	0	0	0	0	0	0	0	0	0
16:45	34	0	0	130	0	0	0	0	0	0	0	0	0
17:00	46	0	0	118	0	0	0	0	0	0	0	0	0
17:15	42	0	0	127	0	0	0	0	0	0	0	0	0
17:30	44	0	0	123	0	0	0	0	0	0	0	0	0
17:45	48	0	0	115	0	0	0	0	0	0	0	0	0

	GRAND TOTAL	Pacific Hwy Onramp N	Kennedy Diver E	Pacific Hwy Offramp S	Kennedy Drive W
		TOTAL	TOTAL	TOTAL	TOTAL
Time Starting	TOTALS	All Classes	All Classes	All Classes	All Classes
Period 2 Total	5099	0	2661	1061	1377
Period 2 Peak Hr	2611	0	1360	537	714
16:00	**638**	0	318	131	189
16:15	**657**	0	349	139	169
16:30	**679**	0	357	130	192
16:45	**637**	0	336	137	164
17:00	**634**	0	338	132	164
17:15	**626**	0	312	145	169
17:30	**637**	0	344	126	167
17:45	**591**	0	307	121	163

TDC
Traffic Data & Control

SURVEY INFORMATION

Site ID:	10
Location:	Kennedy Dr and Pacific Hwy Interchange EB
Date:	28 / May / 2015
Time Period 1:	07:00 to 09:00
Time Period 2:	16:00 to 18:00

	Primary Classes:	Secondary Classes:
1	Light Vehicles	Pedestrians
2	Trucks	None
3	Bicycles on Road	
4	None	
5	None	

Weather Conditions 1: Fine **Weather Conditions 2:** Fine

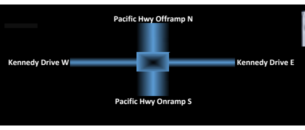
Intersection Legs:		
North	☑ Ch	Pacific Hwy Offramp N
East	☑ Ch	Kennedy Drive E
South	☑ Ch	Pacific Hwy Onramp S
West	☑ Ch	Kennedy Drive W

Output time interval: 15 mins

MAP

Site ID: 10
Location: Kennedy Dr and Pacific Hwy Interchange EB
Date: 28-May-2015
Period 1 Time: 7:00 AM to 9:00 AM
Weather: Fine

Period 1 Peak Hour: 8:00 AM to 9:00 AM

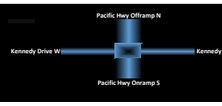


TOTALS AND PEAKS

	Pacific Hwy Offramp N	Pacific Hwy Offramp N	Pacific Hwy Offramp N	Pacific Hwy Offramp N	Pacific Hwy Offramp N	Pacific Hwy Offramp N	Pacific Hwy Offramp N	Pacific Hwy Offramp N	Pacific Hwy Offramp N	Pacific Hwy Offramp N	Pacific Hwy Offramp N	Pacific Hwy Offramp N	Pacific Hwy Offramp N	Kennedy Drive E	Kennedy Drive E	Kennedy Drive E	Kennedy Drive E	Kennedy Drive E	Kennedy Drive E	Kennedy Drive E	Kennedy Drive E	Kennedy Drive E	Kennedy Drive E	Kennedy Drive E	Kennedy Drive E	Kennedy Drive E	Pacific Hwy Onramp S	Pacific Hwy Onramp S	Pacific Hwy Onramp S	Pacific Hwy Onramp S	Pacific Hwy Onramp S	Pacific Hwy Onramp S	Pacific Hwy Onramp S	Pacific Hwy Onramp S	Pacific Hwy Onramp S	Pacific Hwy Onramp S	Pacific Hwy Onramp S	Pacific Hwy Onramp S	Pacific Hwy Onramp S	Kennedy Drive W	Kennedy Drive W	Kennedy Drive W	Kennedy Drive W	Kennedy Drive W	Kennedy Drive W	Kennedy Drive W	Kennedy Drive W	Kennedy Drive W	Kennedy Drive W	Kennedy Drive W	Kennedy Drive W	Kennedy Drive W	GRAND TOTAL	Pacific Hwy Offramp N	Kennedy Drive E	Pacific Hwy Onramp S	Kennedy Drive W
	Left	Left	Left	Through	Through	Through	Right	Right	Right	U-turn	U-turn	U-turn	Cross 1	Left	Left	Left	Through	Through	Through	Right	Right	Right	U-turn	U-turn	U-turn	Cross 1	Left	Left	Left	Through	Through	Through	Right	Right	Right	U-turn	U-turn	U-turn	Cross 1	Left	Left	Left	Through	Through	Through	Right	Right	Right	U-turn	U-turn	U-turn	Cross 1		TOTAL	TOTAL	TOTAL	TOTAL
Time Starting	Light Vehicles	Trucks	Bicycles on Road	Light Vehicles	Trucks	Bicycles on Road	Light Vehicles	Trucks	Bicycles on Road	Light Vehicles	Trucks	Bicycles on Road	Pedestrians	Light Vehicles	Trucks	Bicycles on Road	Light Vehicles	Trucks	Bicycles on Road	Light Vehicles	Trucks	Bicycles on Road	Light Vehicles	Trucks	Bicycles on Road	Pedestrians	Light Vehicles	Trucks	Bicycles on Road	Light Vehicles	Trucks	Bicycles on Road	Light Vehicles	Trucks	Bicycles on Road	Light Vehicles	Trucks	Bicycles on Road	Pedestrians	Light Vehicles	Trucks	Bicycles on Road	Light Vehicles	Trucks	Bicycles on Road	Light Vehicles	Trucks	Bicycles on Road	Light Vehicles	Trucks	Bicycles on Road	Pedestrians	TOTALS	All Classes	All Classes	All Classes	All Classes
Period 1 Total	664	0	0	16	0	0	170	0	0	0	0	0	0	378	0	0	997	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1382	0	2	633	0	0	0	0	0	0	4244	850	1377	0	2017
Period 1 Peak Hr	352	0	0	11	0	0	115	0	0	0	0	0	0	214	0	0	556	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	897	0	0	362	0	0	0	0	0	0	2508	478	771	0	1259
07:00	50	0	0	1	0	0	6	0	0	0	0	0	0	43	0	0	80	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	72	0	2	42	0	0	0	0	0	0	**297**	57	124	0	116
07:15	73	0	0	1	0	0	15	0	0	0	0	0	0	33	0	0	98	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	109	0	0	56	0	0	0	0	0	0	**385**	89	131	0	165
07:30	92	0	0	2	0	0	6	0	0	0	0	0	0	44	0	0	121	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	150	0	0	75	0	0	0	0	0	0	**490**	100	165	0	225
07:45	97	0	0	1	0	0	28	0	0	0	0	0	0	44	0	0	142	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	154	0	0	98	0	0	0	0	0	0	**564**	126	186	0	252
08:00	92	0	0	1	0	0	20	0	0	0	0	0	0	54	0	0	107	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	182	0	0	97	0	0	0	0	0	0	**553**	113	161	0	279
08:15	94	0	0	6	0	0	25	0	0	0	0	0	0	71	0	0	157	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	242	0	0	101	0	0	0	0	0	0	**697**	125	229	0	343
08:30	87	0	0	2	0	0	31	0	0	0	0	0	0	44	0	0	158	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	218	0	0	79	0	0	0	0	0	0	**619**	120	202	0	297
08:45	79	0	0	2	0	0	39	0	0	0	0	0	0	45	0	0	134	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	255	0	0	85	0	0	0	0	0	0	**639**	120	179	0	340

Site ID: 10
Location: Kennedy Dr and Pacific Hwy Interchange EB
Date: 28-May-2015
Period 2 Time: 4:00 PM to 6:00 PM
Weather: Fine

Period 2 Peak Hour: 4:00 PM to 5:00 PM



TOTALS AND PEAKS

	Pacific Hwy Offramp N	Pacific Hwy Offramp N	Pacific Hwy Offramp N	Pacific Hwy Offramp N	Pacific Hwy Offramp N	Pacific Hwy Offramp N	Pacific Hwy Offramp N	Pacific Hwy Offramp N	Pacific Hwy Offramp N	Pacific Hwy Offramp N	Pacific Hwy Offramp N	Pacific Hwy Offramp N	Pacific Hwy Offramp N
	Left	Left	Left	Through	Through	Through	Right	Right	Right	U-turn	U-turn	U-turn	Cross 1
Time Starting	Light Vehicles	Trucks	Bicycles on Road	Light Vehicles	Trucks	Bicycles on Road	Light Vehicles	Trucks	Bicycles on Road	Light Vehicles	Trucks	Bicycles on Road	Pedestrians
Period 2 Total	605	0	1	15	0	0	706	0	0	0	0	0	0
Period 2 Peak Hr	314	0	1	6	0	0	344	0	0	0	0	0	0
16:00	63	0	0	2	0	0	74	0	0	0	0	0	0
16:15	82	0	1	0	0	0	88	0	0	0	0	0	0
16:30	83	0	0	3	0	0	87	0	0	0	0	0	0
16:45	86	0	0	1	0	0	95	0	0	0	0	0	0
17:00	69	0	0	2	0	0	86	0	0	0	0	0	0
17:15	73	0	0	3	0	0	84	0	0	0	0	0	0
17:30	75	0	0	1	0	0	102	0	0	0	0	0	0
17:45	74	0	0	3	0	0	90	0	0	0	0	0	0

	Kennedy Drive E	Kennedy Drive E	Kennedy Drive E	Kennedy Drive E	Kennedy Drive E	Kennedy Drive E	Kennedy Drive E	Kennedy Drive E	Kennedy Drive E	Kennedy Drive E	Kennedy Drive E	Kennedy Drive E	Kennedy Drive E
	Left	Left	Left	Through	Through	Through	Right	Right	Right	U-turn	U-turn	U-turn	Cross 1
Time Starting	Light Vehicles	Trucks	Bicycles on Road	Light Vehicles	Trucks	Bicycles on Road	Light Vehicles	Trucks	Bicycles on Road	Light Vehicles	Trucks	Bicycles on Road	Pedestrians
Period 2 Total	535	0	0	1943	0	0	0	0	0	0	0	0	0
Period 2 Peak Hr	269	0	0	1014	0	0	0	0	0	0	0	0	0
16:00	65	0	0	244	0	0	0	0	0	0	0	0	0
16:15	67	0	0	254	0	0	0	0	0	0	0	0	0
16:30	71	0	0	271	0	0	0	0	0	0	0	0	0
16:45	66	0	0	245	0	0	0	0	0	0	0	0	0
17:00	61	0	0	255	0	0	0	0	0	0	0	0	0
17:15	77	0	0	232	0	0	0	0	0	0	0	0	0
17:30	70	0	0	226	0	0	0	0	0	0	0	0	0
17:45	58	0	0	216	0	0	0	0	0	0	0	0	0

	Pacific Hwy Onramp S	Pacific Hwy Onramp S	Pacific Hwy Onramp S	Pacific Hwy Onramp S	Pacific Hwy Onramp S	Pacific Hwy Onramp S	Pacific Hwy Onramp S	Pacific Hwy Onramp S	Pacific Hwy Onramp S	Pacific Hwy Onramp S	Pacific Hwy Onramp S	Pacific Hwy Onramp S	Pacific Hwy Onramp S
	Left	Left	Left	Through	Through	Through	Right	Right	Right	U-turn	U-turn	U-turn	Cross 1
Time Starting	Light Vehicles	Trucks	Bicycles on Road	Light Vehicles	Trucks	Bicycles on Road	Light Vehicles	Trucks	Bicycles on Road	Light Vehicles	Trucks	Bicycles on Road	Pedestrians
Period 2 Total	0	0	0	0	0	0	0	0	0	0	0	0	0
Period 2 Peak Hr	0	0	0	0	0	0	0	0	0	0	0	0	0
16:00	0	0	0	0	0	0	0	0	0	0	0	0	0
16:15	0	0	0	0	0	0	0	0	0	0	0	0	0
16:30	0	0	0	0	0	0	0	0	0	0	0	0	0
16:45	0	0	0	0	0	0	0	0	0	0	0	0	0
17:00	0	0	0	0	0	0	0	0	0	0	0	0	0
17:15	0	0	0	0	0	0	0	0	0	0	0	0	0
17:30	0	0	0	0	0	0	0	0	0	0	0	0	0
17:45	0	0	0	0	0	0	0	0	0	0	0	0	0

	Kennedy Drive W	Kennedy Drive W	Kennedy Drive W	Kennedy Drive W	Kennedy Drive W	Kennedy Drive W	Kennedy Drive W	Kennedy Drive W	Kennedy Drive W	Kennedy Drive W	Kennedy Drive W	Kennedy Drive W	Kennedy Drive W
	Left	Left	Left	Through	Through	Through	Right	Right	Right	U-turn	U-turn	U-turn	Cross 1
Time Starting	Light Vehicles	Trucks	Bicycles on Road	Light Vehicles	Trucks	Bicycles on Road	Light Vehicles	Trucks	Bicycles on Road	Light Vehicles	Trucks	Bicycles on Road	Pedestrians
Period 2 Total	0	0	0	1085	0	1	453	0	0	4	0	0	1
Period 2 Peak Hr	0	0	0	563	0	1	250	0	0	4	0	0	0
16:00	0	0	0	133	0	1	73	0	0	1	0	0	0
16:15	0	0	0	152	0	0	49	0	0	0	0	0	0
16:30	0	0	0	141	0	0	60	0	0	2	0	0	0
16:45	0	0	0	137	0	0	68	0	0	1	0	0	0
17:00	0	0	0	131	0	0	49	0	0	0	0	0	0
17:15	0	0	0	141	0	0	58	0	0	0	0	0	1
17:30	0	0	0	135	0	0	42	0	0	0	0	0	0
17:45	0	0	0	115	0	0	54	0	0	0	0	0	0

	GRAND TOTAL	Pacific Hwy Offramp N	Kennedy Drive E	Pacific Hwy Onramp S	Kennedy Drive W
		TOTAL	TOTAL	TOTAL	TOTAL
Time Starting	TOTALS	All Classes	All Classes	All Classes	All Classes
Period 2 Total	5348	1327	2478	0	1543
Period 2 Peak Hr	2766	665	1283	0	818
16:00	**656**	139	309	0	208
16:15	**693**	171	321	0	201
16:30	**718**	173	342	0	203
16:45	**699**	182	311	0	206
17:00	**653**	157	316	0	180
17:15	**668**	160	309	0	199
17:30	**651**	178	296	0	177
17:45	**610**	167	274	0	169

Study Name T0768 Chinderah RD & Tweed Coast Rd
Start Date 06/28/2016
Start Time 7:00 AM
Site Code T0768

Light Vehs	Chinderah Rd Southbound				Pac H'way Westbound				Tweed Coast Rd Northbound				Pac H'way Eastbound			
Start Time	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn
7:00 AM	2	9	9	0	1	18	11	3	12	0	130	0	2	2	9	0
7:15 AM	6	10	13	0	0	20	13	2	17	0	123	0	8	0	9	0
7:30 AM	6	12	17	0	0	30	13	0	20	8	166	7	4	0	10	0
7:45 AM	9	13	20	0	0	25	18	4	22	0	190	5	15	0	15	0
8:00 AM	14	6	15	0	0	34	12	1	31	0	193	7	14	0	19	0
8:15 AM	8	22	11	0	0	27	13	0	28	8	193	0	14	13	23	0
8:30 AM	13	21	9	0	0	27	13	0	28	7	203	4	10	0	19	0
8:45 AM	10	15	11	0	0	26	14	0	23	18	178	0	16	2	23	0
3:00 PM	8	21	20	0	1	24	27	0	27	2	153	3	7	0	15	0
3:15 PM	9	12	19	0	0	22	23	0	28	1	164	0	12	0	16	0
3:30 PM	8	27	26	0	0	37	27	0	21	5	166	0	15	2	24	0
3:45 PM	14	10	13	0	0	24	25	0	20	4	153	0	22	0	31	0
4:00 PM	10	22	13	0	0	26	27	0	24	3	185	3	13	0	27	0
4:15 PM	8	26	15	0	0	39	31	0	17	0	159	0	14	5	26	0
4:30 PM	11	22	11	0	0	29	34	0	20	4	103	0	17	0	16	0
4:45 PM	4	16	14	0	1	35	28	1	16	0	101	0	27	1	28	0

Study Name T0768 Chinderah RD & Tweed Coast Rd
Start Date 06/28/2016
Start Time 7:00 AM
Site Code T0768

Medium Vehs	Chinderah Rd Southbound				Pac H'way Westbound				Tweed Coast Rd Northbound				Pac H'way Eastbound			
Start Time	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn
7:00 AM	1	0	1	0	0	3	1	1	3	0	1	2	0	0	0	1
7:15 AM	0	1	3	0	0	2	1	0	2	2	4	0	1	1	1	0
7:30 AM	1	0	0	0	0	2	0	0	1	3	2	1	3	0	1	1
7:45 AM	0	1	0	0	0	2	2	0	4	0	6	0	0	0	3	0
8:00 AM	0	0	1	0	0	2	1	1	4	0	9	1	2	0	0	1
8:15 AM	0	3	3	0	0	1	2	2	1	0	4	0	1	1	2	0
8:30 AM	1	3	1	0	0	4	0	1	3	0	8	0	2	1	2	0
8:45 AM	2	0	1	0	0	2	0	1	3	0	6	0	0	0	1	0
3:00 PM	1	0	0	0	0	1	0	0	0	1	9	1	0	0	4	0
3:15 PM	1	2	1	0	0	3	2	0	5	1	5	0	1	0	1	0
3:30 PM	0	0	4	0	0	3	4	0	1	0	7	0	1	0	4	0
3:45 PM	1	1	0	0	0	5	2	1	0	0	5	0	0	0	3	0
4:00 PM	0	1	0	0	0	2	1	0	4	2	6	0	2	0	2	0
4:15 PM	1	2	0	0	0	1	2	2	1	0	6	0	0	1	0	0
4:30 PM	0	0	1	0	0	1	0	0	2	2	0	0	0	0	2	0
4:45 PM	0	0	0	0	0	1	1	0	0	1	2	0	0	0	1	1

Study Name T0768 Chinderah RD & Tweed Coast Rd
Start Date 06/28/2016
Start Time 7:00 AM
Site Code T0768

Articulated Vehs	Chinderah Rd Southbound				Pac H'way Westbound				Tweed Coast Rd Northbound				Pac H'way Eastbound			
Start Time	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn
7:00 AM	1	0	0	0	0	2	0	0	1	0	0	0	0	0	0	0
7:15 AM	0	1	0	0	0	1	0	0	0	0	3	0	0	1	1	0
7:30 AM	2	0	0	0	0	3	0	0	0	0	2	0	0	0	0	0
7:45 AM	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0
8:00 AM	0	0	0	0	0	1	0	0	0	0	0	0	0	1	1	0
8:15 AM	0	0	1	0	0	3	0	0	1	0	1	0	0	1	1	1
8:30 AM	0	0	0	0	0	0	1	0	2	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	3	0	0	0	0	1	0	0	0	1	0
3:00 PM	0	0	0	0	0	6	0	1	1	0	1	0	0	2	1	0
3:15 PM	0	0	0	0	0	3	2	0	1	0	1	0	1	0	2	0
3:30 PM	1	0	0	0	0	5	0	0	2	0	2	0	0	0	1	0
3:45 PM	0	0	0	0	0	5	0	0	1	0	1	0	0	1	0	0
4:00 PM	0	0	0	0	0	5	0	0	2	0	1	0	0	0	1	0
4:15 PM	0	0	0	0	0	5	0	0	1	0	1	0	0	0	3	0
4:30 PM	0	0	0	0	0	1	0	0	2	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	4	0	0	1	0	1	0	0	0	0	0

Study Name T0768 Chinderah RD & Tweed Coast Rd
Start Date 06/28/2016
Start Time 7:00 AM
Site Code T0768

Total Vehs	Chinderah Rd Southbound				Pac H'way Westbound				Tweed Coast Rd Northbound				Pac H'way Eastbound			
Start Time	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn
7:00 AM	4	9	10	0	1	23	12	4	16	0	131	2	2	2	9	1
7:15 AM	6	12	16	0	0	23	14	2	19	2	130	0	9	2	11	0
7:30 AM	9	12	17	0	0	35	13	0	21	11	170	8	7	0	11	1
7:45 AM	10	14	20	0	0	27	20	4	26	0	196	5	15	1	18	0
8:00 AM	14	6	16	0	0	37	13	2	35	0	202	8	16	1	20	1
8:15 AM	8	25	15	0	0	31	15	2	30	8	198	0	15	15	26	1
8:30 AM	14	24	10	0	0	31	14	1	33	7	211	4	12	1	21	0
8:45 AM	12	15	12	0	0	31	14	1	26	18	185	0	16	2	25	0
3:00 PM	9	21	20	0	1	31	27	1	28	3	163	4	7	2	20	0
3:15 PM	10	14	20	0	0	28	27	0	34	2	170	0	14	0	19	0
3:30 PM	9	27	30	0	0	45	31	0	24	5	175	0	16	2	29	0
3:45 PM	15	11	13	0	0	34	27	1	21	4	159	0	22	1	34	0
4:00 PM	10	23	13	0	0	33	28	0	30	5	192	3	15	0	30	0
4:15 PM	9	28	15	0	0	45	33	2	19	0	166	0	14	6	29	0
4:30 PM	11	22	12	0	0	31	34	0	24	6	103	0	17	0	18	0
4:45 PM	4	16	14	0	1	40	29	1	17	1	104	0	27	1	29	1

TDC
Traffic Data & Control

SURVEY INFORMATION

Site ID:	2			
Location:	Darlington Dve & Leisure Dve East, Banora Point			
Date:	18	/ Aug /	2016	
Time Period 1:	07:00	to	09:00	
Time Period 2:	15:00	to	18:00	

	Primary Classes:	Secondary Classes:
1	Light Vehicles	Pedestrians
2	Light Trucks (3-5)	None
3	Heavy Trucks (6-12)	
4	Bicycles on Road	
5	None	

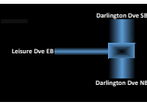
Weather Conditions 1: Fine **Weather Conditions 2:** Fine

Intersection Legs:		Ch	
	North	✓	Darlington Dve SB
	East		
	South	✓	Darlington Dve NB
	West	✓	Leisure Dve EB

Output time interval: 15 mins

MAP

Site ID: 2
Location: Darlington Dve & Leisure Dve East, Banora Point
Date: 18-Aug-2016
Period 1 Time: 7:00 AM to 9:00 AM
Weather: Fine
Period 1 Peak Hour: 7:45 AM to 8:45 AM



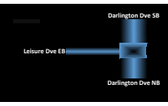
#TDC Traffic Data & Control

TOTALS AND PEAKS

	Darlington Dve SB				Darlington Dve SB				Darlington Dve SB				Darlington Dve SB				Darlington Dve NB				Darlington Dve NB				Darlington Dve NB				Leisure Dve EB				Leisure Dve EB				Leisure Dve EB				Leisure Dve EB				Leisure Dve EB				GRAND TOTAL	Darlington Dve SB	Darlington Dve NB	Leisure Dve EB
	Through	Through	Through	Through	Right	Right	Right	Right	U-turn	U-turn	U-turn	U-turn	Cross 1	Left	Left	Left	Left	Through	Through	Through	Through	U-turn	U-turn	U-turn	U-turn	Cross 1	Left	Left	Left	Left	Right	Right	Right	Right	U-turn	U-turn	U-turn	U-turn	Cross 1											
	Light Vehicles	Light Trucks (3 Ax)	Heavy Trucks (4+ Ax)	Bicycles on Road	Light Vehicles	Light Trucks (3 Ax)	Heavy Trucks (4+ Ax)	Bicycles on Road	Light Vehicles	Light Trucks (3 Ax)	Heavy Trucks (4+ Ax)	Bicycles on Road	Pedestrians	Light Vehicles	Light Trucks (3 Ax)	Heavy Trucks (4+ Ax)	Bicycles on Road	Light Vehicles	Light Trucks (3 Ax)	Heavy Trucks (4+ Ax)	Bicycles on Road	Light Vehicles	Light Trucks (3 Ax)	Heavy Trucks (4+ Ax)	Bicycles on Road	Pedestrians	Light Vehicles	Light Trucks (3 Ax)	Heavy Trucks (4+ Ax)	Bicycles on Road	Light Vehicles	Light Trucks (3 Ax)	Heavy Trucks (4+ Ax)	Bicycles on Road	Light Vehicles	Light Trucks (3 Ax)	Heavy Trucks (4+ Ax)	Bicycles on Road	Pedestrians											
Time Starting																																						TOTALS	TOTAL	TOTAL	TOTAL
07:00	11	0	0	0	53	3	0	1	2	0	0	0	0	15	1	0	0	50	0	0	0	0	0	0	0	0	110	2	0	0	11	0	0	0	5	0	0	0	2	**264**	70	66	128
07:15	14	3	0	0	66	11	1	0	5	0	0	0	0	17	0	0	0	56	3	0	0	0	0	0	0	0	77	1	2	0	13	1	0	0	5	1	0	0	1	**274**	100	76	98
07:30	10	1	0	0	104	3	0	0	1	0	0	0	0	21	0	0	0	70	0	0	0	0	0	0	0	0	130	7	1	0	14	1	0	0	5	0	0	0	1	**368**	119	91	158
07:45	21	1	0	0	135	3	1	0	4	0	0	0	0	30	1	0	0	79	1	0	0	0	0	0	0	0	134	4	0	0	16	0	0	0	8	0	0	0	0	**438**	165	111	162
08:00	25	2	0	0	166	4	0	0	5	0	0	0	0	67	1	0	0	78	2	0	0	0	0	0	0	0	145	3	2	0	17	0	0	0	9	0	0	0	0	**526**	202	148	176
08:15	24	1	0	0	187	4	0	0	10	0	0	0	0	68	0	0	0	101	1	0	0	0	0	0	0	0	149	5	1	0	22	0	0	0	12	0	0	0	0	**585**	226	170	189
08:30	32	1	0	0	137	5	0	0	7	0	0	0	0	46	1	0	0	85	1	0	0	0	0	0	0	0	154	10	0	0	32	1	0	0	9	0	0	0	0	**521**	182	133	206
08:45	32	2	0	0	109	2	0	0	6	0	0	0	0	47	0	0	1	74	2	0	0	0	0	0	0	0	135	5	0	0	12	1	0	0	7	0	0	0	0	**435**	151	124	160
Period 1 Total	169	11	0	0	957	35	2	1	40	0	0	0	0	311	4	0	1	593	10	0	0	0	0	0	0	0	1034	37	6	0	135	4	0	0	60	1	0	0	4	3411	1215	919	1277
Period 1 Peak Hr	102	5	0	0	625	16	1	0	26	0	0	0	0	211	3	0	0	343	5	0	0	0	0	0	0	0	582	22	3	0	87	1	0	0	38	0	0	0	0	2070	775	562	733

Site ID: 2
Location: Darlington Dve & Leisure Dve East, Banora Point
Date: 18-Aug-2016
Period 2 Time: 3:00 PM to 6:00 PM
Weather: Fine

Period 2 Peak Hour: 3:15 PM to 4:15 PM



TOTALS AND PEAKS

	Darlington Dve SB	Darlington Dve SB	Darlington Dve SB	Darlington Dve SB	Darlington Dve SB	Darlington Dve SB	Darlington Dve SB	Darlington Dve SB	Darlington Dve SB	Darlington Dve SB	Darlington Dve SB	Darlington Dve SB	Darlington Dve SB	Darlington Dve NB	Darlington Dve NB	Darlington Dve NB	Darlington Dve NB	Darlington Dve NB	Darlington Dve NB	Darlington Dve NB	Darlington Dve NB	Darlington Dve NB	Darlington Dve NB	Darlington Dve NB	Darlington Dve NB	Darlington Dve NB	Leisure Dve EB	Leisure Dve EB	Leisure Dve EB	Leisure Dve EB	Leisure Dve EB	Leisure Dve EB	Leisure Dve EB	Leisure Dve EB	Leisure Dve EB	Leisure Dve EB	Leisure Dve EB	Leisure Dve EB	Leisure Dve EB	GRAND TOTAL	Darlington Dve SB	Darlington Dve NB	Leisure Dve EB
	Through	Through	Through	Through	Right	Right	Right	Right	U-turn	U-turn	U-turn	U-turn	Cross 1	Left	Left	Left	Left	Through	Through	Through	Through	U-turn	U-turn	U-turn	U-turn	Cross 1	Left	Left	Left	Left	Right	Right	Right	Right	U-turn	U-turn	U-turn	U-turn	Cross 1		TOTAL	TOTAL	TOTAL
Time Starting	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Pedestrians	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Pedestrians	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Pedestrians	TOTALS	All Classes	All Classes	All Classes
Period 2 Total	801	4	0	1	1919	25	0	0	68	1	0	0	0	362	5	0	1	707	9	1	0	1	0	0	0	0	1608	33	1	0	300	5	0	1	98	0	0	0	3	5951	2819	1086	2046
Period 2 Peak Hr	259	2	0	1	669	9	0	0	17	1	0	0	0	137	4	0	0	239	2	1	0	0	0	0	0	0	626	17	0	0	109	1	0	0	32	0	0	0	1	2126	958	383	785
15:00	55	0	0	0	168	1	0	0	6	0	0	0	0	46	1	0	0	76	3	0	0	0	0	0	0	0	133	4	1	0	25	1	0	0	8	0	0	0	2	**528**	230	126	172
15:15	50	0	0	0	189	1	0	0	7	0	0	0	0	39	3	0	0	51	2	0	0	0	0	0	0	0	171	3	0	0	27	1	0	0	9	0	0	0	0	**553**	247	95	211
15:30	61	1	0	0	175	2	0	0	3	1	0	0	0	33	0	0	0	57	0	1	0	0	0	0	0	0	150	5	0	0	17	0	0	0	8	0	0	0	0	**514**	243	91	180
15:45	71	1	0	1	169	3	0	0	4	0	0	0	0	31	0	0	0	66	0	0	0	0	0	0	0	0	137	5	0	0	36	0	0	0	6	0	0	0	1	**530**	249	97	184
16:00	77	0	0	0	136	3	0	0	3	0	0	0	0	34	1	0	0	65	0	0	0	0	0	0	0	0	168	4	0	0	29	0	0	0	9	0	0	0	0	**529**	219	100	210
16:15	58	1	0	0	156	1	0	0	7	0	0	0	0	33	0	0	0	44	2	0	0	0	0	0	0	0	134	2	0	0	27	0	0	0	3	0	0	0	0	**468**	223	79	166
16:30	88	0	0	0	168	3	0	0	3	0	0	0	0	19	0	0	1	67	1	0	0	0	0	0	0	0	129	3	0	0	28	1	0	0	15	0	0	0	0	**526**	262	88	176
16:45	71	0	0	0	160	0	0	0	5	0	0	0	0	22	0	0	0	58	0	0	0	0	0	0	0	0	117	4	0	0	26	1	0	0	5	0	0	0	0	**469**	236	80	153
17:00	73	1	0	0	154	3	0	0	5	0	0	0	0	28	0	0	0	68	0	0	0	0	0	0	0	0	130	2	0	0	22	0	0	0	8	0	0	0	0	**494**	236	96	162
17:15	71	0	0	0	153	3	0	0	9	0	0	0	0	33	0	0	0	42	1	0	0	1	0	0	0	0	128	0	0	0	25	0	0	0	14	0	0	0	0	**480**	236	77	167
17:30	62	0	0	0	153	3	0	0	9	0	0	0	0	27	0	0	0	58	0	0	0	0	0	0	0	0	120	0	0	0	26	1	0	1	3	0	0	0	0	**463**	227	85	151
17:45	64	0	0	0	138	2	0	0	7	0	0	0	0	17	0	0	0	55	0	0	0	0	0	0	0	0	91	1	0	0	12	0	0	0	10	0	0	0	0	**397**	211	72	114

TDC
Traffic Data & Control

SURVEY INFORMATION

Site ID:	1			
Location:	Leisure Dve & Winders Place, Banora Point			
Date:	18	/ Aug /	2016	
Time Period 1:	07:00	to	09:00	
Time Period 2:	15:00	to	18:00	

	Primary Classes:	**Secondary Classes:**
1	Light Vehicles	Pedestrians
2	Light Trucks (3-5)	None
3	Heavy Trucks (6-12)	
4	Bicycles on Road	
5	None	

Weather Conditions 1: Fine **Weather Conditions 2:** Fine

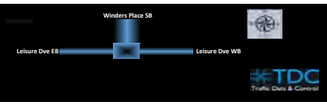
Intersection Legs:		Ch	
	North	✓	Winders Place SB
	East	✓	Leisure Dve WB
	South		
	West	✓	Leisure Dve EB

Output time interval: 15 mins

MAP

Site ID: 1
Location: Leisure Dve & Winders Place, Banora Point
Date: 18-Aug-2016
Period 1 Time: 7:00 AM to 9:00 AM
Weather: Fine

Period 1 Peak Hour: 8:00 AM to 9:00 AM

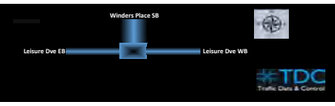


TOTALS AND PEAKS

	Winders Place SB	Winders Place SB	Winders Place SB	Winders Place SB	Winders Place SB	Winders Place SB	Winders Place SB	Winders Place SB	Winders Place SB	Winders Place SB	Winders Place SB	Winders Place SB	Winders Place SB	Leisure Dve WB	Leisure Dve WB	Leisure Dve WB	Leisure Dve WB	Leisure Dve WB	Leisure Dve WB	Leisure Dve WB	Leisure Dve WB	Leisure Dve WB	Leisure Dve WB	Leisure Dve WB	Leisure Dve WB	Leisure Dve WB	Leisure Dve EB	Leisure Dve EB	Leisure Dve EB	Leisure Dve EB	Leisure Dve EB	Leisure Dve EB	Leisure Dve EB	Leisure Dve EB	Leisure Dve EB	Leisure Dve EB	Leisure Dve EB	Leisure Dve EB	Leisure Dve EB	GRAND TOTAL	Winders Place SB	Leisure Dve WB	Leisure Dve EB
	Left	Left	Left	Left	Right	Right	Right	Right	U-turn	U-turn	U-turn	U-turn	Cross 1	Through	Through	Through	Through	Right	Right	Right	Right	U-turn	U-turn	U-turn	U-turn	Cross 1	Left	Left	Left	Left	Through	Through	Through	Through	U-turn	U-turn	U-turn	U-turn	Cross 1		TOTAL	TOTAL	TOTAL
Time Starting	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Pedestrians	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Pedestrians	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Pedestrians	TOTALS	All Classes	All Classes	All Classes
Period 1 Total	134	5	0	0	53	4	0	1	0	0	0	0	2	1159	30	3	2	102	3	1	0	0	0	0	0	32	40	5	0	0	1308	32	4	0	0	0	0	0	8	2886	197	1300	1389
Period 1 Peak Hr	90	3	0	0	31	2	0	0	0	0	0	0	0	746	14	1	1	80	1	0	0	0	0	0	0	14	24	4	0	0	756	19	1	0	0	0	0	0	7	1773	126	843	804
07:00	11	0	0	0	0	0	0	0	0	0	0	0	0	54	3	0	1	9	0	0	0	0	0	0	0	6	2	0	0	0	119	2	0	0	0	0	0	0	0	**201**	11	67	123
07:15	11	0	0	0	7	0	0	1	0	0	0	0	0	83	7	1	0	5	1	0	0	0	0	0	0	4	4	0	0	0	108	0	2	0	0	0	0	0	1	**230**	19	97	114
07:30	8	1	0	0	6	2	0	0	0	0	0	0	0	121	3	0	0	4	0	1	0	0	0	0	0	4	3	1	0	0	168	8	1	0	0	0	0	0	0	**327**	17	129	181
07:45	14	1	0	0	9	0	0	0	0	0	0	0	2	155	3	1	0	4	1	0	0	0	0	0	0	4	7	0	0	0	157	3	0	0	0	0	0	0	0	**355**	24	164	167
08:00	19	0	0	0	6	0	0	0	0	0	0	0	0	220	5	0	0	10	0	0	0	0	0	0	0	3	5	1	0	0	186	2	1	0	0	0	0	0	3	**455**	25	235	195
08:15	27	0	0	0	6	1	0	0	0	0	0	0	0	230	4	0	0	34	0	0	0	0	0	0	0	5	4	2	0	0	192	6	0	0	0	0	0	0	1	**506**	34	268	204
08:30	26	2	0	0	7	0	0	0	0	0	0	0	0	162	3	0	0	22	1	0	0	0	0	0	0	2	5	1	0	0	220	7	0	0	0	0	0	0	2	**456**	35	188	233
08:45	18	1	0	0	12	1	0	0	0	0	0	0	0	134	2	1	1	14	0	0	0	0	0	0	0	4	10	0	0	0	158	4	0	0	0	0	0	0	1	**356**	32	152	172

Site ID: 1
Location: Leisure Dve & Winders Place, Banora Point
Date: 18-Aug-2016
Period 2 Time: 3:00 PM to 6:00 PM
Weather: Fine

Period 2 Peak Hour: 3:15 PM to 4:15 PM



TOTALS AND PEAKS

	Winders Place SB	Winders Place SB	Winders Place SB	Winders Place SB	Winders Place SB	Winders Place SB	Winders Place SB	Winders Place SB	Winders Place SB	Winders Place SB	Winders Place SB	Winders Place SB	Winders Place SB
	Left	Left	Left	Left	Right	Right	Right	Right	U-turn	U-turn	U-turn	U-turn	Cross 1
Time Starting	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Pedestrians
Period 2 Total	155	0	0	0	64	0	0	0	0	0	0	0	8
Period 2 Peak Hr	70	0	0	0	23	0	0	0	0	0	0	0	1
15:00	21	0	0	0	15	0	0	0	0	0	0	0	1
15:15	36	0	0	0	4	0	0	0	0	0	0	0	0
15:30	13	0	0	0	7	0	0	0	0	0	0	0	0
15:45	12	0	0	0	5	0	0	0	0	0	0	0	0
16:00	9	0	0	0	7	0	0	0	0	0	0	0	1
16:15	8	0	0	0	5	0	0	0	0	0	0	0	0
16:30	7	0	0	0	3	0	0	0	0	0	0	0	1
16:45	9	0	0	0	2	0	0	0	0	0	0	0	1
17:00	12	0	0	0	4	0	0	0	0	0	0	0	0
17:15	8	0	0	0	5	0	0	0	0	0	0	0	1
17:30	12	0	0	0	3	0	0	0	0	0	0	0	3
17:45	8	0	0	0	4	0	0	0	0	0	0	0	0

	Leisure Dve WB	Leisure Dve WB	Leisure Dve WB	Leisure Dve WB	Leisure Dve WB	Leisure Dve WB	Leisure Dve WB	Leisure Dve WB	Leisure Dve WB	Leisure Dve WB	Leisure Dve WB	Leisure Dve WB	Leisure Dve WB
	Through	Through	Through	Through	Right	Right	Right	Right	U-turn	U-turn	U-turn	U-turn	Cross 1
Time Starting	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Pedestrians
Period 2 Total	1980	25	0	0	208	1	0	0	0	0	0	0	57
Period 2 Peak Hr	686	10	0	0	79	0	0	0	0	0	0	0	26
15:00	163	2	0	0	28	0	0	0	0	0	0	0	3
15:15	200	3	0	0	27	0	0	0	0	0	0	0	8
15:30	164	2	0	0	22	0	0	0	0	0	0	0	6
15:45	171	2	0	0	12	0	0	0	0	0	0	0	5
16:00	151	3	0	0	18	0	0	0	0	0	0	0	7
16:15	167	1	0	0	15	0	0	0	0	0	0	0	5
16:30	181	2	0	0	14	0	0	0	0	0	0	0	5
16:45	163	0	0	0	16	0	0	0	0	0	0	0	6
17:00	164	2	0	0	17	0	0	0	0	0	0	0	3
17:15	173	3	0	0	9	0	0	0	0	0	0	0	4
17:30	145	1	0	0	16	1	0	0	0	0	0	0	2
17:45	138	4	0	0	14	0	0	0	0	0	0	0	3

	Leisure Dve EB	Leisure Dve EB	Leisure Dve EB	Leisure Dve EB	Leisure Dve EB	Leisure Dve EB	Leisure Dve EB	Leisure Dve EB	Leisure Dve EB	Leisure Dve EB	Leisure Dve EB	Leisure Dve EB	Leisure Dve EB
	Left	Left	Left	Left	Through	Through	Through	Through	U-turn	U-turn	U-turn	U-turn	Cross 1
Time Starting	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Pedestrians
Period 2 Total	65	0	0	0	2220	38	1	1	0	0	0	0	9
Period 2 Peak Hr	23	0	0	0	841	17	0	0	0	0	0	0	4
15:00	8	0	0	0	181	5	0	0	0	0	0	0	2
15:15	4	0	0	0	211	2	0	0	0	0	0	0	2
15:30	3	0	0	0	178	8	0	0	0	0	0	0	1
15:45	12	0	0	0	212	4	0	0	0	0	0	0	1
16:00	4	0	0	0	240	3	0	0	0	0	0	0	0
16:15	4	0	0	0	203	2	0	0	0	0	0	0	2
16:30	6	0	0	0	180	2	0	0	0	0	0	0	0
16:45	8	0	0	0	171	3	0	0	0	0	0	0	0
17:00	7	0	0	0	184	2	1	1	0	0	0	0	0
17:15	4	0	0	0	176	0	0	0	0	0	0	0	1
17:30	5	0	0	0	169	4	0	0	0	0	0	0	0
17:45	0	0	0	0	115	3	0	0	0	0	0	0	0

	GRAND TOTAL	Winders Place SB	Leisure Dve WB	Leisure Dve EB
		TOTAL	TOTAL	TOTAL
Time Starting	TOTALS	All Classes	All Classes	All Classes
Period 2 Total	4758	219	2214	2325
Period 2 Peak Hr	1749	93	775	881
15:00	**423**	36	193	194
15:15	**487**	40	230	217
15:30	**397**	20	188	189
15:45	**430**	17	185	228
16:00	**435**	16	172	247
16:15	**405**	13	183	209
16:30	**395**	10	197	188
16:45	**372**	11	179	182
17:00	**394**	16	183	195
17:15	**378**	13	185	180
17:30	**356**	15	163	178
17:45	**286**	12	156	118

TDC
Traffic Data & Control

SURVEY INFORMATION

Site ID:	18		
Location:	Boyd St & Wharf St, Tweed Heads		
Date:	15 / Sept / 2016		
Time Period 1:	07:00	to	09:00
Time Period 2:	16:00	to	18:00

	Primary Classes:	Secondary Classes:
1	Light Vehicles	Pedestrians
2	Light Trucks (3-5)	None
3	Heavy Trucks (6-12)	
4	Bicycles on Road	
5	None	

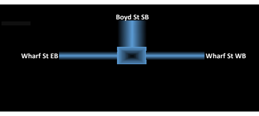
Weather Conditions 1: Fine **Weather Conditions 2:** Fine

Intersection Legs:		Ch	
	North	✓	Boyd St SB
	East	✓	Wharf St WB
	South		
	West	✓	Wharf St EB

Output time interval: 15 mins

MAP

Site ID:	18
Location:	Boyd St & Wharf St, Tweed Heads
Date:	15-Sept-2016
Period 1 Time:	7:00 AM to 9:00 AM
Weather:	Fine
Period 1 Peak Hour:	8:00 AM to 9:00 AM



TOTALS AND PEAKS

	Boyd St SB	Boyd St SB	Boyd St SB	Boyd St SB	Boyd St SB	Boyd St SB	Boyd St SB	Boyd St SB	Boyd St SB	Boyd St SB	Boyd St SB	Boyd St SB	Boyd St SB
	Left	Left	Left	Left	Right	Right	Right	Right	U-turn	U-turn	U-turn	U-turn	Cross 1
Time Starting	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Pedestrians
Period 1 Total	19	0	0	0	459	11	0	1	0	0	0	0	7
Period 1 Peak Hr	15	0	0	0	290	9	0	0	0	0	0	0	5
07:00	0	0	0	0	31	0	0	0	0	0	0	0	1
07:15	0	0	0	0	31	1	0	1	0	0	0	0	1
07:30	1	0	0	0	40	0	0	0	0	0	0	0	0
07:45	3	0	0	0	67	1	0	0	0	0	0	0	0
08:00	7	0	0	0	56	3	0	0	0	0	0	0	1
08:15	2	0	0	0	85	2	0	0	0	0	0	0	1
08:30	3	0	0	0	64	1	0	0	0	0	0	0	2
08:45	3	0	0	0	85	3	0	0	0	0	0	0	1

	Wharf St WB	Wharf St WB	Wharf St WB	Wharf St WB	Wharf St WB	Wharf St WB	Wharf St WB	Wharf St WB	Wharf St WB	Wharf St WB	Wharf St WB	Wharf St WB	Wharf St WB
	Through	Through	Through	Through	Right	Right	Right	Right	U-turn	U-turn	U-turn	U-turn	Cross 1
Time Starting	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Pedestrians
Period 1 Total	925	58	9	3	22	0	0	0	0	0	0	0	5
Period 1 Peak Hr	516	38	6	3	17	0	0	0	0	0	0	0	0
07:00	91	5	0	0	0	0	0	0	0	0	0	0	0
07:15	109	5	0	0	2	0	0	0	0	0	0	0	0
07:30	95	6	2	0	2	0	0	0	0	0	0	0	3
07:45	114	4	1	0	1	0	0	0	0	0	0	0	2
08:00	135	12	1	0	4	0	0	0	0	0	0	0	0
08:15	116	9	2	1	3	0	0	0	0	0	0	0	0
08:30	124	13	1	1	4	0	0	0	0	0	0	0	0
08:45	141	4	2	1	6	0	0	0	0	0	0	0	0

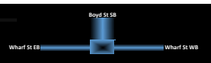
	Wharf St EB	Wharf St EB	Wharf St EB	Wharf St EB	Wharf St EB	Wharf St EB	Wharf St EB	Wharf St EB	Wharf St EB	Wharf St EB	Wharf St EB	Wharf St EB	Wharf St EB
	Left	Left	Left	Left	Through	Through	Through	Through	U-turn	U-turn	U-turn	U-turn	Cross 1
Time Starting	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Pedestrians
Period 1 Total	698	5	0	1	1677	84	5	1	1	0	0	0	0
Period 1 Peak Hr	475	3	0	1	1009	40	2	0	0	0	0	0	0
07:00	25	0	0	0	123	13	0	1	0	0	0	0	0
07:15	45	1	0	0	140	13	0	0	1	0	0	0	0
07:30	68	1	0	0	154	7	1	0	0	0	0	0	0
07:45	85	0	0	0	251	11	2	0	0	0	0	0	0
08:00	94	0	0	0	214	8	1	0	0	0	0	0	0
08:15	116	1	0	1	256	9	1	0	0	0	0	0	0
08:30	119	1	0	0	272	12	0	0	0	0	0	0	0
08:45	146	1	0	0	267	11	0	0	0	0	0	0	0

	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE
Period 1 Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Period 1 Peak Hr	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

	Hide this column	Hide this column	Hide this column	Hide this column	Hide this column	Hide this column	Hide this column	GRAND TOTAL	Boyd St SB	Wharf St WB		Wharf St EB
									TOTAL	TOTAL		TOTAL
Time Starting	AM Peak+Calc	PM Peak+Calc	AM Peak		Time	Flag-AM		TOTALS	All Classes	All Classes		All Classes
Period 1 Total								3979	490	1017		2472
Period 1 Peak Hr								2424	314	580		1530
07:00	289		1555		07:00			**289**	31	96		162
07:15	349		1801		07:15			**349**	33	116		200
07:30	377		2056		07:30			**377**	41	105		231
07:45	540		2294		07:45			**540**	71	120		349
08:00	535		2424		08:00	1		**535**	66	152		317
08:15	604		1889		08:15	2		**604**	89	131		384
08:30	615		1285		08:30	3		**615**	68	143		404
08:45	670		670		08:45	4		**670**	91	154		425

Site ID: 18
Location: Boyd St & Wharf St, Tweed Heads
Date: 15-Sept-2016
Period 2 Time: 4:00 PM to 6:00 PM
Weather: Fine

Period 2 Peak Hour: 4:00 PM to 5:00 PM



TOTALS AND PEAKS

Period 2 Total	19	0	0	1	972	4	1	2	0	0	0	0	0	1932	32	0	0	39	0	0	0	2	0	0	0	0	533	2	0	1	1317	29	1	4	0	0	0	0	0
Period 2 Peak Hr	11	0	0	1	521	3	1	1	0	0	0	0	0	1143	20	0	0	18	0	0	0	1	0	0	0	0	296	0	0	1	731	17	0	4	0	0	0	0	0
	Boyd St SB	Boyd St SB	Boyd St SB	Boyd St SB	Boyd St SB	Boyd St SB	Boyd St SB	Boyd St SB	Boyd St SB	Boyd St SB	Boyd St SB	Boyd St SB	Boyd St SB	Wharf St WB	Wharf St WB	Wharf St WB	Wharf St WB	Wharf St WB	Wharf St WB	Wharf St WB	Wharf St WB	Wharf St WB	Wharf St WB	Wharf St WB	Wharf St WB	Wharf St WB	Wharf St EB	Wharf St EB	Wharf St EB	Wharf St EB	Wharf St EB	Wharf St EB	Wharf St EB	Wharf St EB	Wharf St EB	Wharf St EB	Wharf St EB	Wharf St EB	Wharf St EB
	Left	Left	Left	Left	Right	Right	Right	Right	U-turn	U-turn	U-turn	U-turn	Cross 1	Through	Through	Through	Through	Right	Right	Right	Right	U-turn	U-turn	U-turn	U-turn	Cross 1	Left	Left	Left	Left	Through	Through	Through	Through	U-turn	U-turn	U-turn	U-turn	Cross 1
Time Starting	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Pedestrians	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Pedestrians	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Pedestrians
16:00	2	0	0	0	154	0	0	1	0	0	0	0	0	300	5	0	0	8	0	0	0	1	0	0	0	0	80	0	0	1	191	7	0	3	0	0	0	0	0
16:15	3	0	0	1	109	1	1	0	0	0	0	0	0	297	5	0	0	4	0	0	0	0	0	0	0	0	69	0	0	0	205	3	0	1	0	0	0	0	0
16:30	0	0	0	0	144	2	0	0	0	0	0	0	0	301	3	0	0	2	0	0	0	0	0	0	0	0	87	0	0	0	158	4	0	0	0	0	0	0	0
16:45	6	0	0	0	114	0	0	0	0	0	0	0	0	245	7	0	0	4	0	0	0	0	0	0	0	0	60	0	0	0	177	3	0	0	0	0	0	0	0
17:00	0	0	0	0	158	0	0	0	0	0	0	0	0	222	4	0	0	5	0	0	0	0	0	0	0	0	61	0	0	0	161	5	0	0	0	0	0	0	0
17:15	4	0	0	0	114	0	0	0	0	0	0	0	0	219	2	0	0	7	0	0	0	0	0	0	0	0	75	1	0	0	149	2	0	0	0	0	0	0	0
17:30	3	0	0	0	102	1	0	1	0	0	0	0	0	177	4	0	0	7	0	0	0	1	0	0	0	0	54	1	0	0	146	2	0	0	0	0	0	0	0
17:45	1	0	0	0	77	0	0	0	0	0	0	0	0	171	2	0	0	2	0	0	0	0	0	0	0	0	47	0	0	0	130	3	1	0	0	0	0	0	0

	Hide this column	Hide this column	Hide this column	Hide this column	Hide this column	Hide this column	Hide this column					
Period 2 Total								4891	999	2005		1887
Period 2 Peak Hr								2769	538	1182		1049
								GRAND TOTAL	Boyd St SB	Wharf St WB		Wharf St EB
									TOTAL	TOTAL		TOTAL
Time Starting	AM Peak+Calc	PM Peak+Calc		PM Peak	Time		Flag-PM	TOTALS	All Classes	All Classes		All Classes
16:00		753		2769	16:00		1	**753**	157	314		282
16:15		699		2632	16:15		2	**699**	115	306		278
16:30		701		2506	16:30		3	**701**	146	306		249
16:45		616		2304	16:45		4	**616**	120	256		240
17:00		616		2122	17:00			**616**	158	231		227
17:15		573		1506	17:15			**573**	118	228		227
17:30		499		933	17:30			**499**	107	189		203
17:45		434		434	17:45			**434**	78	175		181

TDC
Traffic Data & Control

SURVEY INFORMATION

Site ID:	4		
Location:	Dry Dock Rd & Minjungbal Dve, Tweed Heads South		
Date:	14 / Sept / 2016		
Time Period 1:	07:00	to	09:00
Time Period 2:	16:00	to	18:00

	Primary Classes:	Secondary Classes:
1	Light Vehicles	Pedestrians
2	Light Trucks (3-5)	None
3	Heavy Trucks (6-12)	
4	Bicycles on Road	
5	None	

Weather Conditions 1: Fine **Weather Conditions 2:** Fine

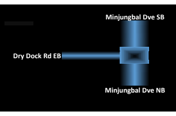
Intersection Legs:		Ch	
	North	✓	Minjungbal Dve SB
	East		
	South	✓	Minjungbal Dve NB
	West	✓	Dry Dock Rd EB

Output time interval: 15 mins

MAP

Site ID: 4
Location: Dry Dock Rd & Minjungbal Dve, Tweed Heads South
Date: 14-Sept-2016
Period 1 Time: 7:00 AM to 9:00 AM
Weather: Fine

Period 1 Peak Hour: 8:00 AM to 9:00 AM



TOTALS AND PEAKS

	Minjungbal Dve SB	Minjungbal Dve SB	Minjungbal Dve SB	Minjungbal Dve SB	Minjungbal Dve SB	Minjungbal Dve SB	Minjungbal Dve SB	Minjungbal Dve SB	Minjungbal Dve SB	Minjungbal Dve SB	Minjungbal Dve SB	Minjungbal Dve SB	Minjungbal Dve SB
	Through	Through	Through	Through	Right	Right	Right	Right	U-turn	U-turn	U-turn	U-turn	Cross 1
Time Starting	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Pedestrians
Period 1 Total	1048	59	1	0	279	16	0	1	1	0	0	0	19
Period 1 Peak Hr	661	35	1	0	178	6	0	0	1	0	0	0	7
07:00	65	5	0	0	14	3	0	0	0	0	0	0	0
07:15	70	5	0	0	24	1	0	1	0	0	0	0	3
07:30	114	6	0	0	28	3	0	0	0	0	0	0	6
07:45	138	8	0	0	35	3	0	0	0	0	0	0	3
08:00	177	10	0	0	49	2	0	0	0	0	0	0	0
08:15	137	9	0	0	37	1	0	0	0	0	0	0	3
08:30	174	10	1	0	49	3	0	0	1	0	0	0	3
08:45	173	6	0	0	43	0	0	0	0	0	0	0	1

	Minjungbal Dve N	Minjungbal Dve N	Minjungbal Dve N	Minjungbal Dve N	Minjungbal Dve N	Minjungbal Dve N	Minjungbal Dve N	Minjungbal Dve N	Minjungbal Dve N	Minjungbal Dve N	Minjungbal Dve N	Minjungbal Dve N	Minjungbal Dve N
	Left	Left	Left	Left	Through	Through	Through	Through	U-turn	U-turn	U-turn	U-turn	Cross 1
Time Starting	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Pedestrians
Period 1 Total	40	1	0	0	1657	54	2	4	0	0	0	0	0
Period 1 Peak Hr	18	0	0	0	1062	33	2	1	0	0	0	0	0
07:00	7	0	0	0	93	6	0	0	0	0	0	0	0
07:15	3	1	0	0	131	5	0	3	0	0	0	0	0
07:30	8	0	0	0	153	2	0	0	0	0	0	0	0
07:45	4	0	0	0	218	8	0	0	0	0	0	0	0
08:00	4	0	0	0	233	10	1	0	0	0	0	0	0
08:15	4	0	0	0	260	6	0	1	0	0	0	0	0
08:30	4	0	0	0	275	4	0	0	0	0	0	0	0
08:45	6	0	0	0	294	13	1	0	0	0	0	0	0

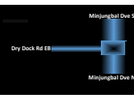
	Dry Dock Rd EB	Dry Dock Rd EB	Dry Dock Rd EB	Dry Dock Rd EB	Dry Dock Rd EB	Dry Dock Rd EB	Dry Dock Rd EB	Dry Dock Rd EB	Dry Dock Rd EB	Dry Dock Rd EB	Dry Dock Rd EB	Dry Dock Rd EB	Dry Dock Rd EB
	Left	Left	Left	Left	Right	Right	Right	Right	U-turn	U-turn	U-turn	U-turn	Cross 1
Time Starting	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Pedestrians
Period 1 Total	665	12	0	0	97	5	0	0	0	0	0	0	1
Period 1 Peak Hr	400	6	0	0	68	2	0	0	0	0	0	0	0
07:00	42	2	0	0	9	0	0	0	0	0	0	0	0
07:15	54	0	0	0	2	1	0	0	0	0	0	0	0
07:30	76	2	0	0	7	0	0	0	0	0	0	0	0
07:45	93	2	0	0	11	2	0	0	0	0	0	0	1
08:00	76	0	0	0	16	1	0	0	0	0	0	0	0
08:15	117	1	0	0	16	0	0	0	0	0	0	0	0
08:30	96	4	0	0	10	0	0	0	0	0	0	0	0
08:45	111	1	0	0	26	1	0	0	0	0	0	0	0

	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE
Period 1 Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Period 1 Peak Hr	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

	Hide this column	Hide this column	Hide this column	Hide this column	Hide this column	Hide this column	Hide this column	GRAND TOTAL	Minjungbal Dve SB		Minjungbal Dve N	Dry Dock Rd EB
									TOTAL		TOTAL	TOTAL
	AM Peak+Calc	PM Peak+Calc	AM Peak		Time	Flag-AM		TOTALS	All Classes		All Classes	All Classes
Period 1 Total								3942	1405		1758	779
Period 1 Peak Hr								2474	882		1116	476
	246		1468		07:00			**246**	87		106	53
	301		1801		07:15			**301**	101		143	57
	399		2089		07:30			**399**	151		163	85
	522		2321		07:45			**522**	184		230	108
	579		2474		08:00	1		**579**	238		248	93
	589		1895		08:15	2		**589**	184		271	134
	631		1306		08:30	3		**631**	238		283	110
	675		675		08:45	4		**675**	222		314	139

Site ID: 4
Location: Dry Dock Rd & Minjungbal Dve, Tweed Heads South
Date: 14-Sept-2016
Period 2 Time: 4:00 PM to 6:00 PM
Weather: Fine

Period 2 Peak Hour: 4:00 PM to 5:00 PM



TOTALS AND PEAKS

	Minjungbal Dve S	Minjungbal Dve S	Minjungbal Dve S	Minjungbal Dve S	Minjungbal Dve S	Minjungbal Dve S	Minjungbal Dve S	Minjungbal Dve S	Minjungbal Dve S	Minjungbal Dve S	Minjungbal Dve S	Minjungbal Dve S	Minjungbal Dve S	Minjungbal Dve N	Minjungbal Dve N	Minjungbal Dve N	Minjungbal Dve N	Minjungbal Dve N	Minjungbal Dve N	Minjungbal Dve N	Minjungbal Dve N	Minjungbal Dve N	Minjungbal Dve N	Minjungbal Dve N	Minjungbal Dve N	Minjungbal Dve N	Dry Dock Rd EB	Dry Dock Rd EB	Dry Dock Rd EB	Dry Dock Rd EB	Dry Dock Rd EB	Dry Dock Rd EB	Dry Dock Rd EB	Dry Dock Rd EB	Dry Dock Rd EB	Dry Dock Rd EB	Dry Dock Rd EB	Dry Dock Rd EB	Dry Dock Rd EB
	Through	Through	Through	Through	Right	Right	Right	Right	U-turn	U-turn	U-turn	U-turn	Cross 1	Left	Left	Left	Left	Through	Through	Through	Through	U-turn	U-turn	U-turn	U-turn	Cross 1	Left	Left	Left	Left	Right	Right	Right	Right	U-turn	U-turn	U-turn	U-turn	Cross 1
Time Starting	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Pedestrians	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Pedestrians	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Pedestrians
Period 2 Total	1562	33	0	1	546	7	0	0	0	0	0	0	6	71	2	0	0	1854	32	1	2	0	0	0	0	4	405	12	0	0	86	1	0	0	0	0	0	0	3
Period 2 Peak Hr	876	14	0	0	280	3	0	0	0	0	0	0	4	33	1	0	0	997	19	0	1	0	0	0	0	0	208	7	0	0	53	1	0	0	0	0	0	0	3
16:00	248	6	0	0	78	0	0	0	0	0	0	0	2	9	0	0	0	265	4	0	0	0	0	0	0	0	61	3	0	0	10	0	0	0	0	0	0	0	0
16:15	211	2	0	0	69	1	0	0	0	0	0	0	0	4	1	0	0	259	7	0	0	0	0	0	0	0	58	2	0	0	10	1	0	0	0	0	0	0	2
16:30	224	4	0	0	65	2	0	0	0	0	0	0	2	7	0	0	0	242	5	0	1	0	0	0	0	0	38	2	0	0	14	0	0	0	0	0	0	0	0
16:45	193	2	0	0	68	0	0	0	0	0	0	0	0	13	0	0	0	231	3	0	0	0	0	0	0	0	51	0	0	0	19	0	0	0	0	0	0	0	1
17:00	210	8	0	0	84	1	0	0	0	0	0	0	1	14	0	0	0	238	4	0	0	0	0	0	0	0	45	0	0	0	12	0	0	0	0	0	0	0	0
17:15	173	5	0	0	76	2	0	0	0	0	0	0	0	8	0	0	0	204	1	0	0	0	0	0	0	0	61	1	0	0	10	0	0	0	0	0	0	0	0
17:30	185	2	0	1	44	1	0	0	0	0	0	0	0	10	0	0	0	217	2	0	1	0	0	0	0	4	53	2	0	0	6	0	0	0	0	0	0	0	0
17:45	118	4	0	0	62	0	0	0	0	0	0	0	1	6	1	0	0	198	6	1	0	0	0	0	0	0	38	2	0	0	5	0	0	0	0	0	0	0	0

HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Hide this column	Hide this column	Hide this column	Hide this column	Hide this column	Hide this column	Hide this column	GRAND TOTAL	Minjungbal Dve S		Minjungbal Dve N	Dry Dock Rd EB
							4615	2149		1962	504
							2493	1173		1051	269
								TOTAL		TOTAL	TOTAL
AM Peak+Calc	PM Peak+Calc		PM Peak	Time		Flag-PM	TOTALS	All Classes		All Classes	All Classes
	684		2493	16:00		1	**684**	332		278	74
	625		2425	16:15		2	**625**	283		271	71
	604		2341	16:30		3	**604**	295		255	54
	580		2261	16:45		4	**580**	263		247	70
	616		2122	17:00			**616**	303		256	57
	541		1506	17:15			**541**	256		213	72
	524		965	17:30			**524**	233		230	61
	441		441	17:45			**441**	184		212	45

TDC
Traffic Data & Control

SURVEY INFORMATION

Site ID:	1		
Location:	Fingal Rd & Chinderah Bay Dve, Fingal Head		
Date:	14 / Sept / 2016		
Time Period 1:	07:00	to	09:00
Time Period 2:	16:00	to	18:00

	Primary Classes:	Secondary Classes:
1	Light Vehicles	Pedestrians
2	Light Trucks (3-5)	None
3	Heavy Trucks (6-12)	
4	Bicycles on Road	
5	None	

Weather Conditions 1: Fine **Weather Conditions 2:** Fine

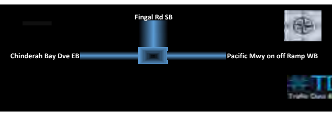
Intersection Legs:		Ch	
	North	✓	Fingal Rd SB
	East	✓	Pacific Mwy on off Ramp WB
	South		
	West	✓	Chinderah Bay Dve EB

Output time interval: 15 mins

MAP

Site ID: 1
Location: Fingal Rd & Chinderah Bay Dve, Fingal Head
Date: 14-Sept-2016
Period 1 Time: 7:00 AM to 9:00 AM
Weather: Fine

Period 1 Peak Hour: 8:00 AM to 9:00 AM



TOTALS AND PEAKS

	Fingal Rd SB	Fingal Rd SB	Fingal Rd SB	Fingal Rd SB	Fingal Rd SB	Fingal Rd SB	Fingal Rd SB	Fingal Rd SB	Fingal Rd SB	Fingal Rd SB	Fingal Rd SB	Fingal Rd SB	Fingal Rd SB
	Left	Left	Left	Left	Right	Right	Right	Right	U-turn	U-turn	U-turn	U-turn	Cross 1
Time Starting	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Pedestrians
Period 1 Total	34	4	0	0	171	15	0	4	1	0	0	3	0
Period 1 Peak Hr	18	3	0	0	114	8	0	0	0	0	0	0	0
07:00	2	0	0	0	16	1	0	0	0	0	0	0	0
07:15	4	0	0	0	13	2	0	0	0	0	0	0	0
07:30	6	1	0	0	16	1	0	0	1	0	0	3	0
07:45	4	0	0	0	12	3	0	4	0	0	0	0	0
08:00	3	0	0	0	33	2	0	0	0	0	0	0	0
08:15	5	1	0	0	24	3	0	0	0	0	0	0	0
08:30	5	1	0	0	26	2	0	0	0	0	0	0	0
08:45	5	1	0	0	31	1	0	0	0	0	0	0	0

	Pacific Mwy on off	Pacific Mwy on off	Pacific Mwy on off	Pacific Mwy on off	Pacific Mwy on off	Pacific Mwy on off	Pacific Mwy on off	Pacific Mwy on off	Pacific Mwy on off	Pacific Mwy on off	Pacific Mwy on off	Pacific Mwy on off	Pacific Mwy on off
	Through	Through	Through	Through	Right	Right	Right	Right	U-turn	U-turn	U-turn	U-turn	Cross 1
Time Starting	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Pedestrians
Period 1 Total	494	29	2	0	69	11	0	0	1	0	0	0	0
Period 1 Peak Hr	335	13	1	0	37	7	0	0	0	0	0	0	0
07:00	27	4	0	0	4	1	0	0	0	0	0	0	0
07:15	41	2	0	0	5	1	0	0	0	0	0	0	0
07:30	40	4	0	0	10	0	0	0	1	0	0	0	0
07:45	51	6	1	0	13	2	0	0	0	0	0	0	0
08:00	67	7	0	0	2	3	0	0	0	0	0	0	0
08:15	101	2	0	0	9	1	0	0	0	0	0	0	0
08:30	79	3	0	0	12	0	0	0	0	0	0	0	0
08:45	88	1	1	0	14	3	0	0	0	0	0	0	0

	Chinderah Bay Dve	Chinderah Bay Dve	Chinderah Bay Dve	Chinderah Bay Dve	Chinderah Bay Dve	Chinderah Bay Dve	Chinderah Bay Dve	Chinderah Bay Dve	Chinderah Bay Dve	Chinderah Bay Dve	Chinderah Bay Dve	Chinderah Bay Dve	Chinderah Bay Dve
	Left	Left	Left	Left	Through	Through	Through	Through	U-turn	U-turn	U-turn	U-turn	Cross 1
Time Starting	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Pedestrians
Period 1 Total	63	10	0	1	16	3	0	0	0	0	0	0	0
Period 1 Peak Hr	30	6	0	1	8	2	0	0	0	0	0	0	0
07:00	9	1	0	0	4	0	0	0	0	0	0	0	0
07:15	6	1	0	0	1	0	0	0	0	0	0	0	0
07:30	9	1	0	0	2	1	0	0	0	0	0	0	0
07:45	9	1	0	0	1	0	0	0	0	0	0	0	0
08:00	8	3	0	1	2	0	0	0	0	0	0	0	0
08:15	6	2	0	0	0	1	0	0	0	0	0	0	0
08:30	6	1	0	0	2	1	0	0	0	0	0	0	0
08:45	10	0	0	0	4	0	0	0	0	0	0	0	0

	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE
Period 1 Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Period 1 Peak Hr	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

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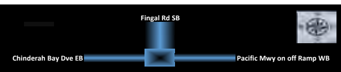
Time Starting	AM Peak+Calc	PM Peak+Calc	AM Peak		Time	Flag-AM	
07:00	69		348		07:00		
07:15	76		410		07:15		
07:30	96		489		07:30		
07:45	107		531		07:45		
08:00	131		583		08:00	1	
08:15	155		452		08:15	2	
08:30	138		297		08:30	3	
08:45	159		159		08:45	4	

	GRAND TOTAL	Fingal Rd SB	Pacific Mwy on off		Chinderah Bay Dve
		TOTAL	TOTAL		TOTAL
Time Starting	TOTALS	All Classes	All Classes		All Classes
Period 1 Total	931	232	606		93
Period 1 Peak Hr	583	143	393		47
07:00	**69**	19	36		14
07:15	**76**	19	49		8
07:30	**96**	28	55		13
07:45	**107**	23	73		11
08:00	**131**	38	79		14
08:15	**155**	33	113		9
08:30	**138**	34	94		10
08:45	**159**	38	107		14

Site ID: 1
Location: Fingal Rd & Chinderah Bay Dve, Fingal Head
Date: 14-Sept-2016
Period 2 Time: 4:00 PM to 6:00 PM
Weather: Fine
Period 2 Peak Hour: 4:00 PM to 5:00 PM



TOTALS AND PEAKS

	Fingal Rd SB	Fingal Rd SB	Fingal Rd SB	Fingal Rd SB	Fingal Rd SB	Fingal Rd SB	Fingal Rd SB	Fingal Rd SB	Fingal Rd SB	Fingal Rd SB	Fingal Rd SB	Fingal Rd SB	Fingal Rd SB
	Left	Left	Left	Left	Right	Right	Right	Right	U-turn	U-turn	U-turn	U-turn	Cross 1
Time Starting	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Pedestrians
Period 2 Total	19	2	0	0	149	9	0	1	0	0	0	0	0
Period 2 Peak Hr	10	2	0	0	71	6	0	0	0	0	0	0	0
16:00	3	1	0	0	17	3	0	0	0	0	0	0	0
16:15	2	0	0	0	21	1	0	0	0	0	0	0	0
16:30	2	1	0	0	18	1	0	0	0	0	0	0	0
16:45	3	0	0	0	15	1	0	0	0	0	0	0	0
17:00	3	0	0	0	23	2	0	1	0	0	0	0	0
17:15	2	0	0	0	19	0	0	0	0	0	0	0	0
17:30	3	0	0	0	21	1	0	0	0	0	0	0	0
17:45	1	0	0	0	15	0	0	0	0	0	0	0	0

	Pacific Mwy on of	Pacific Mwy on of	Pacific Mwy on of	Pacific Mwy on of	Pacific Mwy on of	Pacific Mwy on of	Pacific Mwy on of	Pacific Mwy on of	Pacific Mwy on of	Pacific Mwy on of	Pacific Mwy on of	Pacific Mwy on of	Pacific Mwy on of
	Through	Through	Through	Through	Right	Right	Right	Right	U-turn	U-turn	U-turn	U-turn	Cross 1
Time Starting	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Pedestrians
Period 2 Total	932	18	3	0	131	3	0	0	2	0	0	0	0
Period 2 Peak Hr	502	10	0	0	65	2	0	0	2	0	0	0	0
16:00	115	2	0	0	19	0	0	0	1	0	0	0	0
16:15	121	3	0	0	16	1	0	0	1	0	0	0	0
16:30	139	4	0	0	10	1	0	0	0	0	0	0	0
16:45	127	1	0	0	20	0	0	0	0	0	0	0	0
17:00	99	1	2	0	14	0	0	0	0	0	0	0	0
17:15	122	2	0	0	15	0	0	0	0	0	0	0	0
17:30	111	5	0	0	22	0	0	0	0	0	0	0	0
17:45	98	0	1	0	15	1	0	0	0	0	0	0	0

	Chinderah Bay Dv	Chinderah Bay Dv	Chinderah Bay Dv	Chinderah Bay Dv	Chinderah Bay Dv	Chinderah Bay Dv	Chinderah Bay Dv	Chinderah Bay Dv	Chinderah Bay Dv	Chinderah Bay Dv	Chinderah Bay Dv	Chinderah Bay Dv	Chinderah Bay Dv
	Left	Left	Left	Left	Through	Through	Through	Through	U-turn	U-turn	U-turn	U-turn	Cross 1
Time Starting	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Pedestrians
Period 2 Total	99	2	0	2	13	1	0	0	3	0	0	0	1
Period 2 Peak Hr	53	2	0	0	6	1	0	0	1	0	0	0	1
16:00	11	0	0	0	3	0	0	0	1	0	0	0	1
16:15	17	2	0	0	1	0	0	0	0	0	0	0	0
16:30	12	0	0	0	1	0	0	0	0	0	0	0	0
16:45	13	0	0	0	1	1	0	0	0	0	0	0	0
17:00	4	0	0	1	3	0	0	0	1	0	0	0	0
17:15	15	0	0	0	0	0	0	0	1	0	0	0	0
17:30	14	0	0	0	2	0	0	0	0	0	0	0	0
17:45	13	0	0	1	2	0	0	0	0	0	0	0	0

Hide this column	Hide this column	Hide this column	Hide this column	Hide this column	Hide this column	Hide this column
AM Peak+Calc	PM Peak+Calc		PM Peak	Time		Flag-PM
	176		733	16:00		1
	186		711	16:15		2
	189		701	16:30		3
	182		691	16:45		4
	154		656	17:00		
	176		502	17:15		
	179		326	17:30		
	147		147	17:45		

	GRAND TOTAL	Fingal Rd SB	Pacific Mwy on of		Chinderah Bay Dv
		TOTAL	TOTAL		TOTAL
	TOTALS	All Classes	All Classes		All Classes
Period 2 Total	1389	180	1089		120
Period 2 Peak Hr	733	89	581		63
16:00	**176**	24	137		15
16:15	**186**	24	142		20
16:30	**189**	22	154		13
16:45	**182**	19	148		15
17:00	**154**	29	116		9
17:15	**176**	21	139		16
17:30	**179**	25	138		16
17:45	**147**	16	115		16

TDC
Traffic Data & Control

SURVEY INFORMATION

Site ID:	17		
Location:	Florence St & Dixon St/Ballow St, Coolangatta		
Date:	15 / Sept / 2016		
Time Period 1:	07:00	to	09:00
Time Period 2:	16:00	to	18:00

	Primary Classes:	Secondary Classes:
1	Light Vehicles	Pedestrians
2	Light Trucks (3-5)	None
3	Heavy Trucks (6-12)	
4	Bicycles on Road	
5	None	

Weather Conditions 1: Fine **Weather Conditions 2:** Fine

Intersection Legs:		Ch	
	North	✓	Dixon St SB
	East	✓	Florence St WB
	South	✓	Charles St NB
	West	✓	Ballow St EB

Output time interval: 15 mins

MAP

Site: [redacted]
Location: Florence St & Below St Carparks
Date: 14/04/2025
Period 1 Time: 00:00:00 to 00:00:00
Vehicle: Car
Period 2 Peak Hour: 07:00:00 to 10:00:00

TOTALS AND PEAKS

	Time Starting	Below St SB	Below St NB	Florence St WB	Florence St EB	Below St SB	Below St NB	Florence St WB	Florence St EB	Below St SB	Below St NB	Florence St WB	Florence St EB
		Left	Left	Left	Left	Thru	Thru	Thru	Thru	Right	Right	Right	Right
Period 1 Total		0	0	0	0	0	0	0	0	0	0	0	0
Period 2 Total		233	113	0	0	0	0	0	0	0	0	0	0
Period 2 Peak Hour		233	113	0	0	0	0	0	0	0	0	0	0
	07:00	42	21	0	0	0	0	0	0	0	0	0	0
	07:15	59	28	0	0	0	0	0	0	0	0	0	0
	07:30	71	31	0	0	0	0	0	0	0	0	0	0
	07:45	61	33	0	0	0	0	0	0	0	0	0	0
	08:00:00	0	0	0	0	0	0	0	0	0	0	0	0
	08:15:00	0	0	0	0	0	0	0	0	0	0	0	0
	08:30:00	0	0	0	0	0	0	0	0	0	0	0	0
	08:45:00	0	0	0	0	0	0	0	0	0	0	0	0

Below St SB
Below St NB
Florence St WB
Florence St EB
Cars
Light Vehicles
Light Trucks (2)
Heavy Trucks (3-12)
Buses/Coaches
Articulated Trucks
Cyclists
Pedestrians
Hide This Column

Task ID: 1
Location: Florence Ped & Cross Rd Collaborative
Date: 15/08/2023
Period 1 Time: 4:00 PM to 7:00 PM
Weather: Dry
Period 2 Peak Hour: 4:00 PM to 5:00 PM

Florence St WB
Florence St EB
Charles St NB
Dorset St SB

TDC Traffic Data Collection

Period 1 Total: 2235 | Period 2 Peak Hour: 1214

Time Starting	Charles St NB												Dorset St SB												Florence St EB												Florence St WB											
	Left												Right												Left												Through											
	Pedestrians	Cross 1	Bicycles on Road	Light Vehicles	Light Trucks (3 Axle)	Heavy Trucks (6-12)	Bicycles on Road	Pedestrians	Cross 1	Light Vehicles	Light Trucks (3 Axle)	Heavy Trucks (6-12)	Bicycles on Road	Light Vehicles	Light Trucks (3 Axle)	Heavy Trucks (6-12)	Bicycles on Road	Pedestrians	Cross 1	Light Vehicles	Light Trucks (3 Axle)	Heavy Trucks (6-12)	Bicycles on Road	Light Vehicles	Light Trucks (3 Axle)	Heavy Trucks (6-12)	Bicycles on Road	Pedestrians	Cross 1	Light Vehicles	Light Trucks (3 Axle)	Heavy Trucks (6-12)	Bicycles on Road	Light Vehicles	Light Trucks (3 Axle)	Heavy Trucks (6-12)	Bicycles on Road	Pedestrians	Cross 1	Light Vehicles	Light Trucks (3 Axle)	Heavy Trucks (6-12)	Bicycles on Road
16:00	0	0	0	9	0	0	0	0	0	8	0	0	0	11	0	0	0	0	0	2	0	0	0	3	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:15	0	0	0	14	0	0	0	0	0	10	0	0	0	8	0	0	0	0	0	3	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:30	0	0	0	11	0	0	0	0	0	9	0	0	0	9	0	0	0	0	0	1	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:45	0	0	0	14	0	0	0	0	0	11	0	0	0	10	0	0	0	0	0	2	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:00	0	0	0	12	0	0	0	0	0	10	0	0	0	12	0	0	0	0	0	3	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:15	0	0	0	15	0	0	0	0	0	12	0	0	0	11	0	0	0	0	0	2	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:30	0	0	0	13	0	0	0	0	0	9	0	0	0	10	0	0	0	0	0	1	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:45	0	0	0	10	0	0	0	0	0	8	0	0	0	9	0	0	0	0	0	2	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	0	0	0	97	0	0	0	0	0	77	0	0	0	80	0	0	0	0	0	16	0	0	0	24	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	40																																													

	Charles St NB												Dorset St SB												Florence St EB												Florence St WB											
	Left												Right												Left												Through											
	Pedestrians	Cross 1	Bicycles on Road	Light Vehicles	Light Trucks (3 Axle)	Heavy Trucks (6-12)	Bicycles on Road	Pedestrians	Cross 1	Light Vehicles	Light Trucks (3 Axle)	Heavy Trucks (6-12)	Bicycles on Road	Light Vehicles	Light Trucks (3 Axle)	Heavy Trucks (6-12)	Bicycles on Road	Pedestrians	Cross 1	Light Vehicles	Light Trucks (3 Axle)	Heavy Trucks (6-12)	Bicycles on Road	Light Vehicles	Light Trucks (3 Axle)	Heavy Trucks (6-12)	Bicycles on Road	Pedestrians	Cross 1	Light Vehicles	Light Trucks (3 Axle)	Heavy Trucks (6-12)	Bicycles on Road	Light Vehicles	Light Trucks (3 Axle)	Heavy Trucks (6-12)	Bicycles on Road	Pedestrians	Cross 1	Light Vehicles	Light Trucks (3 Axle)	Heavy Trucks (6-12)	Bicycles on Road
16:00	0	0	0	9	0	0	0	0	0	8	0	0	0	11	0	0	0	0	0	2	0	0	0	3	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:15	0	0	0	14	0	0	0	0	0	10	0	0	0	8	0	0	0	0	0	3	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:30	0	0	0	11	0	0	0	0	0	9	0	0	0	9	0	0	0	0	0	1	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:45	0	0	0	14	0	0	0	0	0	11	0	0	0	10	0	0	0	0	0	2	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:00	0	0	0	12	0	0	0	0	0	10	0	0	0	12	0	0	0	0	0	3	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:15	0	0	0	15	0	0	0	0	0	12	0	0	0	11	0	0	0	0	0	2	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:30	0	0	0	13	0	0	0	0	0	9	0	0	0	10	0	0	0	0	0	1	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:45	0	0	0	10	0	0	0	0	0	8	0	0	0	9	0	0	0	0	0	2	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	0	0	0	97	0	0	0	0	0	77	0	0	0	80	0	0	0	0	0	16	0	0	0	24	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	40																																													

	Charles St NB												Dorset St SB												Florence St EB												Florence St WB											
	Left												Right												Left												Through											
	Pedestrians	Cross 1	Bicycles on Road	Light Vehicles	Light Trucks (3 Axle)	Heavy Trucks (6-12)	Bicycles on Road	Pedestrians	Cross 1	Light Vehicles	Light Trucks (3 Axle)	Heavy Trucks (6-12)	Bicycles on Road	Light Vehicles	Light Trucks (3 Axle)	Heavy Trucks (6-12)	Bicycles on Road	Pedestrians	Cross 1	Light Vehicles	Light Trucks (3 Axle)	Heavy Trucks (6-12)	Bicycles on Road	Light Vehicles	Light Trucks (3 Axle)	Heavy Trucks (6-12)	Bicycles on Road	Pedestrians	Cross 1	Light Vehicles	Light Trucks (3 Axle)	Heavy Trucks (6-12)	Bicycles on Road	Light Vehicles	Light Trucks (3 Axle)	Heavy Trucks (6-12)	Bicycles on Road	Pedestrians	Cross 1	Light Vehicles	Light Trucks (3 Axle)	Heavy Trucks (6-12)	Bicycles on Road
16:00	0	0	0	9	0	0	0	0	0	8	0	0	0	11	0	0	0	0	0	2	0	0	0	3	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:15	0	0	0	14	0	0	0	0	0	10	0	0	0	8	0	0	0	0	0	3	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:30	0	0	0	11	0	0	0	0	0	9	0	0	0	9	0	0	0	0	0	1	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:45	0	0	0	14	0	0	0	0	0	11	0	0	0	10	0	0	0	0	0	2	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:00	0	0	0	12	0	0	0	0	0	10	0	0	0	12	0	0	0	0	0	3	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:15	0	0	0	15	0	0	0	0	0	12	0	0	0	11	0	0	0	0	0	2	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:30	0	0	0	13	0	0	0	0	0	9	0	0	0	10	0	0	0	0	0	1	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:45	0	0	0	10	0	0	0	0	0	8	0	0	0	9	0	0	0	0	0	2	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	0	0	0	97	0	0	0	0	0	77	0	0	0	80	0	0	0	0	0	16	0	0	0	24	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	40																																													

	Charles St NB												Dorset St SB												Florence St EB												Florence St WB											
	Left												Right												Left												Through											
	Pedestrians	Cross 1	Bicycles on Road	Light Vehicles	Light Trucks (3 Axle)	Heavy Trucks (6-12)	Bicycles on Road	Pedestrians	Cross 1	Light Vehicles	Light Trucks (3 Axle)	Heavy Trucks (6-12)	Bicycles on Road	Light Vehicles	Light Trucks (3 Axle)	Heavy Trucks (6-12)	Bicycles on Road	Pedestrians	Cross 1	Light Vehicles	Light Trucks (3 Axle)	Heavy Trucks (6-12)	Bicycles on Road	Light Vehicles	Light Trucks (3 Axle)	Heavy Trucks (6-12)	Bicycles on Road	Pedestrians	Cross 1	Light Vehicles	Light Trucks (3 Axle)	Heavy Trucks (6-12)	Bicycles on Road	Light Vehicles	Light Trucks (3 Axle)	Heavy Trucks (6-12)	Bicycles on Road	Pedestrians	Cross 1	Light Vehicles	Light Trucks (3 Axle)	Heavy Trucks (6-12)	Bicycles on Road
16:00	0	0	0	9	0	0	0	0	0	8	0	0	0	11	0	0	0	0	0	2	0	0	0	3	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:15	0	0	0	14	0	0	0	0	0	10	0	0	0	8	0	0	0	0	0	3	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:30	0	0	0	11	0	0	0	0	0	9	0	0	0	9	0	0	0	0	0	1	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:45	0	0	0	14	0	0	0	0	0	11	0	0	0	10	0	0	0	0	0	2	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:00	0	0	0	12	0	0	0	0	0	10	0	0	0	12	0	0	0	0	0	3	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:15	0	0	0	15	0	0	0	0	0	12	0	0	0	11	0	0	0	0	0	2	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:30	0	0	0	13	0	0	0	0	0	9	0	0	0	10	0	0	0	0	0	1	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:45	0	0	0	10	0	0	0	0	0	8	0	0	0	9	0	0	0	0	0	2	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	0	0	0	97	0	0	0	0	0	77	0	0	0	80	0	0	0	0	0	16	0	0	0	24	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	40																																													

TDC
Traffic Data & Control

SURVEY INFORMATION

Site ID:	13		
Location:	Gold Coast Hwy & Pacific Mwy SB, Tweed Heads		
Date:	15 / Sept / 2016		
Time Period 1:	07:00	to	09:00
Time Period 2:	16:00	to	18:00

	Primary Classes:	Secondary Classes:
1	Light Vehicles	Pedestrians
2	Light Trucks (3-5)	None
3	Heavy Trucks (6-12)	
4	Bicycles on Road	
5	None	

Weather Conditions 1: Fine **Weather Conditions 2:** Fine

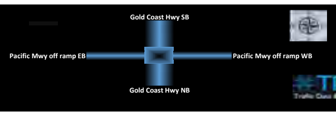
Intersection Legs:		
North	☑ Ch	Gold Coast Hwy SB
East	☑ Ch	Pacific Mwy off ramp WB
South	☑ Ch	Gold Coast Hwy NB
West	☑ Ch	Pacific Mwy off ramp EB

Output time interval: 15 mins

MAP

Site ID: 13
Location: Gold Coast Hwy & Pacific Mwy SB, Tweed Heads
Date: 15-Sept-2016
Period 1 Time: 7:00 AM to 9:00 AM
Weather: Fine

Period 1 Peak Hour: 7:45 AM to 8:45 AM



TOTALS AND PEAKS

	Gold Coast Hwy SB	Gold Coast Hwy SB	Gold Coast Hwy SB	Gold Coast Hwy SB	Gold Coast Hwy SB	Gold Coast Hwy SB	Gold Coast Hwy SB	Gold Coast Hwy SB	Gold Coast Hwy SB	Gold Coast Hwy SB	Gold Coast Hwy SB	Gold Coast Hwy SB	Gold Coast Hwy SB	Gold Coast Hwy SB	Gold Coast Hwy SB	Gold Coast Hwy SB	Gold Coast Hwy SB
	Left	Left	Left	Left	Through	Through	Through	Through	Right	Right	Right	Right	U-turn	U-turn	U-turn	U-turn	Cross 1
Time Starting	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Pedestrians
Period 1 Total	113	7	2	2	840	29	6	0	251	6	0	0	0	0	0	0	0
Period 1 Peak Hr	67	4	1	0	456	24	1	0	133	3	0	0	0	0	0	0	0
07:00	5	0	0	0	86	2	0	0	28	1	0	0	0	0	0	0	0
07:15	9	0	0	1	87	1	2	0	33	1	0	0	0	0	0	0	0
07:30	9	1	1	1	106	0	2	0	34	1	0	0	0	0	0	0	0
07:45	14	2	0	0	133	2	1	0	41	0	0	0	0	0	0	0	0
08:00	22	0	0	0	98	10	0	0	33	0	0	0	0	0	0	0	0
08:15	18	2	1	0	107	4	0	0	31	1	0	0	0	0	0	0	0
08:30	13	0	0	0	118	8	0	0	28	2	0	0	0	0	0	0	0
08:45	23	2	0	0	105	2	1	0	23	0	0	0	0	0	0	0	0

	Pacific Mwy off ra	Pacific Mwy off ra	Pacific Mwy off ra	Pacific Mwy off ra	Pacific Mwy off ra	Pacific Mwy off ra	Pacific Mwy off ra	Pacific Mwy off ra	Pacific Mwy off ra	Pacific Mwy off ra	Pacific Mwy off ra	Pacific Mwy off ra	Pacific Mwy off ra	Pacific Mwy off ra	Pacific Mwy off ra	Pacific Mwy off ra	Pacific Mwy off ra
	Left	Left	Left	Left	Through	Through	Through	Through	Right	Right	Right	Right	U-turn	U-turn	U-turn	U-turn	Cross 1
Time Starting	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Pedestrians
Period 1 Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Period 1 Peak Hr	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

	Gold Coast Hwy N	Gold Coast Hwy N	Gold Coast Hwy N	Gold Coast Hwy N	Gold Coast Hwy N	Gold Coast Hwy N	Gold Coast Hwy N	Gold Coast Hwy N	Gold Coast Hwy N	Gold Coast Hwy N	Gold Coast Hwy N	Gold Coast Hwy N	Gold Coast Hwy N	Gold Coast Hwy N	Gold Coast Hwy N	Gold Coast Hwy N	Gold Coast Hwy N
	Left	Left	Left	Left	Through	Through	Through	Through	Right	Right	Right	Right	U-turn	U-turn	U-turn	U-turn	Cross 1
Time Starting	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Pedestrians
Period 1 Total	0	0	0	0	990	24	8	0	14	3	2	0	1	1	0	0	0
Period 1 Peak Hr	0	0	0	0	547	17	1	0	9	2	0	0	0	1	0	0	0
07:00	0	0	0	0	52	2	1	0	1	1	1	0	0	0	0	0	0
07:15	0	0	0	0	106	3	2	0	2	0	0	0	1	0	0	0	0
07:30	0	0	0	0	134	0	2	0	1	0	1	0	0	0	0	0	0
07:45	0	0	0	0	165	6	0	0	3	0	0	0	0	0	0	0	0
08:00	0	0	0	0	103	4	0	0	0	0	0	0	0	1	0	0	0
08:15	0	0	0	0	140	4	0	0	4	2	0	0	0	0	0	0	0
08:30	0	0	0	0	139	3	1	0	2	0	0	0	0	0	0	0	0
08:45	0	0	0	0	151	2	2	0	1	0	0	0	0	0	0	0	0

	Pacific Mwy off ra	Pacific Mwy off ra	Pacific Mwy off ra	Pacific Mwy off ra	Pacific Mwy off ra	Pacific Mwy off ra	Pacific Mwy off ra	Pacific Mwy off ra	Pacific Mwy off ra	Pacific Mwy off ra	Pacific Mwy off ra	Pacific Mwy off ra	Pacific Mwy off ra	Pacific Mwy off ra	Pacific Mwy off ra	Pacific Mwy off ra	Pacific Mwy off ra
	Left	Left	Left	Left	Through	Through	Through	Through	Right	Right	Right	Right	U-turn	U-turn	U-turn	U-turn	Cross 1
Time Starting	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Pedestrians
Period 1 Total	766	14	2	0	781	35	2	0	3	1	0	0	0	0	0	0	0
Period 1 Peak Hr	429	10	1	0	416	12	1	0	2	1	0	0	0	0	0	0	0
07:00	66	3	0	0	72	3	0	0	0	0	0	0	0	0	0	0	0
07:15	69	0	0	0	101	5	0	0	0	0	0	0	0	0	0	0	0
07:30	101	0	0	0	96	5	1	0	0	0	0	0	0	0	0	0	0
07:45	128	1	0	0	113	1	0	0	0	0	0	0	0	0	0	0	0
08:00	97	6	1	0	88	3	0	0	0	0	0	0	0	0	0	0	0
08:15	94	2	0	0	111	5	0	0	0	1	0	0	0	0	0	0	0
08:30	110	1	0	0	104	3	1	0	2	0	0	0	0	0	0	0	0
08:45	101	1	1	0	96	10	0	0	1	0	0	0	0	0	0	0	0

	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE
Period 1 Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Period 1 Peak Hr	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

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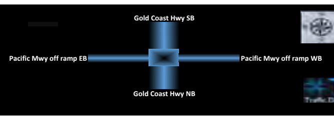
AM Peak+Calc	PM Peak+Calc	AM Peak		Time	Flag-AM	
324		1853		07:00		
423		1995		07:15		
496		2099		07:30		
610		2138		07:45	1	
466		2050		08:00	2	
527		1584		08:15	3	
535		1057		08:30	4	
522		522		08:45		

	GRAND TOTAL	Gold Coast Hwy SB	Pacific Mwy off ra	Gold Coast Hwy N	Pacific Mwy off ra
		TOTAL	TOTAL	TOTAL	TOTAL
	TOTALS	All Classes	All Classes	All Classes	All Classes
Period 1 Total	3903	1256	0	1043	1604
Period 1 Peak Hr	2138	689	0	577	872
07:00	**324**	122	0	58	144
07:15	**423**	134	0	114	175
07:30	**496**	155	0	138	203
07:45	**610**	193	0	174	243
08:00	**466**	163	0	108	195
08:15	**527**	164	0	150	213
08:30	**535**	169	0	145	221
08:45	**522**	156	0	156	210

Site ID: 13
Location: Gold Coast Hwy & Pacific Mwy SB, Tweed Heads
Date: 15-Sept-2016
Period 2 Time: 4:00 PM to 6:00 PM
Weather: Fine

Period 2 Peak Hour: 4:00 PM to 5:00 PM



TOTALS AND PEAKS

	Gold Coast Hwy S	Gold Coast Hwy S	Gold Coast Hwy S	Gold Coast Hwy S	Gold Coast Hwy S	Gold Coast Hwy S	Gold Coast Hwy S	Gold Coast Hwy S	Gold Coast Hwy S	Gold Coast Hwy S	Gold Coast Hwy S	Gold Coast Hwy S	Gold Coast Hwy S	Gold Coast Hwy S	Gold Coast Hwy S	Gold Coast Hwy S	Gold Coast Hwy S
	Left	Left	Left	Left	Through	Through	Through	Through	Right	Right	Right	Right	U-turn	U-turn	U-turn	U-turn	Cross 1
Time Starting	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Pedestrians
Period 2 Total	312	4	1	0	1315	21	8	0	388	4	2	0	0	0	0	0	0
Period 2 Peak Hr	174	3	0	0	683	8	6	0	199	1	2	0	0	0	0	0	0
16:00	46	1	0	0	199	4	1	0	59	1	0	0	0	0	0	0	0
16:15	41	0	0	0	155	1	2	0	34	0	2	0	0	0	0	0	0
16:30	52	2	0	0	184	1	3	0	59	0	0	0	0	0	0	0	0
16:45	35	0	0	0	145	2	0	0	47	0	0	0	0	0	0	0	0
17:00	33	0	0	0	164	2	0	0	50	1	0	0	0	0	0	0	0
17:15	35	0	0	0	212	7	1	0	62	2	0	0	0	0	0	0	0
17:30	27	0	1	0	130	3	1	0	40	0	0	0	0	0	0	0	0
17:45	43	1	0	0	126	1	0	0	37	0	0	0	0	0	0	0	0

	Pacific Mwy off ra	Pacific Mwy off ra	Pacific Mwy off ra	Pacific Mwy off ra	Pacific Mwy off ra	Pacific Mwy off ra	Pacific Mwy off ra	Pacific Mwy off ra	Pacific Mwy off ra	Pacific Mwy off ra	Pacific Mwy off ra	Pacific Mwy off ra	Pacific Mwy off ra	Pacific Mwy off ra	Pacific Mwy off ra	Pacific Mwy off ra	Pacific Mwy off ra
	Left	Left	Left	Left	Through	Through	Through	Through	Right	Right	Right	Right	U-turn	U-turn	U-turn	U-turn	Cross 1
Time Starting	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Pedestrians
Period 2 Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Period 2 Peak Hr	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

	Gold Coast Hwy N	Gold Coast Hwy N	Gold Coast Hwy N	Gold Coast Hwy N	Gold Coast Hwy N	Gold Coast Hwy N	Gold Coast Hwy N	Gold Coast Hwy N	Gold Coast Hwy N	Gold Coast Hwy N	Gold Coast Hwy N	Gold Coast Hwy N	Gold Coast Hwy N	Gold Coast Hwy N	Gold Coast Hwy N	Gold Coast Hwy N	Gold Coast Hwy N
	Left	Left	Left	Left	Through	Through	Through	Through	Right	Right	Right	Right	U-turn	U-turn	U-turn	U-turn	Cross 1
Time Starting	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Pedestrians
Period 2 Total	0	0	0	0	710	9	4	0	14	0	0	0	5	1	0	0	0
Period 2 Peak Hr	0	0	0	0	380	7	3	0	9	0	0	0	3	1	0	0	0
16:00	0	0	0	0	91	2	2	0	3	0	0	0	0	0	0	0	0
16:15	0	0	0	0	98	1	0	0	2	0	0	0	2	1	0	0	0
16:30	0	0	0	0	80	1	0	0	3	0	0	0	1	0	0	0	0
16:45	0	0	0	0	111	3	1	0	1	0	0	0	0	0	0	0	0
17:00	0	0	0	0	85	1	1	0	1	0	0	0	1	0	0	0	0
17:15	0	0	0	0	91	0	0	0	1	0	0	0	0	0	0	0	0
17:30	0	0	0	0	80	0	0	0	1	0	0	0	0	0	0	0	0
17:45	0	0	0	0	74	1	0	0	2	0	0	0	1	0	0	0	0

	Pacific Mwy off ra	Pacific Mwy off ra	Pacific Mwy off ra	Pacific Mwy off ra	Pacific Mwy off ra	Pacific Mwy off ra	Pacific Mwy off ra	Pacific Mwy off ra	Pacific Mwy off ra	Pacific Mwy off ra	Pacific Mwy off ra	Pacific Mwy off ra	Pacific Mwy off ra	Pacific Mwy off ra	Pacific Mwy off ra	Pacific Mwy off ra	Pacific Mwy off ra
	Left	Left	Left	Left	Through	Through	Through	Through	Right	Right	Right	Right	U-turn	U-turn	U-turn	U-turn	Cross 1
Time Starting	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Pedestrians
Period 2 Total	516	2	0	0	905	26	1	0	2	0	0	0	0	0	0	0	0
Period 2 Peak Hr	268	0	0	0	452	16	0	0	1	0	0	0	0	0	0	0	0
16:00	67	0	0	0	109	3	0	0	1	0	0	0	0	0	0	0	0
16:15	75	0	0	0	127	2	0	0	0	0	0	0	0	0	0	0	0
16:30	68	0	0	0	111	5	0	0	0	0	0	0	0	0	0	0	0
16:45	58	0	0	0	105	6	0	0	0	0	0	0	0	0	0	0	0
17:00	72	0	0	0	117	3	0	0	0	0	0	0	0	0	0	0	0
17:15	41	1	0	0	107	3	0	0	0	0	0	0	0	0	0	0	0
17:30	56	1	0	0	114	3	0	0	0	0	0	0	0	0	0	0	0
17:45	79	0	0	0	115	1	1	0	1	0	0	0	0	0	0	0	0

	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE
Period 2 Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Period 2 Peak Hr	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

	Hide this column	Hide this column	Hide this column	Hide this column	Hide this column	Hide this column	Hide this column
Time Starting	AM Peak+Calc	PM Peak+Calc		PM Peak	Time		Flag-PM
16:00		589		2216	16:00		1
16:15		543		2158	16:15		2
16:30		570		2178	16:30		3
16:45		514		2065	16:45		4
17:00		531		2034	17:00		
17:15		563		1503	17:15		
17:30		457		940	17:30		
17:45		483		483	17:45		

	GRAND TOTAL	Gold Coast Hwy S	Pacific Mwy off ra	Gold Coast Hwy N	Pacific Mwy off ra
		TOTAL	TOTAL	TOTAL	TOTAL
Time Starting	TOTALS	All Classes	All Classes	All Classes	All Classes
Period 2 Total	4250	2055	0	743	1452
Period 2 Peak Hr	2216	1076	0	403	737
16:00	**589**	311	0	98	180
16:15	**543**	235	0	104	204
16:30	**570**	301	0	85	184
16:45	**514**	229	0	116	169
17:00	**531**	250	0	89	192
17:15	**563**	319	0	92	152
17:30	**457**	202	0	81	174
17:45	**483**	208	0	78	197

TDC
Traffic Data & Control

SURVEY INFORMATION

Site ID:	6			
Location:	Kennedy Dve & Ducat St, Tweed Heads			
Date:	15	/ Sept	/ 2016	
Time Period 1:	07:00	to	09:00	
Time Period 2:	16:00	to	18:00	

	Primary Classes:	Secondary Classes:
1	Light Vehicles	Pedestrians
2	Light Trucks (3-5)	None
3	Heavy Trucks (6-12)	
4	Bicycles on Road	
5	None	

Weather Conditions 1: Fine **Weather Conditions 2:** Fine

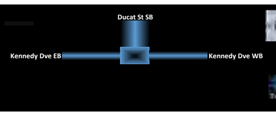
Intersection Legs:		Ch	
	North	✓	Ducat St SB
	East	✓	Kennedy Dve WB
	South		
	West	✓	Kennedy Dve EB

Output time interval: 15 mins

MAP

Site ID: 6
Location: Kennedy Dve & Ducat St, Tweed Heads
Date: 15-Sept-2016
Period 1 Time: 7:00 AM to 9:00 AM
Weather: Fine

Period 1 Peak Hour: 8:00 AM to 9:00 AM



TOTALS AND PEAKS

	Ducat St SB	Ducat St SB	Ducat St SB	Ducat St SB	Ducat St SB	Ducat St SB	Ducat St SB	Ducat St SB	Ducat St SB	Ducat St SB	Ducat St SB	Ducat St SB	Ducat St SB
	Left	Left	Left	Left	Right	Right	Right	Right	U-turn	U-turn	U-turn	U-turn	Cross 1
Time Starting	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Pedestrians
Period 1 Total	139	19	0	0	615	50	1	1	0	0	0	0	4
Period 1 Peak Hr	96	8	0	0	348	13	0	1	0	0	0	0	4
07:00	2	5	0	0	54	14	1	0	0	0	0	0	0
07:15	7	3	0	0	63	10	0	0	0	0	0	0	0
07:30	15	3	0	0	66	7	0	0	0	0	0	0	0
07:45	19	0	0	0	84	6	0	0	0	0	0	0	0
08:00	19	2	0	0	95	6	0	1	0	0	0	0	1
08:15	28	1	0	0	86	2	0	0	0	0	0	0	2
08:30	20	4	0	0	82	1	0	0	0	0	0	0	0
08:45	29	1	0	0	85	4	0	0	0	0	0	0	1

	Kennedy Dve WB	Kennedy Dve WB	Kennedy Dve WB	Kennedy Dve WB	Kennedy Dve WB	Kennedy Dve WB	Kennedy Dve WB	Kennedy Dve WB	Kennedy Dve WB	Kennedy Dve WB	Kennedy Dve WB	Kennedy Dve WB	Kennedy Dve WB
	Through	Through	Through	Through	Right	Right	Right	Right	U-turn	U-turn	U-turn	U-turn	Cross 1
Time Starting	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Pedestrians
Period 1 Total	985	45	6	1	103	14	1	2	0	0	0	0	1
Period 1 Peak Hr	552	24	3	0	58	9	1	0	0	0	0	0	1
07:00	102	7	1	1	10	1	0	0	0	0	0	0	0
07:15	94	6	0	0	8	1	0	0	0	0	0	0	0
07:30	121	2	0	0	12	2	0	2	0	0	0	0	0
07:45	116	6	2	0	15	1	0	0	0	0	0	0	0
08:00	140	8	0	0	11	2	1	0	0	0	0	0	0
08:15	134	4	1	0	14	2	0	0	0	0	0	0	1
08:30	126	10	1	0	18	4	0	0	0	0	0	0	0
08:45	152	2	1	0	15	1	0	0	0	0	0	0	0

	Kennedy Dve EB	Kennedy Dve EB	Kennedy Dve EB	Kennedy Dve EB	Kennedy Dve EB	Kennedy Dve EB	Kennedy Dve EB	Kennedy Dve EB	Kennedy Dve EB	Kennedy Dve EB	Kennedy Dve EB	Kennedy Dve EB	Kennedy Dve EB
	Left	Left	Left	Left	Through	Through	Through	Through	U-turn	U-turn	U-turn	U-turn	Cross 1
Time Starting	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Pedestrians
Period 1 Total	727	46	1	1	1354	49	3	0	0	0	0	0	0
Period 1 Peak Hr	464	34	0	1	778	26	0	0	0	0	0	0	0
07:00	58	2	0	0	99	6	0	0	0	0	0	0	0
07:15	55	1	0	0	132	6	0	0	0	0	0	0	0
07:30	68	5	1	0	151	5	3	0	0	0	0	0	0
07:45	82	4	0	0	194	6	0	0	0	0	0	0	0
08:00	91	5	0	0	172	5	0	0	0	0	0	0	0
08:15	114	2	0	1	208	7	0	0	0	0	0	0	0
08:30	134	8	0	0	190	5	0	0	0	0	0	0	0
08:45	125	19	0	0	208	9	0	0	0	0	0	0	0

	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE
Period 1 Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Period 1 Peak Hr	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

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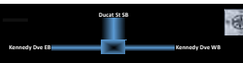
AM Peak+Calc	PM Peak+Calc	AM Peak		Time	Flag-AM	
363		1747		07:00		
386		1942		07:15		
463		2160		07:30		
535		2300		07:45		
558		2416		08:00	1	
604		1858		08:15	2	
603		1254		08:30	3	
651		651		08:45	4	

	GRAND TOTAL	Ducat St SB	Kennedy Dve WB		Kennedy Dve EB
		TOTAL	TOTAL		TOTAL
	TOTALS	All Classes	All Classes		All Classes
Period 1 Total	4163	825	1157		2181
Period 1 Peak Hr	2416	466	647		1303
07:00	**363**	76	122		165
07:15	**386**	83	109		194
07:30	**463**	91	139		233
07:45	**535**	109	140		286
08:00	**558**	123	162		273
08:15	**604**	117	155		332
08:30	**603**	107	159		337
08:45	**651**	119	171		361

Site ID: 6
Location: Kennedy Dve & Ducat St, Tweed Heads
Date: 15-Sept-2016
Period 2 Time: 4:00 PM to 6:00 PM
Weather: Fine

Period 2 Peak Hour: 4:00 PM to 5:00 PM



TOTALS AND PEAKS

	Ducat St SB	Ducat St SB	Ducat St SB	Ducat St SB	Ducat St SB	Ducat St SB	Ducat St SB	Ducat St SB	Ducat St SB	Ducat St SB	Ducat St SB	Ducat St SB	Ducat St SB	Kennedy Dve WB	Kennedy Dve WB	Kennedy Dve WB	Kennedy Dve WB	Kennedy Dve WB	Kennedy Dve WB	Kennedy Dve WB	Kennedy Dve WB	Kennedy Dve WB	Kennedy Dve WB	Kennedy Dve WB	Kennedy Dve WB	Kennedy Dve WB	Kennedy Dve EB	Kennedy Dve EB	Kennedy Dve EB	Kennedy Dve EB	Kennedy Dve EB	Kennedy Dve EB	Kennedy Dve EB	Kennedy Dve EB	Kennedy Dve EB	Kennedy Dve EB	Kennedy Dve EB	Kennedy Dve EB	Kennedy Dve EB
	Left	Left	Left	Left	Right	Right	Right	Right	U-turn	U-turn	U-turn	U-turn	Cross 1	Through	Through	Through	Through	Right	Right	Right	Right	U-turn	U-turn	U-turn	U-turn	Cross 1	Left	Left	Left	Left	Through	Through	Through	Through	U-turn	U-turn	U-turn	U-turn	Cross 1
Time Starting	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Pedestrians	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Pedestrians	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Pedestrians
Period 2 Total	139	7	0	0	614	12	0	0	0	0	0	0	0	1865	32	1	0	152	11	0	0	0	0	0	0	1	621	56	0	0	950	18	1	0	0	0	0	0	0
Period 2 Peak Hr	67	5	0	0	295	8	0	0	0	0	0	0	0	1049	19	1	0	78	9	0	0	0	0	0	0	1	328	43	0	0	497	11	0	0	0	0	0	0	0
16:00	17	2	0	0	53	3	0	0	0	0	0	0	0	275	7	0	0	16	1	0	0	0	0	0	0	0	83	8	0	0	134	3	0	0	0	0	0	0	0
16:15	21	0	0	0	85	1	0	0	0	0	0	0	0	284	4	1	0	24	2	0	0	0	0	0	0	1	88	12	0	0	142	4	0	0	0	0	0	0	0
16:30	18	3	0	0	84	4	0	0	0	0	0	0	0	238	4	0	0	18	4	0	0	0	0	0	0	0	81	11	0	0	111	2	0	0	0	0	0	0	0
16:45	11	0	0	0	73	0	0	0	0	0	0	0	0	252	4	0	0	20	2	0	0	0	0	0	0	0	76	12	0	0	110	2	0	0	0	0	0	0	0
17:00	16	1	0	0	90	2	0	0	0	0	0	0	0	236	4	0	0	17	0	0	0	0	0	0	0	0	79	7	0	0	119	3	0	0	0	0	0	0	0
17:15	22	1	0	0	92	0	0	0	0	0	0	0	0	226	4	0	0	23	0	0	0	0	0	0	0	0	74	3	0	0	102	1	0	0	0	0	0	0	0
17:30	18	0	0	0	65	1	0	0	0	0	0	0	0	194	3	0	0	16	2	0	0	0	0	0	0	0	69	0	0	0	121	3	0	0	0	0	0	0	0
17:45	16	0	0	0	72	1	0	0	0	0	0	0	0	160	2	0	0	18	0	0	0	0	0	0	0	0	71	3	0	0	111	0	1	0	0	0	0	0	0

	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE
Period 2 Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Period 2 Peak Hr	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

	Hide this column	Hide this column	Hide this column	Hide this column	Hide this column	Hide this column	Hide this column	GRAND TOTAL	Ducat St SB	Kennedy Dve WB		Kennedy Dve EB
									TOTAL	TOTAL		TOTAL
Time Starting	AM Peak+Calc	PM Peak+Calc		PM Peak	Time		Flag-PM	TOTALS	All Classes	All Classes		All Classes
Period 2 Total								4479	772	2061		1646
Period 2 Peak Hr								2410	375	1156		879
16:00		602		2410	16:00		1	**602**	75	299		228
16:15		668		2382	16:15		2	**668**	107	315		246
16:30		578		2262	16:30		3	**578**	109	264		205
16:45		562		2176	16:45		4	**562**	84	278		200
17:00		574		2069	17:00			**574**	109	257		208
17:15		548		1495	17:15			**548**	115	253		180
17:30		492		947	17:30			**492**	84	215		193
17:45		455		455	17:45			**455**	89	180		186

TDC
Traffic Data & Control

SURVEY INFORMATION

Site ID:	7		
Location:	Kennedy Dve & Gray St, Tweed Heads West		
Date:	15 / Sept / 2016		
Time Period 1:	07:00	to	09:00
Time Period 2:	16:00	to	18:00

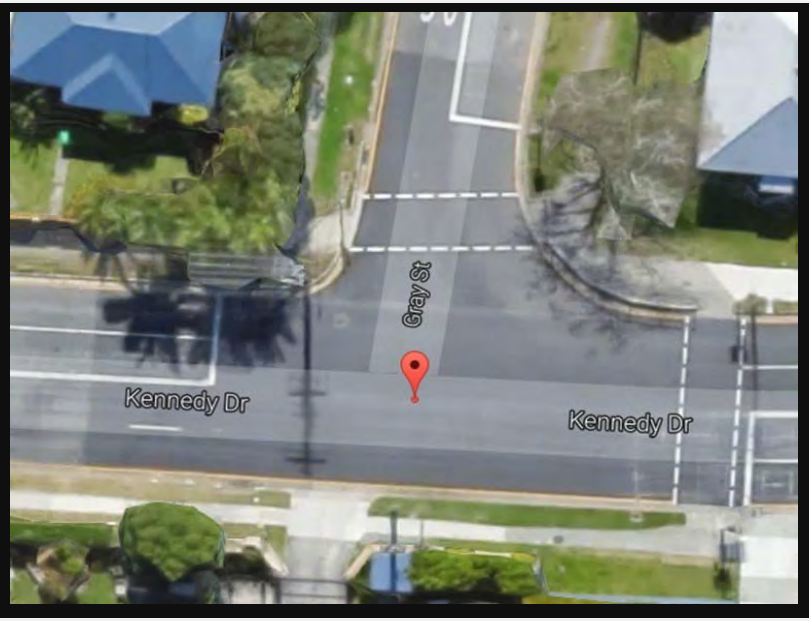
	Primary Classes:	Secondary Classes:
1	Light Vehicles	Pedestrians
2	Light Trucks (3-5)	None
3	Heavy Trucks (6-12)	
4	Bicycles on Road	
5	None	

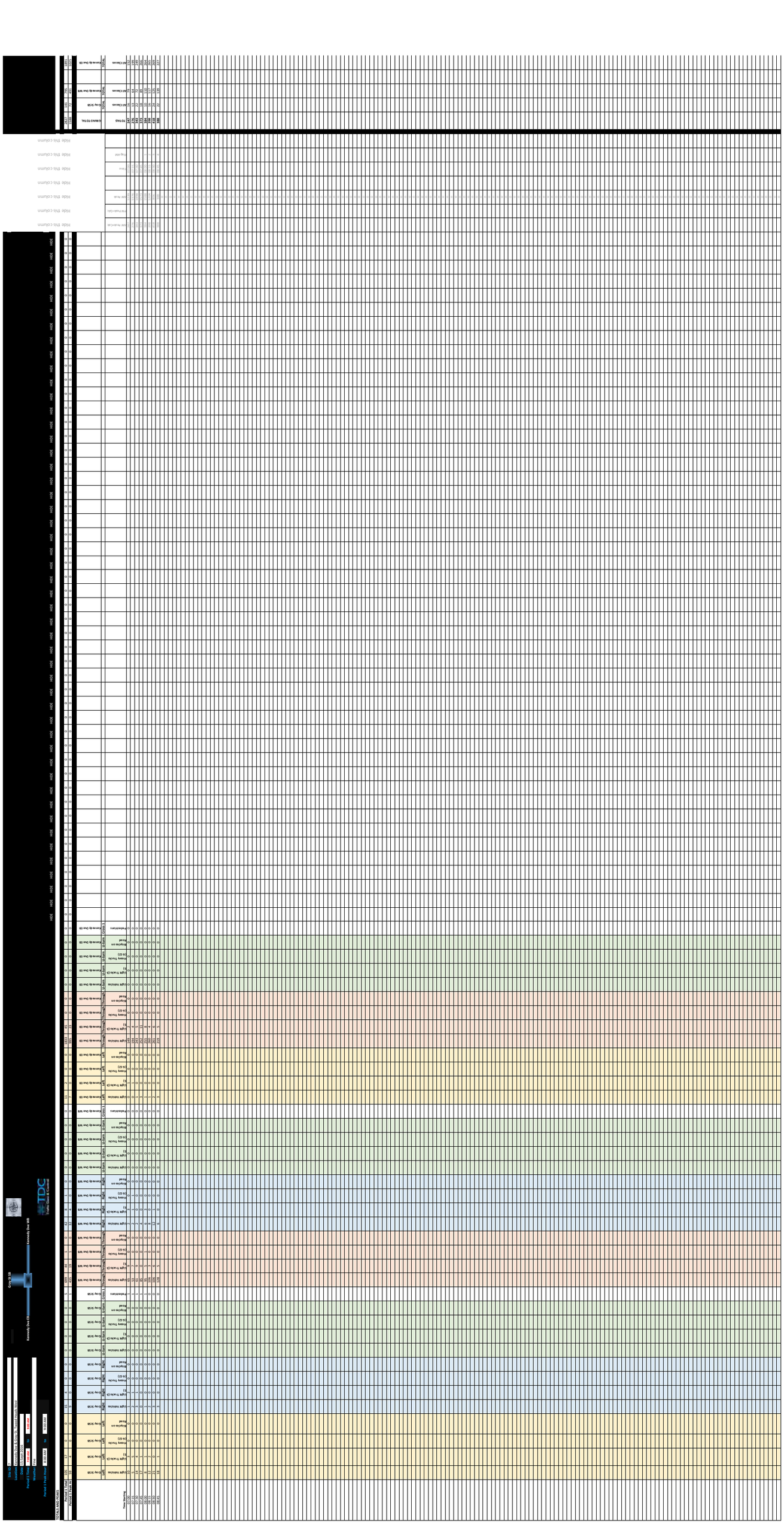
Weather Conditions 1: Fine **Weather Conditions 2:** Fine

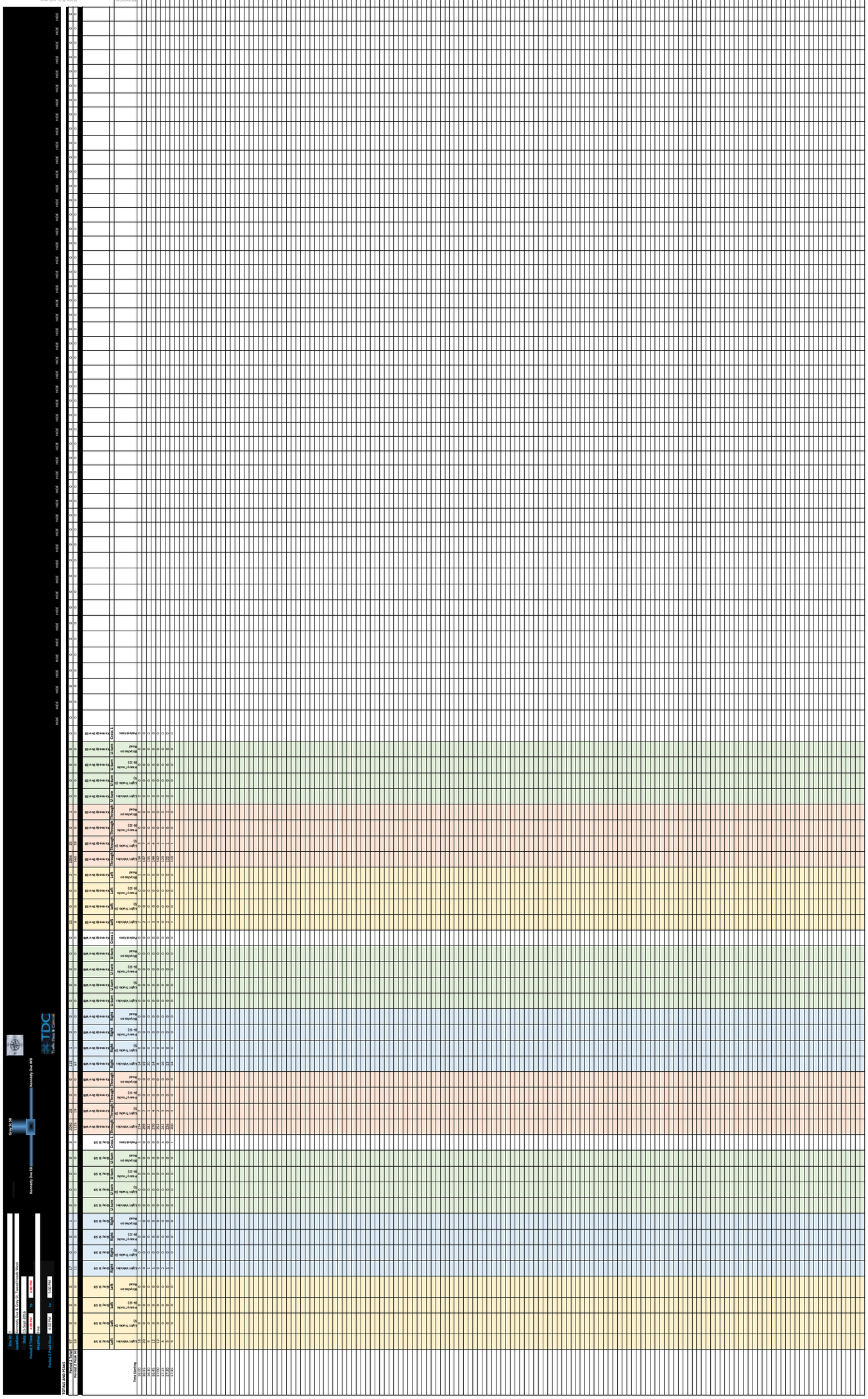
Intersection Legs:		Ch	
	North	✓	Gray St SB
	East	✓	Kennedy Dve WB
	South		
	West	✓	Kennedy Dve EB

Output time interval: 15 mins

MAP







TDC
Traffic Data & Control

SURVEY INFORMATION

Site ID:	8		
Location:	Kennedy Dve & Limosa St, Tweed Heads West		
Date:	15 / Sept / 2016		
Time Period 1:	07:00	to	09:00
Time Period 2:	16:00	to	18:00

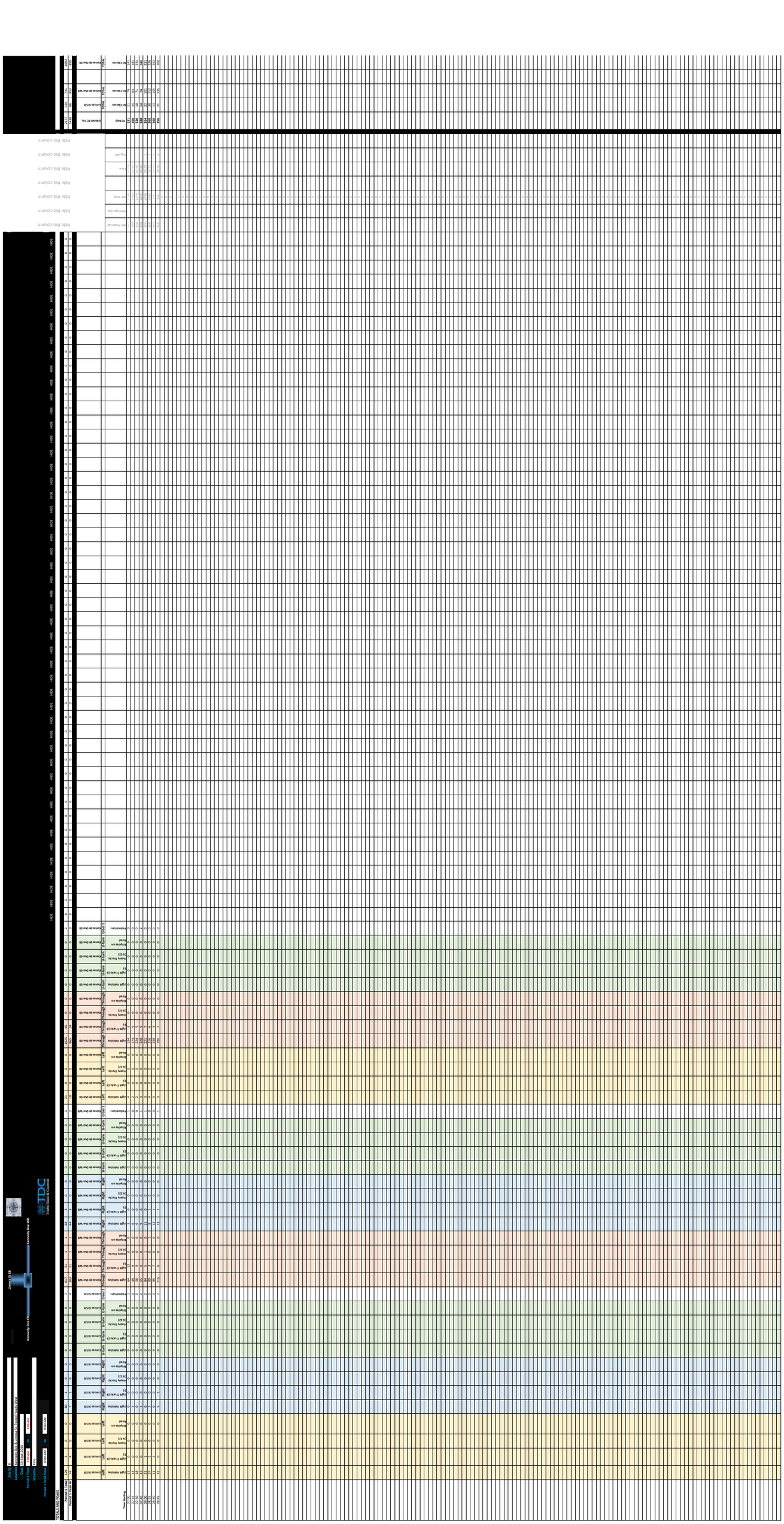
	Primary Classes:	Secondary Classes:
1	Light Vehicles	Pedestrians
2	Light Trucks (3-5)	None
3	Heavy Trucks (6-12)	
4	Bicycles on Road	
5	None	

Weather Conditions 1: Fine **Weather Conditions 2:** Fine

Intersection Legs:		Ch	
	North	✓	Limosa St SB
	East	✓	Kennedy Dve WB
	South		
	West	✓	Kennedy Dve EB

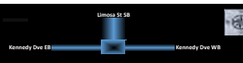
Output time interval: 15 mins

MAP



Site ID: 8
Location: Kennedy Dve & Limosa St, Tweed Heads West
Date: 15-Sept-2016
Period 2 Time: 4:00 PM to 6:00 PM
Weather: Fine

Period 2 Peak Hour: 4:00 PM to 5:00 PM



TOTALS AND PEAKS

Period 2 Total	82	1	0	0	29	0	0	0	0	0	0	0	3	1820	24	1	0	120	4	0	0	1	0	0	0	2	22	0	0	0	954	24	0	0	0	0	0	0	2
Period 2 Peak Hr	38	1	0	0	13	0	0	0	0	0	0	0	2	979	17	1	0	71	3	0	0	0	0	0	0	1	13	0	0	0	510	20	0	0	0	0	0	0	2
	Limosa St SB	Limosa St SB	Limosa St SB	Limosa St SB	Limosa St SB	Limosa St SB	Limosa St SB	Limosa St SB	Limosa St SB	Limosa St SB	Limosa St SB	Limosa St SB	Limosa St SB	Kennedy Dve WB	Kennedy Dve WB	Kennedy Dve WB	Kennedy Dve WB	Kennedy Dve WB	Kennedy Dve WB	Kennedy Dve WB	Kennedy Dve WB	Kennedy Dve WB	Kennedy Dve WB	Kennedy Dve WB	Kennedy Dve WB	Kennedy Dve WB	Kennedy Dve EB	Kennedy Dve EB	Kennedy Dve EB	Kennedy Dve EB	Kennedy Dve EB	Kennedy Dve EB	Kennedy Dve EB	Kennedy Dve EB	Kennedy Dve EB	Kennedy Dve EB	Kennedy Dve EB	Kennedy Dve EB	Kennedy Dve EB
	Left	**Left**	**Left**	**Left**	**Right**	**Right**	**Right**	**Right**	**U-turn**	**U-turn**	**U-turn**	**U-turn**	**Cross 1**	**Through**	**Through**	**Through**	**Through**	**Right**	**Right**	**Right**	**Right**	**U-turn**	**U-turn**	**U-turn**	**U-turn**	**Cross 1**	**Left**	**Left**	**Left**	**Left**	**Through**	**Through**	**Through**	**Through**	**U-turn**	**U-turn**	**U-turn**	**U-turn**	**Cross 1**
Time Starting	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Pedestrians	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Pedestrians	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Pedestrians
16:00	6	0	0	0	2	0	0	0	0	0	0	0	1	263	7	0	0	15	0	0	0	0	0	0	0	0	3	0	0	0	129	3	0	0	0	0	0	0	2
16:15	9	0	0	0	5	0	0	0	0	0	0	0	1	257	7	0	0	17	3	0	0	0	0	0	0	1	3	0	0	0	135	7	0	0	0	0	0	0	0
16:30	14	1	0	0	6	0	0	0	0	0	0	0	0	230	0	1	0	25	0	0	0	0	0	0	0	0	6	0	0	0	117	4	0	0	0	0	0	0	0
16:45	9	0	0	0	0	0	0	0	0	0	0	0	0	229	3	0	0	14	0	0	0	0	0	0	0	0	1	0	0	0	129	6	0	0	0	0	0	0	0
17:00	16	0	0	0	3	0	0	0	0	0	0	0	0	225	2	0	0	16	0	0	0	0	0	0	0	0	1	0	0	0	132	2	0	0	0	0	0	0	0
17:15	11	0	0	0	4	0	0	0	0	0	0	0	1	229	1	0	0	17	1	0	0	0	0	0	0	0	2	0	0	0	99	0	0	0	0	0	0	0	0
17:30	7	0	0	0	6	0	0	0	0	0	0	0	0	200	3	0	0	10	0	0	0	1	0	0	0	0	2	0	0	0	113	1	0	0	0	0	0	0	0
17:45	10	0	0	0	3	0	0	0	0	0	0	0	0	187	1	0	0	6	0	0	0	0	0	0	0	1	4	0	0	0	100	1	0	0	0	0	0	0	0

	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE
Period 2 Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Period 2 Peak Hr	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

	Hide this column	Hide this column	Hide this column	Hide this column	Hide this column	Hide this column	Hide this column					
Period 2 Total								3082	112	1970		1000
Period 2 Peak Hr								1666	52	1071		543
								GRAND TOTAL	**Limosa St SB**	**Kennedy Dve WB**		**Kennedy Dve EB**
									TOTAL	**TOTAL**		**TOTAL**
Time Starting	AM Peak+Calc	PM Peak+Calc		PM Peak	Time		Flag-PM	**TOTALS**	**All Classes**	**All Classes**		**All Classes**
16:00		428		1666	16:00		1	**428**	8	285		135
16:15		443		1635	16:15		2	**443**	14	284		145
16:30		404		1556	16:30		3	**404**	21	256		127
16:45		391		1495	16:45		4	**391**	9	246		136
17:00		397		1416	17:00			**397**	19	243		135
17:15		364		1019	17:15			**364**	15	248		101
17:30		343		655	17:30			**343**	13	214		116
17:45		312		312	17:45			**312**	13	194		105

TDC
Traffic Data & Control

SURVEY INFORMATION

Site ID:	5
Location:	Kennedy Dve & Norman St, Tweed Heads
Date:	15 / Sept / 2016
Time Period 1:	07:00 to 09:00
Time Period 2:	16:00 to 18:00

	Primary Classes:	Secondary Classes:
1	Light Vehicles	Pedestrians
2	Light Trucks (3-5)	None
3	Heavy Trucks (6-12)	
4	Bicycles on Road	
5	None	

Weather Conditions 1: Fine **Weather Conditions 2:** Fine

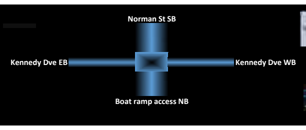
Intersection Legs:		
North	☑ Ch	Norman St SB
East	☑ Ch	Kennedy Dve WB
South	☑ Ch	Boat ramp access NB
West	☑ Ch	Kennedy Dve EB

Output time interval: 15 mins

MAP

Site ID: 5
Location: Kennedy Dve & Norman St, Tweed Heads
Date: 15-Sept-2016
Period 1 Time: 7:00 AM to 9:00 AM
Weather: Fine

Period 1 Peak Hour: 8:00 AM to 9:00 AM



TOTALS AND PEAKS

	Norman St SB Left Light Vehicles	Norman St SB Left Light Trucks (3-5)	Norman St SB Left Heavy Trucks (6-12)	Norman St SB Left Bicycles on Road	Norman St SB Through Light Vehicles	Norman St SB Through Light Trucks (3-5)	Norman St SB Through Heavy Trucks (6-12)	Norman St SB Through Bicycles on Road	Norman St SB Right Light Vehicles	Norman St SB Right Light Trucks (3-5)	Norman St SB Right Heavy Trucks (6-12)	Norman St SB Right Bicycles on Road	Norman St SB U-turn Light Vehicles	Norman St SB U-turn Light Trucks (3-5)	Norman St SB U-turn Heavy Trucks (6-12)	Norman St SB U-turn Bicycles on Road	Norman St SB Cross 1 Pedestrians
Period 1 Total	114	11	0	0	1	0	0	0	125	4	0	1	0	0	0	0	26
Period 1 Peak Hr	84	8	0	0	0	0	0	0	71	2	0	0	0	0	0	0	14
Time Starting																	
07:00	3	0	0	0	0	0	0	0	11	0	0	0	0	0	0	0	1
07:15	3	0	0	0	0	0	0	0	17	1	0	0	0	0	0	0	3
07:30	9	1	0	0	1	0	0	0	14	1	0	0	0	0	0	0	3
07:45	15	2	0	0	0	0	0	0	12	0	0	1	0	0	0	0	5
08:00	20	4	0	0	0	0	0	0	19	0	0	0	0	0	0	0	3
08:15	22	3	0	0	0	0	0	0	15	1	0	0	0	0	0	0	3
08:30	26	1	0	0	0	0	0	0	16	1	0	0	0	0	0	0	4
08:45	16	0	0	0	0	0	0	0	21	0	0	0	0	0	0	0	4

	Kennedy Dve WB Left Light Vehicles	Kennedy Dve WB Left Light Trucks (3-5)	Kennedy Dve WB Left Heavy Trucks (6-12)	Kennedy Dve WB Left Bicycles on Road	Kennedy Dve WB Through Light Vehicles	Kennedy Dve WB Through Light Trucks (3-5)	Kennedy Dve WB Through Heavy Trucks (6-12)	Kennedy Dve WB Through Bicycles on Road	Kennedy Dve WB Right Light Vehicles	Kennedy Dve WB Right Light Trucks (3-5)	Kennedy Dve WB Right Heavy Trucks (6-12)	Kennedy Dve WB Right Bicycles on Road	Kennedy Dve WB U-turn Light Vehicles	Kennedy Dve WB U-turn Light Trucks (3-5)	Kennedy Dve WB U-turn Heavy Trucks (6-12)	Kennedy Dve WB U-turn Bicycles on Road	Kennedy Dve WB Cross 1 Pedestrians
Period 1 Total	9	1	0	0	925	47	0	14	92	8	0	0	1	0	0	0	0
Period 1 Peak Hr	6	1	0	0	565	24	0	10	56	7	0	0	1	0	0	0	0
Time Starting																	
07:00	1	0	0	0	73	4	0	1	9	0	0	0	0	0	0	0	0
07:15	0	0	0	0	86	4	0	2	8	0	0	0	0	0	0	0	0
07:30	1	0	0	0	104	6	0	0	10	0	0	0	0	0	0	0	0
07:45	1	0	0	0	97	9	0	1	9	1	0	0	0	0	0	0	0
08:00	2	1	0	0	115	6	0	0	13	2	0	0	1	0	0	0	0
08:15	1	0	0	0	130	7	0	0	16	2	0	0	0	0	0	0	0
08:30	2	0	0	0	162	8	0	8	10	1	0	0	0	0	0	0	0
08:45	1	0	0	0	158	3	0	2	17	2	0	0	0	0	0	0	0

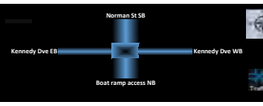
	Boat ramp access Left Light Vehicles	Boat ramp access Left Light Trucks (3-5)	Boat ramp access Left Heavy Trucks (6-12)	Boat ramp access Left Bicycles on Road	Boat ramp access Through Light Vehicles	Boat ramp access Through Light Trucks (3-5)	Boat ramp access Through Heavy Trucks (6-12)	Boat ramp access Through Bicycles on Road	Boat ramp access Right Light Vehicles	Boat ramp access Right Light Trucks (3-5)	Boat ramp access Right Heavy Trucks (6-12)	Boat ramp access Right Bicycles on Road	Boat ramp access U-turn Light Vehicles	Boat ramp access U-turn Light Trucks (3-5)	Boat ramp access U-turn Heavy Trucks (6-12)	Boat ramp access U-turn Bicycles on Road	Boat ramp access Cross 1 Pedestrians
Period 1 Total	13	1	0	0	3	0	0	1	3	0	0	0	0	0	0	0	2
Period 1 Peak Hr	11	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	2
Time Starting																	
07:00	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
07:15	0	0	0	0	1	0	0	0	2	0	0	0	0	0	0	0	0
07:30	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45	1	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0
08:00	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
08:15	2	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
08:30	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:45	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

	Kennedy Dve EB Left Light Vehicles	Kennedy Dve EB Left Light Trucks (3-5)	Kennedy Dve EB Left Heavy Trucks (6-12)	Kennedy Dve EB Left Bicycles on Road	Kennedy Dve EB Through Light Vehicles	Kennedy Dve EB Through Light Trucks (3-5)	Kennedy Dve EB Through Heavy Trucks (6-12)	Kennedy Dve EB Through Bicycles on Road	Kennedy Dve EB Right Light Vehicles	Kennedy Dve EB Right Light Trucks (3-5)	Kennedy Dve EB Right Heavy Trucks (6-12)	Kennedy Dve EB Right Bicycles on Road	Kennedy Dve EB U-turn Light Vehicles	Kennedy Dve EB U-turn Light Trucks (3-5)	Kennedy Dve EB U-turn Heavy Trucks (6-12)	Kennedy Dve EB U-turn Bicycles on Road	Kennedy Dve EB Cross 1 Pedestrians
Period 1 Total	47	6	0	2	1195	79	1	1	6	0	0	0	0	0	0	0	0
Period 1 Peak Hr	33	2	0	0	685	41	1	0	2	0	0	0	0	0	0	0	0
Time Starting																	
07:00	3	1	0	0	75	4	0	0	1	0	0	0	0	0	0	0	0
07:15	4	1	0	0	103	11	0	0	2	0	0	0	0	0	0	0	0
07:30	5	1	0	1	138	9	0	0	0	0	0	0	0	0	0	0	0
07:45	2	1	0	1	194	14	0	1	1	0	0	0	0	0	0	0	0
08:00	10	0	0	0	163	14	0	0	0	0	0	0	0	0	0	0	0
08:15	9	1	0	0	173	11	1	0	1	0	0	0	0	0	0	0	0
08:30	10	0	0	0	183	8	0	0	0	0	0	0	0	0	0	0	0
08:45	4	1	0	0	166	8	0	0	1	0	0	0	0	0	0	0	0

	GRAND TOTAL TOTALS	Norman St SB TOTAL All Classes	Kennedy Dve WB TOTAL All Classes	Boat ramp access TOTAL All Classes	Kennedy Dve EB TOTAL All Classes
Period 1 Total	2711	256	1097	21	1337
Period 1 Peak Hr	1612	165	670	13	764
Time Starting					
07:00	**187**	14	88	1	84
07:15	**245**	21	100	3	121
07:30	**302**	26	121	1	154
07:45	**365**	30	118	3	214
08:00	**373**	43	140	3	187
08:15	**396**	41	156	3	196
08:30	**440**	44	191	4	201
08:45	**403**	37	183	3	180

Site ID: 5
Location: Kennedy Dve & Norman St, Tweed Heads
Date: 15-Sept-2016
Period 2 Time: 4:00 PM to 6:00 PM
Weather: Fine

Period 2 Peak Hour: 4:15 PM to 5:15 PM



TOTALS AND PEAKS

	Norman St SB	Norman St SB	Norman St SB	Norman St SB	Norman St SB	Norman St SB	Norman St SB	Norman St SB	Norman St SB	Norman St SB	Norman St SB	Norman St SB	Norman St SB	Norman St SB	Norman St SB	Norman St SB	Norman St SB
	Left	Left	Left	Left	Through	Through	Through	Through	Right	Right	Right	Right	U-turn	U-turn	U-turn	U-turn	Cross 1
Time Starting	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Pedestrians
Period 2 Total	124	1	0	1	2	1	0	0	83	5	0	0	0	0	0	0	5
Period 2 Peak Hr	76	0	0	0	1	0	0	0	48	3	0	0	0	0	0	0	3
16:00	12	0	0	1	0	0	0	0	4	0	0	0	0	0	0	0	0
16:15	10	0	0	0	0	0	0	0	12	1	0	0	0	0	0	0	0
16:30	27	0	0	0	0	0	0	0	10	0	0	0	0	0	0	0	0
16:45	18	0	0	0	1	0	0	0	11	1	0	0	0	0	0	0	0
17:00	21	0	0	0	0	0	0	0	15	1	0	0	0	0	0	0	3
17:15	11	1	0	0	0	0	0	0	9	0	0	0	0	0	0	0	0
17:30	14	0	0	0	0	0	0	0	12	1	0	0	0	0	0	0	0
17:45	11	0	0	0	1	1	0	0	10	1	0	0	0	0	0	0	2

	Kennedy Dve WB	Kennedy Dve WB	Kennedy Dve WB	Kennedy Dve WB	Kennedy Dve WB	Kennedy Dve WB	Kennedy Dve WB	Kennedy Dve WB	Kennedy Dve WB	Kennedy Dve WB	Kennedy Dve WB	Kennedy Dve WB	Kennedy Dve WB	Kennedy Dve WB	Kennedy Dve WB	Kennedy Dve WB	Kennedy Dve WB
	Left	Left	Left	Left	Through	Through	Through	Through	Right	Right	Right	Right	U-turn	U-turn	U-turn	U-turn	Cross 1
Time Starting	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Pedestrians
Period 2 Total	13	0	0	0	1896	29	1	0	187	4	0	0	2	0	0	0	0
Period 2 Peak Hr	9	0	0	0	1024	17	0	0	108	1	0	0	0	0	0	0	0
16:00	2	0	0	0	270	1	0	0	19	1	0	0	0	0	0	0	0
16:15	3	0	0	0	246	4	0	0	32	1	0	0	0	0	0	0	0
16:30	2	0	0	0	250	6	0	0	19	0	0	0	0	0	0	0	0
16:45	3	0	0	0	263	4	0	0	28	0	0	0	0	0	0	0	0
17:00	1	0	0	0	265	3	0	0	29	0	0	0	0	0	0	0	0
17:15	0	0	0	0	232	3	0	0	22	1	0	0	0	0	0	0	0
17:30	1	0	0	0	190	2	0	0	16	1	0	0	1	0	0	0	0
17:45	1	0	0	0	180	6	1	0	22	0	0	0	1	0	0	0	0

	Boat ramp access	Boat ramp access	Boat ramp access	Boat ramp access	Boat ramp access	Boat ramp access	Boat ramp access	Boat ramp access	Boat ramp access	Boat ramp access	Boat ramp access	Boat ramp access	Boat ramp access	Boat ramp access	Boat ramp access	Boat ramp access	Boat ramp access
	Left	Left	Left	Left	Through	Through	Through	Through	Right	Right	Right	Right	U-turn	U-turn	U-turn	U-turn	Cross 1
Time Starting	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Pedestrians
Period 2 Total	12	1	0	0	2	2	0	0	7	0	0	0	0	0	0	0	0
Period 2 Peak Hr	7	0	0	0	1	0	0	0	3	0	0	0	0	0	0	0	0
16:00	2	0	0	0	0	1	0	0	2	0	0	0	0	0	0	0	0
16:15	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
16:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:45	4	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0
17:00	2	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
17:15	2	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
17:30	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
17:45	0	1	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0

	Kennedy Dve EB	Kennedy Dve EB	Kennedy Dve EB	Kennedy Dve EB	Kennedy Dve EB	Kennedy Dve EB	Kennedy Dve EB	Kennedy Dve EB	Kennedy Dve EB	Kennedy Dve EB	Kennedy Dve EB	Kennedy Dve EB	Kennedy Dve EB	Kennedy Dve EB	Kennedy Dve EB	Kennedy Dve EB	Kennedy Dve EB
	Left	Left	Left	Left	Through	Through	Through	Through	Right	Right	Right	Right	U-turn	U-turn	U-turn	U-turn	Cross 1
Time Starting	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Pedestrians
Period 2 Total	138	5	0	1	890	20	0	0	3	1	0	0	0	0	0	0	0
Period 2 Peak Hr	84	1	0	0	465	7	0	0	3	0	0	0	0	0	0	0	0
16:00	19	0	0	1	118	3	0	0	0	0	0	0	0	0	0	0	0
16:15	22	0	0	0	127	3	0	0	2	0	0	0	0	0	0	0	0
16:30	27	0	0	0	121	0	0	0	0	0	0	0	0	0	0	0	0
16:45	14	1	0	0	118	2	0	0	1	0	0	0	0	0	0	0	0
17:00	21	0	0	0	99	2	0	0	0	0	0	0	0	0	0	0	0
17:15	14	1	0	0	114	3	0	0	0	0	0	0	0	0	0	0	0
17:30	11	3	0	0	88	4	0	0	0	0	0	0	0	0	0	0	0
17:45	10	0	0	0	105	3	0	0	0	1	0	0	0	0	0	0	0

	GRAND TOTAL	Norman St SB	Kennedy Dve WB	Boat ramp access	Kennedy Dve EB
		TOTAL	TOTAL	TOTAL	TOTAL
Time Starting	TOTALS	All Classes	All Classes	All Classes	All Classes
Period 2 Total	3431	217	2132	24	1058
Period 2 Peak Hr	1858	128	1159	11	560
16:00	**456**	17	293	5	141
16:15	**465**	23	286	2	154
16:30	**462**	37	277	0	148
16:45	**471**	31	298	6	136
17:00	**460**	37	298	3	122
17:15	**414**	21	258	3	132
17:30	**346**	27	211	2	106
17:45	**357**	24	211	3	119

TDC
Traffic Data & Control

SURVEY INFORMATION

Site ID:	10			
Location:	Kennedy Dve EB & Wharf St, Tweed Heads			
Date:	15	/ Sept	/ 2016	
Time Period 1:	07:00	to	09:00	
Time Period 2:	16:00	to	18:00	

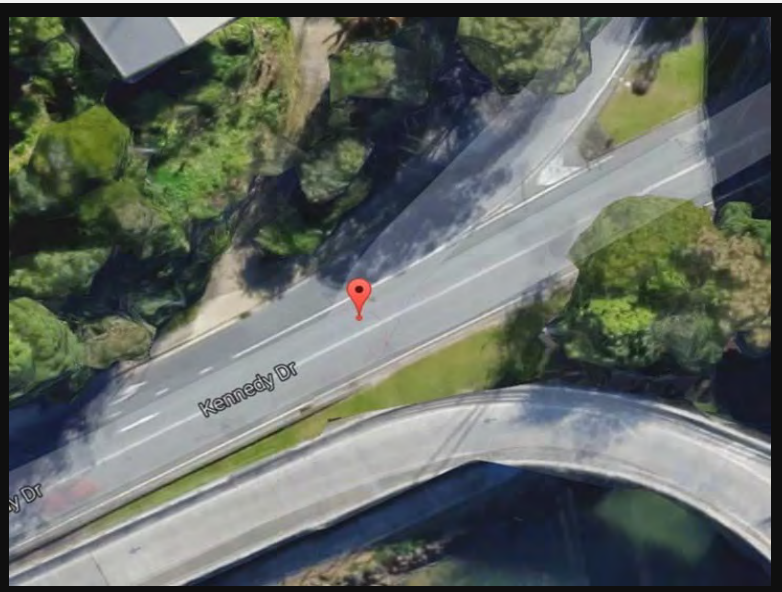
	Primary Classes:	Secondary Classes:
1	Light Vehicles	Pedestrians
2	Light Trucks (3-5)	None
3	Heavy Trucks (6-12)	
4	Bicycles on Road	
5	None	

Weather Conditions 1: Fine **Weather Conditions 2:** Fine

Intersection Legs:		Ch	
	North	✓	Wharf St SB
	East	✓	Kennedy Dve WB
	South		
	West	✓	Kennedy Dve EB

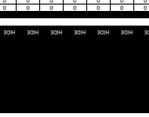
Output time interval: 15 mins

MAP



75833 Eli Kennedy Ave 216 & Wharf St Intersection Report

Site ID	10
Location	Kennedy Ave 8 & Wharf St (West Node)
Date	11-Sept-2015
Weather	Fine
Period 1 Time	7:30 AM to 9:00 AM
Period 2 Peak Hour	7:45 AM to 8:45 AM

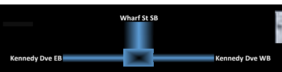


TDC
Traffic Data & Counts

| Time Interval | 1 Left in 1 Thru in 1 Right | 2 Left in 1 Thru in 1 Right | 3 Left in 1 Thru in 1 Right | 4 Left in 1 Thru in 1 Right |

Site ID: 10
Location: Kennedy Dve EB & Wharf St, Tweed Heads
Date: 15-Sept-2016
Period 2 Time: 4:00 PM to 6:00 PM
Weather: Fine

Period 2 Peak Hour: 4:00 PM to 5:00 PM



TOTALS AND PEAKS

	Wharf St SB	Wharf St SB	Wharf St SB	Wharf St SB	Wharf St SB	Wharf St SB	Wharf St SB	Wharf St SB	Wharf St SB	Wharf St SB	Wharf St SB	Wharf St SB	Wharf St SB	Kennedy Dve WB	Kennedy Dve WB	Kennedy Dve WB	Kennedy Dve WB	Kennedy Dve WB	Kennedy Dve WB	Kennedy Dve WB	Kennedy Dve WB	Kennedy Dve WB	Kennedy Dve WB	Kennedy Dve WB	Kennedy Dve WB	Kennedy Dve WB	Kennedy Dve EB	Kennedy Dve EB	Kennedy Dve EB	Kennedy Dve EB	Kennedy Dve EB	Kennedy Dve EB	Kennedy Dve EB	Kennedy Dve EB	Kennedy Dve EB	Kennedy Dve EB	Kennedy Dve EB	Kennedy Dve EB	Kennedy Dve EB
	Left	Left	Left	Left	Right	Right	Right	Right	U-turn	U-turn	U-turn	U-turn	Cross 1	Through	Through	Through	Through	Right	Right	Right	Right	U-turn	U-turn	U-turn	U-turn	Cross 1	Left	Left	Left	Left	Through	Through	Through	Through	U-turn	U-turn	U-turn	U-turn	Cross 1
Time Starting	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Pedestrians	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Pedestrians	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Pedestrians
Period 2 Total	0	0	0	0	0	0	0	0	0	0	0	0	0	1123	15	0	0	0	0	0	0	0	0	0	0	0	619	12	0	1	424	9	0	0	0	0	0	0	1
Period 2 Peak Hr	0	0	0	0	0	0	0	0	0	0	0	0	0	620	7	0	0	0	0	0	0	0	0	0	0	0	340	6	0	1	233	6	0	0	0	0	0	0	1
16:00	0	0	0	0	0	0	0	0	0	0	0	0	0	179	0	0	0	0	0	0	0	0	0	0	0	0	85	0	0	0	57	1	0	0	0	0	0	0	0
16:15	0	0	0	0	0	0	0	0	0	0	0	0	0	152	3	0	0	0	0	0	0	0	0	0	0	0	91	2	0	0	67	3	0	0	0	0	0	0	0
16:30	0	0	0	0	0	0	0	0	0	0	0	0	0	159	2	0	0	0	0	0	0	0	0	0	0	0	87	1	0	1	57	0	0	0	0	0	0	0	0
16:45	0	0	0	0	0	0	0	0	0	0	0	0	0	130	2	0	0	0	0	0	0	0	0	0	0	0	77	3	0	0	52	2	0	0	0	0	0	0	1
17:00	0	0	0	0	0	0	0	0	0	0	0	0	0	146	2	0	0	0	0	0	0	0	0	0	0	0	78	2	0	0	49	0	0	0	0	0	0	0	0
17:15	0	0	0	0	0	0	0	0	0	0	0	0	0	152	0	0	0	0	0	0	0	0	0	0	0	0	62	1	0	0	43	1	0	0	0	0	0	0	0
17:30	0	0	0	0	0	0	0	0	0	0	0	0	0	104	2	0	0	0	0	0	0	0	0	0	0	0	71	2	0	0	62	1	0	0	0	0	0	0	0
17:45	0	0	0	0	0	0	0	0	0	0	0	0	0	101	4	0	0	0	0	0	0	0	0	0	0	0	68	1	0	0	37	1	0	0	0	0	0	0	0

	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE
Period 2 Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Period 2 Peak Hr	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

	Hide this column	Hide this column	Hide this column	Hide this column	Hide this column	Hide this column	Hide this column	GRAND TOTAL	Wharf St SB	Kennedy Dve WB		Kennedy Dve EB
									TOTAL	TOTAL		TOTAL
Time Starting	AM Peak+Calc	PM Peak+Calc		PM Peak	Time		Flag-PM	TOTALS	All Classes	All Classes		All Classes
Period 2 Total								2203	0	1138		1065
Period 2 Peak Hr								1213	0	627		586
16:00		322		1213	16:00		1	**322**	0	179		143
16:15		318		1168	16:15		2	**318**	0	155		163
16:30		307		1109	16:30		3	**307**	0	161		146
16:45		266		1044	16:45		4	**266**	0	132		134
17:00		277		990	17:00			**277**	0	148		129
17:15		259		713	17:15			**259**	0	152		107
17:30		242		454	17:30			**242**	0	106		136
17:45		212		212	17:45			**212**	0	105		107

TDC
Traffic Data & Control

SURVEY INFORMATION

Site ID:	9
Location:	Kennedy Dve WB & Wharf St/Recreation St, Tweed Heads
Date:	15 / Sept / 2016
Time Period 1:	07:00 to 09:00
Time Period 2:	16:00 to 18:00

	Primary Classes:	Secondary Classes:
1	Light Vehicles	Pedestrians
2	Light Trucks (3-5)	None
3	Heavy Trucks (6-12)	
4	Bicycles on Road	
5	None	

Weather Conditions 1: Fine **Weather Conditions 2:** Fine

Intersection Legs:		
North	☑ Ch	Recreation St SB
East	☑ Ch	Wharf St WB
South	☑ Ch	Kennedy Dve NB
West	☑ Ch	Wharf St EB

Output time interval: 15 mins

MAP

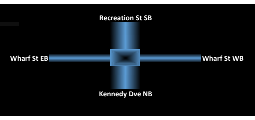
TUESDAY, 23 November 2021 Week 48 Workout 23 Instructions Report

Site ID 9
Locations Everyday Dive Web & Market St Electrocution '21 Twisted Hearts
Date 11th March 2016
Weather Rain
Period 1 Time 7:30 AM to 9:00 AM
Period 2 Time 10:00 AM to 11:00 AM
Period 3 Rain Hour 8:00 AM to 9:00 AM

Rockingham St SB
Market St EB
Wharf St WB
Wharf St NB
Everyday Dive NB

Site ID: 9
Location: Kennedy Dve WB & Wharf St/Recreation St, Tweed Heads
Date: 15-Sept-2016
Period 2 Time: 4:00 PM to 6:00 PM
Weather: Fine

Period 2 Peak Hour: 4:00 PM to 5:00 PM



TOTALS AND PEAKS

	Recreation St SB	Recreation St SB	Recreation St SB	Recreation St SB	Recreation St SB	Recreation St SB	Recreation St SB	Recreation St SB	Recreation St SB	Recreation St SB	Recreation St SB	Recreation St SB	Recreation St SB	Recreation St SB	Recreation St SB	Recreation St SB	Recreation St SB
	Left	Left	Left	Left	Through	Through	Through	Through	Right	Right	Right	Right	U-turn	U-turn	U-turn	U-turn	Cross 1
Time Starting	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Pedestrians
Period 2 Total	24	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
Period 2 Peak Hr	17	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
16:00	7	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
16:15	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
16:30	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:45	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:00	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
17:15	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:30	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:45	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

	Wharf St WB	Wharf St WB	Wharf St WB	Wharf St WB	Wharf St WB	Wharf St WB	Wharf St WB	Wharf St WB	Wharf St WB	Wharf St WB	Wharf St WB	Wharf St WB	Wharf St WB	Wharf St WB	Wharf St WB	Wharf St WB	Wharf St WB
	Left	Left	Left	Left	Through	Through	Through	Through	Right	Right	Right	Right	U-turn	U-turn	U-turn	U-turn	Cross 1
Time Starting	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Pedestrians
Period 2 Total	1089	17	0	0	1841	23	0	2	0	0	0	0	0	0	0	0	3
Period 2 Peak Hr	593	12	0	0	1074	14	0	2	0	0	0	0	0	0	0	0	0
16:00	173	3	0	0	274	3	0	1	0	0	0	0	0	0	0	0	0
16:15	143	3	0	0	256	5	0	1	0	0	0	0	0	0	0	0	0
16:30	153	2	0	0	301	2	0	0	0	0	0	0	0	0	0	0	0
16:45	124	4	0	0	243	4	0	0	0	0	0	0	0	0	0	0	0
17:00	145	0	0	0	227	3	0	0	0	0	0	0	0	0	0	0	2
17:15	147	1	0	0	208	2	0	0	0	0	0	0	0	0	0	0	0
17:30	104	4	0	0	175	2	0	0	0	0	0	0	0	0	0	0	1
17:45	100	0	0	0	157	2	0	0	0	0	0	0	0	0	0	0	0

	Kennedy Dve NB	Kennedy Dve NB	Kennedy Dve NB	Kennedy Dve NB	Kennedy Dve NB	Kennedy Dve NB	Kennedy Dve NB	Kennedy Dve NB	Kennedy Dve NB	Kennedy Dve NB	Kennedy Dve NB	Kennedy Dve NB	Kennedy Dve NB	Kennedy Dve NB	Kennedy Dve NB	Kennedy Dve NB	Kennedy Dve NB
	Left	Left	Left	Left	Through	Through	Through	Through	Right	Right	Right	Right	U-turn	U-turn	U-turn	U-turn	Cross 1
Time Starting	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Pedestrians
Period 2 Total	0	0	0	0	1403	22	1	1	0	0	0	0	0	0	0	0	3
Period 2 Peak Hr	0	0	0	0	776	13	0	1	0	0	0	0	0	0	0	0	1
16:00	0	0	0	0	210	7	0	1	0	0	0	0	0	0	0	0	0
16:15	0	0	0	0	197	1	0	0	0	0	0	0	0	0	0	0	0
16:30	0	0	0	0	190	4	0	0	0	0	0	0	0	0	0	0	1
16:45	0	0	0	0	179	1	0	0	0	0	0	0	0	0	0	0	0
17:00	0	0	0	0	171	3	0	0	0	0	0	0	0	0	0	0	0
17:15	0	0	0	0	163	3	0	0	0	0	0	0	0	0	0	0	1
17:30	0	0	0	0	161	1	0	0	0	0	0	0	0	0	0	0	0
17:45	0	0	0	0	132	2	1	0	0	0	0	0	0	0	0	0	1

	Wharf St EB	Wharf St EB	Wharf St EB	Wharf St EB	Wharf St EB	Wharf St EB	Wharf St EB	Wharf St EB	Wharf St EB	Wharf St EB	Wharf St EB	Wharf St EB	Wharf St EB	Wharf St EB	Wharf St EB	Wharf St EB	Wharf St EB
	Left	Left	Left	Left	Through	Through	Through	Through	Right	Right	Right	Right	U-turn	U-turn	U-turn	U-turn	Cross 1
Time Starting	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Pedestrians
Period 2 Total	194	4	0	1	425	10	0	1	0	0	0	0	0	0	0	0	1
Period 2 Peak Hr	101	4	0	1	239	4	0	1	0	0	0	0	0	0	0	0	0
16:00	21	2	0	1	64	0	0	0	0	0	0	0	0	0	0	0	0
16:15	26	0	0	0	65	2	0	0	0	0	0	0	0	0	0	0	0
16:30	34	1	0	0	53	0	0	1	0	0	0	0	0	0	0	0	0
16:45	20	1	0	0	57	2	0	0	0	0	0	0	0	0	0	0	0
17:00	27	0	0	0	51	2	0	0	0	0	0	0	0	0	0	0	0
17:15	16	0	0	0	46	1	0	0	0	0	0	0	0	0	0	0	0
17:30	26	0	0	0	45	2	0	0	0	0	0	0	0	0	0	0	1
17:45	24	0	0	0	44	1	0	0	0	0	0	0	0	0	0	0	0

	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE
Period 2 Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Period 2 Peak Hr	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Hide this column	Hide this column	Hide this column	Hide this column	Hide this column	Hide this column	Hide this column
AM Peak+Calc	PM Peak+Calc		PM Peak	Time		Flag-PM
	768		2853	16:00		1
	705		2716	16:15		2
	743		2600	16:30		3
	637		2378	16:45		4
	631		2206	17:00		
	589		1575	17:15		
	521		986	17:30		
	465		465	17:45		
			0			

	GRAND TOTAL	Recreation St SB	Wharf St WB	Kennedy Dve NB	Wharf St EB
		TOTAL	TOTAL	TOTAL	TOTAL
	TOTALS	All Classes	All Classes	All Classes	All Classes
Period 2 Total	5059	25	2972	1427	635
Period 2 Peak Hr	2853	18	1695	790	350
16:00	**768**	8	454	218	88
16:15	**705**	6	408	198	93
16:30	**743**	2	458	194	89
16:45	**637**	2	375	180	80
17:00	**631**	2	375	174	80
17:15	**589**	2	358	166	63
17:30	**521**	1	285	162	73
17:45	**465**	2	259	135	69

TDC
Traffic Data & Control

SURVEY INFORMATION

Site ID:	3			
Location:	Kirkwood Rd & Oxley St, Tweed Heads South			
Date:	14	/ Sept	/ 2016	
Time Period 1:	07:00	to	09:00	
Time Period 2:	16:00	to	18:00	

	Primary Classes:	Secondary Classes:
1	Light Vehicles	Pedestrians
2	Light Trucks (3-5)	None
3	Heavy Trucks (6-12)	
4	Bicycles on Road	
5	None	

Weather Conditions 1: Fine **Weather Conditions 2:** Fine

Intersection Legs:			
North	✓	Ch	Oxley St SB
East	✓	Ch	Kirkwood Rd WB
South	✓	Ch	Falcon Way NB
West	✓	Ch	Kirkwood Rd EB

Output time interval: 15 mins

MAP

TSS3.0.01 Kirkwood Rd & Cluny St Intersection Report

Site ID: 3
Location: Kirkwood Rd & Cluny St (Transit Hours) South
Date: 13 Sept 2016
Weather: Fine
Period 1 Time: 7 AM to 9 AM
Period 2 Peak Hour: 8:00 AM to 9:00 AM

Kirkwood Rd E

Cluny St W

Kirkwood Rd W

Falcon Way N

Kirkwood Rd E

TDC Traffic Data Collection

| Time Interval | Kirkwood Rd E Left (1) | Kirkwood Rd E Left (2) | Kirkwood Rd E Left (3) | Kirkwood Rd E Left (4) | Kirkwood Rd E Left (5) | Kirkwood Rd E Left (6) | Kirkwood Rd E Left

Site ID
Location Kirkwood Rd & Oxford St, Bewdley/Stourport-on-Severn
Date 4 Dec 2025
Period 1 Time 4:00 PM to 7:00 PM
Weather Dry
Period 2 Peak Hour 4:00 PM to 5:00 PM

Oxford St (B4194)

Kirkwood Rd NB

Kirkwood Rd SB

Falcon Way NB

TDC
Traffic Data Collection

TOTALS Multi-Modal Counts

	Cars	Buses	Light Goods	Heavy Goods	Pedal Cycles	Motorcycles
Period 1 Total	22	0	0	0	0	0
Period 2 Peak Hour	13	0	0	0	0	0

Time Interval	Oxford St (B4194) Eastbound												Kirkwood Rd SB												Oxford St (B4194) Westbound												Kirkwood Rd NB												Falcon Way NB											
	Left												Ahead												Right												Left												Ahead											
	Left Turn (3)				Heavy Turn (B-12)				Bicycles on Road				Left Turn (3)				Heavy Turn (B-12)				Bicycles on Road				Left Turn (3)				Heavy Turn (B-12)				Bicycles on Road				Left Turn (3)				Heavy Turn (B-12)				Bicycles on Road				Left Turn (3)				Heavy Turn (B-12)				Bicycles on Road			
	Cars	Buses	Light Goods	Heavy Goods	Cars	Buses	Light Goods	Heavy Goods	Cars	Buses	Light Goods	Heavy Goods	Cars	Buses	Light Goods	Heavy Goods	Cars	Buses	Light Goods	Heavy Goods	Cars	Buses	Light Goods	Heavy Goods	Cars	Buses	Light Goods	Heavy Goods	Cars	Buses	Light Goods	Heavy Goods	Cars	Buses	Light Goods	Heavy Goods	Cars	Buses	Light Goods	Heavy Goods	Cars	Buses	Light Goods	Heavy Goods	Cars	Buses	Light Goods	Heavy Goods	Cars	Buses	Light Goods	Heavy Goods
16:00	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:15	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:30	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:45	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:00	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:15	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:30	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:45	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

TDC
Traffic Data & Control

SURVEY INFORMATION

Site ID:	2
Location:	Kirkwood Rd & Pacific Mwy interchange, Tweed Heads South
Date:	14 / Sept / 2016
Time Period 1:	07:00 to 09:00
Time Period 2:	16:00 to 18:00

Primary Classes:

1. Light Vehicles
2. Light Trucks (3-5)
3. Heavy Trucks (6-12)
4. Bicycles on Road
5. None

Secondary Classes:

1. Pedestrians
2. None

Weather Conditions 1: Fine

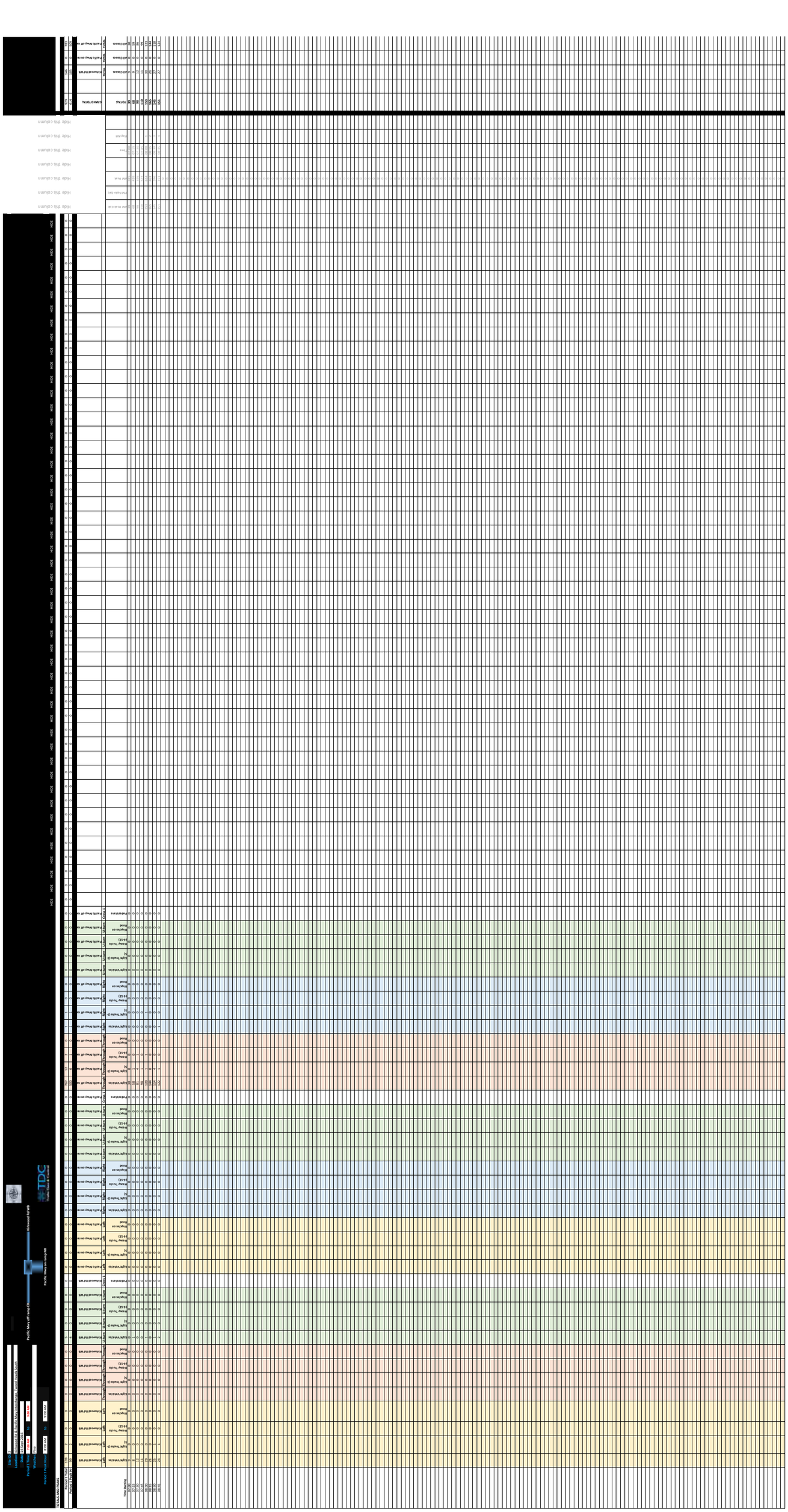
Weather Conditions 2: Fine

Intersection Legs:

North	☐ Ch	
East	☑ Ch	Kirkwood Rd WB
South	☑ Ch	Pacific Mwy on ramp NB
West	☑ Ch	Pacific Mwy off ramp EB

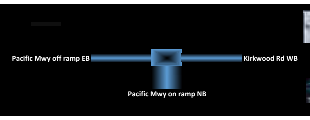
Output time interval: 15 mins

MAP



Site ID: 2
Location: Kirkwood Rd & Pacific Mwy interchange, Tweed Heads South
Date: 14-Sept-2016
Period 2 Time: 4:00 PM to 6:00 PM
Weather: Fine

Period 2 Peak Hour: 4:00 PM to 5:00 PM



TOTALS AND PEAKS

Period 2 Total	167	2	0	0	0	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	561	9	0	0	4	0	0	0	0	0	0	0	0
Period 2 Peak Hr	82	1	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	296	6	0	0	2	0	0	0	0	0	0	0	0
	Kirkwood Rd WB	Kirkwood Rd WB	Kirkwood Rd WB	Kirkwood Rd WB	Kirkwood Rd WB	Kirkwood Rd WB	Kirkwood Rd WB	Kirkwood Rd WB	Kirkwood Rd WB	Kirkwood Rd WB	Kirkwood Rd WB	Kirkwood Rd WB	Kirkwood Rd WB	Pacific Mwy on ra	Pacific Mwy on ra	Pacific Mwy on ra	Pacific Mwy on ra	Pacific Mwy on ra	Pacific Mwy on ra	Pacific Mwy on ra	Pacific Mwy on ra	Pacific Mwy on ra	Pacific Mwy on ra	Pacific Mwy on ra	Pacific Mwy on ra	Pacific Mwy on ra	Pacific Mwy off ra	Pacific Mwy off ra	Pacific Mwy off ra	Pacific Mwy off ra	Pacific Mwy off ra	Pacific Mwy off ra	Pacific Mwy off ra	Pacific Mwy off ra	Pacific Mwy off ra	Pacific Mwy off ra	Pacific Mwy off ra	Pacific Mwy off ra	Pacific Mwy off ra
	Left	Left	Left	Left	Through	Through	Through	Through	U-turn	U-turn	U-turn	U-turn	Cross 1	Left	Left	Left	Left	Right	Right	Right	Right	U-turn	U-turn	U-turn	U-turn	Cross 1	Through	Through	Through	Through	Right	Right	Right	Right	U-turn	U-turn	U-turn	U-turn	Cross 1
Time Starting	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Pedestrians	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Pedestrians	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Pedestrians
16:00	24	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	78	1	0	0	0	0	0	0	0	0	0	0	0
16:15	19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	76	1	0	0	2	0	0	0	0	0	0	0	0
16:30	24	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	74	3	0	0	0	0	0	0	0	0	0	0	0
16:45	15	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	68	1	0	0	0	0	0	0	0	0	0	0	0
17:00	28	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	71	0	0	0	0	0	0	0	0	0	0	0	0
17:15	18	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	69	1	0	0	0	0	0	0	0	0	0	0	0
17:30	20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	68	1	0	0	1	0	0	0	0	0	0	0	0
17:45	19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	57	1	0	0	1	0	0	0	0	0	0	0	0

	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE
Period 2 Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Period 2 Peak Hr	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

	Hide this column	Hide this column	Hide this column	Hide this column	Hide this column	Hide this column	Hide this column	GRAND TOTAL		Kirkwood Rd WB	Pacific Mwy on ra	Pacific Mwy off ra
										TOTAL	TOTAL	TOTAL
Time Starting	AM Peak+Calc	PM Peak+Calc		PM Peak	Time		Flag-PM	TOTALS		All Classes	All Classes	All Classes
Period 2 Total								747		173	0	574
Period 2 Peak Hr								390		86	0	304
16:00		104		390	16:00		1	**104**		25	0	79
16:15		98		386	16:15		2	**98**		19	0	79
16:30		103		377	16:30		3	**103**		26	0	77
16:45		85		364	16:45		4	**85**		16	0	69
17:00		100		357	17:00			**100**		29	0	71
17:15		89		257	17:15			**89**		19	0	70
17:30		90		168	17:30			**90**		20	0	70
17:45		78		78	17:45			**78**		19	0	59

TDC
Traffic Data & Control

SURVEY INFORMATION

Site ID:	22		
Location:	Minjungbal Dve & Blundell Blvd, Tweed Heads South		
Date:	14 / Sept / 2016		
Time Period 1:	07:00	to	09:00
Time Period 2:	16:00	to	18:00

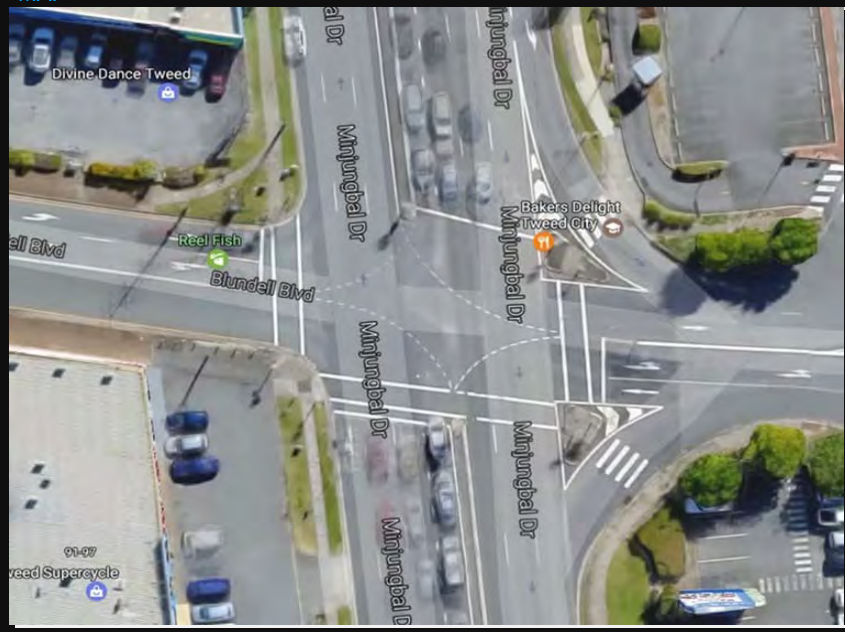
	Primary Classes:	Secondary Classes:
1	Light Vehicles	Pedestrians
2	Light Trucks (3-5)	None
3	Heavy Trucks (6-12)	
4	Bicycles on Road	
5	None	

Weather Conditions 1: Fine **Weather Conditions 2:** Fine

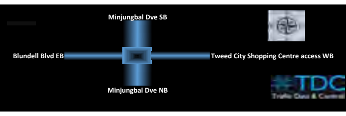
Intersection Legs:		
North	☑ Ch	Minjungbal Dve SB
East	☑ Ch	Tweed City Shopping Centre access WB
South	☑ Ch	Minjungbal Dve NB
West	☑ Ch	Blundell Blvd EB

Output time interval: 15 mins

MAP



Site ID: 22
Location: Minjungbal Dve & Blundell Blvd, Tweed Heads South
Date: 14-Sept-2016
Period 1 Time: 7:00 AM to 9:00 AM
Weather: Fine
Period 1 Peak Hour: 8:00 AM to 9:00 AM



TOTALS AND PEAKS

	Minjungbal Dve SB	Minjungbal Dve SB	Minjungbal Dve SB	Minjungbal Dve SB	Minjungbal Dve SB	Minjungbal Dve SB	Minjungbal Dve SB	Minjungbal Dve SB	Minjungbal Dve SB	Minjungbal Dve SB	Minjungbal Dve SB	Minjungbal Dve SB	Minjungbal Dve SB	Minjungbal Dve SB	Minjungbal Dve SB	Minjungbal Dve SB	Minjungbal Dve SB
	Left	Left	Left	Left	Through	Through	Through	Through	Right	Right	Right	Right	U-turn	U-turn	U-turn	U-turn	Cross 1
Time Starting	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Pedestrians
Period 1 Total	95	0	0	1	1204	57	3	2	318	4	0	1	1	0	0	0	0
Period 1 Peak Hr	70	0	0	1	751	32	1	2	212	3	0	0	0	0	0	0	0
07:00	2	0	0	0	77	5	0	0	13	1	0	0	0	0	0	0	0
07:15	3	0	0	0	101	8	0	0	22	0	0	0	0	0	0	0	0
07:30	10	0	0	0	109	4	1	0	22	0	0	0	0	0	0	0	0
07:45	10	0	0	0	166	8	1	0	49	0	0	1	1	0	0	0	0
08:00	13	0	0	0	196	12	0	1	52	1	0	0	0	0	0	0	0
08:15	15	0	0	1	191	6	0	0	64	0	0	0	0	0	0	0	0
08:30	23	0	0	0	173	8	0	1	38	1	0	0	0	0	0	0	0
08:45	19	0	0	0	191	6	1	0	58	1	0	0	0	0	0	0	0

	Tweed City Shopp	Tweed City Shopp	Tweed City Shopp	Tweed City Shopp	Tweed City Shopp	Tweed City Shopp	Tweed City Shopp	Tweed City Shopp	Tweed City Shopp	Tweed City Shopp	Tweed City Shopp	Tweed City Shopp	Tweed City Shopp	Tweed City Shopp	Tweed City Shopp	Tweed City Shopp	Tweed City Shopp
	Left	Left	Left	Left	Through	Through	Through	Through	Right	Right	Right	Right	U-turn	U-turn	U-turn	U-turn	Cross 1
Time Starting	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Pedestrians
Period 1 Total	39	3	0	2	18	1	0	1	27	0	0	0	0	0	0	0	7
Period 1 Peak Hr	25	2	0	2	11	1	0	1	21	0	0	0	0	0	0	0	3
07:00	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
07:15	2	0	0	0	3	0	0	0	1	0	0	0	0	0	0	0	1
07:30	4	0	0	0	3	0	0	0	4	0	0	0	0	0	0	0	2
07:45	7	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
08:00	6	0	0	1	0	1	0	1	3	0	0	0	0	0	0	0	1
08:15	2	1	0	0	2	0	0	0	3	0	0	0	0	0	0	0	2
08:30	9	1	0	1	5	0	0	0	5	0	0	0	0	0	0	0	0
08:45	8	0	0	0	4	0	0	0	10	0	0	0	0	0	0	0	0

	Minjungbal Dve N	Minjungbal Dve N	Minjungbal Dve N	Minjungbal Dve N	Minjungbal Dve N	Minjungbal Dve N	Minjungbal Dve N	Minjungbal Dve N	Minjungbal Dve N	Minjungbal Dve N	Minjungbal Dve N	Minjungbal Dve N	Minjungbal Dve N	Minjungbal Dve N	Minjungbal Dve N	Minjungbal Dve N	Minjungbal Dve N
	Left	Left	Left	Left	Through	Through	Through	Through	Right	Right	Right	Right	U-turn	U-turn	U-turn	U-turn	Cross 1
Time Starting	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Pedestrians
Period 1 Total	154	1	0	1	1707	41	3	10	100	3	0	0	0	0	0	0	33
Period 1 Peak Hr	110	0	0	1	1105	27	3	2	73	2	0	0	0	0	0	0	23
07:00	2	0	0	0	96	3	0	0	3	0	0	0	0	0	0	0	0
07:15	4	0	0	0	125	4	0	2	7	0	0	0	0	0	0	0	3
07:30	13	1	0	0	169	3	0	3	11	0	0	0	0	0	0	0	4
07:45	25	0	0	0	212	4	0	3	6	1	0	0	0	0	0	0	3
08:00	13	0	0	0	248	9	2	0	13	0	0	0	0	0	0	0	10
08:15	35	0	0	0	301	7	0	2	12	1	0	0	0	0	0	0	4
08:30	24	0	0	0	276	4	0	0	26	1	0	0	0	0	0	0	3
08:45	38	0	0	1	280	7	1	0	22	0	0	0	0	0	0	0	6

	Blundell Blvd EB	Blundell Blvd EB	Blundell Blvd EB	Blundell Blvd EB	Blundell Blvd EB	Blundell Blvd EB	Blundell Blvd EB	Blundell Blvd EB	Blundell Blvd EB	Blundell Blvd EB	Blundell Blvd EB	Blundell Blvd EB	Blundell Blvd EB	Blundell Blvd EB	Blundell Blvd EB	Blundell Blvd EB	Blundell Blvd EB
	Left	Left	Left	Left	Through	Through	Through	Through	Right	Right	Right	Right	U-turn	U-turn	U-turn	U-turn	Cross 1
Time Starting	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Pedestrians
Period 1 Total	240	4	0	0	26	1	0	0	50	0	0	0	0	0	0	0	5
Period 1 Peak Hr	174	3	0	0	21	1	0	0	38	0	0	0	0	0	0	0	4
07:00	12	0	0	0	1	0	0	0	4	0	0	0	0	0	0	0	0
07:15	11	0	0	0	3	0	0	0	1	0	0	0	0	0	0	0	0
07:30	21	1	0	0	1	0	0	0	3	0	0	0	0	0	0	0	0
07:45	22	0	0	0	0	0	0	0	4	0	0	0	0	0	0	0	1
08:00	31	0	0	0	5	0	0	0	13	0	0	0	0	0	0	0	1
08:15	39	0	0	0	0	1	0	0	3	0	0	0	0	0	0	0	1
08:30	54	2	0	0	4	0	0	0	8	0	0	0	0	0	0	0	1
08:45	50	1	0	0	12	0	0	0	14	0	0	0	0	0	0	0	1

	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE
Period 1 Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Period 1 Peak Hr	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

	Hide this column	Hide this column	Hide this column	Hide this column	Hide this column	Hide this column	Hide this column
Time Starting	AM Peak+Calc	PM Peak+Calc	AM Peak		Time	Flag-AM	
07:00	221		1423		07:00		
07:15	297		1823		07:15		
07:30	383		2212		07:30		
07:45	522		2493		07:45		
08:00	621		2695		08:00	1	
08:15	686		2074		08:15	2	
08:30	664		1388		08:30	3	
08:45	724		724		08:45	4	

	GRAND TOTAL	Minjungbal Dve SB	Tweed City Shopp	Minjungbal Dve N	Blundell Blvd EB
		TOTAL	TOTAL	TOTAL	TOTAL
Time Starting	TOTALS	All Classes	All Classes	All Classes	All Classes
Period 1 Total	4118	1686	91	2020	321
Period 1 Peak Hr	2695	1072	63	1323	237
07:00	**221**	98	2	104	17
07:15	**297**	134	6	142	15
07:30	**383**	146	11	200	26
07:45	**522**	236	9	251	26
08:00	**621**	275	12	285	49
08:15	**686**	277	8	358	43
08:30	**664**	244	21	331	68
08:45	**724**	276	22	349	77

Site ID: 22

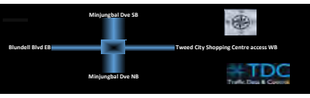
Location: Minjungbal Dve & Blundell Blvd, Tweed Heads South

Date: 14-Sept-2016

Period 2 Time: 4:00 PM to 6:00 PM

Weather: Fine

Period 2 Peak Hour: 4:00 PM to 5:00 PM



TOTALS AND PEAKS

	Minjungbal Dve S	Minjungbal Dve S	Minjungbal Dve S	Minjungbal Dve S	Minjungbal Dve S	Minjungbal Dve S	Minjungbal Dve S	Minjungbal Dve S	Minjungbal Dve S	Minjungbal Dve S	Minjungbal Dve S	Minjungbal Dve S	Minjungbal Dve S	Minjungbal Dve S	Minjungbal Dve S	Minjungbal Dve S	Minjungbal Dve S
	Left	Left	Left	Left	Through	Through	Through	Through	Right	Right	Right	Right	U-turn	U-turn	U-turn	U-turn	Cross 1
Time Starting	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Pedestrians
Period 2 Total	126	1	0	2	1864	42	1	1	213	3	0	0	5	0	0	0	0
Period 2 Peak Hr	87	1	0	1	1020	31	1	0	137	3	0	0	2	0	0	0	0
16:00	28	1	0	0	296	14	1	0	39	1	0	0	1	0	0	0	0
16:15	28	0	0	1	241	8	0	0	38	1	0	0	0	0	0	0	0
16:30	15	0	0	0	255	4	0	0	35	0	0	0	0	0	0	0	0
16:45	16	0	0	0	228	5	0	0	25	1	0	0	1	0	0	0	0
17:00	15	0	0	0	247	4	0	1	18	0	0	0	0	0	0	0	0
17:15	12	0	0	0	212	4	0	0	24	0	0	0	0	0	0	0	0
17:30	10	0	0	1	202	1	0	0	21	0	0	0	0	0	0	0	0
17:45	2	0	0	0	183	2	0	0	13	0	0	0	3	0	0	0	0

	Tweed City Shopp	Tweed City Shopp	Tweed City Shopp	Tweed City Shopp	Tweed City Shopp	Tweed City Shopp	Tweed City Shopp	Tweed City Shopp	Tweed City Shopp	Tweed City Shopp	Tweed City Shopp	Tweed City Shopp	Tweed City Shopp	Tweed City Shopp	Tweed City Shopp	Tweed City Shopp	Tweed City Shopp
	Left	Left	Left	Left	Through	Through	Through	Through	Right	Right	Right	Right	U-turn	U-turn	U-turn	U-turn	Cross 1
Time Starting	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Pedestrians
Period 2 Total	192	1	0	0	24	0	0	1	120	0	0	0	0	0	0	0	5
Period 2 Peak Hr	107	1	0	0	12	0	0	0	70	0	0	0	0	0	0	0	5
16:00	27	0	0	0	3	0	0	0	8	0	0	0	0	0	0	0	5
16:15	28	0	0	0	2	0	0	0	25	0	0	0	0	0	0	0	0
16:30	24	1	0	0	4	0	0	0	20	0	0	0	0	0	0	0	0
16:45	28	0	0	0	3	0	0	0	17	0	0	0	0	0	0	0	0
17:00	21	0	0	0	7	0	0	0	12	0	0	0	0	0	0	0	0
17:15	32	0	0	0	2	0	0	1	9	0	0	0	0	0	0	0	0
17:30	18	0	0	0	2	0	0	0	15	0	0	0	0	0	0	0	0
17:45	14	0	0	0	1	0	0	0	14	0	0	0	0	0	0	0	0

	Minjungbal Dve N	Minjungbal Dve N	Minjungbal Dve N	Minjungbal Dve N	Minjungbal Dve N	Minjungbal Dve N	Minjungbal Dve N	Minjungbal Dve N	Minjungbal Dve N	Minjungbal Dve N	Minjungbal Dve N	Minjungbal Dve N	Minjungbal Dve N	Minjungbal Dve N	Minjungbal Dve N	Minjungbal Dve N	Minjungbal Dve N
	Left	Left	Left	Left	Through	Through	Through	Through	Right	Right	Right	Right	U-turn	U-turn	U-turn	U-turn	Cross 1
Time Starting	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Pedestrians
Period 2 Total	60	0	0	0	1421	33	2	0	110	1	0	0	0	0	0	0	20
Period 2 Peak Hr	37	0	0	0	726	20	0	0	60	1	0	0	0	0	0	0	16
16:00	13	0	0	0	198	4	0	0	19	0	0	0	0	0	0	0	3
16:15	12	0	0	0	184	7	0	0	17	0	0	0	0	0	0	0	8
16:30	6	0	0	0	166	5	0	0	16	1	0	0	0	0	0	0	3
16:45	6	0	0	0	178	4	0	0	8	0	0	0	0	0	0	0	2
17:00	11	0	0	0	168	1	0	0	12	0	0	0	0	0	0	0	1
17:15	6	0	0	0	163	4	0	0	15	0	0	0	0	0	0	0	1
17:30	5	0	0	0	193	3	0	0	13	0	0	0	0	0	0	0	1
17:45	1	0	0	0	171	5	2	0	10	0	0	0	0	0	0	0	1

	Blundell Blvd EB	Blundell Blvd EB	Blundell Blvd EB	Blundell Blvd EB	Blundell Blvd EB	Blundell Blvd EB	Blundell Blvd EB	Blundell Blvd EB	Blundell Blvd EB	Blundell Blvd EB	Blundell Blvd EB	Blundell Blvd EB	Blundell Blvd EB	Blundell Blvd EB	Blundell Blvd EB	Blundell Blvd EB	Blundell Blvd EB
	Left	Left	Left	Left	Through	Through	Through	Through	Right	Right	Right	Right	U-turn	U-turn	U-turn	U-turn	Cross 1
Time Starting	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Pedestrians
Period 2 Total	371	2	0	2	30	0	0	2	91	2	0	0	0	0	0	0	9
Period 2 Peak Hr	201	0	0	0	20	0	0	2	50	1	0	0	0	0	0	0	9
16:00	54	0	0	0	5	0	0	0	14	0	0	0	0	0	0	0	2
16:15	44	0	0	0	5	0	0	1	10	0	0	0	0	0	0	0	3
16:30	56	0	0	0	6	0	0	0	12	0	0	0	0	0	0	0	4
16:45	47	0	0	0	4	0	0	1	14	1	0	0	0	0	0	0	0
17:00	75	1	0	0	8	0	0	0	20	1	0	0	0	0	0	0	0
17:15	42	0	0	1	2	0	0	0	3	0	0	0	0	0	0	0	0
17:30	37	0	0	1	0	0	0	0	13	0	0	0	0	0	0	0	0
17:45	16	1	0	0	0	0	0	0	5	0	0	0	0	0	0	0	0

	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE
Period 2 Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Period 2 Peak Hr	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

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AM Peak+Calc	PM Peak+Calc		PM Peak	Time		Flag-PM
	726		2591	16:00		1
	652		2487	16:15		2
	626		2367	16:30		3
	587		2276	16:45		4
	622		2132	17:00		
	532		1510	17:15		
	535		978	17:30		
	443		443	17:45		

	GRAND TOTAL	Minjungbal Dve S	Tweed City Shopp	Minjungbal Dve N	Blundell Blvd EB
		TOTAL	TOTAL	TOTAL	TOTAL
Time Starting	TOTALS	All Classes	All Classes	All Classes	All Classes
Period 2 Total	4723	2258	338	1627	500
Period 2 Peak Hr	2591	1283	190	844	274
16:00	**726**	381	38	234	73
16:15	**652**	317	55	220	60
16:30	**626**	309	49	194	74
16:45	**587**	276	48	196	67
17:00	**622**	285	40	192	105
17:15	**532**	252	44	188	48
17:30	**535**	235	35	214	51
17:45	**443**	203	29	189	22

TDC
Traffic Data & Control

SURVEY INFORMATION

Site ID:	20		
Location:	Minjungbal Dve & Heffron St, Tweed Heads South		
Date:	14 / Sept / 2016		
Time Period 1:	07:00	to	09:00
Time Period 2:	16:00	to	18:00

	Primary Classes:	Secondary Classes:
1	Light Vehicles	Pedestrians
2	Light Trucks (3-5)	None
3	Heavy Trucks (6-12)	
4	Bicycles on Road	
5	None	

Weather Conditions 1: Fine **Weather Conditions 2:** Fine

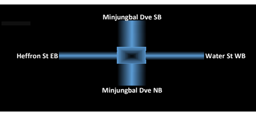
Intersection Legs:		Ch	
	North	✓	Minjungbal Dve SB
	East	✓	Water St WB
	South	✓	Minjungbal Dve NB
	West	✓	Heffron St EB

Output time interval: 15 mins

MAP

Site ID: 20
Location: Minjungbal Dve & Heffron St, Tweed Heads South
Date: 14-Sept-2016
Period 1 Time: 7:00 AM to 9:00 AM
Weather: Fine

Period 1 Peak Hour: 8:00 AM to 9:00 AM



TOTALS AND PEAKS

	Minjungbal Dve SB	Minjungbal Dve SB	Minjungbal Dve SB	Minjungbal Dve SB	Minjungbal Dve SB	Minjungbal Dve SB	Minjungbal Dve SB	Minjungbal Dve SB	Minjungbal Dve SB	Minjungbal Dve SB	Minjungbal Dve SB	Minjungbal Dve SB	Minjungbal Dve SB	Minjungbal Dve SB	Minjungbal Dve SB	Minjungbal Dve SB	Minjungbal Dve SB
	Left	Left	Left	Left	Through	Through	Through	Through	Right	Right	Right	Right	U-turn	U-turn	U-turn	U-turn	Cross 1
Time Starting	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Pedestrians
Period 1 Total	25	6	1	0	1016	40	1	5	49	9	0	0	0	0	0	0	1
Period 1 Peak Hr	18	3	1	0	642	25	1	3	27	6	0	0	0	0	0	0	0
07:00	0	0	0	0	65	2	0	0	6	0	0	0	0	0	0	0	0
07:15	1	1	0	0	71	5	0	1	2	0	0	0	0	0	0	0	0
07:30	4	0	0	0	105	4	0	1	7	1	0	0	0	0	0	0	1
07:45	2	2	0	0	133	4	0	0	7	2	0	0	0	0	0	0	0
08:00	5	1	0	0	153	10	0	0	14	3	0	0	0	0	0	0	0
08:15	3	1	1	0	145	4	0	1	4	2	0	0	0	0	0	0	0
08:30	8	0	0	0	154	6	0	2	4	1	0	0	0	0	0	0	0
08:45	2	1	0	0	190	5	1	0	5	0	0	0	0	0	0	0	0

	Water St WB	Water St WB	Water St WB	Water St WB	Water St WB	Water St WB	Water St WB	Water St WB	Water St WB	Water St WB	Water St WB	Water St WB	Water St WB	Water St WB	Water St WB	Water St WB	Water St WB
	Left	Left	Left	Left	Through	Through	Through	Through	Right	Right	Right	Right	U-turn	U-turn	U-turn	U-turn	Cross 1
Time Starting	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Pedestrians
Period 1 Total	13	2	0	0	10	0	0	0	44	4	0	1	0	0	0	0	17
Period 1 Peak Hr	5	2	0	0	8	0	0	0	23	2	0	1	0	0	0	0	8
07:00	0	0	0	0	0	0	0	0	6	0	0	0	0	0	0	0	3
07:15	1	0	0	0	1	0	0	0	7	0	0	0	0	0	0	0	0
07:30	2	0	0	0	1	0	0	0	2	2	0	0	0	0	0	0	3
07:45	5	0	0	0	0	0	0	0	6	0	0	0	0	0	0	0	3
08:00	2	1	0	0	2	0	0	0	6	1	0	0	0	0	0	0	2
08:15	0	0	0	0	2	0	0	0	4	0	0	1	0	0	0	0	5
08:30	2	0	0	0	0	0	0	0	8	1	0	0	0	0	0	0	1
08:45	1	1	0	0	4	0	0	0	5	0	0	0	0	0	0	0	0

	Minjungbal Dve N	Minjungbal Dve N	Minjungbal Dve N	Minjungbal Dve N	Minjungbal Dve N	Minjungbal Dve N	Minjungbal Dve N	Minjungbal Dve N	Minjungbal Dve N	Minjungbal Dve N	Minjungbal Dve N	Minjungbal Dve N	Minjungbal Dve N	Minjungbal Dve N	Minjungbal Dve N	Minjungbal Dve N	Minjungbal Dve N
	Left	Left	Left	Left	Through	Through	Through	Through	Right	Right	Right	Right	U-turn	U-turn	U-turn	U-turn	Cross 1
Time Starting	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Pedestrians
Period 1 Total	296	12	0	0	1582	52	2	3	10	0	0	0	0	0	0	0	15
Period 1 Peak Hr	200	6	0	0	1012	28	2	0	8	0	0	0	0	0	0	0	7
07:00	4	0	0	0	93	5	0	0	0	0	0	0	0	0	0	0	1
07:15	21	1	0	0	121	6	0	3	0	0	0	0	0	0	0	0	0
07:30	30	2	0	0	161	3	0	0	0	0	0	0	0	0	0	0	2
07:45	41	3	0	0	195	10	0	0	2	0	0	0	0	0	0	0	5
08:00	80	3	0	0	196	6	1	0	3	0	0	0	0	0	0	0	2
08:15	59	1	0	0	256	7	0	0	1	0	0	0	0	0	0	0	2
08:30	33	2	0	0	278	3	0	0	1	0	0	0	0	0	0	0	1
08:45	28	0	0	0	282	12	1	0	3	0	0	0	0	0	0	0	2

	Heffron St EB	Heffron St EB	Heffron St EB	Heffron St EB	Heffron St EB	Heffron St EB	Heffron St EB	Heffron St EB	Heffron St EB	Heffron St EB	Heffron St EB	Heffron St EB	Heffron St EB	Heffron St EB	Heffron St EB	Heffron St EB	Heffron St EB
	Left	Left	Left	Left	Through	Through	Through	Through	Right	Right	Right	Right	U-turn	U-turn	U-turn	U-turn	Cross 1
Time Starting	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Pedestrians
Period 1 Total	69	0	0	1	28	0	0	0	320	13	0	0	0	0	0	0	14
Period 1 Peak Hr	50	0	0	0	20	0	0	0	229	6	0	0	0	0	0	0	9
07:00	3	0	0	0	1	0	0	0	16	2	0	0	0	0	0	0	0
07:15	2	0	0	1	1	0	0	0	18	1	0	0	0	0	0	0	1
07:30	4	0	0	0	1	0	0	0	24	1	0	0	0	0	0	0	0
07:45	10	0	0	0	5	0	0	0	33	3	0	0	0	0	0	0	4
08:00	20	0	0	0	6	0	0	0	61	1	0	0	0	0	0	0	2
08:15	18	0	0	0	6	0	0	0	63	2	0	0	0	0	0	0	4
08:30	7	0	0	0	5	0	0	0	48	2	0	0	0	0	0	0	0
08:45	5	0	0	0	3	0	0	0	57	1	0	0	0	0	0	0	3

	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE
Period 1 Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Period 1 Peak Hr	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

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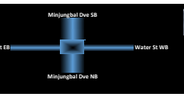
Time Starting	AM Peak+Calc	PM Peak+Calc	AM Peak		Time	Flag-AM	
07:00	203		1286		07:00		
07:15	265		1658		07:15		
07:30	355		1974		07:30		
07:45	463		2184		07:45		
08:00	575		2328		08:00	1	
08:15	581		1753		08:15	2	
08:30	565		1172		08:30	3	
08:45	607		607		08:45	4	

	GRAND TOTAL	Minjungbal Dve SB	Water St WB	Minjungbal Dve N	Heffron St EB
		TOTAL	TOTAL	TOTAL	TOTAL
Time Starting	TOTALS	All Classes	All Classes	All Classes	All Classes
Period 1 Total	3614	1152	74	1957	431
Period 1 Peak Hr	2328	726	41	1256	305
07:00	**203**	73	6	102	22
07:15	**265**	81	9	152	23
07:30	**355**	122	7	196	30
07:45	**463**	150	11	251	51
08:00	**575**	186	12	289	88
08:15	**581**	161	7	324	89
08:30	**565**	175	11	317	62
08:45	**607**	204	11	326	66

Site ID: 20
Location: Minjungbal Dve & Heffron St, Tweed Heads South
Date: 14-Sept-2016
Period 2 Time: 4:00 PM to 6:00 PM
Weather: Fine

Period 2 Peak Hour: 4:00 PM to 5:00 PM



TOTALS AND PEAKS

	Minjungbal Dve S	Minjungbal Dve S	Minjungbal Dve S	Minjungbal Dve S	Minjungbal Dve S	Minjungbal Dve S	Minjungbal Dve S	Minjungbal Dve S	Minjungbal Dve S	Minjungbal Dve S	Minjungbal Dve S	Minjungbal Dve S	Minjungbal Dve S	Minjungbal Dve S	Minjungbal Dve S	Minjungbal Dve S	Minjungbal Dve S
	Left	Left	Left	Left	Through	Through	Through	Through	Right	Right	Right	Right	U-turn	U-turn	U-turn	U-turn	Cross 1
Time Starting	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Pedestrians
Period 2 Total	16	3	0	1	1496	24	0	1	43	1	0	0	0	0	0	0	0
Period 2 Peak Hr	8	1	0	1	848	14	0	0	30	0	0	0	0	0	0	0	0
16:00	2	0	0	0	223	6	0	0	11	0	0	0	0	0	0	0	0
16:15	0	0	0	0	208	4	0	0	6	0	0	0	0	0	0	0	0
16:30	5	0	0	1	220	1	0	0	6	0	0	0	0	0	0	0	0
16:45	1	1	0	0	197	3	0	0	7	0	0	0	0	0	0	0	0
17:00	0	0	0	0	196	4	0	1	1	1	0	0	0	0	0	0	0
17:15	2	0	0	0	170	3	0	0	3	0	0	0	0	0	0	0	0
17:30	5	1	0	0	165	1	0	0	7	0	0	0	0	0	0	0	0
17:45	1	1	0	0	117	2	0	0	2	0	0	0	0	0	0	0	0

	Water St WB	Water St WB	Water St WB	Water St WB	Water St WB	Water St WB	Water St WB	Water St WB	Water St WB	Water St WB	Water St WB	Water St WB	Water St WB	Water St WB	Water St WB	Water St WB	Water St WB
	Left	Left	Left	Left	Through	Through	Through	Through	Right	Right	Right	Right	U-turn	U-turn	U-turn	U-turn	Cross 1
Time Starting	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Pedestrians
Period 2 Total	17	0	0	1	15	0	0	0	94	5	0	0	0	0	0	0	13
Period 2 Peak Hr	11	0	0	1	12	0	0	0	51	2	0	0	0	0	0	0	6
16:00	3	0	0	0	5	0	0	0	16	1	0	0	0	0	0	0	0
16:15	3	0	0	0	3	0	0	0	16	0	0	0	0	0	0	0	0
16:30	3	0	0	1	2	0	0	0	7	1	0	0	0	0	0	0	1
16:45	2	0	0	0	2	0	0	0	12	0	0	0	0	0	0	0	5
17:00	4	0	0	0	2	0	0	0	12	2	0	0	0	0	0	0	3
17:15	1	0	0	0	0	0	0	0	6	0	0	0	0	0	0	0	0
17:30	0	0	0	0	1	0	0	0	12	1	0	0	0	0	0	0	0
17:45	1	0	0	0	0	0	0	0	13	0	0	0	0	0	0	0	4

	Minjungbal Dve N	Minjungbal Dve N	Minjungbal Dve N	Minjungbal Dve N	Minjungbal Dve N	Minjungbal Dve N	Minjungbal Dve N	Minjungbal Dve N	Minjungbal Dve N	Minjungbal Dve N	Minjungbal Dve N	Minjungbal Dve N	Minjungbal Dve N	Minjungbal Dve N	Minjungbal Dve N	Minjungbal Dve N	Minjungbal Dve N
	Left	Left	Left	Left	Through	Through	Through	Through	Right	Right	Right	Right	U-turn	U-turn	U-turn	U-turn	Cross 1
Time Starting	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Pedestrians
Period 2 Total	130	3	0	0	1914	38	2	1	27	0	0	0	1	0	0	0	20
Period 2 Peak Hr	59	2	0	0	1030	21	0	0	15	0	0	0	0	0	0	0	15
16:00	9	0	0	0	260	4	0	0	6	0	0	0	0	0	0	0	2
16:15	18	0	0	0	270	6	0	0	2	0	0	0	0	0	0	0	5
16:30	20	1	0	0	250	7	0	0	4	0	0	0	0	0	0	0	2
16:45	12	1	0	0	250	4	0	0	3	0	0	0	0	0	0	0	6
17:00	21	0	0	0	244	4	0	0	5	0	0	0	0	0	0	0	0
17:15	11	0	0	0	215	2	0	0	1	0	0	0	0	0	0	0	2
17:30	18	1	0	0	224	2	0	1	4	0	0	0	0	0	0	0	0
17:45	21	0	0	0	201	9	2	0	2	0	0	0	1	0	0	0	3

	Heffron St EB	Heffron St EB	Heffron St EB	Heffron St EB	Heffron St EB	Heffron St EB	Heffron St EB	Heffron St EB	Heffron St EB	Heffron St EB	Heffron St EB	Heffron St EB	Heffron St EB	Heffron St EB	Heffron St EB	Heffron St EB	Heffron St EB
	Left	Left	Left	Left	Through	Through	Through	Through	Right	Right	Right	Right	U-turn	U-turn	U-turn	U-turn	Cross 1
Time Starting	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Pedestrians
Period 2 Total	54	0	0	0	24	0	0	0	355	2	0	0	0	0	0	0	10
Period 2 Peak Hr	33	0	0	0	6	0	0	0	199	1	0	0	0	0	0	0	6
16:00	7	0	0	0	2	0	0	0	56	1	0	0	0	0	0	0	1
16:15	6	0	0	0	0	0	0	0	53	0	0	0	0	0	0	0	1
16:30	11	0	0	0	3	0	0	0	47	0	0	0	0	0	0	0	0
16:45	9	0	0	0	1	0	0	0	43	0	0	0	0	0	0	0	4
17:00	2	0	0	0	5	0	0	0	38	1	0	0	0	0	0	0	2
17:15	8	0	0	0	2	0	0	0	41	0	0	0	0	0	0	0	2
17:30	3	0	0	0	5	0	0	0	35	0	0	0	0	0	0	0	0
17:45	8	0	0	0	6	0	0	0	42	0	0	0	0	0	0	0	0

	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE
Period 2 Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Period 2 Peak Hr	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

	Hide this column	Hide this column	Hide this column	Hide this column	Hide this column	Hide this column	Hide this column	GRAND TOTAL	Minjungbal Dve S	Water St WB	Minjungbal Dve N	Heffron St EB
									TOTAL	TOTAL	TOTAL	TOTAL
Time Starting	AM Peak+Calc	PM Peak+Calc		PM Peak	Time		Flag-PM	TOTALS	All Classes	All Classes	All Classes	All Classes
Period 2 Total								4268	1585	132	2116	435
Period 2 Peak Hr								2345	902	77	1127	239
16:00		612		2345	16:00		1	**612**	242	25	279	66
16:15		595		2276	16:15		2	**595**	218	22	296	59
16:30		590		2146	16:30		3	**590**	233	14	282	61
16:45		548		2042	16:45		4	**548**	209	16	270	53
17:00		543		1923	17:00			**543**	203	20	274	46
17:15		465		1380	17:15			**465**	178	7	229	51
17:30		486		915	17:30			**486**	179	14	250	43
17:45		429		429	17:45			**429**	123	14	236	56

TDC
Traffic Data & Control

SURVEY INFORMATION

Site ID:	21		
Location:	Minjungbal Dve & Kirkwood Rd, Tweed Heads South		
Date:	14 / Sept / 2016		
Time Period 1:	07:00	to	09:00
Time Period 2:	16:00	to	18:00

	Primary Classes:	Secondary Classes:
1	Light Vehicles	Pedestrians
2	Light Trucks (3-5)	None
3	Heavy Trucks (6-12)	
4	Bicycles on Road	
5	None	

Weather Conditions 1: Fine **Weather Conditions 2:** Fine

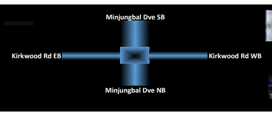
Intersection Legs:		Ch	
	North	✓	Minjungbal Dve SB
	East	✓	Kirkwood Rd WB
	South	✓	Minjungbal Dve NB
	West	✓	Kirkwood Rd EB

Output time interval: 15 mins

MAP

Site ID: 21
Location: Minjungbal Dve & Kirkwood Rd, Tweed Heads South
Date: 14-Sept-2016
Period 1 Time: 7:00 AM to 9:00 AM
Weather: Fine

Period 1 Peak Hour: 8:00 AM to 9:00 AM



TOTALS AND PEAKS

	Minjungbal Dve SB	Minjungbal Dve SB	Minjungbal Dve SB	Minjungbal Dve SB	Minjungbal Dve SB	Minjungbal Dve SB	Minjungbal Dve SB	Minjungbal Dve SB	Minjungbal Dve SB	Minjungbal Dve SB	Minjungbal Dve SB	Minjungbal Dve SB	Minjungbal Dve SB	Minjungbal Dve SB	Minjungbal Dve SB	Minjungbal Dve SB	Minjungbal Dve SB
	Left	Left	Left	Left	Through	Through	Through	Through	Right	Right	Right	Right	U-turn	U-turn	U-turn	U-turn	Cross 1
Time Starting	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Pedestrians
Period 1 Total	139	10	0	2	1136	46	2	2	45	2	0	0	0	0	0	0	0
Period 1 Peak Hr	104	7	0	1	724	27	1	1	31	2	0	0	0	0	0	0	0
07:00	6	0	0	0	72	5	0	0	3	0	0	0	0	0	0	0	0
07:15	6	0	0	1	81	6	0	0	3	0	0	0	0	0	0	0	0
07:30	11	2	0	0	108	4	0	1	5	0	0	0	0	0	0	0	0
07:45	12	1	0	0	151	4	1	0	3	0	0	0	0	0	0	0	0
08:00	22	4	0	0	190	9	0	1	8	2	0	0	0	0	0	0	0
08:15	23	1	0	1	175	5	0	0	6	0	0	0	0	0	0	0	0
08:30	24	0	0	0	174	8	0	0	6	0	0	0	0	0	0	0	0
08:45	35	2	0	0	185	5	1	0	11	0	0	0	0	0	0	0	0

	Kirkwood Rd WB	Kirkwood Rd WB	Kirkwood Rd WB	Kirkwood Rd WB	Kirkwood Rd WB	Kirkwood Rd WB	Kirkwood Rd WB	Kirkwood Rd WB	Kirkwood Rd WB	Kirkwood Rd WB	Kirkwood Rd WB	Kirkwood Rd WB	Kirkwood Rd WB	Kirkwood Rd WB	Kirkwood Rd WB	Kirkwood Rd WB	Kirkwood Rd WB
	Left	Left	Left	Left	Through	Through	Through	Through	Right	Right	Right	Right	U-turn	U-turn	U-turn	U-turn	Cross 1
Time Starting	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Pedestrians
Period 1 Total	83	6	0	0	12	0	0	0	92	9	0	0	0	0	0	0	23
Period 1 Peak Hr	54	6	0	0	7	0	0	0	62	6	0	0	0	0	0	0	14
07:00	3	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	2
07:15	8	0	0	0	0	0	0	0	8	1	0	0	0	0	0	0	1
07:30	2	0	0	0	4	0	0	0	8	2	0	0	0	0	0	0	2
07:45	16	0	0	0	1	0	0	0	12	0	0	0	0	0	0	0	4
08:00	18	2	0	0	0	0	0	0	8	0	0	0	0	0	0	0	2
08:15	9	2	0	0	1	0	0	0	17	1	0	0	0	0	0	0	6
08:30	14	1	0	0	3	0	0	0	18	1	0	0	0	0	0	0	6
08:45	13	1	0	0	3	0	0	0	19	4	0	0	0	0	0	0	0

	Minjungbal Dve N	Minjungbal Dve N	Minjungbal Dve N	Minjungbal Dve N	Minjungbal Dve N	Minjungbal Dve N	Minjungbal Dve N	Minjungbal Dve N	Minjungbal Dve N	Minjungbal Dve N	Minjungbal Dve N	Minjungbal Dve N	Minjungbal Dve N	Minjungbal Dve N	Minjungbal Dve N	Minjungbal Dve N	Minjungbal Dve N
	Left	Left	Left	Left	Through	Through	Through	Through	Right	Right	Right	Right	U-turn	U-turn	U-turn	U-turn	Cross 1
Time Starting	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Pedestrians
Period 1 Total	97	0	0	0	1635	44	2	3	167	8	0	0	1	0	0	0	8
Period 1 Peak Hr	78	0	0	0	1072	25	2	0	109	5	0	0	1	0	0	0	7
07:00	5	0	0	0	84	3	0	0	10	1	0	0	0	0	0	0	1
07:15	4	0	0	0	126	5	0	2	11	1	0	0	0	0	0	0	0
07:30	4	0	0	0	155	4	0	1	11	1	0	0	0	0	0	0	0
07:45	6	0	0	0	198	7	0	0	26	0	0	0	0	0	0	0	0
08:00	12	0	0	0	267	6	1	0	18	1	0	0	0	0	0	0	2
08:15	17	0	0	0	273	8	0	0	27	3	0	0	0	0	0	0	1
08:30	24	0	0	0	275	4	0	0	27	0	0	0	0	0	0	0	1
08:45	25	0	0	0	257	7	1	0	37	1	0	0	1	0	0	0	3

	Kirkwood Rd EB	Kirkwood Rd EB	Kirkwood Rd EB	Kirkwood Rd EB	Kirkwood Rd EB	Kirkwood Rd EB	Kirkwood Rd EB	Kirkwood Rd EB	Kirkwood Rd EB	Kirkwood Rd EB	Kirkwood Rd EB	Kirkwood Rd EB	Kirkwood Rd EB	Kirkwood Rd EB	Kirkwood Rd EB	Kirkwood Rd EB	Kirkwood Rd EB
	Left	Left	Left	Left	Through	Through	Through	Through	Right	Right	Right	Right	U-turn	U-turn	U-turn	U-turn	Cross 1
Time Starting	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Pedestrians
Period 1 Total	198	6	0	0	177	4	0	0	375	8	1	0	0	0	0	0	7
Period 1 Peak Hr	121	2	0	0	124	4	0	0	242	3	0	0	0	0	0	0	6
07:00	9	0	0	0	6	0	0	0	17	1	0	0	0	0	0	0	0
07:15	18	1	0	0	13	0	0	0	35	1	0	0	0	0	0	0	0
07:30	22	2	0	0	18	0	0	0	27	2	1	0	0	0	0	0	0
07:45	28	1	0	0	16	0	0	0	54	1	0	0	0	0	0	0	1
08:00	33	0	0	0	21	1	0	0	57	2	0	0	0	0	0	0	1
08:15	29	0	0	0	31	0	0	0	72	0	0	0	0	0	0	0	0
08:30	30	1	0	0	43	2	0	0	51	0	0	0	0	0	0	0	2
08:45	29	1	0	0	29	1	0	0	62	1	0	0	0	0	0	0	3

	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE
Period 1 Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Period 1 Peak Hr	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

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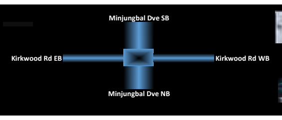
AM Peak+Calc	PM Peak+Calc	AM Peak		Time	Flag-AM	
227		1491		07:00		
331		1947		07:15		
395		2317		07:30		
538		2628		07:45		
683		2821		08:00	1	
701		2138		08:15	2	
706		1437		08:30	3	
731		731		08:45	4	

	GRAND TOTAL	Minjungbal Dve SB	Kirkwood Rd WB	Minjungbal Dve N	Kirkwood Rd EB
		TOTAL	TOTAL	TOTAL	TOTAL
	TOTALS	All Classes	All Classes	All Classes	All Classes
Period 1 Total	4312	1384	202	1957	769
Period 1 Peak Hr	2821	898	135	1292	496
07:00	**227**	86	5	103	33
07:15	**331**	97	17	149	68
07:30	**395**	131	16	176	72
07:45	**538**	172	29	237	100
08:00	**683**	236	28	305	114
08:15	**701**	211	30	328	132
08:30	**706**	212	37	330	127
08:45	**731**	239	40	329	123

Site ID: 21
Location: Minjungbal Dve & Kirkwood Rd, Tweed Heads South
Date: 14-Sept-2016
Period 2 Time: 4:00 PM to 6:00 PM
Weather: Fine

Period 2 Peak Hour: 4:00 PM to 5:00 PM



TOTALS AND PEAKS

	Minjungbal Dve S	Minjungbal Dve S	Minjungbal Dve S	Minjungbal Dve S	Minjungbal Dve S	Minjungbal Dve S	Minjungbal Dve S	Minjungbal Dve S	Minjungbal Dve S	Minjungbal Dve S	Minjungbal Dve S	Minjungbal Dve S	Minjungbal Dve S	Minjungbal Dve S	Minjungbal Dve S	Minjungbal Dve S	Minjungbal Dve S
	Left	Left	Left	Left	Through	Through	Through	Through	Right	Right	Right	Right	U-turn	U-turn	U-turn	U-turn	Cross 1
Time Starting	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Pedestrians
Period 2 Total	145	6	0	0	1670	19	0	0	67	1	0	0	1	0	0	0	0
Period 2 Peak Hr	85	2	0	0	960	13	0	0	28	1	0	0	0	0	0	0	0
16:00	18	2	0	0	245	5	0	0	7	0	0	0	0	0	0	0	0
16:15	26	0	0	0	260	5	0	0	6	0	0	0	0	0	0	0	0
16:30	19	0	0	0	233	1	0	0	10	0	0	0	0	0	0	0	0
16:45	22	0	0	0	222	2	0	0	5	1	0	0	0	0	0	0	0
17:00	16	3	0	0	197	1	0	0	11	0	0	0	0	0	0	0	0
17:15	15	0	0	0	198	3	0	0	10	0	0	0	0	0	0	0	0
17:30	17	0	0	0	173	1	0	0	13	0	0	0	0	0	0	0	0
17:45	12	1	0	0	142	1	0	0	5	0	0	0	1	0	0	0	0

	Kirkwood Rd WB	Kirkwood Rd WB	Kirkwood Rd WB	Kirkwood Rd WB	Kirkwood Rd WB	Kirkwood Rd WB	Kirkwood Rd WB	Kirkwood Rd WB	Kirkwood Rd WB	Kirkwood Rd WB	Kirkwood Rd WB	Kirkwood Rd WB	Kirkwood Rd WB	Kirkwood Rd WB	Kirkwood Rd WB	Kirkwood Rd WB	Kirkwood Rd WB
	Left	Left	Left	Left	Through	Through	Through	Through	Right	Right	Right	Right	U-turn	U-turn	U-turn	U-turn	Cross 1
Time Starting	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Pedestrians
Period 2 Total	223	6	0	0	62	1	0	0	303	5	0	0	0	0	0	0	12
Period 2 Peak Hr	133	4	0	0	30	1	0	0	163	3	0	0	0	0	0	0	7
16:00	54	2	0	0	5	1	0	0	52	0	0	0	0	0	0	0	1
16:15	36	2	0	0	7	0	0	0	32	0	0	0	0	0	0	0	0
16:30	26	0	0	0	8	0	0	0	42	1	0	0	0	0	0	0	3
16:45	17	0	0	0	10	0	0	0	37	2	0	0	0	0	0	0	3
17:00	26	2	0	0	8	0	0	0	42	0	0	0	0	0	0	0	1
17:15	29	0	0	0	6	0	0	0	25	0	0	0	0	0	0	0	0
17:30	24	0	0	0	11	0	0	0	33	1	0	0	0	0	0	0	0
17:45	11	0	0	0	7	0	0	0	40	1	0	0	0	0	0	0	4

	Minjungbal Dve N	Minjungbal Dve N	Minjungbal Dve N	Minjungbal Dve N	Minjungbal Dve N	Minjungbal Dve N	Minjungbal Dve N	Minjungbal Dve N	Minjungbal Dve N	Minjungbal Dve N	Minjungbal Dve N	Minjungbal Dve N	Minjungbal Dve N	Minjungbal Dve N	Minjungbal Dve N	Minjungbal Dve N	Minjungbal Dve N
	Left	Left	Left	Left	Through	Through	Through	Through	Right	Right	Right	Right	U-turn	U-turn	U-turn	U-turn	Cross 1
Time Starting	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Pedestrians
Period 2 Total	138	1	0	0	1649	29	2	3	140	7	0	0	3	0	0	0	4
Period 2 Peak Hr	71	1	0	0	864	18	0	1	68	4	0	0	1	0	0	0	3
16:00	16	0	0	0	226	4	0	0	25	1	0	0	0	0	0	0	1
16:15	20	1	0	0	216	5	0	0	16	2	0	0	1	0	0	0	0
16:30	15	0	0	0	202	5	0	1	12	0	0	0	0	0	0	0	2
16:45	20	0	0	0	220	4	0	0	15	1	0	0	0	0	0	0	0
17:00	25	0	0	0	216	2	0	0	16	0	0	0	0	0	0	0	0
17:15	12	0	0	0	183	2	0	1	17	2	0	0	1	0	0	0	1
17:30	19	0	0	0	215	2	0	1	21	1	0	0	0	0	0	0	0
17:45	11	0	0	0	171	5	2	0	18	0	0	0	1	0	0	0	0

	Kirkwood Rd EB	Kirkwood Rd EB	Kirkwood Rd EB	Kirkwood Rd EB	Kirkwood Rd EB	Kirkwood Rd EB	Kirkwood Rd EB	Kirkwood Rd EB	Kirkwood Rd EB	Kirkwood Rd EB	Kirkwood Rd EB	Kirkwood Rd EB	Kirkwood Rd EB	Kirkwood Rd EB	Kirkwood Rd EB	Kirkwood Rd EB	Kirkwood Rd EB
	Left	Left	Left	Left	Through	Through	Through	Through	Right	Right	Right	Right	U-turn	U-turn	U-turn	U-turn	Cross 1
Time Starting	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Pedestrians
Period 2 Total	138	2	0	0	112	0	0	0	241	1	1	0	0	0	0	0	5
Period 2 Peak Hr	75	2	0	0	64	0	0	0	137	0	1	0	0	0	0	0	4
16:00	15	0	0	0	16	0	0	0	34	0	1	0	0	0	0	0	1
16:15	19	2	0	0	16	0	0	0	40	0	0	0	0	0	0	0	2
16:30	20	0	0	0	22	0	0	0	32	0	0	0	0	0	0	0	1
16:45	21	0	0	0	10	0	0	0	31	0	0	0	0	0	0	0	0
17:00	15	0	0	0	11	0	0	0	27	0	0	0	0	0	0	0	0
17:15	17	0	0	0	13	0	0	0	26	1	0	0	0	0	0	0	0
17:30	18	0	0	0	12	0	0	0	27	0	0	0	0	0	0	0	0
17:45	13	0	0	0	12	0	0	0	24	0	0	0	0	0	0	0	1

	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE
Period 2 Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Period 2 Peak Hr	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

	Hide this column	Hide this column	Hide this column	Hide this column	Hide this column	Hide this column	Hide this column	GRAND TOTAL	Minjungbal Dve S	Kirkwood Rd WB	Minjungbal Dve N	Kirkwood Rd EB
									TOTAL	TOTAL	TOTAL	TOTAL
Time Starting	AM Peak+Calc	PM Peak+Calc		PM Peak	Time		Flag-PM	TOTALS	All Classes	All Classes	All Classes	All Classes
Period 2 Total								4976	1909	600	1972	495
Period 2 Peak Hr								2730	1089	334	1028	279
16:00		729		2730	16:00		1	**729**	277	114	272	66
16:15		712		2619	16:15		2	**712**	297	77	261	77
16:30		649		2468	16:30		3	**649**	263	77	235	74
16:45		640		2408	16:45		4	**640**	252	66	260	62
17:00		618		2246	17:00			**618**	228	78	259	53
17:15		561		1628	17:15			**561**	226	60	218	57
17:30		589		1067	17:30			**589**	204	69	259	57
17:45		478		478	17:45			**478**	162	59	208	49

TDC
Traffic Data & Control

SURVEY INFORMATION

Site ID:	23			
Location:	Minjungbal Dve & Machinery Dve, Tweed Heads South			
Date:	14	/ Sept	/ 2016	
Time Period 1:	07:00	to	09:00	
Time Period 2:	16:00	to	18:00	

	Primary Classes:	Secondary Classes:
1	Light Vehicles	Pedestrians
2	Light Trucks (3-5)	None
3	Heavy Trucks (6-12)	
4	Bicycles on Road	
5	None	

Weather Conditions 1: Fine **Weather Conditions 2:** Fine

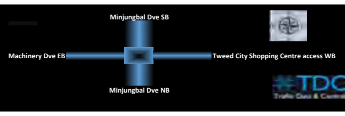
Intersection Legs:		
North	✓ Ch	Minjungbal Dve SB
East	✓ Ch	Tweed City Shopping Centre access WB
South	✓ Ch	Minjungbal Dve NB
West	✓ Ch	Machinery Dve EB

Output time interval: 15 mins

MAP

Site ID: 23
Location: Minjungbal Dve & Machinery Dve, Tweed Heads South
Date: 14-Sept-2016
Period 1 Time: 7:00 AM to 9:00 AM
Weather: Fine

Period 1 Peak Hour: 8:00 AM to 9:00 AM



TOTALS AND PEAKS

	Minjungbal Dve SB	Minjungbal Dve SB	Minjungbal Dve SB	Minjungbal Dve SB	Minjungbal Dve SB	Minjungbal Dve SB	Minjungbal Dve SB	Minjungbal Dve SB	Minjungbal Dve SB	Minjungbal Dve SB	Minjungbal Dve SB	Minjungbal Dve SB	Minjungbal Dve SB	Minjungbal Dve SB	Minjungbal Dve SB	Minjungbal Dve SB	Minjungbal Dve SB
	Left	Left	Left	Left	Through	Through	Through	Through	Right	Right	Right	Right	U-turn	U-turn	U-turn	U-turn	Cross 1
Time Starting	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Pedestrians
Period 1 Total	102	1	0	0	689	40	2	0	425	19	1	2	0	0	0	0	1
Period 1 Peak Hr	77	1	0	0	409	19	1	0	277	14	0	0	0	0	0	0	0
07:00	2	0	0	0	56	4	0	0	24	2	0	2	0	0	0	0	0
07:15	3	0	0	0	61	5	0	0	39	2	0	0	0	0	0	0	0
07:30	9	0	0	0	64	5	0	0	27	0	1	0	0	0	0	0	0
07:45	11	0	0	0	99	7	1	0	58	1	0	0	0	0	0	0	1
08:00	18	0	0	0	119	6	0	0	45	3	0	0	0	0	0	0	0
08:15	20	0	0	0	88	5	0	0	84	4	0	0	0	0	0	0	0
08:30	17	1	0	0	100	3	0	0	77	5	0	0	0	0	0	0	0
08:45	22	0	0	0	102	5	1	0	71	2	0	0	0	0	0	0	0

	Tweed City Shopp	Tweed City Shopp	Tweed City Shopp	Tweed City Shopp	Tweed City Shopp	Tweed City Shopp	Tweed City Shopp	Tweed City Shopp	Tweed City Shopp	Tweed City Shopp	Tweed City Shopp	Tweed City Shopp	Tweed City Shopp	Tweed City Shopp	Tweed City Shopp	Tweed City Shopp	Tweed City Shopp
	Left	Left	Left	Left	Through	Through	Through	Through	Right	Right	Right	Right	U-turn	U-turn	U-turn	U-turn	Cross 1
Time Starting	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Pedestrians
Period 1 Total	115	6	1	0	56	2	0	0	38	2	1	0	0	0	0	0	21
Period 1 Peak Hr	78	2	0	0	42	1	0	0	30	0	0	0	0	0	0	0	10
07:00	7	0	0	0	3	0	0	0	1	0	0	0	0	0	0	0	4
07:15	8	1	0	0	0	1	0	0	1	0	0	0	0	0	0	0	5
07:30	12	0	1	0	8	0	0	0	3	1	0	0	0	0	0	0	1
07:45	10	3	0	0	3	0	0	0	3	1	1	0	0	0	0	0	1
08:00	15	0	0	0	8	0	0	0	2	0	0	0	0	0	0	0	1
08:15	20	0	0	0	12	0	0	0	7	0	0	0	0	0	0	0	4
08:30	24	2	0	0	10	1	0	0	4	0	0	0	0	0	0	0	2
08:45	19	0	0	0	12	0	0	0	17	0	0	0	0	0	0	0	3

	Minjungbal Dve N	Minjungbal Dve N	Minjungbal Dve N	Minjungbal Dve N	Minjungbal Dve N	Minjungbal Dve N	Minjungbal Dve N	Minjungbal Dve N	Minjungbal Dve N	Minjungbal Dve N	Minjungbal Dve N	Minjungbal Dve N	Minjungbal Dve N	Minjungbal Dve N	Minjungbal Dve N	Minjungbal Dve N	Minjungbal Dve N
	Left	Left	Left	Left	Through	Through	Through	Through	Right	Right	Right	Right	U-turn	U-turn	U-turn	U-turn	Cross 1
Time Starting	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Pedestrians
Period 1 Total	1335	45	5	9	1592	33	0	3	371	9	0	0	2	0	0	0	1
Period 1 Peak Hr	747	30	1	1	1043	20	0	0	278	3	0	0	1	0	0	0	0
07:00	90	0	0	5	81	2	0	0	19	2	0	0	0	0	0	0	1
07:15	126	3	3	3	94	4	0	3	12	1	0	0	1	0	0	0	0
07:30	159	8	1	0	155	4	0	0	24	2	0	0	0	0	0	0	0
07:45	213	4	0	0	219	3	0	0	38	1	0	0	0	0	0	0	0
08:00	172	12	1	1	235	5	0	0	39	0	0	0	1	0	0	0	0
08:15	186	6	0	0	283	7	0	0	43	0	0	0	0	0	0	0	0
08:30	198	2	0	0	254	2	0	0	92	2	0	0	0	0	0	0	0
08:45	191	10	0	0	271	6	0	0	104	1	0	0	0	0	0	0	0

	Machinery Dve EB	Machinery Dve EB	Machinery Dve EB	Machinery Dve EB	Machinery Dve EB	Machinery Dve EB	Machinery Dve EB	Machinery Dve EB	Machinery Dve EB	Machinery Dve EB	Machinery Dve EB	Machinery Dve EB	Machinery Dve EB	Machinery Dve EB	Machinery Dve EB	Machinery Dve EB	Machinery Dve EB
	Left	Left	Left	Left	Through	Through	Through	Through	Right	Right	Right	Right	U-turn	U-turn	U-turn	U-turn	Cross 1
Time Starting	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Pedestrians
Period 1 Total	418	25	1	0	80	2	0	1	342	44	11	0	0	0	0	0	8
Period 1 Peak Hr	268	14	1	0	67	2	0	0	188	24	3	0	0	0	0	0	7
07:00	25	1	0	0	3	0	0	1	40	5	2	0	0	0	0	0	0
07:15	37	2	0	0	1	0	0	0	36	6	2	0	0	0	0	0	0
07:30	39	2	0	0	3	0	0	0	47	6	3	0	0	0	0	0	0
07:45	49	6	0	0	6	0	0	0	31	3	1	0	0	0	0	0	1
08:00	62	4	0	0	16	0	0	0	40	6	1	0	0	0	0	0	2
08:15	61	4	0	0	16	2	0	0	47	6	2	0	0	0	0	0	2
08:30	75	2	0	0	11	0	0	0	55	4	0	0	0	0	0	0	0
08:45	70	4	1	0	24	0	0	0	46	8	0	0	0	0	0	0	3

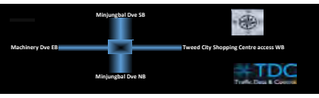
	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE
Period 1 Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Period 1 Peak Hr	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Hide this column	Hide this column	Hide this column	Hide this column	Hide this column	Hide this column	Hide this column
AM Peak+Calc	PM Peak+Calc	AM Peak		Time	Flag-AM	
377		2188		07:00		
455		2622		07:15		
584		3070		07:30		
772		3427		07:45		
811		3642		08:00	1	
903		2831		08:15	2	
941		1928		08:30	3	
987		987		08:45	4	
		0				

	GRAND TOTAL	Minjungbal Dve SB	Tweed City Shopp	Minjungbal Dve N	Machinery Dve EB
		TOTAL	TOTAL	TOTAL	TOTAL
Time Starting	TOTALS	All Classes	All Classes	All Classes	All Classes
Period 1 Total	5830	1281	221	3404	924
Period 1 Peak Hr	3642	798	153	2124	567
07:00	**377**	90	11	199	77
07:15	**455**	110	11	250	84
07:30	**584**	106	25	353	100
07:45	**772**	177	21	478	96
08:00	**811**	191	25	466	129
08:15	**903**	201	39	525	138
08:30	**941**	203	41	550	147
08:45	**987**	203	48	583	153

Site ID: 23
Location: Minjungbal Dve & Machinery Dve, Tweed Heads South
Date: 14-Sept-2016
Period 2 Time: 4:00 PM to 6:00 PM
Weather: Fine

Period 2 Peak Hour: 4:00 PM to 5:00 PM



TOTALS AND PEAKS

	Minjungbal Dve S	Minjungbal Dve S	Minjungbal Dve S	Minjungbal Dve S	Minjungbal Dve S	Minjungbal Dve S	Minjungbal Dve S	Minjungbal Dve S	Minjungbal Dve S	Minjungbal Dve S	Minjungbal Dve S	Minjungbal Dve S	Minjungbal Dve S	Minjungbal Dve S	Minjungbal Dve S	Minjungbal Dve S	Minjungbal Dve S
	Left	Left	Left	Left	Through	Through	Through	Through	Right	Right	Right	Right	U-turn	U-turn	U-turn	U-turn	Cross 1
Time Starting	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Pedestrians
Period 2 Total	82	2	0	0	1717	17	1	3	424	11	0	0	2	0	0	0	2
Period 2 Peak Hr	46	2	0	0	902	11	1	1	270	9	0	0	1	0	0	0	2
16:00	12	0	0	0	257	5	1	0	64	3	0	0	1	0	0	0	0
16:15	12	2	0	0	215	2	0	1	70	4	0	0	0	0	0	0	0
16:30	10	0	0	0	209	2	0	0	76	1	0	0	0	0	0	0	2
16:45	12	0	0	0	221	2	0	0	60	1	0	0	0	0	0	0	0
17:00	15	0	0	0	220	2	0	1	49	0	0	0	1	0	0	0	0
17:15	7	0	0	0	226	2	0	0	43	2	0	0	0	0	0	0	0
17:30	6	0	0	0	206	1	0	1	33	0	0	0	0	0	0	0	0
17:45	8	0	0	0	163	1	0	0	29	0	0	0	0	0	0	0	0

	Tweed City Shopp	Tweed City Shopp	Tweed City Shopp	Tweed City Shopp	Tweed City Shopp	Tweed City Shopp	Tweed City Shopp	Tweed City Shopp	Tweed City Shopp	Tweed City Shopp	Tweed City Shopp	Tweed City Shopp	Tweed City Shopp	Tweed City Shopp	Tweed City Shopp	Tweed City Shopp	Tweed City Shopp
	Left	Left	Left	Left	Through	Through	Through	Through	Right	Right	Right	Right	U-turn	U-turn	U-turn	U-turn	Cross 1
Time Starting	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Pedestrians
Period 2 Total	603	2	0	0	140	0	0	0	136	1	0	0	0	0	0	0	7
Period 2 Peak Hr	306	2	0	0	77	0	0	0	73	0	0	0	0	0	0	0	3
16:00	72	0	0	0	22	0	0	0	25	0	0	0	0	0	0	0	1
16:15	72	1	0	0	16	0	0	0	17	0	0	0	0	0	0	0	1
16:30	81	1	0	0	24	0	0	0	13	0	0	0	0	0	0	0	0
16:45	81	0	0	0	15	0	0	0	18	0	0	0	0	0	0	0	1
17:00	87	0	0	0	18	0	0	0	14	0	0	0	0	0	0	0	2
17:15	62	0	0	0	17	0	0	0	15	0	0	0	0	0	0	0	0
17:30	77	0	0	0	15	0	0	0	19	0	0	0	0	0	0	0	1
17:45	71	0	0	0	13	0	0	0	15	1	0	0	0	0	0	0	1

	Minjungbal Dve N	Minjungbal Dve N	Minjungbal Dve N	Minjungbal Dve N	Minjungbal Dve N	Minjungbal Dve N	Minjungbal Dve N	Minjungbal Dve N	Minjungbal Dve N	Minjungbal Dve N	Minjungbal Dve N	Minjungbal Dve N	Minjungbal Dve N	Minjungbal Dve N	Minjungbal Dve N	Minjungbal Dve N	Minjungbal Dve N
	Left	Left	Left	Left	Through	Through	Through	Through	Right	Right	Right	Right	U-turn	U-turn	U-turn	U-turn	Cross 1
Time Starting	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Pedestrians
Period 2 Total	579	23	3	0	915	32	2	0	281	1	0	0	4	0	0	0	16
Period 2 Peak Hr	367	19	3	0	456	22	0	0	189	0	0	0	2	0	0	0	10
16:00	93	7	0	0	140	6	0	0	59	0	0	0	0	0	0	0	3
16:15	103	4	2	0	112	8	0	0	51	0	0	0	0	0	0	0	5
16:30	77	4	1	0	94	6	0	0	49	0	0	0	2	0	0	0	0
16:45	94	4	0	0	110	2	0	0	30	0	0	0	0	0	0	0	2
17:00	65	0	0	0	103	0	0	0	28	0	0	0	0	0	0	0	1
17:15	66	1	0	0	118	4	0	0	28	1	0	0	2	0	0	0	4
17:30	47	1	0	0	130	3	0	0	21	0	0	0	0	0	0	0	1
17:45	34	2	0	0	108	3	2	0	15	0	0	0	0	0	0	0	0

	Machinery Dve EB	Machinery Dve EB	Machinery Dve EB	Machinery Dve EB	Machinery Dve EB	Machinery Dve EB	Machinery Dve EB	Machinery Dve EB	Machinery Dve EB	Machinery Dve EB	Machinery Dve EB	Machinery Dve EB	Machinery Dve EB	Machinery Dve EB	Machinery Dve EB	Machinery Dve EB	Machinery Dve EB
	Left	Left	Left	Left	Through	Through	Through	Through	Right	Right	Right	Right	U-turn	U-turn	U-turn	U-turn	Cross 1
Time Starting	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Pedestrians
Period 2 Total	509	4	0	1	142	2	0	0	918	19	1	0	0	0	0	0	9
Period 2 Peak Hr	293	2	0	1	99	2	0	0	486	10	1	0	0	0	0	0	8
16:00	81	0	0	0	33	0	0	0	116	4	0	0	0	0	0	0	7
16:15	62	0	0	0	17	1	0	0	126	2	0	0	0	0	0	0	1
16:30	76	1	0	1	29	1	0	0	160	4	0	0	0	0	0	0	0
16:45	74	1	0	0	20	0	0	0	84	0	1	0	0	0	0	0	0
17:00	50	0	0	0	19	0	0	0	151	6	0	0	0	0	0	0	0
17:15	57	0	0	0	12	0	0	0	115	3	0	0	0	0	0	0	1
17:30	58	1	0	0	7	0	0	0	96	0	0	0	0	0	0	0	0
17:45	51	1	0	0	5	0	0	0	70	0	0	0	0	0	0	0	0

	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE
Period 2 Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Period 2 Peak Hr	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

	Hide this column	Hide this column	Hide this column	Hide this column	Hide this column	Hide this column	Hide this column
Time Starting	AM Peak+Calc	PM Peak+Calc		PM Peak	Time		Flag-PM
16:00		1001		3653	16:00		1
16:15		900		3481	16:15		2
16:30		922		3362	16:30		3
16:45		830		3162	16:45		4
17:00		829		2924	17:00		
17:15		781		2095	17:15		
17:30		722		1314	17:30		
17:45		592		592	17:45		

	GRAND TOTAL	Minjungbal Dve S	Tweed City Shopp	Minjungbal Dve N	Machinery Dve EB
		TOTAL	TOTAL	TOTAL	TOTAL
Time Starting	TOTALS	All Classes	All Classes	All Classes	All Classes
Period 2 Total	6577	2259	882	1840	1596
Period 2 Peak Hr	3653	1243	458	1058	894
16:00	**1001**	343	119	305	234
16:15	**900**	306	106	280	208
16:30	**922**	298	119	233	272
16:45	**830**	296	114	240	180
17:00	**829**	288	119	196	226
17:15	**781**	280	94	220	187
17:30	**722**	247	111	202	162
17:45	**592**	201	100	164	127

Pacific Motorway Midblock Report

Site Name - Pacific Mwy
Description - At Tweed River, south of Sextons Hill NB off ramp
Direction - Northbound / Southbound
Survey Dates - 18th - 20th October 2016

TDC
Traffic Data & Control

Tuesday, 18th October 2016

	Northbound					Southbound				
Time	Cars	Light Trucks	Heavy Trucks	Total	Hourly Totals	Cars	Light Trucks	Heavy Trucks	Total	Hourly Totals
0000	22	3	8	33		24	0	4	28	
0015	22	1	9	32		27	0	10	37	
0030	18	1	22	41		9	1	5	15	
0045	14	1	6	21	127	12	3	4	19	99
0100	11	0	13	24	118	14	2	6	22	93
0115	11	0	6	17	103	14	0	9	23	79
0130	12	0	11	23	85	9	1	5	15	79
0145	11	0	11	22	86	7	2	10	19	79
0200	7	0	12	19	81	12	1	6	19	76
0215	6	0	7	13	77	10	1	5	16	69
0230	13	0	14	27	81	12	0	4	16	70
0245	8	1	12	21	80	11	2	2	15	66
0300	7	0	10	17	78	12	0	9	21	68
0315	14	2	15	31	96	10	1	5	16	68
0330	14	0	18	32	101	10	3	4	17	69
0345	20	2	14	36	116	14	2	4	20	74
0400	14	0	26	40	139	14	5	8	27	80
0415	26	4	21	51	159	17	5	3	25	89
0430	29	1	18	48	175	26	6	7	39	111
0445	45	7	9	61	200	37	4	7	48	139
0500	58	10	25	93	253	46	3	7	56	168
0515	91	4	20	115	317	77	11	5	93	236
0530	132	10	16	158	427	112	16	13	141	338
0545	180	9	31	220	586	155	10	10	175	465
0600	220	10	23	253	746	204	15	19	238	647
0615	286	18	25	329	960	293	20	9	322	876
0630	389	23	29	441	1243	307	23	13	343	1078
0645	383	33	24	440	1463	241	28	14	283	1186
0700	395	23	28	446	1656	279	22	13	314	1262
0715	485	27	24	536	1863	347	30	19	396	1336
0730	611	29	28	668	2090	386	17	15	418	1411
0745	702	22	24	748	2398	423	25	9	457	1585
0800	652	22	18	692	2644	421	29	6	456	1727
0815	740	17	24	781	2889	525	36	3	564	1895
0830	693	36	19	748	2969	489	21	10	520	1997
0845	691	32	26	749	2970	451	35	8	494	2034
0900	664	27	28	719	2997	349	20	6	375	1953
0915	636	19	23	678	2894	350	18	13	381	1770
0930	604	18	12	634	2780	341	19	12	372	1622
0945	561	28	14	603	2634	311	23	7	341	1469
1000	551	19	13	583	2498	445	25	15	485	1579
1015	501	33	21	555	2375	446	29	20	495	1693
1030	525	24	21	570	2311	463	31	18	512	1833
1045	508	21	26	555	2263	441	26	23	490	1982
1100	476	20	10	506	2186	473	24	21	518	2015
1115	492	16	17	525	2156	454	35	26	515	2035
1130	440	20	27	487	2073	493	31	24	548	2071
1145	447	22	20	489	2007	476	23	18	517	2098
1200	409	31	17	457	1958	508	29	26	563	2143
1215	468	17	25	510	1943	462	23	17	502	2130

1230	449	22	12	483	1939	491	31	25	547	2129
1245	466	26	15	507	1957	449	29	33	511	2123
1300	459	25	16	500	2000	454	21	27	502	2062
1315	449	31	11	491	1981	459	32	23	514	2074
1330	440	31	17	488	1986	465	24	29	518	2045
1345	485	24	13	522	2001	459	33	38	530	2064
1400	472	32	18	522	2023	440	23	27	490	2052
1415	508	31	20	559	2091	508	27	27	562	2100
1430	469	27	10	506	2109	497	29	18	544	2126
1445	512	33	13	558	2145	576	21	30	627	2223
1500	573	30	13	616	2239	517	15	28	560	2293
1515	553	21	14	588	2268	597	41	35	673	2404
1530	557	21	15	593	2355	595	21	32	648	2508
1545	585	33	15	633	2430	618	22	27	667	2548
1600	565	43	5	613	2427	587	15	23	625	2613
1615	591	24	17	632	2471	573	11	16	600	2540
1630	549	26	13	588	2466	637	13	15	665	2557
1645	510	25	16	551	2384	660	12	18	690	2580
1700	482	13	14	509	2280	669	16	13	698	2653
1715	519	13	14	546	2194	561	11	16	588	2641
1730	437	11	21	469	2075	569	12	13	594	2570
1745	416	6	8	430	1954	542	7	9	558	2438
1800	415	12	9	436	1881	464	8	11	483	2223
1815	340	16	7	363	1698	471	5	14	490	2125
1830	337	10	19	366	1595	457	2	23	482	2013
1845	284	7	4	295	1460	394	9	20	423	1878
1900	226	5	15	246	1270	338	7	22	367	1762
1915	193	10	20	223	1130	366	6	36	408	1680
1930	202	7	8	217	981	304	4	56	364	1562
1945	180	2	9	191	877	260	3	21	284	1423
2000	180	3	8	191	822	188	4	20	212	1268
2015	136	2	14	152	751	175	1	19	195	1055
2030	107	3	10	120	654	195	3	21	219	910
2045	108	4	16	128	591	177	2	32	211	837
2100	120	7	19	146	546	185	0	20	205	830
2115	99	4	20	123	517	134	3	19	156	791
2130	98	1	16	115	512	123	1	23	147	719
2145	76	1	14	91	475	116	1	21	138	646
2200	65	0	22	87	416	125	1	13	139	580
2215	51	0	8	59	352	105	1	17	123	547
2230	48	0	9	57	294	109	2	10	121	521
2245	44	0	22	66	269	83	0	21	104	487
2300	41	1	10	52	234	71	1	15	87	435
2315	35	0	17	52	227	59	2	10	71	383
2330	37	4	17	58	228	40	0	5	45	307
2345	18	2	12	32	194	41	3	7	51	254
07-09	**4969**	**208**	**191**	**5368**		**3321**	**215**	**83**	**3619**	
09-16	**14259**	**702**	**476**	**15437**		**13137**	**725**	**645**	**14507**	
16-18	**4069**	**161**	**108**	**4338**		**4798**	**97**	**123**	**5018**	
00-00	**28800**	**1312**	**1555**	**31667**		**27972**	**1271**	**1534**	**30777**	

TDC
Traffic Data & Control

SURVEY INFORMATION

Site ID:	12
Location:	Sugarwood Dve & Pacific Mwy interchange NB, Tweed Heads West
Date:	15 / Sept / 2016
Time Period 1:	07:00 to 09:00
Time Period 2:	16:00 to 18:00

	Primary Classes:	Secondary Classes:
1	Light Vehicles	Pedestrians
2	Light Trucks (3-5)	None
3	Heavy Trucks (6-12)	
4	Bicycles on Road	
5	None	

Weather Conditions 1: Fine **Weather Conditions 2:** Fine

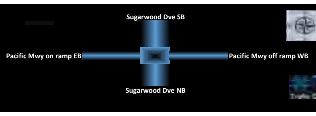
Intersection Legs:		
North	☑ Ch	Sugarwood Dve SB
East	☑ Ch	Pacific Mwy off ramp WB
South	☑ Ch	Sugarwood Dve NB
West	☑ Ch	Pacific Mwy on ramp EB

Output time interval: 15 mins

MAP

Site ID: 12
Location: Sugarwood Dve & Pacific Mwy interchange NB, Tweed Heads West
Date: 15-Sept-2016
Period 1 Time: 7:00 AM to 9:00 AM
Weather: Fine

Period 1 Peak Hour: 7:30 AM to 8:30 AM



TOTALS AND PEAKS

	Sugarwood Dve SB	Sugarwood Dve SB	Sugarwood Dve SB	Sugarwood Dve SB	Sugarwood Dve SB	Sugarwood Dve SB	Sugarwood Dve SB	Sugarwood Dve SB	Sugarwood Dve SB	Sugarwood Dve SB	Sugarwood Dve SB	Sugarwood Dve SB	Sugarwood Dve SB	Sugarwood Dve SB	Sugarwood Dve SB	Sugarwood Dve SB	Sugarwood Dve SB
	Left	Left	Left	Left	Through	Through	Through	Through	Right	Right	Right	Right	U-turn	U-turn	U-turn	U-turn	Cross 1
Time Starting	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Pedestrians
Period 1 Total	0	0	0	0	7	2	0	0	244	4	0	0	0	0	0	0	0
Period 1 Peak Hr	0	0	0	0	4	1	0	0	135	1	0	0	0	0	0	0	0
07:00	0	0	0	0	0	1	0	0	28	0	0	0	0	0	0	0	0
07:15	0	0	0	0	0	0	0	0	33	1	0	0	0	0	0	0	0
07:30	0	0	0	0	1	1	0	0	33	0	0	0	0	0	0	0	0
07:45	0	0	0	0	1	0	0	0	40	0	0	0	0	0	0	0	0
08:00	0	0	0	0	1	0	0	0	32	0	0	0	0	0	0	0	0
08:15	0	0	0	0	1	0	0	0	30	1	0	0	0	0	0	0	0
08:30	0	0	0	0	3	0	0	0	25	2	0	0	0	0	0	0	0
08:45	0	0	0	0	0	0	0	0	23	0	0	0	0	0	0	0	0

	Pacific Mwy off ra	Pacific Mwy off ra	Pacific Mwy off ra	Pacific Mwy off ra	Pacific Mwy off ra	Pacific Mwy off ra	Pacific Mwy off ra	Pacific Mwy off ra	Pacific Mwy off ra	Pacific Mwy off ra	Pacific Mwy off ra	Pacific Mwy off ra	Pacific Mwy off ra	Pacific Mwy off ra	Pacific Mwy off ra	Pacific Mwy off ra	Pacific Mwy off ra
	Left	Left	Left	Left	Through	Through	Through	Through	Right	Right	Right	Right	U-turn	U-turn	U-turn	U-turn	Cross 1
Time Starting	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Pedestrians
Period 1 Total	1	1	0	0	0	0	0	0	752	12	12	0	0	0	0	0	0
Period 1 Peak Hr	1	0	0	0	0	0	0	0	412	8	5	0	0	0	0	0	0
07:00	0	1	0	0	0	0	0	0	55	1	1	0	0	0	0	0	0
07:15	0	0	0	0	0	0	0	0	77	2	2	0	0	0	0	0	0
07:30	0	0	0	0	0	0	0	0	104	1	2	0	0	0	0	0	0
07:45	1	0	0	0	0	0	0	0	132	4	0	0	0	0	0	0	0
08:00	0	0	0	0	0	0	0	0	67	1	0	0	0	0	0	0	0
08:15	0	0	0	0	0	0	0	0	109	2	3	0	0	0	0	0	0
08:30	0	0	0	0	0	0	0	0	102	0	2	0	0	0	0	0	0
08:45	0	0	0	0	0	0	0	0	106	1	2	0	0	0	0	0	0

	Sugarwood Dve N	Sugarwood Dve N	Sugarwood Dve N	Sugarwood Dve N	Sugarwood Dve N	Sugarwood Dve N	Sugarwood Dve N	Sugarwood Dve N	Sugarwood Dve N	Sugarwood Dve N	Sugarwood Dve N	Sugarwood Dve N	Sugarwood Dve N	Sugarwood Dve N	Sugarwood Dve N	Sugarwood Dve N	Sugarwood Dve N
	Left	Left	Left	Left	Through	Through	Through	Through	Right	Right	Right	Right	U-turn	U-turn	U-turn	U-turn	Cross 1
Time Starting	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Pedestrians
Period 1 Total	1025	46	7	0	273	12	0	0	0	0	0	0	0	0	0	0	0
Period 1 Peak Hr	538	22	2	0	136	7	0	0	0	0	0	0	0	0	0	0	0
07:00	128	6	3	0	17	3	0	0	0	0	0	0	0	0	0	0	0
07:15	125	5	0	0	32	1	0	0	0	0	0	0	0	0	0	0	0
07:30	149	1	0	0	35	1	0	0	0	0	0	0	0	0	0	0	0
07:45	134	7	1	0	40	3	0	0	0	0	0	0	0	0	0	0	0
08:00	130	5	0	0	29	2	0	0	0	0	0	0	0	0	0	0	0
08:15	125	9	1	0	32	1	0	0	0	0	0	0	0	0	0	0	0
08:30	115	10	1	0	41	0	0	0	0	0	0	0	0	0	0	0	0
08:45	119	3	1	0	47	1	0	0	0	0	0	0	0	0	0	0	0

	Pacific Mwy on ra	Pacific Mwy on ra	Pacific Mwy on ra	Pacific Mwy on ra	Pacific Mwy on ra	Pacific Mwy on ra	Pacific Mwy on ra	Pacific Mwy on ra	Pacific Mwy on ra	Pacific Mwy on ra	Pacific Mwy on ra	Pacific Mwy on ra	Pacific Mwy on ra	Pacific Mwy on ra	Pacific Mwy on ra	Pacific Mwy on ra	Pacific Mwy on ra
	Left	Left	Left	Left	Through	Through	Through	Through	Right	Right	Right	Right	U-turn	U-turn	U-turn	U-turn	Cross 1
Time Starting	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Pedestrians
Period 1 Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Period 1 Peak Hr	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE
Period 1 Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Period 1 Peak Hr	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

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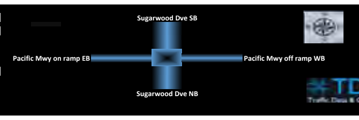
Time Starting	AM Peak+Calc	PM Peak+Calc	AM Peak		Time	Flag-AM	
07:00	244		1213		07:00		
07:15	278		1236		07:15		
07:30	328		1272		07:30	1	
07:45	363		1245		07:45	2	
08:00	267		1185		08:00	3	
08:15	314		918		08:15	4	
08:30	301		604		08:30		
08:45	303		303		08:45		

	GRAND TOTAL	Sugarwood Dve SB	Pacific Mwy off ra	Sugarwood Dve N	Pacific Mwy on ra
		TOTAL	TOTAL	TOTAL	TOTAL
Time Starting	TOTALS	All Classes	All Classes	All Classes	All Classes
Period 1 Total	2398	257	778	1363	0
Period 1 Peak Hr	1272	141	426	705	0
07:00	**244**	29	58	157	0
07:15	**278**	34	81	163	0
07:30	**328**	35	107	186	0
07:45	**363**	41	137	185	0
08:00	**267**	33	68	166	0
08:15	**314**	32	114	168	0
08:30	**301**	30	104	167	0
08:45	**303**	23	109	171	0

Site ID: 12
Location: Sugarwood Dve & Pacific Mwy interchange NB, Tweed Heads West
Date: 15-Sept-2016
Period 2 Time: 4:00 PM to 6:00 PM
Weather: Fine

Period 2 Peak Hour: 4:00 PM to 5:00 PM



TOTALS AND PEAKS

	Sugarwood Dve S	Sugarwood Dve S	Sugarwood Dve S	Sugarwood Dve S	Sugarwood Dve S	Sugarwood Dve S	Sugarwood Dve S	Sugarwood Dve S	Sugarwood Dve S	Sugarwood Dve S	Sugarwood Dve S	Sugarwood Dve S	Sugarwood Dve S	Sugarwood Dve S	Sugarwood Dve S	Sugarwood Dve S	Sugarwood Dve S
	Left	Left	Left	Left	Through	Through	Through	Through	Right	Right	Right	Right	U-turn	U-turn	U-turn	U-turn	Cross 1
Time Starting	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Pedestrians
Period 2 Total	0	0	0	0	6	1	0	0	382	3	2	0	0	0	0	0	0
Period 2 Peak Hr	0	0	0	0	1	1	0	0	198	0	2	0	0	0	0	0	0
16:00	0	0	0	0	0	1	0	0	59	0	0	0	0	0	0	0	0
16:15	0	0	0	0	0	0	0	0	34	0	2	0	0	0	0	0	0
16:30	0	0	0	0	1	0	0	0	58	0	0	0	0	0	0	0	0
16:45	0	0	0	0	0	0	0	0	47	0	0	0	0	0	0	0	0
17:00	0	0	0	0	2	0	0	0	48	1	0	0	0	0	0	0	0
17:15	0	0	0	0	0	0	0	0	62	2	0	0	0	0	0	0	0
17:30	0	0	0	0	1	0	0	0	39	0	0	0	0	0	0	0	0
17:45	0	0	0	0	2	0	0	0	35	0	0	0	0	0	0	0	0

	Pacific Mwy off ra	Pacific Mwy off ra	Pacific Mwy off ra	Pacific Mwy off ra	Pacific Mwy off ra	Pacific Mwy off ra	Pacific Mwy off ra	Pacific Mwy off ra	Pacific Mwy off ra	Pacific Mwy off ra	Pacific Mwy off ra	Pacific Mwy off ra	Pacific Mwy off ra	Pacific Mwy off ra	Pacific Mwy off ra	Pacific Mwy off ra	Pacific Mwy off ra
	Left	Left	Left	Left	Through	Through	Through	Through	Right	Right	Right	Right	U-turn	U-turn	U-turn	U-turn	Cross 1
Time Starting	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Pedestrians
Period 2 Total	1	0	0	0	1	0	0	0	522	8	5	0	0	0	0	0	0
Period 2 Peak Hr	1	0	0	0	1	0	0	0	276	6	4	0	0	0	0	0	0
16:00	0	0	0	0	0	0	0	0	67	2	2	0	0	0	0	0	0
16:15	0	0	0	0	0	0	0	0	67	2	0	0	0	0	0	0	0
16:30	0	0	0	0	1	0	0	0	59	1	0	0	0	0	0	0	0
16:45	1	0	0	0	0	0	0	0	83	1	2	0	0	0	0	0	0
17:00	0	0	0	0	0	0	0	0	65	1	1	0	0	0	0	0	0
17:15	0	0	0	0	0	0	0	0	73	1	0	0	0	0	0	0	0
17:30	0	0	0	0	0	0	0	0	52	0	0	0	0	0	0	0	0
17:45	0	0	0	0	0	0	0	0	56	0	0	0	0	0	0	0	0

	Sugarwood Dve N	Sugarwood Dve N	Sugarwood Dve N	Sugarwood Dve N	Sugarwood Dve N	Sugarwood Dve N	Sugarwood Dve N	Sugarwood Dve N	Sugarwood Dve N	Sugarwood Dve N	Sugarwood Dve N	Sugarwood Dve N	Sugarwood Dve N	Sugarwood Dve N	Sugarwood Dve N	Sugarwood Dve N	Sugarwood Dve N
	Left	Left	Left	Left	Through	Through	Through	Through	Right	Right	Right	Right	U-turn	U-turn	U-turn	U-turn	Cross 1
Time Starting	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Pedestrians
Period 2 Total	994	13	1	0	201	6	0	0	0	0	0	0	0	0	0	0	0
Period 2 Peak Hr	544	6	0	0	113	4	0	0	0	0	0	0	0	0	0	0	0
16:00	124	3	0	0	27	3	0	0	0	0	0	0	0	0	0	0	0
16:15	151	1	0	0	33	0	0	0	0	0	0	0	0	0	0	0	0
16:30	138	1	0	0	28	0	0	0	0	0	0	0	0	0	0	0	0
16:45	131	1	0	0	25	1	0	0	0	0	0	0	0	0	0	0	0
17:00	135	3	0	0	21	0	0	0	0	0	0	0	0	0	0	0	0
17:15	128	2	0	0	18	1	0	0	0	0	0	0	0	0	0	0	0
17:30	104	1	1	0	27	0	0	0	0	0	0	0	0	0	0	0	0
17:45	83	1	0	0	22	1	0	0	0	0	0	0	0	0	0	0	0

	Pacific Mwy on ra	Pacific Mwy on ra	Pacific Mwy on ra	Pacific Mwy on ra	Pacific Mwy on ra	Pacific Mwy on ra	Pacific Mwy on ra	Pacific Mwy on ra	Pacific Mwy on ra	Pacific Mwy on ra	Pacific Mwy on ra	Pacific Mwy on ra	Pacific Mwy on ra	Pacific Mwy on ra	Pacific Mwy on ra	Pacific Mwy on ra	Pacific Mwy on ra
	Left	Left	Left	Left	Through	Through	Through	Through	Right	Right	Right	Right	U-turn	U-turn	U-turn	U-turn	Cross 1
Time Starting	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Pedestrians
Period 2 Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Period 2 Peak Hr	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE
Period 2 Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Period 2 Peak Hr	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

	Hide this column	Hide this column	Hide this column	Hide this column	Hide this column	Hide this column	Hide this column	GRAND TOTAL	Sugarwood Dve S	Pacific Mwy off ra	Sugarwood Dve N	Pacific Mwy on ra
									TOTAL	TOTAL	TOTAL	TOTAL
Time Starting	AM Peak+Calc	PM Peak+Calc		PM Peak	Time		Flag-PM	TOTALS	All Classes	All Classes	All Classes	All Classes
Period 2 Total								2146	394	537	1215	0
Period 2 Peak Hr								1157	202	288	667	0
16:00		288		1157	16:00		1	**288**	60	71	157	0
16:15		290		1146	16:15		2	**290**	36	69	185	0
16:30		287		1143	16:30		3	**287**	59	61	167	0
16:45		292		1081	16:45		4	**292**	47	87	158	0
17:00		277		989	17:00			**277**	51	67	159	0
17:15		287		712	17:15			**287**	64	74	149	0
17:30		225		425	17:30			**225**	40	52	133	0
17:45		200		200	17:45			**200**	37	56	107	0

TDC
Traffic Data & Control

SURVEY INFORMATION

Site ID:	16		
Location:	Wharf St & Florence St, Tweed Heads		
Date:	15 / Sept / 2016		
Time Period 1:	07:00	to	09:00
Time Period 2:	16:00	to	18:00

	Primary Classes:	Secondary Classes:
1	Light Vehicles	Pedestrians
2	Light Trucks (3-5)	None
3	Heavy Trucks (6-12)	
4	Bicycles on Road	
5	None	

Weather Conditions 1: Fine **Weather Conditions 2:** Fine

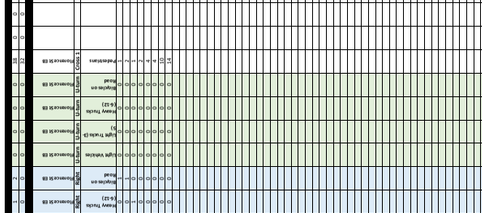
Intersection Legs:		Ch	
	North	✓	Wharf St SB
	East	✓	Florence St WB
	South	✓	Wharf St NB
	West	✓	Florence St EB

Output time interval: 15 mins

MAP

Site ID: 16
Location: Wharf St & Florence St, Tweed Heads
Date: 15-Sept-2016
Period 1 Time: 7:00 AM to 9:00 AM
Weather: Fine

Period 1 Peak Hour: 8:00 AM to 9:00 AM



TOTALS AND PEAKS

	Wharf St SB	Wharf St SB	Wharf St SB	Wharf St SB	Wharf St SB	Wharf St SB	Wharf St SB	Wharf St SB	Wharf St SB	Wharf St SB	Wharf St SB	Wharf St SB	Wharf St SB	Wharf St SB	Wharf St SB	Wharf St SB	Wharf St SB
	Left	Left	Left	Left	Through	Through	Through	Through	Right	Right	Right	Right	U-turn	U-turn	U-turn	U-turn	Cross 1
Time Starting	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Pedestrians
Period 1 Total	27	2	0	0	538	53	2	6	30	0	0	1	0	0	0	0	44
Period 1 Peak Hr	18	1	0	0	286	28	1	4	13	0	0	1	0	0	0	0	31
07:00	2	0	0	0	59	4	1	0	2	0	0	0	0	0	0	0	1
07:15	2	1	0	0	65	3	0	0	5	0	0	0	0	0	0	0	4
07:30	1	0	0	0	61	10	0	0	6	0	0	0	0	0	0	0	5
07:45	4	0	0	0	67	8	0	2	4	0	0	0	0	0	0	0	3
08:00	1	0	0	0	81	5	0	4	2	0	0	0	0	0	0	0	7
08:15	6	0	0	0	58	6	0	0	3	0	0	1	0	0	0	0	6
08:30	3	1	0	0	71	5	1	0	5	0	0	0	0	0	0	0	5
08:45	8	0	0	0	76	12	0	0	3	0	0	0	0	0	0	0	13

	Florence St WB	Florence St WB	Florence St WB	Florence St WB	Florence St WB	Florence St WB	Florence St WB	Florence St WB	Florence St WB	Florence St WB	Florence St WB	Florence St WB	Florence St WB	Florence St WB	Florence St WB	Florence St WB	Florence St WB
	Left	Left	Left	Left	Through	Through	Through	Through	Right	Right	Right	Right	U-turn	U-turn	U-turn	U-turn	Cross 1
Time Starting	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Pedestrians
Period 1 Total	84	3	2	0	23	1	0	0	17	11	0	0	0	0	0	0	90
Period 1 Peak Hr	45	2	1	0	14	0	0	0	9	5	0	0	0	0	0	0	53
07:00	8	0	0	0	1	0	0	0	1	1	0	0	0	0	0	0	8
07:15	12	0	0	0	2	1	0	0	2	1	0	0	0	0	0	0	6
07:30	8	0	0	0	2	0	0	0	2	2	0	0	0	0	0	0	10
07:45	11	1	1	0	4	0	0	0	3	2	0	0	0	0	0	0	13
08:00	4	0	0	0	1	0	0	0	1	2	0	0	0	0	0	0	11
08:15	10	1	0	0	4	0	0	0	2	1	0	0	0	0	0	0	10
08:30	13	0	1	0	6	0	0	0	4	2	0	0	0	0	0	0	7
08:45	18	1	0	0	3	0	0	0	2	0	0	0	0	0	0	0	25

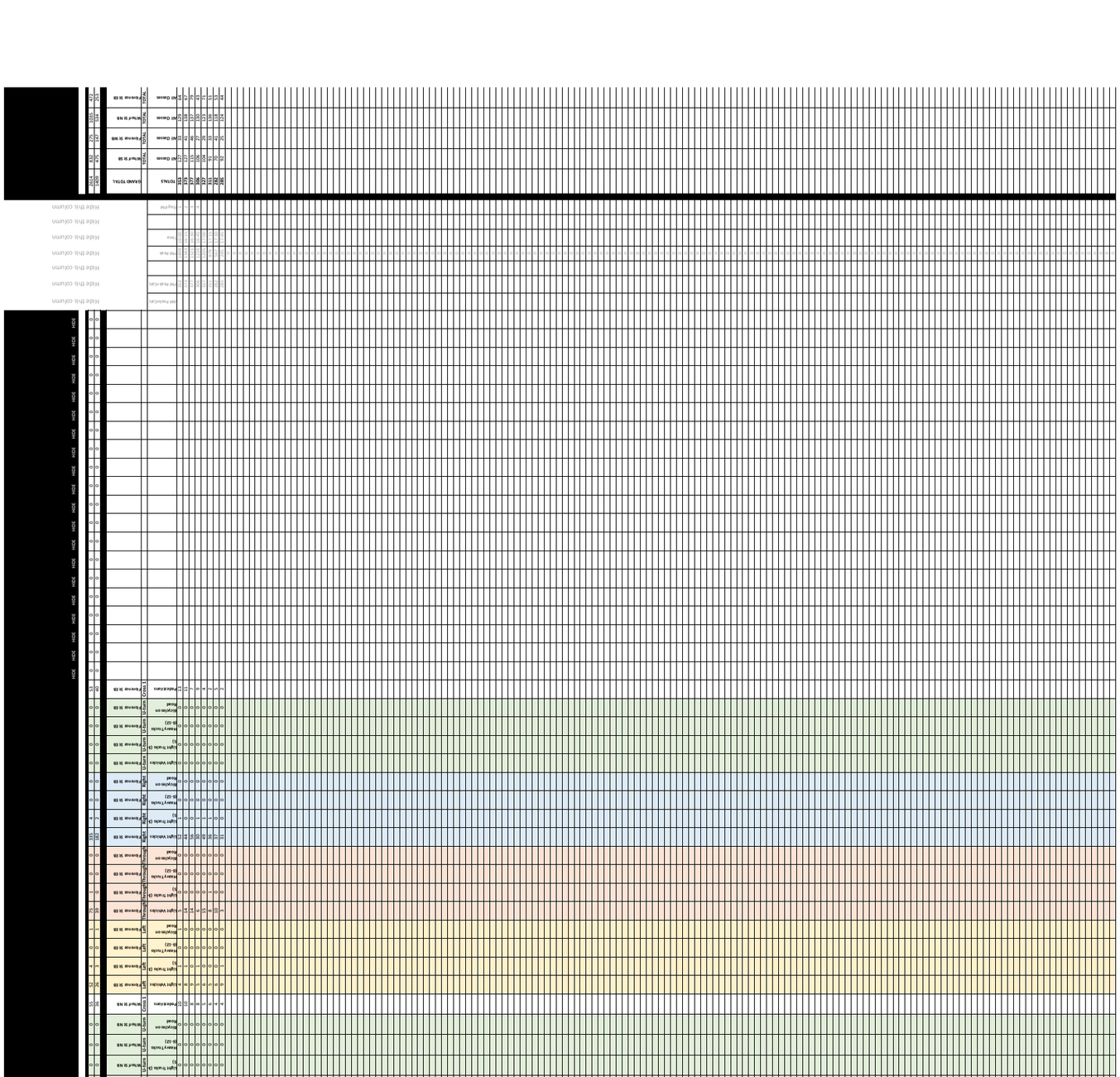
	Wharf St NB	Wharf St NB	Wharf St NB	Wharf St NB	Wharf St NB	Wharf St NB	Wharf St NB	Wharf St NB	Wharf St NB	Wharf St NB	Wharf St NB	Wharf St NB	Wharf St NB	Wharf St NB	Wharf St NB	Wharf St NB	Wharf St NB
	Left	Left	Left	Left	Through	Through	Through	Through	Right	Right	Right	Right	U-turn	U-turn	U-turn	U-turn	Cross 1
Time Starting	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Pedestrians
Period 1 Total	192	10	0	1	511	55	0	5	58	13	0	0	1	0	0	0	54
Period 1 Peak Hr	122	9	0	1	302	23	0	4	43	4	0	0	1	0	0	0	38
07:00	25	0	0	0	50	8	0	0	2	3	0	0	0	0	0	0	3
07:15	9	0	0	0	55	13	0	0	1	1	0	0	0	0	0	0	8
07:30	16	1	0	0	40	7	0	0	4	4	0	0	0	0	0	0	1
07:45	20	0	0	0	64	4	0	1	8	1	0	0	0	0	0	0	4
08:00	16	0	0	0	62	5	0	2	5	1	0	0	0	0	0	0	4
08:15	30	4	0	0	85	5	0	1	9	3	0	0	0	0	0	0	7
08:30	33	4	0	1	79	8	0	0	15	0	0	0	0	0	0	0	16
08:45	43	1	0	0	76	5	0	1	14	0	0	0	1	0	0	0	11

	Florence St EB	Florence St EB	Florence St EB	Florence St EB	Florence St EB	Florence St EB	Florence St EB	Florence St EB	Florence St EB	Florence St EB	Florence St EB	Florence St EB	Florence St EB	Florence St EB	Florence St EB	Florence St EB	Florence St EB
	Left	Left	Left	Left	Through	Through	Through	Through	Right	Right	Right	Right	U-turn	U-turn	U-turn	U-turn	Cross 1
Time Starting	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Pedestrians
Period 1 Total	45	0	0	0	60	0	0	0	226	5	1	2	0	0	0	0	38
Period 1 Peak Hr	29	0	0	0	47	0	0	0	141	1	0	0	0	0	0	0	32
07:00	6	0	0	0	2	0	0	0	22	1	0	1	0	0	0	0	1
07:15	1	0	0	0	1	0	0	0	18	1	0	1	0	0	0	0	2
07:30	3	0	0	0	6	0	0	0	17	0	1	0	0	0	0	0	1
07:45	6	0	0	0	4	0	0	0	28	2	0	0	0	0	0	0	2
08:00	5	0	0	0	7	0	0	0	31	1	0	0	0	0	0	0	4
08:15	6	0	0	0	10	0	0	0	28	0	0	0	0	0	0	0	4
08:30	9	0	0	0	15	0	0	0	35	0	0	0	0	0	0	0	10
08:45	9	0	0	0	15	0	0	0	47	0	0	0	0	0	0	0	14

	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE
Period 1 Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Period 1 Peak Hr	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

	Hide this column	Hide this column	Hide this column	Hide this column	Hide this column	Hide this column	Hide this column
Time Starting	AM Peak+Calc	PM Peak+Calc	AM Peak		Time	Flag-AM	
07:00	199		830		07:00		
07:15	195		867		07:15		
07:30	191		945		07:30		
07:45	245		1065		07:45		
08:00	236		1155		08:00	1	
08:15	273		919		08:15	2	
08:30	311		646		08:30	3	
08:45	335		335		08:45	4	

	GRAND TOTAL	Wharf St SB	Florence St WB	Wharf St NB	Florence St EB
		TOTAL	TOTAL	TOTAL	TOTAL
Time Starting	TOTALS	All Classes	All Classes	All Classes	All Classes
Period 1 Total	1985	659	141	846	339
Period 1 Peak Hr	1155	352	76	509	218
07:00	**199**	68	11	88	32
07:15	**195**	76	18	79	22
07:30	**191**	78	14	72	27
07:45	**245**	85	22	98	40
08:00	**236**	93	8	91	44
08:15	**273**	74	18	137	44
08:30	**311**	86	26	140	59
08:45	**335**	99	24	141	71


Wharf St SB
Florence St EB
Florence St WB
Wharf St NB

TDC
Traffic Data & Control

SURVEY INFORMATION

Site ID:	16			
Location:	Wharf St & Florence St, Tweed Heads			
Date:	15	/ Sept	/ 2016	
Time Period 1:	07:00	to	09:00	
Time Period 2:	16:00	to	18:00	

	Primary Classes:	**Secondary Classes:**
1	Light Vehicles	Pedestrians
2	Light Trucks (3-5)	None
3	Heavy Trucks (6-12)	
4	Bicycles on Road	
5	None	

Weather Conditions 1: Fine **Weather Conditions 2:** Fine

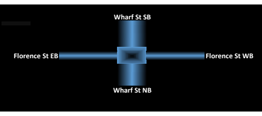
Intersection Legs:		
North	☑ Ch	Wharf St SB
East	☑ Ch	Florence St WB
South	☑ Ch	Wharf St NB
West	☑ Ch	Florence St EB

Output time interval: 15 mins

MAP

Site ID: 16
Location: Wharf St & Florence St, Tweed Heads
Date: 15-Sept-2016
Period 1 Time: 7:00 AM to 9:00 AM
Weather: Fine

Period 1 Peak Hour: 8:00 AM to 9:00 AM



TOTALS AND PEAKS

	Wharf St SB	Wharf St SB	Wharf St SB	Wharf St SB	Wharf St SB	Wharf St SB	Wharf St SB	Wharf St SB	Wharf St SB	Wharf St SB	Wharf St SB	Wharf St SB	Wharf St SB	Wharf St SB	Wharf St SB	Wharf St SB	Wharf St SB
	Left	Left	Left	Left	Through	Through	Through	Through	Right	Right	Right	Right	U-turn	U-turn	U-turn	U-turn	Cross 1
Time Starting	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Pedestrians
Period 1 Total	66	6	1	0	631	47	6	7	50	0	0	0	2	0	0	0	0
Period 1 Peak Hr	37	3	0	0	361	23	3	4	28	0	0	0	0	0	0	0	0
07:00	5	0	0	0	64	5	0	1	3	0	0	0	1	0	0	0	0
07:15	9	2	0	0	65	2	0	0	6	0	0	0	0	0	0	0	0
07:30	7	0	0	0	62	7	1	0	6	0	0	0	0	0	0	0	0
07:45	8	1	1	0	79	10	2	2	7	0	0	0	1	0	0	0	0
08:00	8	0	0	0	91	5	1	2	7	0	0	0	0	0	0	0	0
08:15	5	2	0	0	84	4	0	0	5	0	0	0	0	0	0	0	0
08:30	10	0	0	0	90	5	2	0	5	0	0	0	0	0	0	0	0
08:45	14	1	0	0	96	9	0	2	11	0	0	0	0	0	0	0	0

	Florence St WB	Florence St WB	Florence St WB	Florence St WB	Florence St WB	Florence St WB	Florence St WB	Florence St WB	Florence St WB	Florence St WB	Florence St WB	Florence St WB	Florence St WB	Florence St WB	Florence St WB	Florence St WB	Florence St WB
	Left	Left	Left	Left	Through	Through	Through	Through	Right	Right	Right	Right	U-turn	U-turn	U-turn	U-turn	Cross 1
Time Starting	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Pedestrians
Period 1 Total	94	3	2	0	84	2	0	0	22	3	0	0	0	0	0	0	12
Period 1 Peak Hr	54	2	2	0	50	1	0	0	16	2	0	0	0	0	0	0	6
07:00	5	0	0	0	4	0	0	0	1	0	0	0	0	0	0	0	3
07:15	10	1	0	0	6	0	0	0	3	0	0	0	0	0	0	0	0
07:30	10	0	0	0	14	0	0	0	0	1	0	0	0	0	0	0	0
07:45	15	0	0	0	10	1	0	0	2	0	0	0	0	0	0	0	3
08:00	15	0	1	0	10	1	0	0	4	0	0	0	0	0	0	0	0
08:15	14	0	0	0	9	0	0	0	5	1	0	0	0	0	0	0	0
08:30	12	1	0	0	20	0	0	0	3	1	0	0	0	0	0	0	1
08:45	13	1	1	0	11	0	0	0	4	0	0	0	0	0	0	0	5

	Wharf St NB	Wharf St NB	Wharf St NB	Wharf St NB	Wharf St NB	Wharf St NB	Wharf St NB	Wharf St NB	Wharf St NB	Wharf St NB	Wharf St NB	Wharf St NB	Wharf St NB	Wharf St NB	Wharf St NB	Wharf St NB	Wharf St NB
	Left	Left	Left	Left	Through	Through	Through	Through	Right	Right	Right	Right	U-turn	U-turn	U-turn	U-turn	Cross 1
Time Starting	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Pedestrians
Period 1 Total	68	1	0	0	863	62	6	1	126	2	1	0	2	0	0	0	6
Period 1 Peak Hr	47	0	0	0	586	28	3	0	78	2	0	0	2	0	0	0	4
07:00	1	0	0	0	65	13	1	0	9	0	0	0	0	0	0	0	0
07:15	4	0	0	0	61	12	0	0	13	0	0	0	0	0	0	0	0
07:30	7	1	0	0	62	5	0	1	7	0	1	0	0	0	0	0	0
07:45	9	0	0	0	89	4	2	0	19	0	0	0	0	0	0	0	2
08:00	9	0	0	0	107	8	1	0	18	0	0	0	0	0	0	0	1
08:15	11	0	0	0	143	6	2	0	25	1	0	0	1	0	0	0	1
08:30	13	0	0	0	156	9	0	0	17	1	0	0	0	0	0	0	1
08:45	14	0	0	0	180	5	0	0	18	0	0	0	1	0	0	0	1

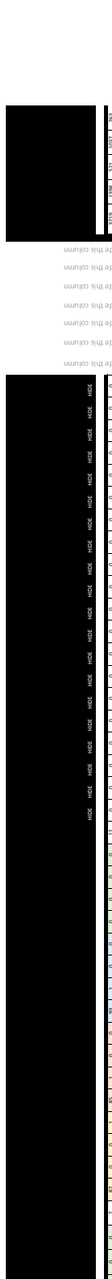
	Florence St EB	Florence St EB	Florence St EB	Florence St EB	Florence St EB	Florence St EB	Florence St EB	Florence St EB	Florence St EB	Florence St EB	Florence St EB	Florence St EB	Florence St EB	Florence St EB	Florence St EB	Florence St EB	Florence St EB
	Left	Left	Left	Left	Through	Through	Through	Through	Right	Right	Right	Right	U-turn	U-turn	U-turn	U-turn	Cross 1
Time Starting	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Pedestrians
Period 1 Total	46	0	0	1	151	1	0	0	83	5	0	0	0	0	0	0	8
Period 1 Peak Hr	35	0	0	1	75	1	0	0	57	4	0	0	0	0	0	0	6
07:00	1	0	0	0	10	0	0	0	2	0	0	0	0	0	0	0	1
07:15	1	0	0	0	15	0	0	0	4	0	0	0	0	0	0	0	0
07:30	4	0	0	0	24	0	0	0	7	0	0	0	0	0	0	0	0
07:45	5	0	0	0	27	0	0	0	13	1	0	0	0	0	0	0	1
08:00	6	0	0	0	25	0	0	0	12	0	0	0	0	0	0	0	2
08:15	6	0	0	1	19	0	0	0	17	2	0	0	0	0	0	0	0
08:30	8	0	0	0	17	1	0	0	12	2	0	0	0	0	0	0	2
08:45	15	0	0	0	14	0	0	0	16	0	0	0	0	0	0	0	2

	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE
Period 1 Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Period 1 Peak Hr	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Time Starting	Hide this column AM Peak+Calc	Hide this column PM Peak+Calc	Hide this column AM Peak	Hide this column	Hide this column Time	Hide this column Flag-AM	Hide this column
07:00	191		940		07:00		
07:15	214		1080		07:15		
07:30	227		1229		07:30		
07:45	308		1387		07:45		
08:00	331		1505		08:00	1	
08:15	363		1174		08:15	2	
08:30	385		811		08:30	3	
08:45	426		426		08:45	4	

	GRAND TOTAL	Wharf St SB	Florence St WB	Wharf St NB	Florence St EB
		TOTAL	TOTAL	TOTAL	TOTAL
Time Starting	TOTALS	All Classes	All Classes	All Classes	All Classes
Period 1 Total	2445	816	210	1132	287
Period 1 Peak Hr	1505	459	127	746	173
07:00	**191**	79	10	89	13
07:15	**214**	84	20	90	20
07:30	**227**	83	25	84	35
07:45	**308**	111	28	123	46
08:00	**331**	114	31	143	43
08:15	**363**	100	29	189	45
08:30	**385**	112	37	196	40
08:45	**426**	133	30	218	45

Unit ID: [redacted]
Location: Wharf St & Florence St, Tweed Heads
Date: 15/08/2025
Period 1 Time: 4:00 PM to 5:00 PM
Weather: Dry
Period 2 Peak Hour: 4:30PM to 5:30PM



TDC
Traffic Data Collection

TIDS13.01 Wharf St & Florence St Intersection Report

TDC
Traffic Data & Control

SURVEY INFORMATION

Site ID:	15		
Location:	Wharf St & Frances St, Tweed Heads		
Date:	15 / Sept / 2016		
Time Period 1:	07:00	to	09:00
Time Period 2:	16:00	to	18:00

	Primary Classes:	Secondary Classes:
1	Light Vehicles	Pedestrians
2	Light Trucks (3-5)	None
3	Heavy Trucks (6-12)	
4	Bicycles on Road	
5	None	

Weather Conditions 1: Fine **Weather Conditions 2:** Fine

Intersection Legs:		Ch	
	North	✓	Wharf St SB
	East	✓	Frances St WB
	South	✓	Wharf St NB
	West	✓	Frances St EB

Output time interval: 15 mins

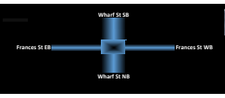
MAP

Site ID: 11
Location: Church St & Kelvedon Rd, Tiptree
Date: Tuesday 28/03/2023
Period 1 Time: 08:00 to 09:00
Weather: Fine
Period 2 Peak Hour: 17:00 to 18:00

Wharf St SB
Francis St WB
Francis St EB
Wharf St NB

TOTALS AND PEAKS

Site ID: 15
Location: Wharf St & Frances St, Tweed Heads
Date: 15-Sept-2016
Period 2 Time: 4:00 PM to 6:00 PM
Weather: Fine
Period 2 Peak Hour: 4:00 PM to 5:00 PM



TOTALS AND PEAKS

Time Starting	Wharf St SB Left Light Vehicles	Wharf St SB Left Light Trucks (3-5)	Wharf St SB Left Heavy Trucks (6-12)	Wharf St SB Left Bicycles on Road	Wharf St SB Through Light Vehicles	Wharf St SB Through Light Trucks (3-5)	Wharf St SB Through Heavy Trucks (6-12)	Wharf St SB Through Bicycles on Road	Wharf St SB Right Light Vehicles	Wharf St SB Right Light Trucks (3-5)	Wharf St SB Right Heavy Trucks (6-12)	Wharf St SB Right Bicycles on Road	Wharf St SB U-turn Light Vehicles	Wharf St SB U-turn Light Trucks (3-5)	Wharf St SB U-turn Heavy Trucks (6-12)	Wharf St SB U-turn Bicycles on Road	Wharf St SB Cross 1 Pedestrians
Period 2 Total	122	1	0	0	877	48	3	0	96	0	0	0	119	12	0	0	0
Period 2 Peak Hr	80	0	0	0	501	18	0	0	54	0	0	0	54	8	0	0	0
16:00	24	0	0	0	131	4	0	0	13	0	0	0	12	2	0	0	0
16:15	22	0	0	0	132	3	0	0	16	0	0	0	16	3	0	0	0
16:30	19	0	0	0	118	5	0	0	12	0	0	0	13	2	0	0	0
16:45	15	0	0	0	120	6	0	0	13	0	0	0	13	1	0	0	0
17:00	10	1	0	0	94	6	1	0	16	0	0	0	24	1	0	0	0
17:15	10	0	0	0	104	9	2	0	8	0	0	0	18	2	0	0	0
17:30	9	0	0	0	92	11	0	0	9	0	0	0	12	0	0	0	0
17:45	13	0	0	0	86	4	0	0	9	0	0	0	11	1	0	0	0

Time Starting	Frances St WB Left Light Vehicles	Frances St WB Left Light Trucks (3-5)	Frances St WB Left Heavy Trucks (6-12)	Frances St WB Left Bicycles on Road	Frances St WB Through Light Vehicles	Frances St WB Through Light Trucks (3-5)	Frances St WB Through Heavy Trucks (6-12)	Frances St WB Through Bicycles on Road	Frances St WB Right Light Vehicles	Frances St WB Right Light Trucks (3-5)	Frances St WB Right Heavy Trucks (6-12)	Frances St WB Right Bicycles on Road	Frances St WB U-turn Light Vehicles	Frances St WB U-turn Light Trucks (3-5)	Frances St WB U-turn Heavy Trucks (6-12)	Frances St WB U-turn Bicycles on Road	Frances St WB Cross 1 Pedestrians
Period 2 Total	254	2	0	0	81	0	0	0	136	3	0	0	0	0	0	0	7
Period 2 Peak Hr	153	2	0	0	51	0	0	0	68	1	0	0	0	0	0	0	3
16:00	37	2	0	0	10	0	0	0	16	0	0	0	0	0	0	0	2
16:15	47	0	0	0	14	0	0	0	14	1	0	0	0	0	0	0	0
16:30	28	0	0	0	11	0	0	0	27	0	0	0	0	0	0	0	1
16:45	41	0	0	0	16	0	0	0	11	0	0	0	0	0	0	0	0
17:00	30	0	0	0	7	0	0	0	17	1	0	0	0	0	0	0	2
17:15	26	0	0	0	10	0	0	0	18	0	0	0	0	0	0	0	2
17:30	27	0	0	0	6	0	0	0	22	0	0	0	0	0	0	0	0
17:45	18	0	0	0	7	0	0	0	11	1	0	0	0	0	0	0	0

Time Starting	Wharf St NB Left Light Vehicles	Wharf St NB Left Light Trucks (3-5)	Wharf St NB Left Heavy Trucks (6-12)	Wharf St NB Left Bicycles on Road	Wharf St NB Through Light Vehicles	Wharf St NB Through Light Trucks (3-5)	Wharf St NB Through Heavy Trucks (6-12)	Wharf St NB Through Bicycles on Road	Wharf St NB Right Light Vehicles	Wharf St NB Right Light Trucks (3-5)	Wharf St NB Right Heavy Trucks (6-12)	Wharf St NB Right Bicycles on Road	Wharf St NB U-turn Light Vehicles	Wharf St NB U-turn Light Trucks (3-5)	Wharf St NB U-turn Heavy Trucks (6-12)	Wharf St NB U-turn Bicycles on Road	Wharf St NB Cross 1 Pedestrians
Period 2 Total	64	0	0	0	719	28	0	1	203	2	1	0	85	0	1	0	15
Period 2 Peak Hr	26	0	0	0	390	15	0	1	125	1	0	0	42	0	1	0	11
16:00	7	0	0	0	103	4	0	1	29	1	0	0	11	0	1	0	3
16:15	10	0	0	0	104	4	0	0	34	0	0	0	10	0	0	0	3
16:30	4	0	0	0	77	2	0	0	35	0	0	0	11	0	0	0	3
16:45	5	0	0	0	106	5	0	0	27	0	0	0	10	0	0	0	2
17:00	15	0	0	0	75	2	0	0	17	0	0	0	7	0	0	0	2
17:15	7	0	0	0	92	4	0	0	29	0	0	0	9	0	0	0	2
17:30	9	0	0	0	81	4	0	0	17	0	0	0	12	0	0	0	0
17:45	7	0	0	0	81	3	0	0	15	1	1	0	15	0	0	0	0

Time Starting	Frances St EB Left Light Vehicles	Frances St EB Left Light Trucks (3-5)	Frances St EB Left Heavy Trucks (6-12)	Frances St EB Left Bicycles on Road	Frances St EB Through Light Vehicles	Frances St EB Through Light Trucks (3-5)	Frances St EB Through Heavy Trucks (6-12)	Frances St EB Through Bicycles on Road	Frances St EB Right Light Vehicles	Frances St EB Right Light Trucks (3-5)	Frances St EB Right Heavy Trucks (6-12)	Frances St EB Right Bicycles on Road	Frances St EB U-turn Light Vehicles	Frances St EB U-turn Light Trucks (3-5)	Frances St EB U-turn Heavy Trucks (6-12)	Frances St EB U-turn Bicycles on Road	Frances St EB Cross 1 Pedestrians
Period 2 Total	56	0	0	0	71	0	0	0	87	1	0	0	1	0	0	0	23
Period 2 Peak Hr	28	0	0	0	42	0	0	0	47	1	0	0	1	0	0	0	17
16:00	8	0	0	0	12	0	0	0	13	0	0	0	0	0	0	0	5
16:15	5	0	0	0	8	0	0	0	12	1	0	0	0	0	0	0	4
16:30	8	0	0	0	13	0	0	0	11	0	0	0	0	0	0	0	3
16:45	7	0	0	0	9	0	0	0	11	0	0	0	1	0	0	0	5
17:00	9	0	0	0	12	0	0	0	14	0	0	0	0	0	0	0	0
17:15	5	0	0	0	7	0	0	0	12	0	0	0	0	0	0	0	2
17:30	8	0	0	0	7	0	0	0	7	0	0	0	0	0	0	0	2
17:45	6	0	0	0	3	0	0	0	7	0	0	0	0	0	0	0	2

	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE
Period 2 Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Period 2 Peak Hr	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Hide this column AM Peak+Calc	Hide this column PM Peak+Calc	Hide this column	Hide this column PM Peak	Hide this column Time	Hide this column	Hide this column Flag-PM
	441		1710	16:00		1
	456		1628	16:15		2
	396		1544	16:30		3
	417		1481	16:45		4
	359		1364	17:00		
	372		1005	17:15		
	333		633	17:30		
	300		300	17:45		

Time Starting	GRAND TOTAL TOTALS	Wharf St SB TOTAL All Classes	Frances St WB TOTAL All Classes	Wharf St NB TOTAL All Classes	Frances St EB TOTAL All Classes
Period 2 Total	3074	1278	476	1104	216
Period 2 Peak Hr	1710	715	275	601	119
16:00	**441**	186	65	157	33
16:15	**456**	192	76	162	26
16:30	**396**	169	66	129	32
16:45	**417**	168	68	153	28
17:00	**359**	153	55	116	35
17:15	**372**	153	54	141	24
17:30	**333**	133	55	123	22
17:45	**300**	124	37	123	16

TDC
Traffic Data & Control

SURVEY INFORMATION

Site ID:	19			
Location:	Wommin Bay Rd & Phillip St, Chinderah			
Date:	14	/ Sept /	2016	
Time Period 1:	07:00	to	09:00	
Time Period 2:	16:00	to	18:00	

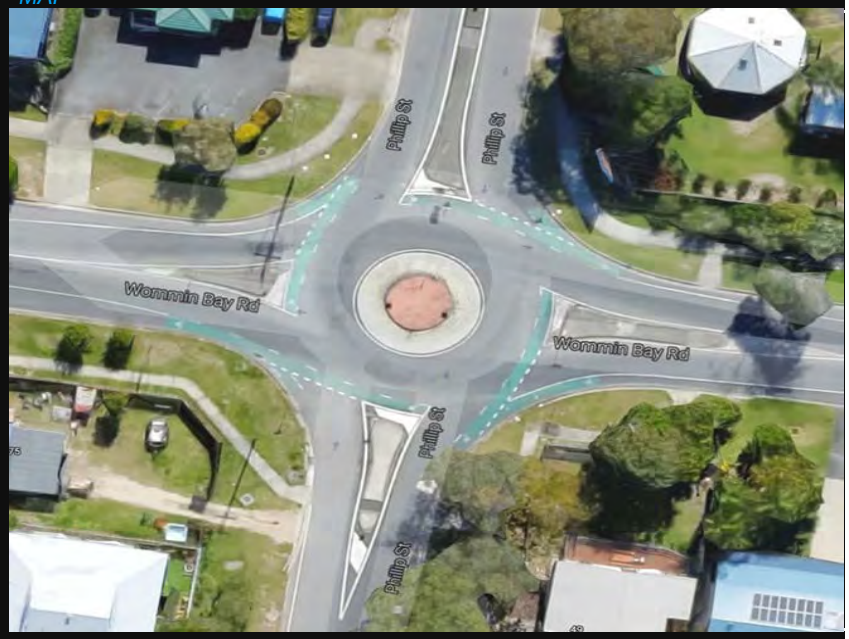
	Primary Classes:	**Secondary Classes:**
1	Light Vehicles	Pedestrians
2	Light Trucks (3-5)	None
3	Heavy Trucks (6-12)	
4	Bicycles on Road	
5	None	

Weather Conditions 1: Fine **Weather Conditions 2:** Fine

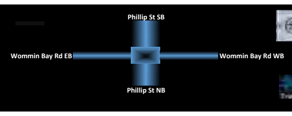
Intersection Legs:		Ch	
	North	✓ Ch	Phillip St SB
	East	✓ Ch	Wommin Bay Rd WB
	South	✓ Ch	Phillip St NB
	West	✓ Ch	Wommin Bay Rd EB

Output time interval: 15 mins

MAP



Site ID:	19
Location:	Wommin Bay Rd & Phillip St, Chinderah
Date:	14-Sept-2016
Period 1 Time:	7:00 AM to 9:00 AM
Weather:	Fine
Period 1 Peak Hour:	8:00 AM to 9:00 AM



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TOTALS AND PEAKS

Time Starting	Phillip St SB Left Light Vehicles	Phillip St SB Left Light Trucks (3-5)	Phillip St SB Left Heavy Trucks (6-12)	Phillip St SB Left Bicycles on Road	Phillip St SB Through Light Vehicles	Phillip St SB Through Light Trucks (3-5)	Phillip St SB Through Heavy Trucks (6-12)	Phillip St SB Through Bicycles on Road	Phillip St SB Right Light Vehicles	Phillip St SB Right Light Trucks (3-5)	Phillip St SB Right Heavy Trucks (6-12)	Phillip St SB Right Bicycles on Road	Phillip St SB U-turn Light Vehicles	Phillip St SB U-turn Light Trucks (3-5)	Phillip St SB U-turn Heavy Trucks (6-12)	Phillip St SB U-turn Bicycles on Road	Phillip St SB Cross 1 Pedestrians
Period 1 Total	155	2	0	1	1	1	0	2	10	2	0	0	0	0	0	0	2
Period 1 Peak Hr	106	1	0	0	1	0	0	0	5	1	0	0	0	0	0	0	2
07:00	9	0	0	0	0	0	0	2	1	0	0	0	0	0	0	0	0
07:15	13	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0
07:30	9	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0
07:45	18	1	0	1	0	1	0	0	1	0	0	0	0	0	0	0	0
08:00	20	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0
08:15	34	0	0	0	1	0	0	0	2	0	0	0	0	0	0	0	1
08:30	23	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1
08:45	29	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0

Time Starting	Wommin Bay Rd V Left Light Vehicles	Wommin Bay Rd V Left Light Trucks (3-5)	Wommin Bay Rd V Left Heavy Trucks (6-12)	Wommin Bay Rd V Left Bicycles on Road	Wommin Bay Rd V Through Light Vehicles	Wommin Bay Rd V Through Light Trucks (3-5)	Wommin Bay Rd V Through Heavy Trucks (6-12)	Wommin Bay Rd V Through Bicycles on Road	Wommin Bay Rd V Right Light Vehicles	Wommin Bay Rd V Right Light Trucks (3-5)	Wommin Bay Rd V Right Heavy Trucks (6-12)	Wommin Bay Rd V Right Bicycles on Road	Wommin Bay Rd V U-turn Light Vehicles	Wommin Bay Rd V U-turn Light Trucks (3-5)	Wommin Bay Rd V U-turn Heavy Trucks (6-12)	Wommin Bay Rd V U-turn Bicycles on Road	Wommin Bay Rd V Cross 1 Pedestrians
Period 1 Total	9	0	0	0	218	14	0	1	666	14	2	1	1	0	0	0	0
Period 1 Peak Hr	6	0	0	0	132	8	0	0	361	10	2	1	0	0	0	0	0
07:00	1	0	0	0	15	1	0	1	60	0	0	0	0	0	0	0	0
07:15	0	0	0	0	27	2	0	0	75	2	0	0	0	0	0	0	0
07:30	2	0	0	0	18	1	0	0	85	2	0	0	0	0	0	0	0
07:45	0	0	0	0	26	2	0	0	85	0	0	0	1	0	0	0	0
08:00	1	0	0	0	23	1	0	0	78	2	1	0	0	0	0	0	0
08:15	1	0	0	0	31	2	0	0	95	2	1	0	0	0	0	0	0
08:30	1	0	0	0	44	4	0	0	109	5	0	1	0	0	0	0	0
08:45	3	0	0	0	34	1	0	0	79	1	0	0	0	0	0	0	0

Time Starting	Phillip St NB Left Light Vehicles	Phillip St NB Left Light Trucks (3-5)	Phillip St NB Left Heavy Trucks (6-12)	Phillip St NB Left Bicycles on Road	Phillip St NB Through Light Vehicles	Phillip St NB Through Light Trucks (3-5)	Phillip St NB Through Heavy Trucks (6-12)	Phillip St NB Through Bicycles on Road	Phillip St NB Right Light Vehicles	Phillip St NB Right Light Trucks (3-5)	Phillip St NB Right Heavy Trucks (6-12)	Phillip St NB Right Bicycles on Road	Phillip St NB U-turn Light Vehicles	Phillip St NB U-turn Light Trucks (3-5)	Phillip St NB U-turn Heavy Trucks (6-12)	Phillip St NB U-turn Bicycles on Road	Phillip St NB Cross 1 Pedestrians
Period 1 Total	9	3	0	0	18	1	0	0	8	0	0	0	0	0	0	0	3
Period 1 Peak Hr	8	2	0	0	8	1	0	0	5	0	0	0	0	0	0	0	3
07:00	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
07:15	0	1	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0
07:30	0	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0
07:45	1	0	0	0	5	0	0	0	1	0	0	0	0	0	0	0	0
08:00	2	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0
08:15	2	2	0	0	6	0	0	0	0	0	0	0	0	0	0	0	2
08:30	2	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	1
08:45	2	0	0	0	1	1	0	0	2	0	0	0	0	0	0	0	0

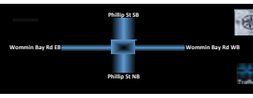
Time Starting	Wommin Bay Rd E Left Light Vehicles	Wommin Bay Rd E Left Light Trucks (3-5)	Wommin Bay Rd E Left Heavy Trucks (6-12)	Wommin Bay Rd E Left Bicycles on Road	Wommin Bay Rd E Through Light Vehicles	Wommin Bay Rd E Through Light Trucks (3-5)	Wommin Bay Rd E Through Heavy Trucks (6-12)	Wommin Bay Rd E Through Bicycles on Road	Wommin Bay Rd E Right Light Vehicles	Wommin Bay Rd E Right Light Trucks (3-5)	Wommin Bay Rd E Right Heavy Trucks (6-12)	Wommin Bay Rd E Right Bicycles on Road	Wommin Bay Rd E U-turn Light Vehicles	Wommin Bay Rd E U-turn Light Trucks (3-5)	Wommin Bay Rd E U-turn Heavy Trucks (6-12)	Wommin Bay Rd E U-turn Bicycles on Road	Wommin Bay Rd E Cross 1 Pedestrians
Period 1 Total	24	0	0	0	388	26	0	4	12	3	0	0	2	0	0	0	1
Period 1 Peak Hr	16	0	0	0	253	14	0	3	8	1	0	0	2	0	0	0	0
07:00	1	0	0	0	25	3	0	0	3	0	0	0	0	0	0	0	0
07:15	4	0	0	0	33	2	0	0	0	1	0	0	0	0	0	0	0
07:30	0	0	0	0	31	3	0	0	1	0	0	0	0	0	0	0	0
07:45	3	0	0	0	46	4	0	1	0	1	0	0	0	0	0	0	1
08:00	2	0	0	0	47	3	0	2	1	0	0	0	0	0	0	0	0
08:15	5	0	0	0	78	5	0	0	0	0	0	0	0	0	0	0	0
08:30	5	0	0	0	53	4	0	0	3	1	0	0	1	0	0	0	0
08:45	4	0	0	0	75	2	0	1	4	0	0	0	1	0	0	0	0

	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE
Period 1 Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Period 1 Peak Hr	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Hide this column AM Peak+Calc	Hide this column PM Peak+Calc	Hide this column AM Peak	Hide this column	Hide this column Time	Hide this column Flag-AM	Hide this column
123		643		07:00		
164		707		07:15		
158		810		07:30		
198		911		07:45		
187		955		08:00	1	
267		768		08:15	2	
259		501		08:30	3	
242		242		08:45	4	

	GRAND TOTAL TOTALS	Phillip St SB TOTAL All Classes	Wommin Bay Rd V TOTAL All Classes	Phillip St NB TOTAL All Classes	Wommin Bay Rd E TOTAL All Classes
Period 1 Total	1598	174	926	39	459
Period 1 Peak Hr	955	114	520	24	297
07:00	**123**	12	78	1	32
07:15	**164**	15	106	3	40
07:30	**158**	11	108	4	35
07:45	**198**	22	114	7	55
08:00	**187**	22	106	4	55
08:15	**267**	37	132	10	88
08:30	**259**	24	164	4	67
08:45	**242**	31	118	6	87

Site ID: 19
Location: Wommin Bay Rd & Phillip St, Chinderah
Date: 14-Sept-2016
Period 2 Time: 4:00 PM to 6:00 PM
Weather: Fine
Period 2 Peak Hour: 4:00 PM to 5:00 PM



TOTALS AND PEAKS

	Phillip St SB	Phillip St SB	Phillip St SB	Phillip St SB	Phillip St SB	Phillip St SB	Phillip St SB	Phillip St SB	Phillip St SB	Phillip St SB	Phillip St SB	Phillip St SB	Phillip St SB	Phillip St SB	Phillip St SB	Phillip St SB	Phillip St SB
	Left	Left	Left	Left	Through	Through	Through	Through	Right	Right	Right	Right	U-turn	U-turn	U-turn	U-turn	Cross 1
Time Starting	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Pedestrians
Period 2 Total	219	3	3	2	5	0	0	0	12	1	1	0	0	0	0	0	0
Period 2 Peak Hr	113	2	2	1	2	0	0	0	7	1	1	0	0	0	0	0	0
16:00	25	1	1	0	0	0	0	0	2	0	0	0	0	0	0	0	0
16:15	23	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0
16:30	36	0	0	1	0	0	0	0	0	1	1	0	0	0	0	0	0
16:45	29	1	1	0	2	0	0	0	2	0	0	0	0	0	0	0	0
17:00	15	1	1	0	1	0	0	0	1	0	0	0	0	0	0	0	0
17:15	32	0	0	1	1	0	0	0	1	0	0	0	0	0	0	0	0
17:30	28	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
17:45	31	0	0	0	1	0	0	0	2	0	0	0	0	0	0	0	0

	Wommin Bay Rd	Wommin Bay Rd	Wommin Bay Rd	Wommin Bay Rd	Wommin Bay Rd	Wommin Bay Rd	Wommin Bay Rd	Wommin Bay Rd	Wommin Bay Rd	Wommin Bay Rd	Wommin Bay Rd	Wommin Bay Rd	Wommin Bay Rd	Wommin Bay Rd	Wommin Bay Rd	Wommin Bay Rd	Wommin Bay Rd
	Left	Left	Left	Left	Through	Through	Through	Through	Right	Right	Right	Right	U-turn	U-turn	U-turn	U-turn	Cross 1
Time Starting	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Pedestrians
Period 2 Total	3	0	0	0	224	4	4	3	463	6	6	0	3	0	0	0	1
Period 2 Peak Hr	0	0	0	0	103	3	3	3	249	4	4	0	1	0	0	0	1
16:00	0	0	0	0	27	2	2	0	65	1	1	0	1	0	0	0	1
16:15	0	0	0	0	23	1	1	1	63	0	0	0	0	0	0	0	0
16:30	0	0	0	0	39	0	0	1	66	1	1	0	0	0	0	0	0
16:45	0	0	0	0	14	0	0	1	55	2	2	0	0	0	0	0	0
17:00	0	0	0	0	35	1	1	0	66	0	0	0	0	0	0	0	0
17:15	1	0	0	0	33	0	0	0	53	1	1	0	0	0	0	0	0
17:30	1	0	0	0	24	0	0	0	61	1	1	0	0	0	0	0	0
17:45	1	0	0	0	29	0	0	0	34	0	0	0	2	0	0	0	0

	Phillip St NB	Phillip St NB	Phillip St NB	Phillip St NB	Phillip St NB	Phillip St NB	Phillip St NB	Phillip St NB	Phillip St NB	Phillip St NB	Phillip St NB	Phillip St NB	Phillip St NB	Phillip St NB	Phillip St NB	Phillip St NB	Phillip St NB
	Left	Left	Left	Left	Through	Through	Through	Through	Right	Right	Right	Right	U-turn	U-turn	U-turn	U-turn	Cross 1
Time Starting	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Pedestrians
Period 2 Total	10	0	0	2	7	0	0	0	6	0	0	1	0	0	0	0	3
Period 2 Peak Hr	5	0	0	2	3	0	0	0	2	0	0	0	0	0	0	0	0
16:00	2	0	0	2	1	0	0	0	0	0	0	0	0	0	0	0	0
16:15	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:30	1	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0
16:45	1	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0
17:00	2	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
17:15	1	0	0	0	1	0	0	0	0	0	0	1	0	0	0	0	3
17:30	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0
17:45	2	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0

	Wommin Bay Rd	Wommin Bay Rd	Wommin Bay Rd	Wommin Bay Rd	Wommin Bay Rd	Wommin Bay Rd	Wommin Bay Rd	Wommin Bay Rd	Wommin Bay Rd	Wommin Bay Rd	Wommin Bay Rd	Wommin Bay Rd	Wommin Bay Rd	Wommin Bay Rd	Wommin Bay Rd	Wommin Bay Rd	Wommin Bay Rd
	Left	Left	Left	Left	Through	Through	Through	Through	Right	Right	Right	Right	U-turn	U-turn	U-turn	U-turn	Cross 1
Time Starting	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Pedestrians
Period 2 Total	25	0	0	0	748	16	16	3	23	0	0	0	1	0	0	0	0
Period 2 Peak Hr	14	0	0	0	386	10	10	1	13	0	0	0	1	0	0	0	0
16:00	5	0	0	0	85	4	4	0	3	0	0	0	0	0	0	0	0
16:15	2	0	0	0	103	2	2	0	6	0	0	0	0	0	0	0	0
16:30	3	0	0	0	89	3	3	1	2	0	0	0	0	0	0	0	0
16:45	4	0	0	0	109	1	1	0	2	0	0	0	1	0	0	0	0
17:00	0	0	0	0	88	1	1	0	3	0	0	0	0	0	0	0	0
17:15	3	0	0	0	102	1	1	2	3	0	0	0	0	0	0	0	0
17:30	6	0	0	0	82	4	4	0	2	0	0	0	0	0	0	0	0
17:45	2	0	0	0	90	0	0	0	2	0	0	0	0	0	0	0	0

	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE	HIDE
Period 2 Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Period 2 Peak Hr	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

	Hide this column	Hide this column	Hide this column	Hide this column	Hide this column	Hide this column	Hide this column
Time Starting	AM Peak+Calc	PM Peak+Calc		PM Peak	Time		Flag-PM
16:00		234		946	16:00		1
16:15		231		930	16:15		2
16:30		251		938	16:30		3
16:45		230		905	16:45		4
17:00		218		874	17:00		
17:15		239		656	17:15		
17:30		218		417	17:30		
17:45		199		199	17:45		

	GRAND TOTAL	Phillip St SB	Wommin Bay Rd	Phillip St NB	Wommin Bay Rd
		TOTAL	TOTAL	TOTAL	TOTAL
Time Starting	TOTALS	All Classes	All Classes	All Classes	All Classes
Period 2 Total	1820	246	716	26	832
Period 2 Peak Hr	946	129	370	12	435
16:00	**234**	29	99	5	101
16:15	**231**	26	89	1	115
16:30	**251**	39	108	3	101
16:45	**230**	35	74	3	118
17:00	**218**	19	103	3	93
17:15	**239**	35	89	3	112
17:30	**218**	29	88	3	98
17:45	**199**	34	66	5	94

TDC
Traffic Data & Control

SURVEY INFORMATION

Site ID:	11			
Location:	Sugarwood Dve & Parkes Dve, Tweed Heads West			
Date:	15	/ Sept	/ 2016	
Time Period 1:	07:00	to	09:00	
Time Period 2:	16:00	to	18:00	

	Primary Classes:	**Secondary Classes:**
1	Light Vehicles	Pedestrians
2	Light Trucks (3-5)	None
3	Heavy Trucks (6-12)	
4	Bicycles on Road	
5	None	

Weather Conditions 1: Fine **Weather Conditions 2:** Fine

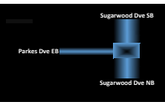
Intersection Legs:			
North	☑	Ch	Sugarwood Dve SB
East	☐	Ch	
South	☑	Ch	Sugarwood Dve NB
West	☑	Ch	Parkes Dve EB

Output time interval: 15 mins

MAP

Site ID: 11
Location: Sugarwood Dve & Parkes Dve, Tweed Heads West
Date: 15-Sept-2016
Period 1 Time: 7:00 AM to 9:00 AM
Weather: Fine

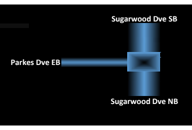
Period 1 Peak Hour: 7:00 AM to 8:00 AM



TOTALS AND PEAKS

	Sugarwood Dve SB	Sugarwood Dve SB	Sugarwood Dve SB	Sugarwood Dve SB	Sugarwood Dve SB	Sugarwood Dve SB	Sugarwood Dve SB	Sugarwood Dve SB	Sugarwood Dve SB	Sugarwood Dve SB	Sugarwood Dve SB	Sugarwood Dve SB	Sugarwood Dve SB	Sugarwood Dve NB	Sugarwood Dve NB	Sugarwood Dve NB	Sugarwood Dve NB	Sugarwood Dve NB	Sugarwood Dve NB	Sugarwood Dve NB	Sugarwood Dve NB	Sugarwood Dve NB	Sugarwood Dve NB	Sugarwood Dve NB	Sugarwood Dve NB	Sugarwood Dve NB	Parkes Dve EB	Parkes Dve EB	Parkes Dve EB	Parkes Dve EB	Parkes Dve EB	Parkes Dve EB	Parkes Dve EB	Parkes Dve EB	Parkes Dve EB	Parkes Dve EB	Parkes Dve EB	Parkes Dve EB	Parkes Dve EB	GRAND TOTAL	Sugarwood Dve SB	Sugarwood Dve NB	Parkes Dve EB
	Through	Through	Through	Through	Right	Right	Right	Right	U-turn	U-turn	U-turn	U-turn	Cross 1	Left	Left	Left	Left	Through	Through	Through	Through	U-turn	U-turn	U-turn	U-turn	Cross 1	Left	Left	Left	Left	Right	Right	Right	Right	U-turn	U-turn	U-turn	U-turn	Cross 1		TOTAL	TOTAL	TOTAL
Time Starting	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Pedestrians	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Pedestrians	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Pedestrians	TOTALS	All Classes	All Classes	All Classes
Period 1 Total	0	0	0	0	7	5	0	0	2	0	0	0	0	8	2	0	0	1338	47	5	0	0	0	0	0	0	18	7	1	0	0	0	0	0	0	0	0	0	0	1440	14	1400	26
Period 1 Peak Hr	0	0	0	0	3	4	0	0	0	0	0	0	0	7	0	0	0	699	25	2	0	0	0	0	0	0	12	4	1	0	0	0	0	0	0	0	0	0	0	757	7	733	17
07:00	0	0	0	0	0	2	0	0	0	0	0	0	0	2	0	0	0	163	6	1	0	0	0	0	0	0	5	3	1	0	0	0	0	0	0	0	0	0	0	**183**	2	172	9
07:15	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	164	5	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	**172**	0	171	1
07:30	0	0	0	0	1	1	0	0	0	0	0	0	0	2	0	0	0	202	3	0	0	0	0	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	**213**	2	207	4
07:45	0	0	0	0	2	1	0	0	0	0	0	0	0	1	0	0	0	170	11	1	0	0	0	0	0	0	2	1	0	0	0	0	0	0	0	0	0	0	0	**189**	3	183	3
08:00	0	0	0	0	1	1	0	0	0	0	0	0	0	0	1	0	0	162	5	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	**172**	2	168	2
08:15	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	157	5	1	0	0	0	0	0	0	1	2	0	0	0	0	0	0	0	0	0	0	0	**167**	1	163	3
08:30	0	0	0	0	2	0	0	0	1	0	0	0	0	0	1	0	0	162	8	1	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	**177**	3	172	2
08:45	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	158	4	1	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	**167**	1	164	2

Site ID: 11
Location: Sugarwood Dve & Parkes Dve, Tweed Heads West
Date: 15-Sept-2016
Period 2 Time: 4:00 PM to 6:00 PM
Weather: Fine
Period 2 Peak Hour: 4:15 PM to 5:15 PM



TDC Traffic Data & Control

TOTALS AND PEAKS

	Sugarwood Dve SB	Sugarwood Dve SB	Sugarwood Dve SB	Sugarwood Dve SB	Sugarwood Dve SB	Sugarwood Dve SB	Sugarwood Dve SB	Sugarwood Dve SB	Sugarwood Dve SB	Sugarwood Dve SB	Sugarwood Dve SB	Sugarwood Dve SB	Sugarwood Dve SB
	Through	Through	Through	Through	Right	Right	Right	Right	U-turn	U-turn	U-turn	U-turn	Cross 1
Time Starting	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Pedestrians
Period 2 Total	0	0	0	0	3	1	0	0	5	0	0	0	0
Period 2 Peak Hr	0	0	0	0	2	0	0	0	2	0	0	0	0
16:00	0	0	0	0	0	1	0	0	1	0	0	0	0
16:15	0	0	0	0	0	0	0	0	0	0	0	0	0
16:30	0	0	0	0	0	0	0	0	1	0	0	0	0
16:45	0	0	0	0	1	0	0	0	0	0	0	0	0
17:00	0	0	0	0	1	0	0	0	1	0	0	0	0
17:15	0	0	0	0	0	0	0	0	0	0	0	0	0
17:30	0	0	0	0	0	0	0	0	1	0	0	0	0
17:45	0	0	0	0	1	0	0	0	1	0	0	0	0

	Sugarwood Dve NB	Sugarwood Dve NB	Sugarwood Dve NB	Sugarwood Dve NB	Sugarwood Dve NB	Sugarwood Dve NB	Sugarwood Dve NB	Sugarwood Dve NB	Sugarwood Dve NB	Sugarwood Dve NB	Sugarwood Dve NB	Sugarwood Dve NB	Sugarwood Dve NB
	Left	Left	Left	Left	Through	Through	Through	Through	U-turn	U-turn	U-turn	U-turn	Cross 1
Time Starting	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Pedestrians
Period 2 Total	2	0	0	0	1154	19	1	0	0	0	0	0	0
Period 2 Peak Hr	0	0	0	0	638	8	1	0	0	0	0	0	0
16:00	1	0	0	0	142	4	0	0	0	0	0	0	0
16:15	0	0	0	0	175	2	1	0	0	0	0	0	0
16:30	0	0	0	0	157	1	0	0	0	0	0	0	0
16:45	0	0	0	0	152	1	0	0	0	0	0	0	0
17:00	0	0	0	0	154	4	0	0	0	0	0	0	0
17:15	0	0	0	0	141	3	0	0	0	0	0	0	0
17:30	1	0	0	0	132	3	0	0	0	0	0	0	0
17:45	0	0	0	0	101	1	0	0	0	0	0	0	0

	Parkes Dve EB	Parkes Dve EB	Parkes Dve EB	Parkes Dve EB	Parkes Dve EB	Parkes Dve EB	Parkes Dve EB	Parkes Dve EB	Parkes Dve EB	Parkes Dve EB	Parkes Dve EB	Parkes Dve EB	Parkes Dve EB
	Left	Left	Left	Left	Right	Right	Right	Right	U-turn	U-turn	U-turn	U-turn	Cross 1
Time Starting	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Light Vehicles	Light Trucks (3-5)	Heavy Trucks (6-12)	Bicycles on Road	Pedestrians
Period 2 Total	11	2	0	0	0	0	0	0	0	0	0	0	0
Period 2 Peak Hr	1	0	0	0	0	0	0	0	0	0	0	0	0
16:00	8	2	0	0	0	0	0	0	0	0	0	0	0
16:15	0	0	0	0	0	0	0	0	0	0	0	0	0
16:30	0	0	0	0	0	0	0	0	0	0	0	0	0
16:45	1	0	0	0	0	0	0	0	0	0	0	0	0
17:00	0	0	0	0	0	0	0	0	0	0	0	0	0
17:15	0	0	0	0	0	0	0	0	0	0	0	0	0
17:30	1	0	0	0	0	0	0	0	0	0	0	0	0
17:45	1	0	0	0	0	0	0	0	0	0	0	0	0

	GRAND TOTAL	Sugarwood Dve SB	Sugarwood Dve NB	Parkes Dve EB
		TOTAL	TOTAL	TOTAL
Time Starting	TOTALS	All Classes	All Classes	All Classes
Period 2 Total	1198	9	1176	13
Period 2 Peak Hr	652	4	647	1
16:00	**159**	2	147	10
16:15	**178**	0	178	0
16:30	**159**	1	158	0
16:45	**155**	1	153	1
17:00	**160**	2	158	0
17:15	**144**	0	144	0
17:30	**138**	1	136	1
17:45	**105**	2	102	1

APPENDIX C

2041 DEMOGRAPHIC FORECASTS

Tweed Shire Council Strategic Transport Model
2041 Population Density per Hectare - High Yield Scenario

- More than 60
- 45 to 60
- 30 to 45
- 15 to 30
- 0 to 15

225 Population

Tweed Shire Council Strategic Transport Model
2041 Employment Density per Hectare - High Yield Scenario

More than 100
50 to 100
10 to 50
1 to 10
Less than 1

225 Employments

Tweed Shire Council Strategic Transport Model
2041 Enrolment per 100 Population - High Yield Scenario

More than 500
200 to 500
50 to 200
1 to 50
Less than 1

225 Enrolments

Tweed Shire Council Strategic Transport Model
2041 Visitor Density per Hectare - High Yield Scenario

More than 50
10 to 50
5 to 10
1 to 5
Less than 1

225 Visitors

Tweed Shire Council Strategic Transport Model
2041 Population Density per Hectare - Medium Yield Scenario

- More than 60
- 45 to 60
- 30 to 45
- 15 to 30
- 0 to 15

225 Population

Tweed Shire Council Strategic Transport Model
2041 Employment Density per Hectare - Medium Yield Scenario

More than 100
50 to 100
10 to 50
1 to 10
Less than 1

225 Employments

Tweed Shire Council Strategic Transport Model
2041 Enrolment per 100 Population - Medium Yield Scenario

More than 500
200 to 500
50 to 200
1 to 50
Less than 1

225 Enrolments

Tweed Shire Council Strategic Transport Model
2041 Visitor Density per Hectare - Medium Yield Scenario

More than 50
10 to 50
5 to 10
1 to 5
Less than 1

225 Visitors

Tweed Shire Council Strategic Transport Model
2041 Population Density per Hectare - Low Yield Scenario

- More than 60
- 45 to 60
- 30 to 45
- 15 to 30
- 0 to 15

225 Population

Tweed Shire Council Strategic Transport Model
2041 Employment Density per Hectare - Low Yield Scenario

More than 100
50 to 100
10 to 50
1 to 10
Less than 1

225 Employments

Tweed Shire Council Strategic Transport Model
2041 Enrolment per 100 Population - Low Yield Scenario

More than 500
200 to 500
50 to 200
1 to 50
Less than 1

225 Enrolments

Tweed Shire Council Strategic Transport Model
2041 Visitor Density per Hectare - Low Yield Scenario

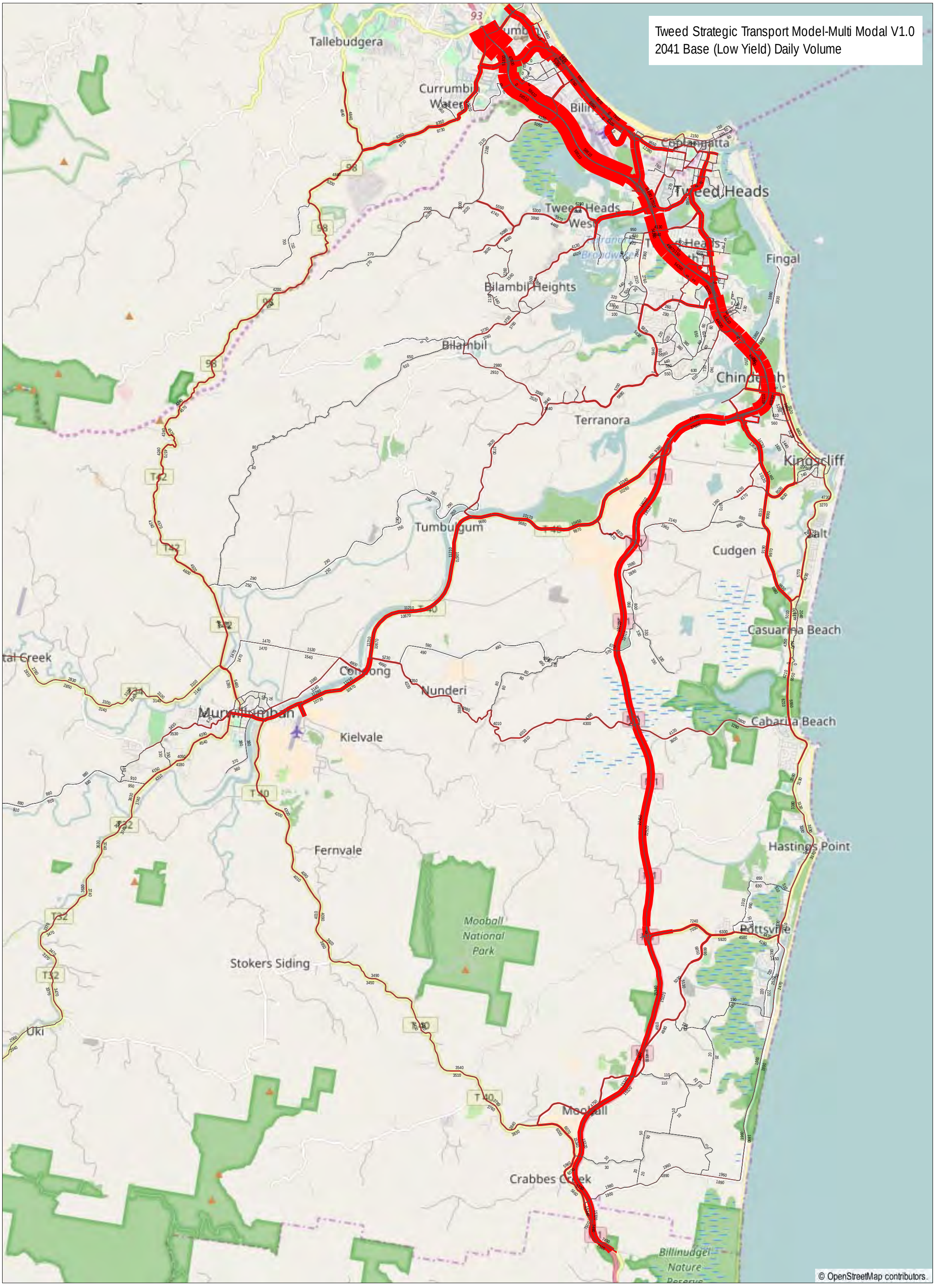
More than 50
10 to 50
5 to 10
1 to 5
Less than 1

225 Visitors

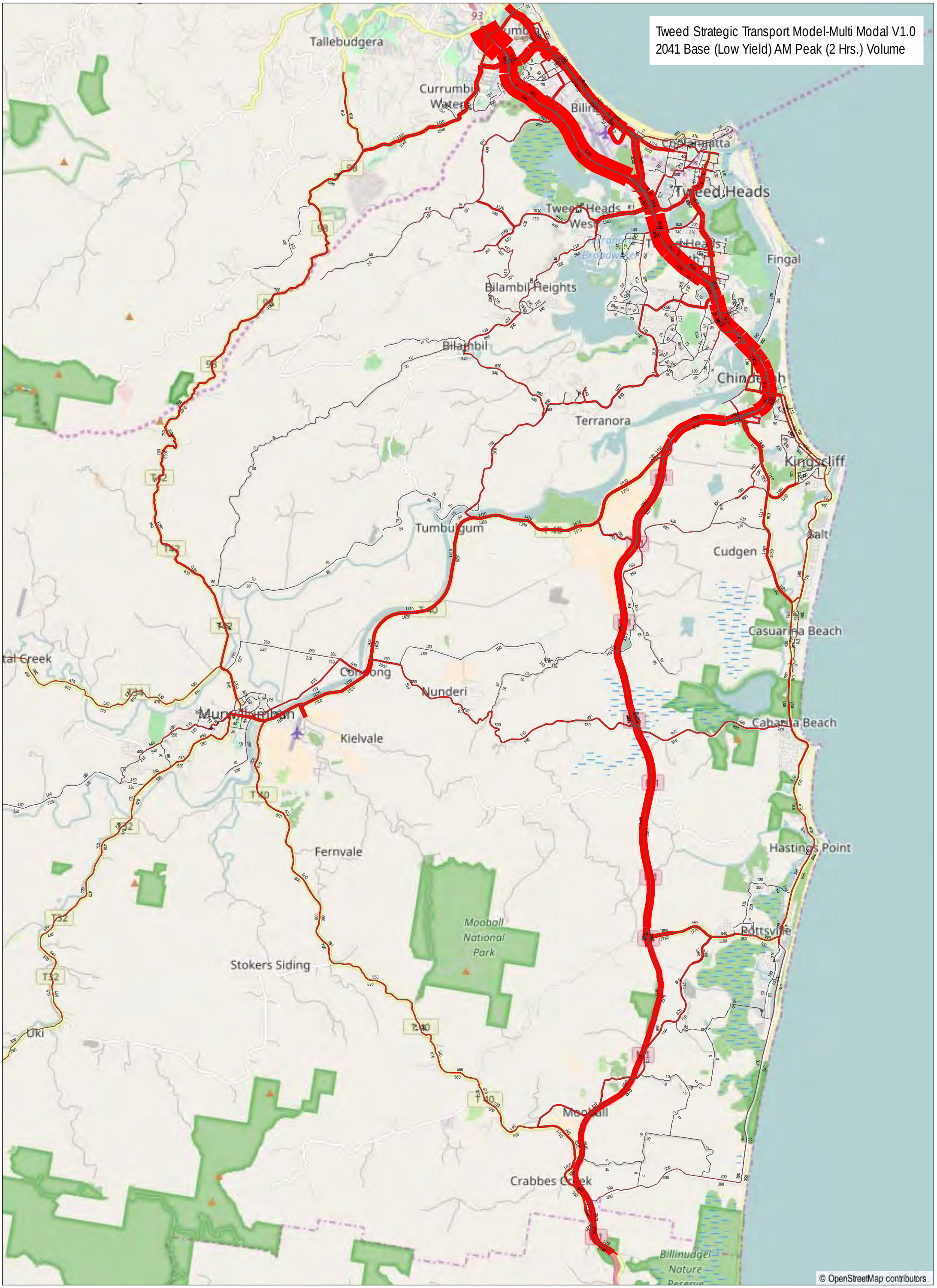
APPENDIX D

STRATEGIC SCENARIO TESTING – NETWORK OUTPUTS

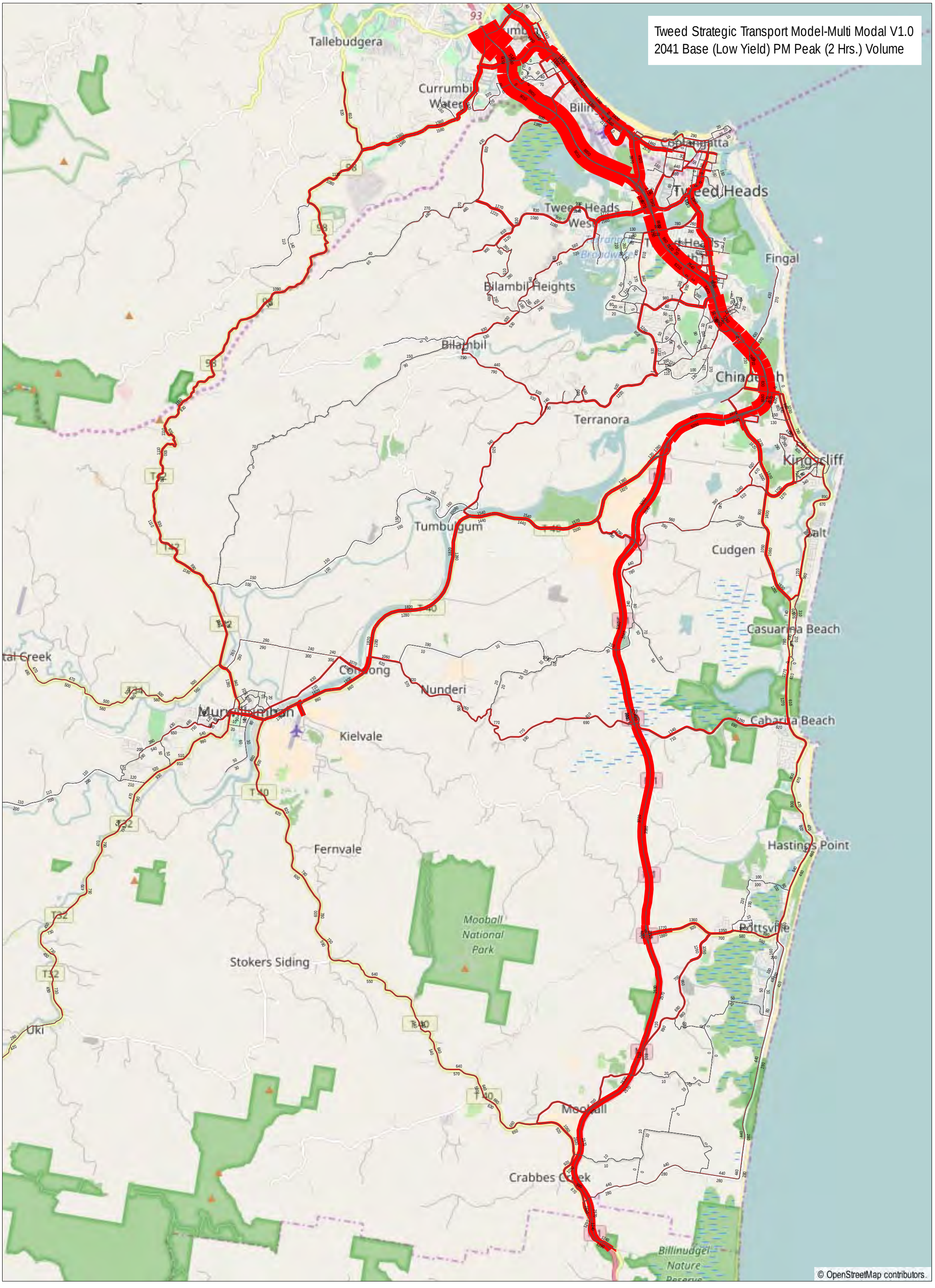
Tweed Strategic Transport Model-Multi Modal V1.0
2041 Base (Low Yield) Daily Volume



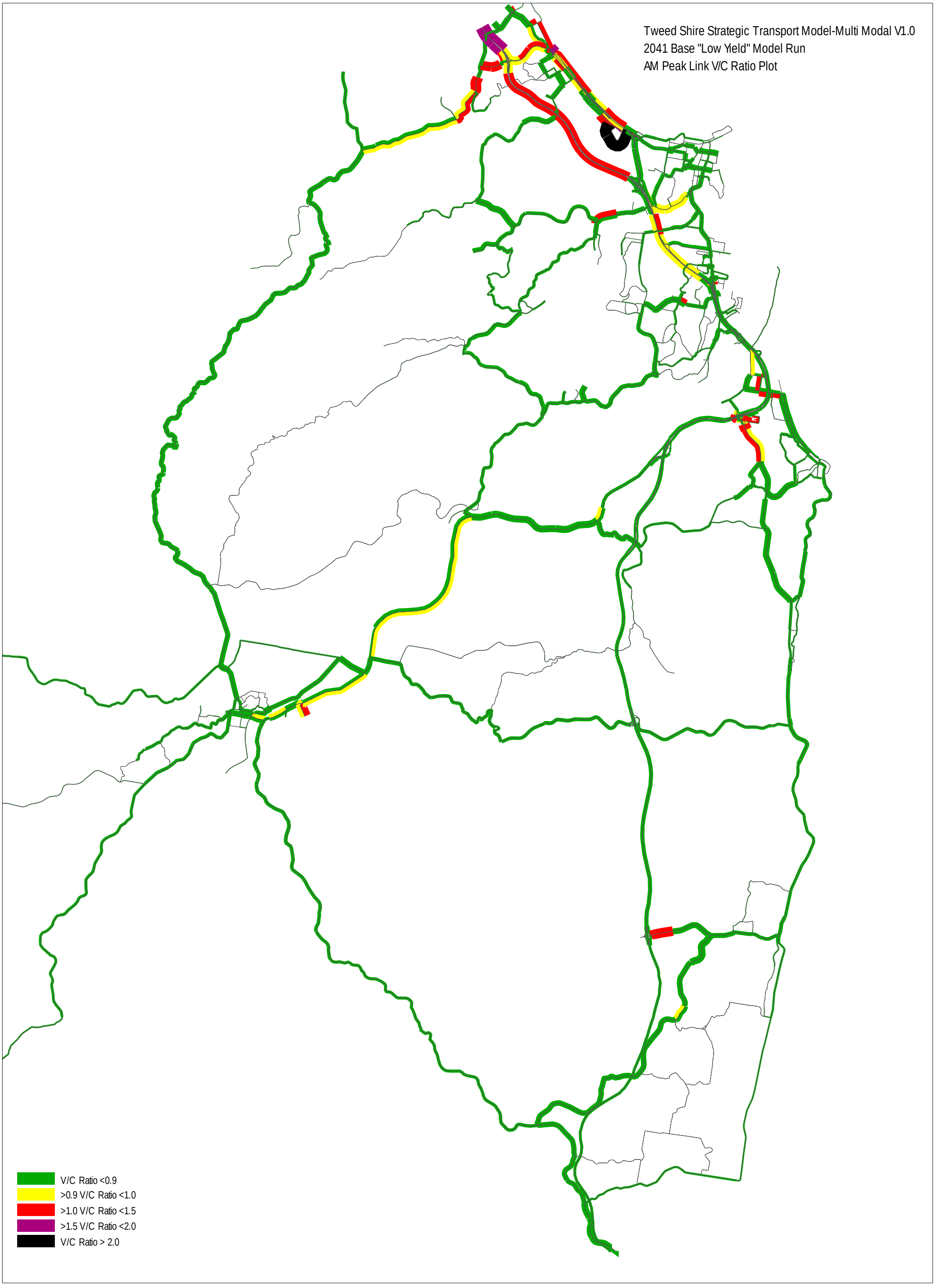
Tweed Strategic Transport Model-Multi Modal V1.0
2041 Base (Low Yield) AM Peak (2 Hrs.) Volume



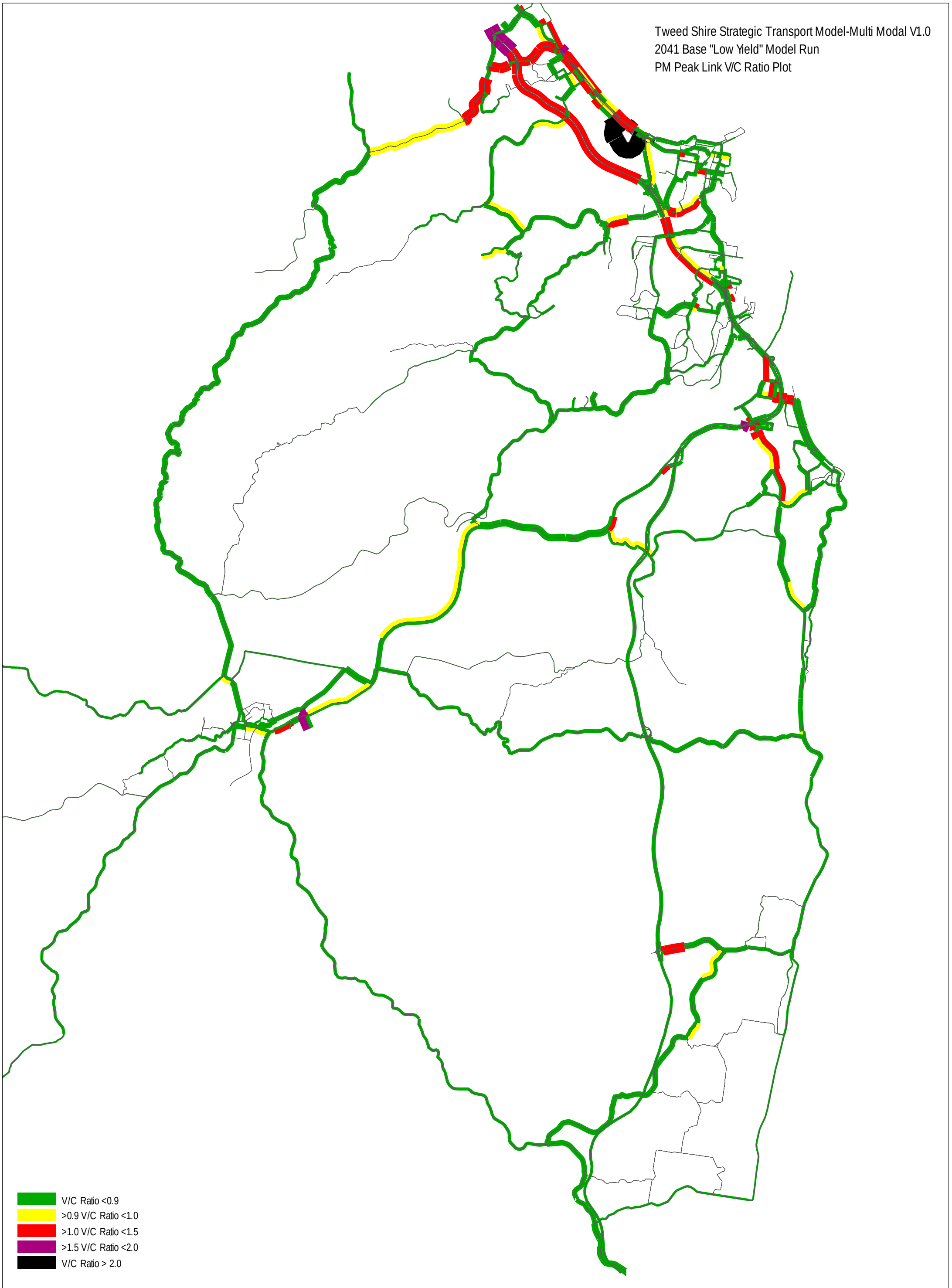
Tweed Strategic Transport Model-Multi Modal V1.0
2041 Base (Low Yield) PM Peak (2 Hrs.) Volume



Tweed Shire Strategic Transport Model-Multi Modal V1.0
2041 Base "Low Yield" Model Run
AM Peak Link V/C Ratio Plot



Tweed Shire Strategic Transport Model-Multi Modal V1.0
2041 Base "Low Yield" Model Run
PM Peak Link V/C Ratio Plot

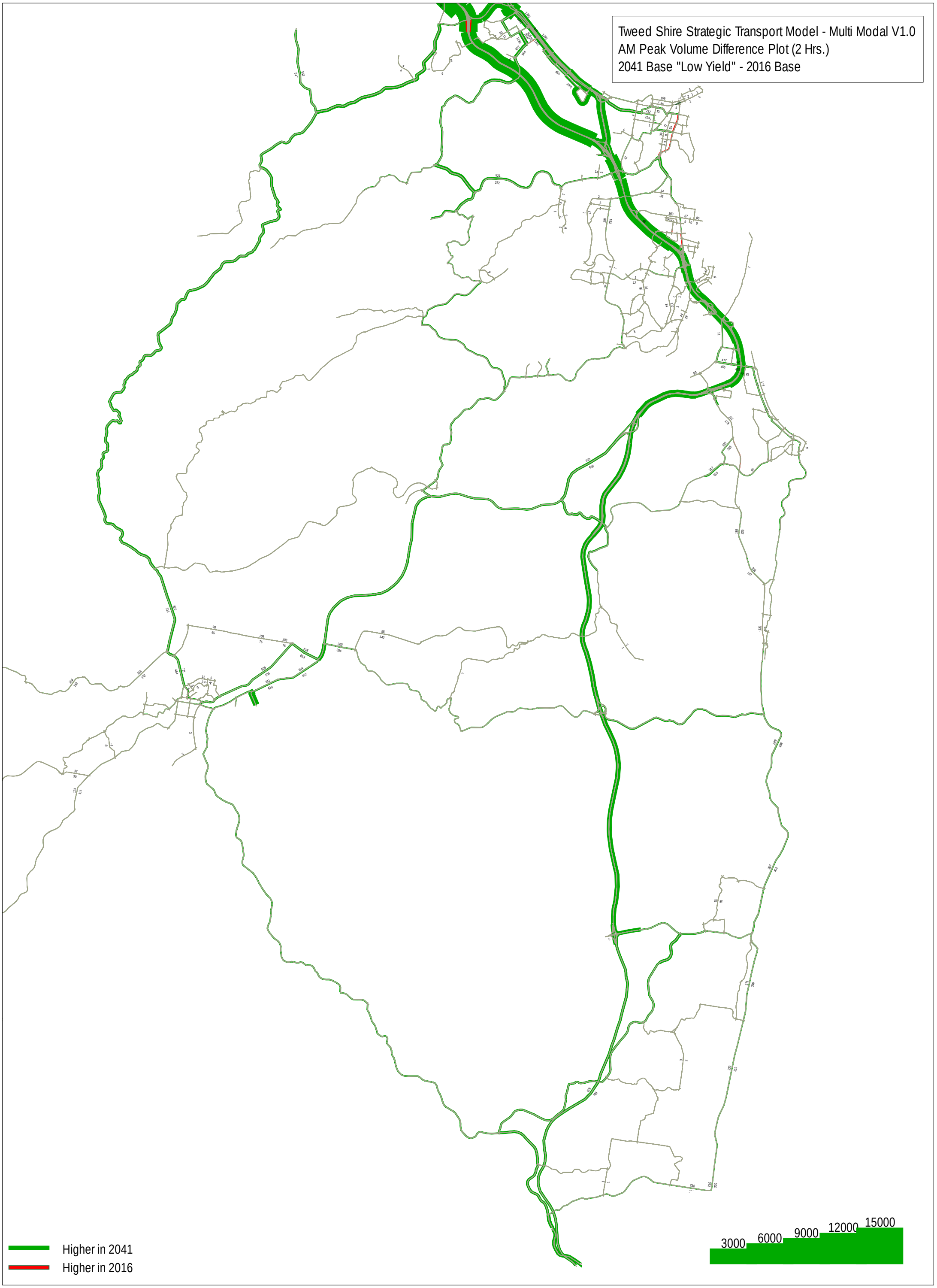


Tweed Shire Strategic Transport Model - Multi Modal V1.0
Daily Volume Difference Plot
2041 Base "Low Yield" - 2016 Base

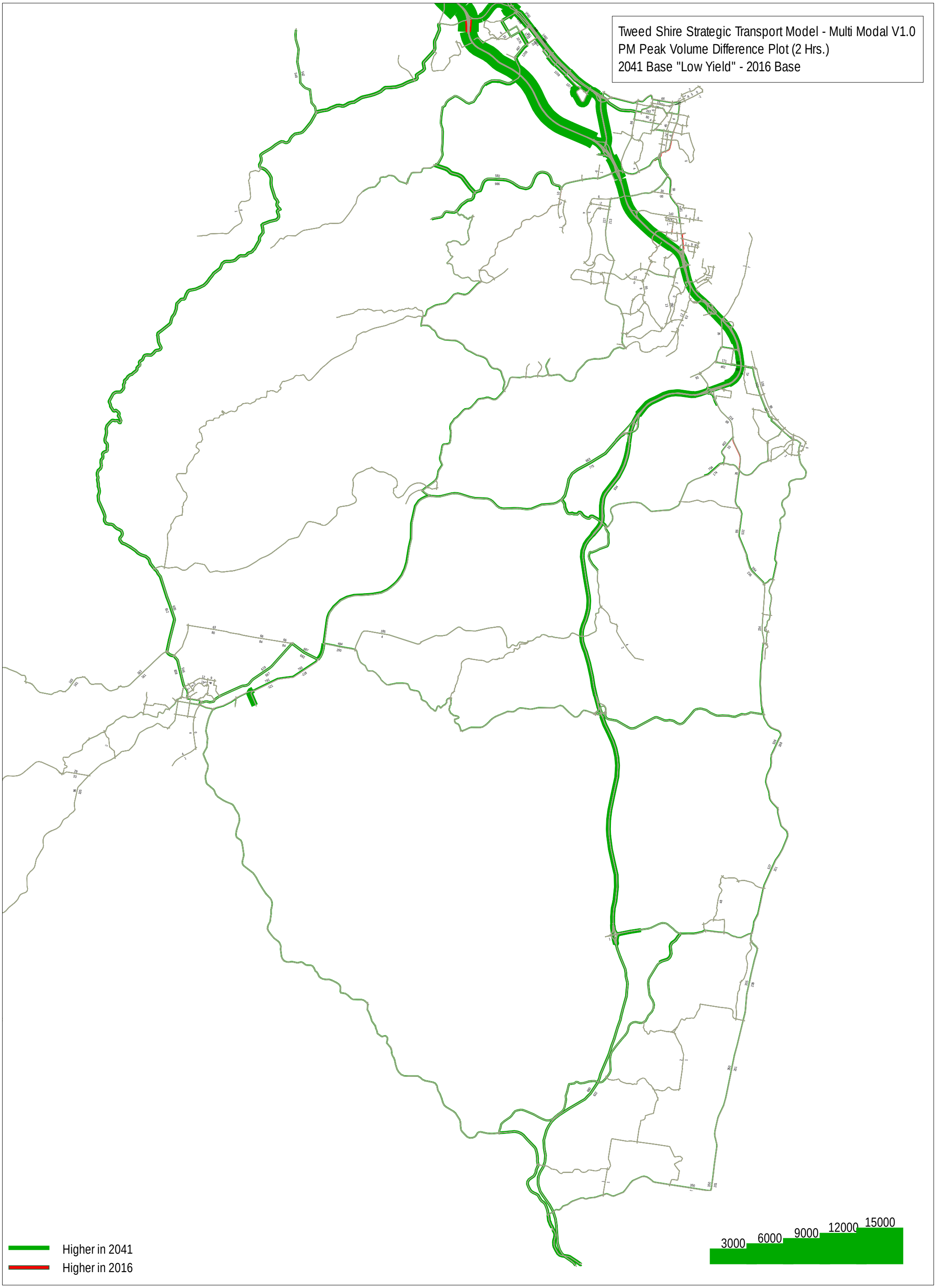
Higher in 2041
Higher in 2016

3000 6000 9000 12000 15000

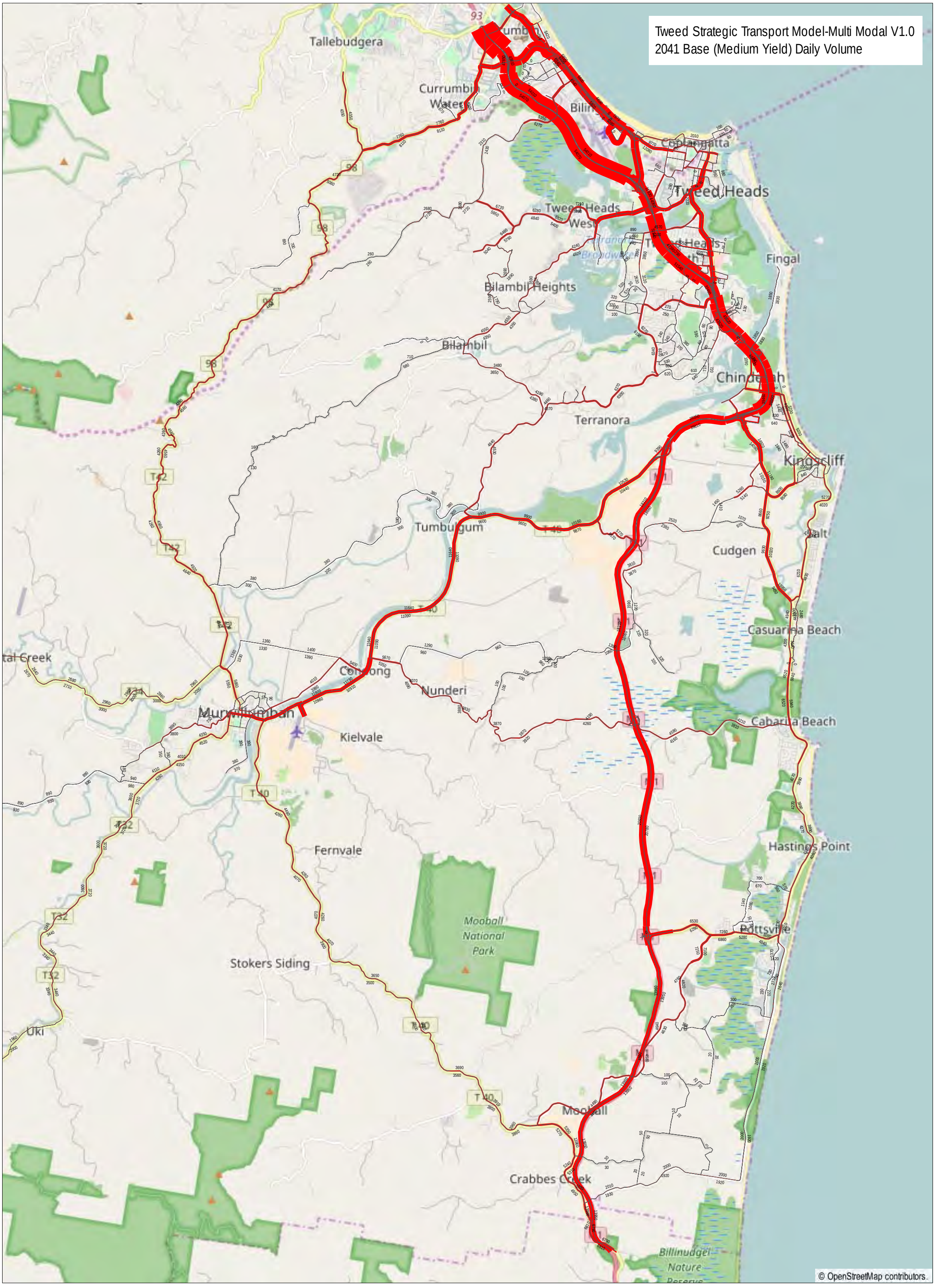
Tweed Shire Strategic Transport Model - Multi Modal V1.0
AM Peak Volume Difference Plot (2 Hrs.)
2041 Base "Low Yield" - 2016 Base



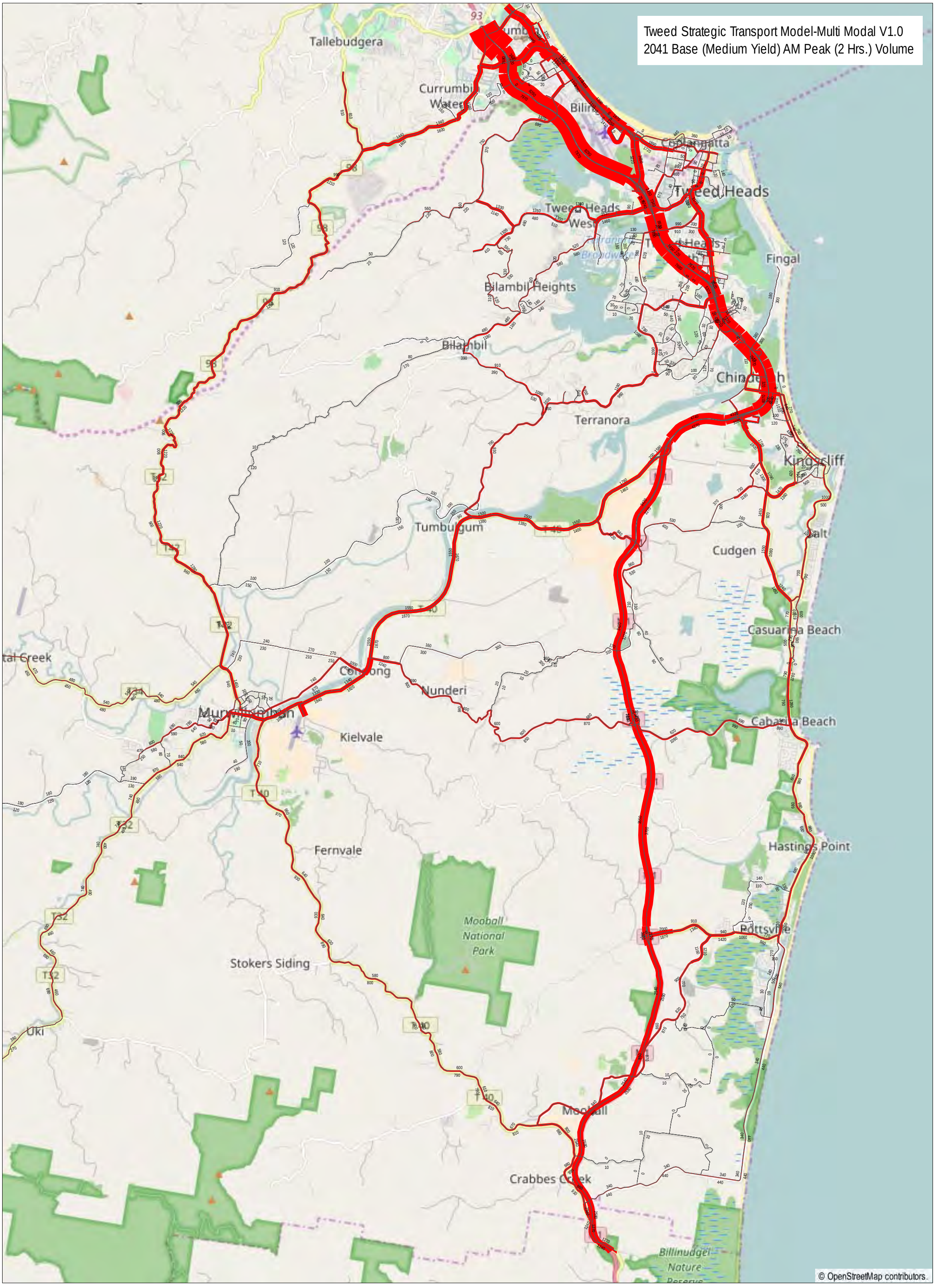
Tweed Shire Strategic Transport Model - Multi Modal V1.0
PM Peak Volume Difference Plot (2 Hrs.)
2041 Base "Low Yield" - 2016 Base



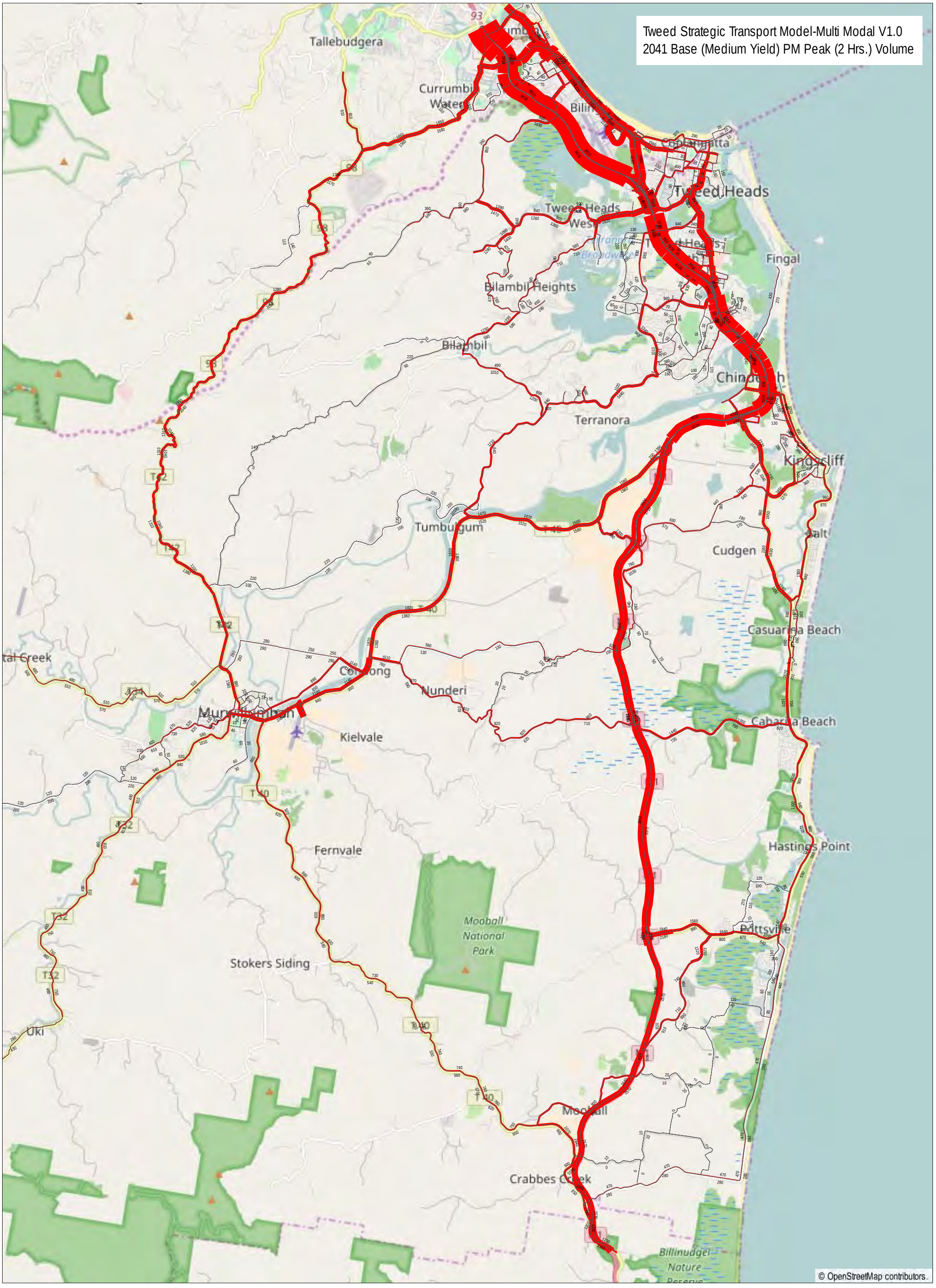
Tweed Strategic Transport Model-Multi Modal V1.0
2041 Base (Medium Yield) Daily Volume



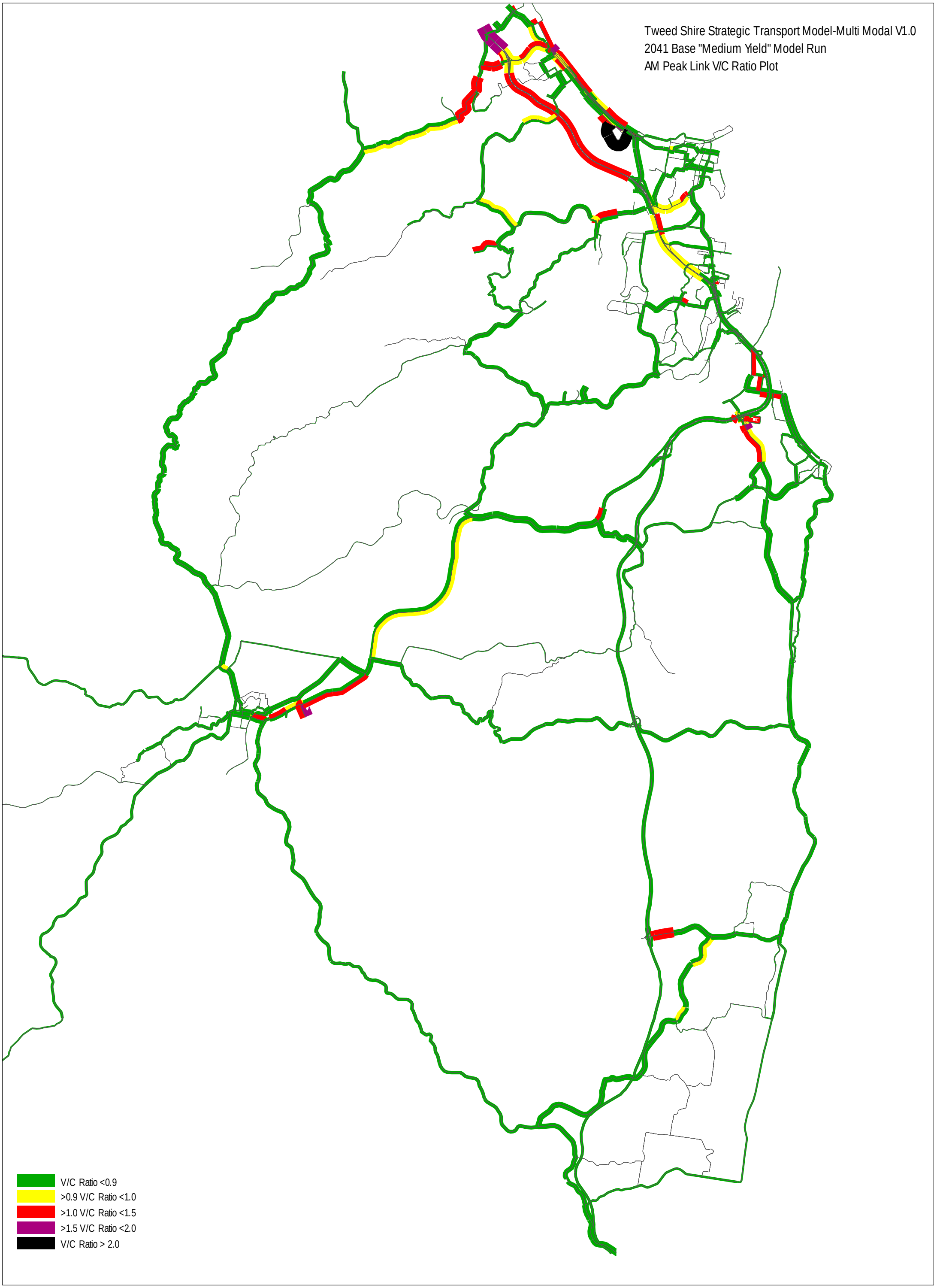
Tweed Strategic Transport Model-Multi Modal V1.0
2041 Base (Medium Yield) AM Peak (2 Hrs.) Volume



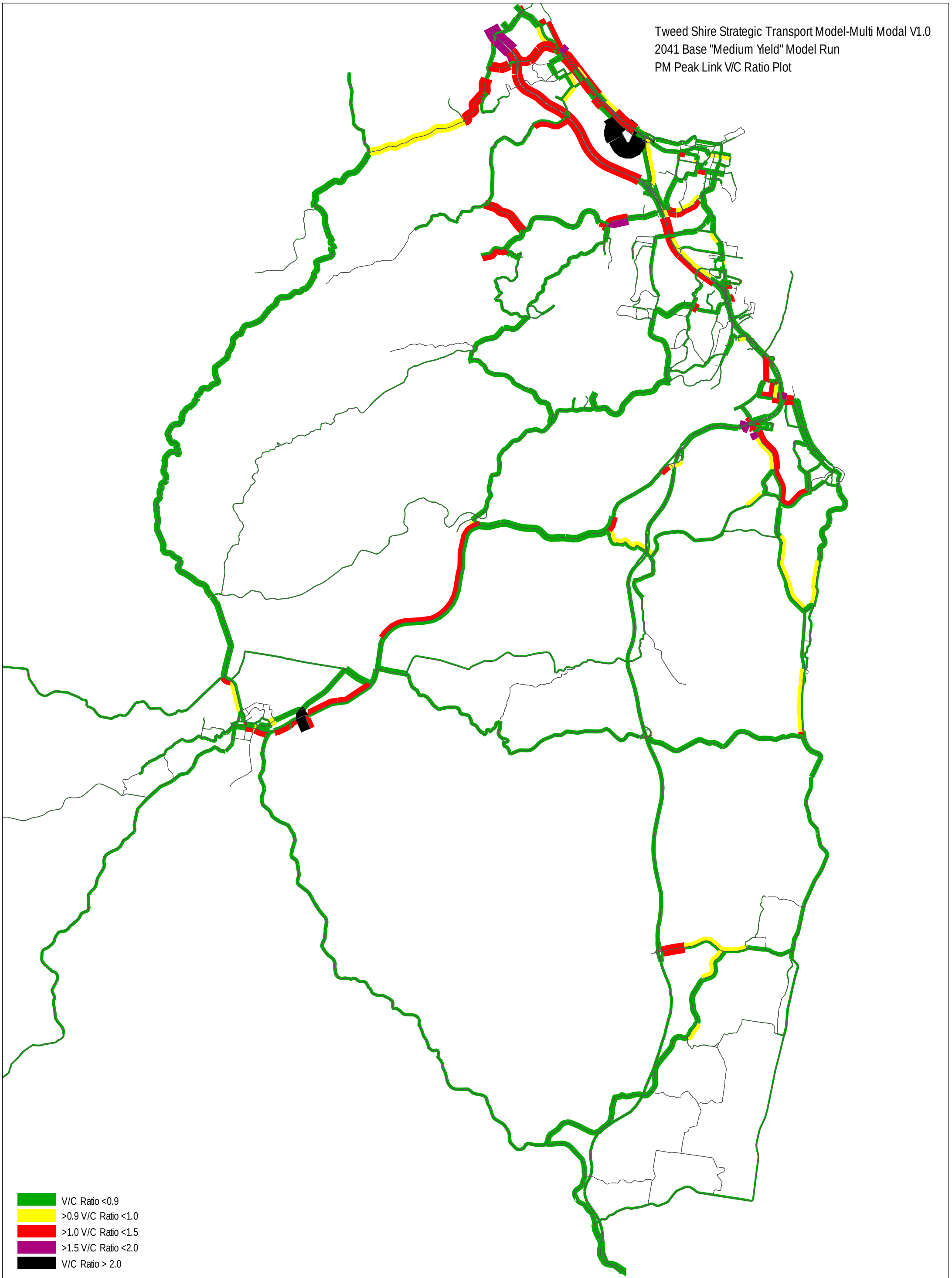
Tweed Strategic Transport Model-Multi Modal V1.0
2041 Base (Medium Yield) PM Peak (2 Hrs.) Volume



Tweed Shire Strategic Transport Model-Multi Modal V1.0
2041 Base "Medium Yield" Model Run
AM Peak Link V/C Ratio Plot



Tweed Shire Strategic Transport Model-Multi Modal V1.0
2041 Base "Medium Yield" Model Run
PM Peak Link V/C Ratio Plot



Tweed Shire Strategic Transport Model - Multi Modal V1.0
Daily Volume Difference Plot
2041 Base "Medium Yield" - 2016 Base

Higher in 2041
Higher in 2016

10000 20000 30000 40000 50000

Tweed Shire Strategic Transport Model - Multi Modal V1.0
AM Peak Volume Difference Plot (2 Hrs.)
2041 Base "Medium Yield" - 2016 Base

Higher in 2041
Higher in 2016

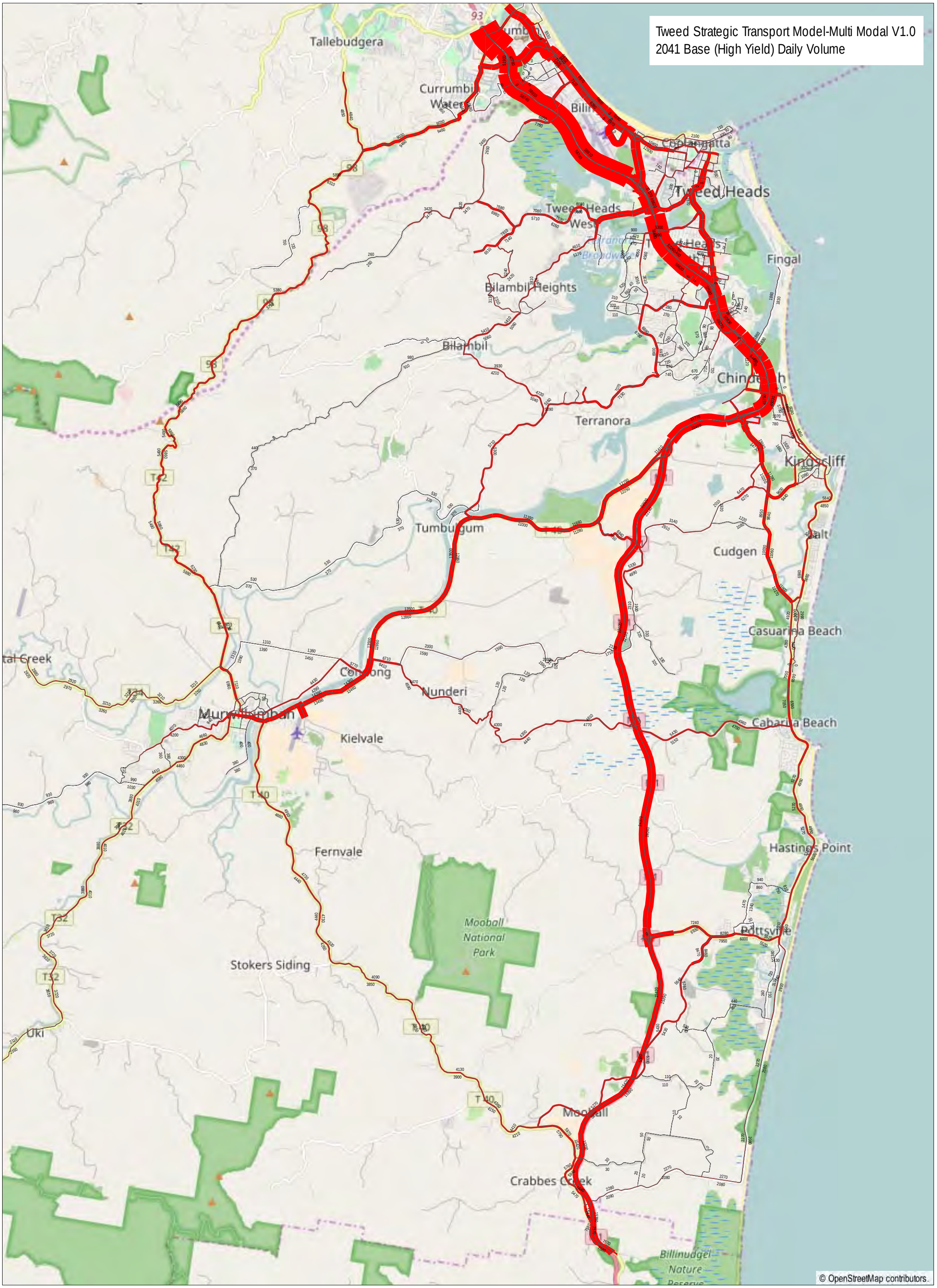
3000 6000 9000 12000 15000

Tweed Shire Strategic Transport Model - Multi Modal V1.0
PM Peak Volume Difference Plot (2 Hrs.)
2041 Base "Medium Yield" - 2016 Base

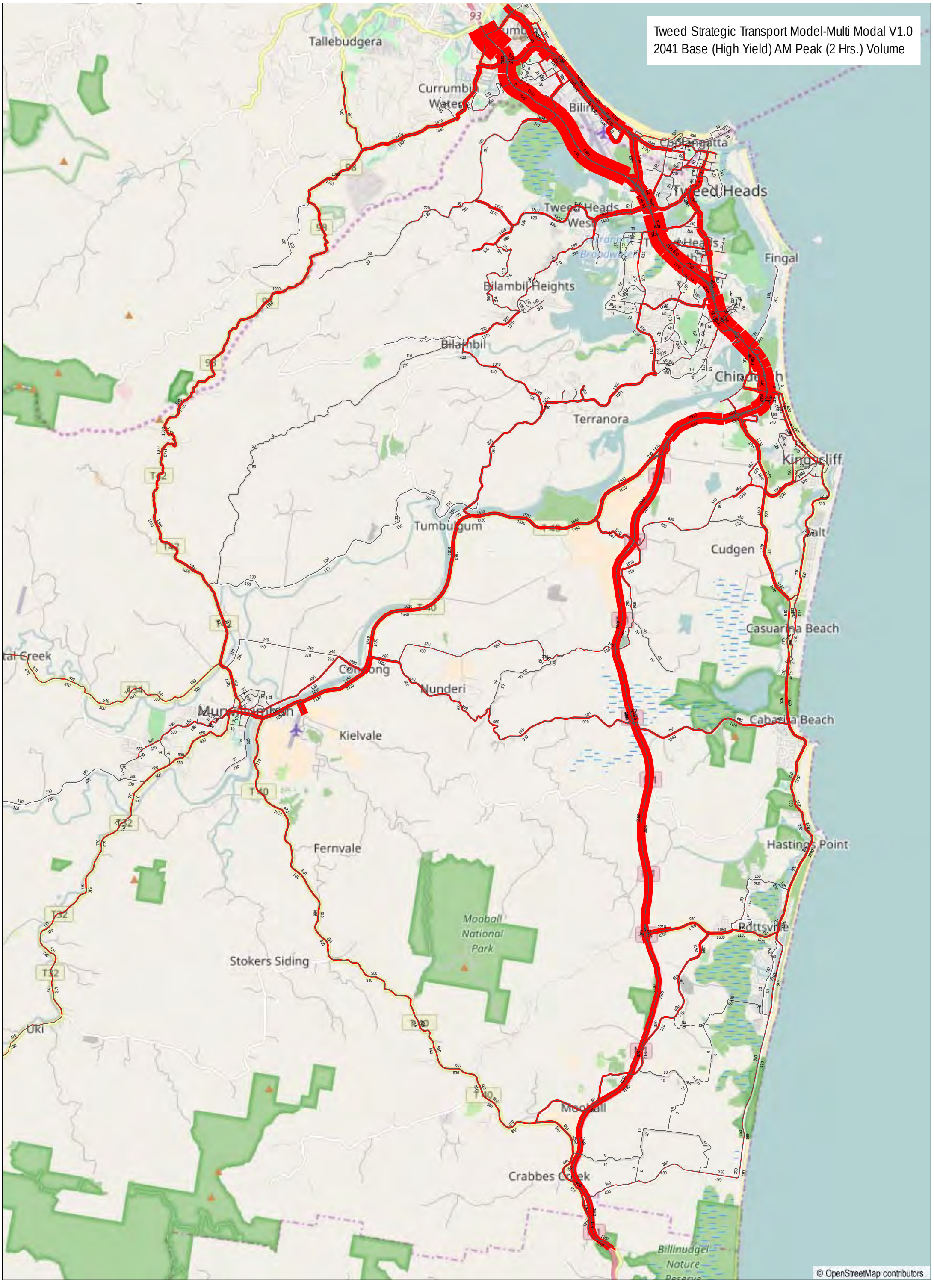
Higher in 2041
Higher in 2016

3000 6000 9000 12000 15000

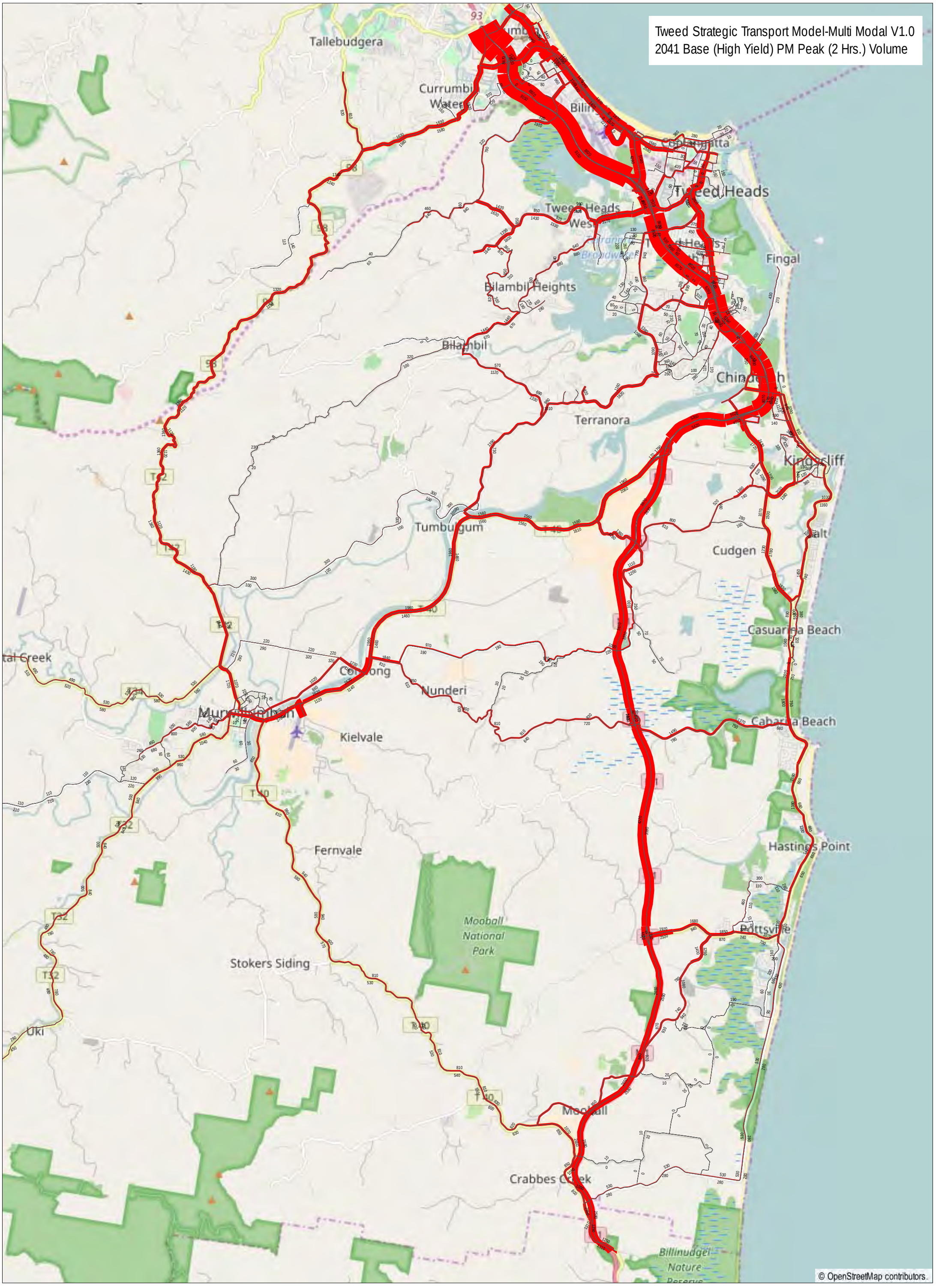
Tweed Strategic Transport Model-Multi Modal V1.0
2041 Base (High Yield) Daily Volume



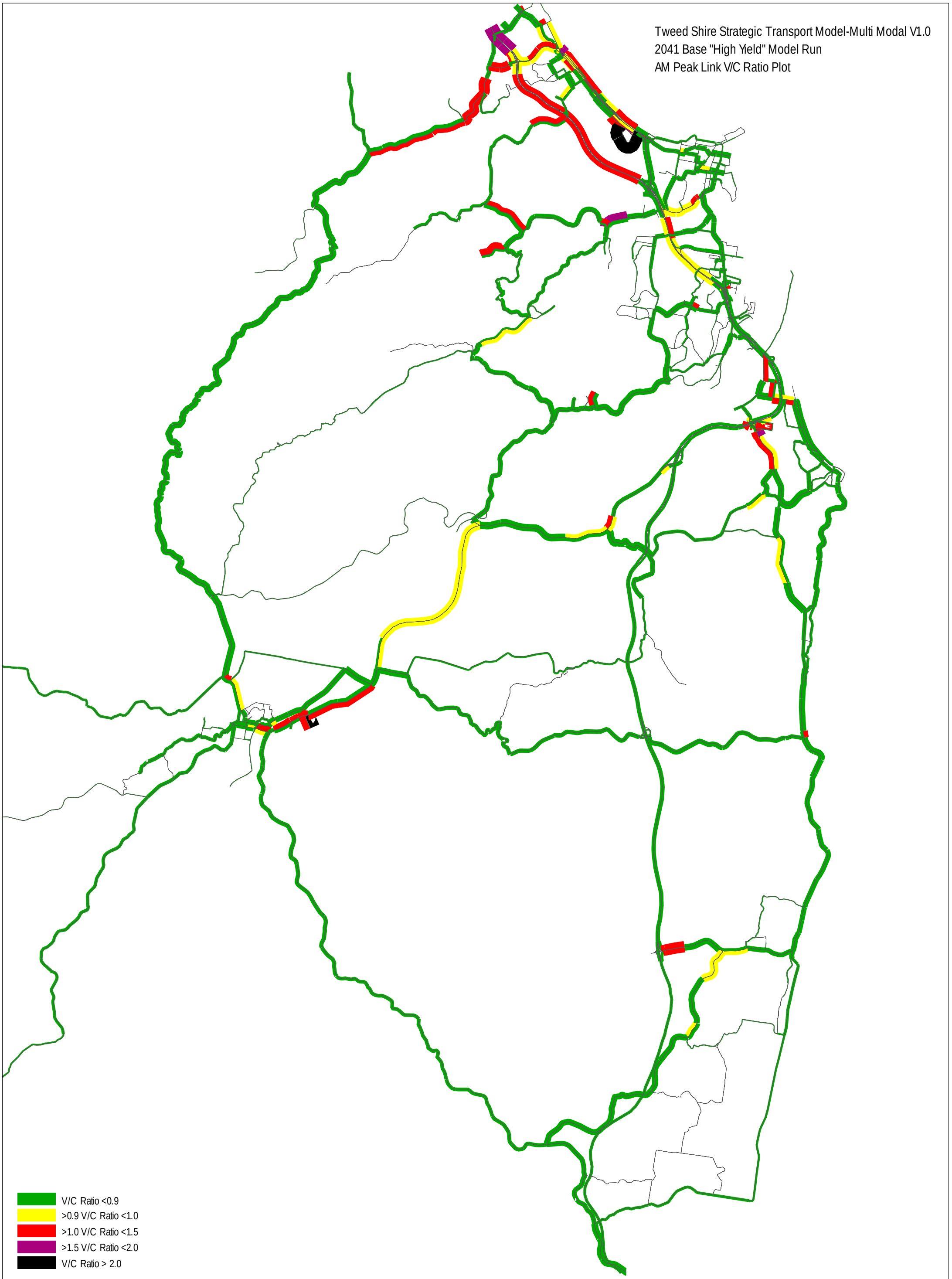
Tweed Strategic Transport Model-Multi Modal V1.0
2041 Base (High Yield) AM Peak (2 Hrs.) Volume



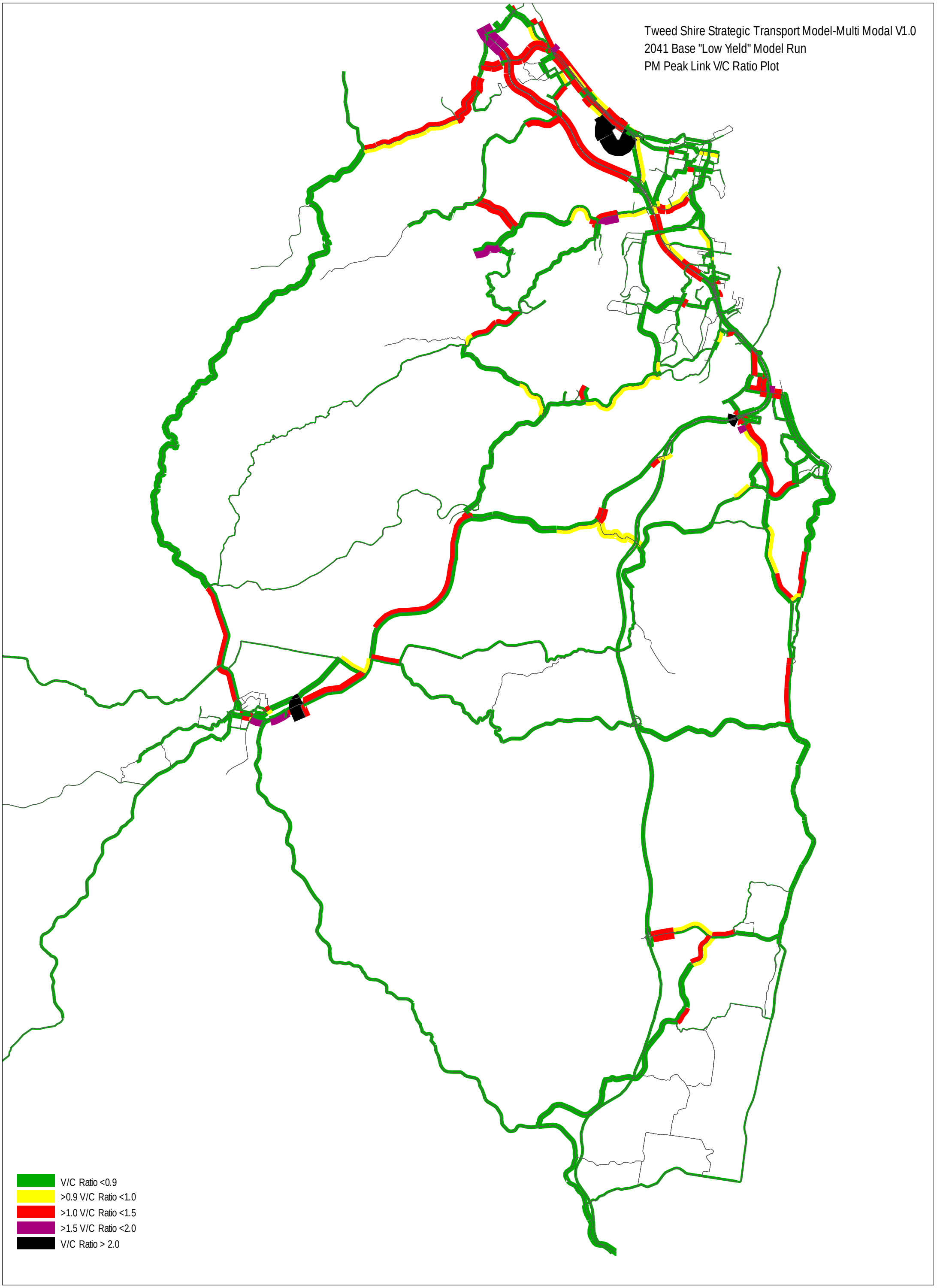
Tweed Strategic Transport Model-Multi Modal V1.0
2041 Base (High Yield) PM Peak (2 Hrs.) Volume



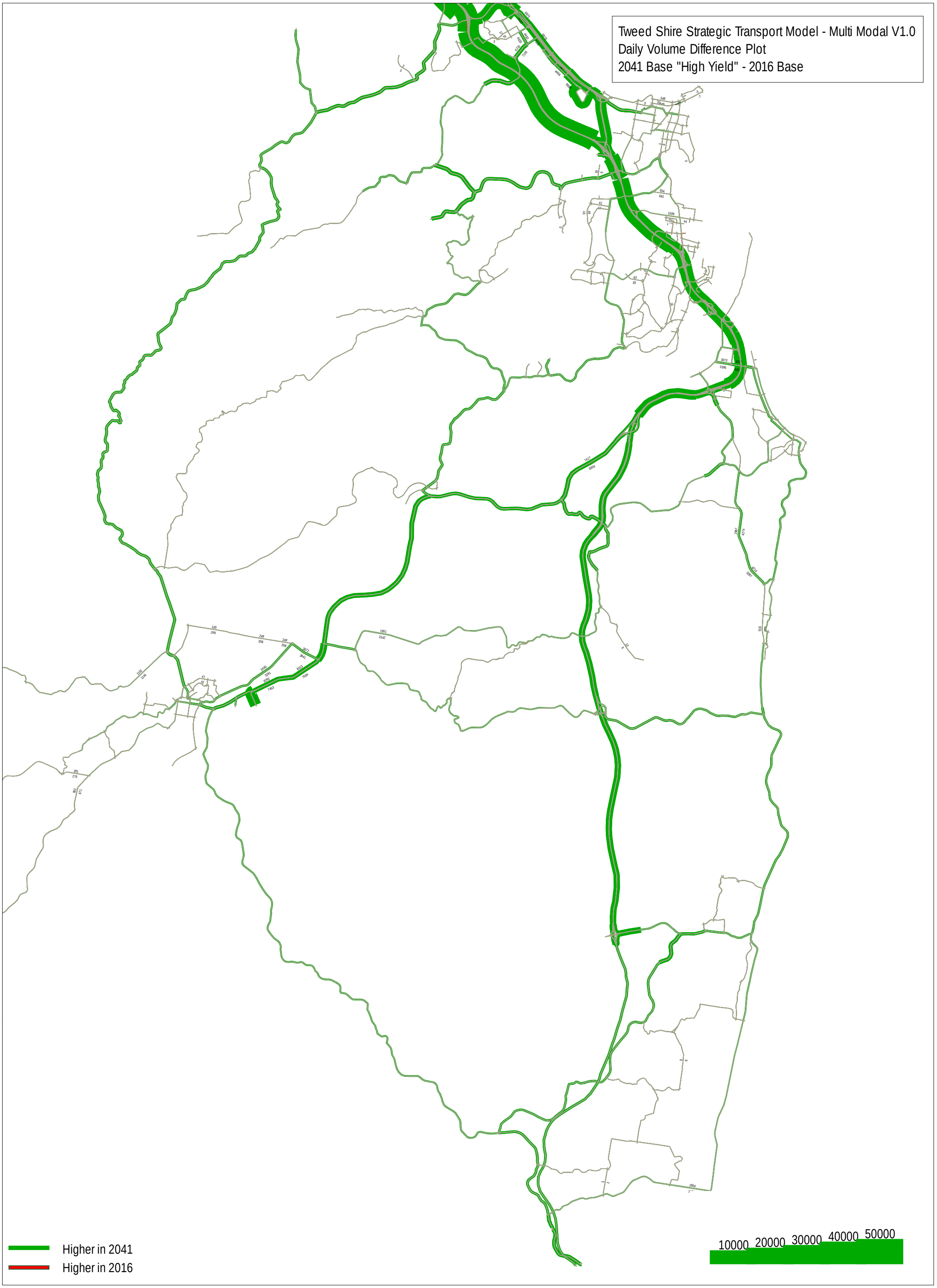
Tweed Shire Strategic Transport Model-Multi Modal V1.0
2041 Base "High Yield" Model Run
AM Peak Link V/C Ratio Plot



Tweed Shire Strategic Transport Model-Multi Modal V1.0
2041 Base "Low Yield" Model Run
PM Peak Link V/C Ratio Plot



Tweed Shire Strategic Transport Model - Multi Modal V1.0
Daily Volume Difference Plot
2041 Base "High Yield" - 2016 Base



Tweed Shire Strategic Transport Model - Multi Modal V1.0
AM Peak Volume Difference Plot (2 Hrs.)
2041 Base "High Yield" - 2016 Base

Higher in 2041
Higher in 2016

3000 6000 9000 12000 15000

Tweed Shire Strategic Transport Model - Multi Modal V1.0
PM Peak Volume Difference Plot (2 Hrs.)
2041 Base "High Yield" - 2016 Base

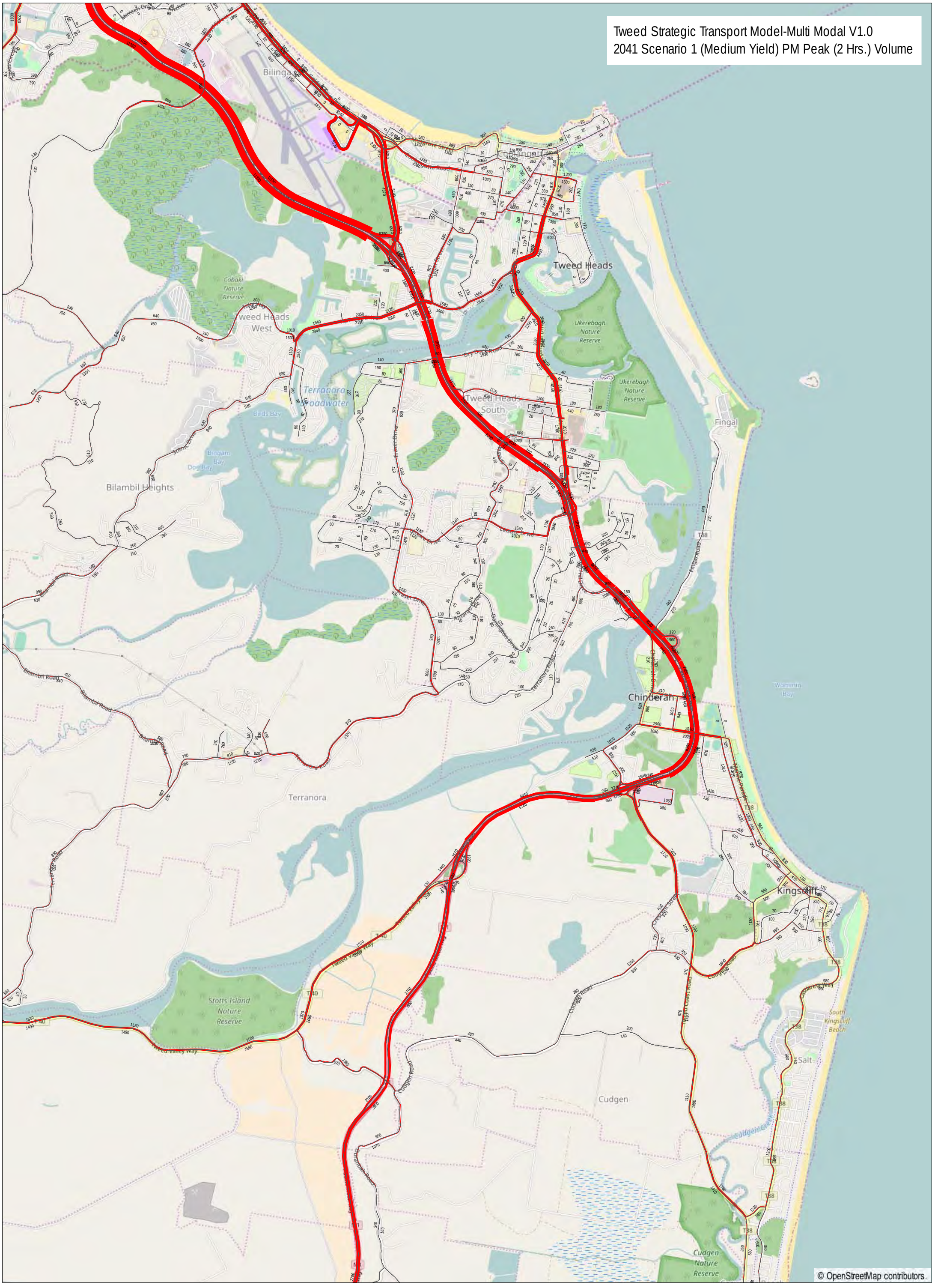
Higher in 2041
Higher in 2016

3000 6000 9000 12000 15000

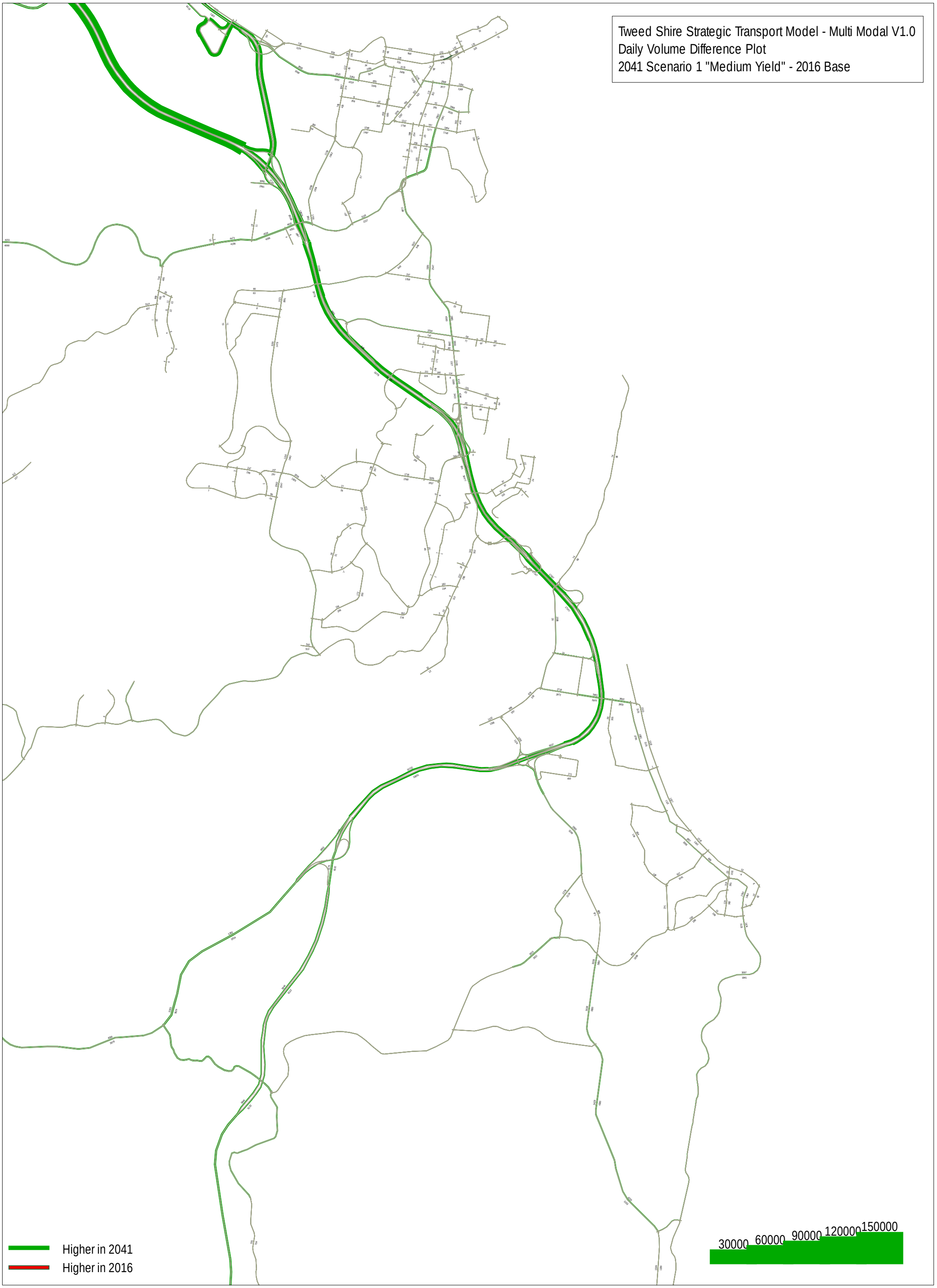
Tweed Strategic Transport Model-Multi Modal V1.0
2041 Scenario 1 (Medium Yield) Daily Volume

Tweed Strategic Transport Model-Multi Modal V1.0
2041 Scenario 1 (Medium Yield) AM Peak (2 Hrs.) Volume

Tweed Strategic Transport Model-Multi Modal V1.0
2041 Scenario 1 (Medium Yield) PM Peak (2 Hrs.) Volume



Tweed Shire Strategic Transport Model - Multi Modal V1.0
Daily Volume Difference Plot
2041 Scenario 1 "Medium Yield" - 2016 Base



Tweed Shire Strategic Transport Model - Multi Modal V1.0
AM Peak Volume Difference Plot (2 Hrs.)
2041 Scenario 1 "Medium Yield" - 2016 Base

Higher in 2041
Higher in 2016

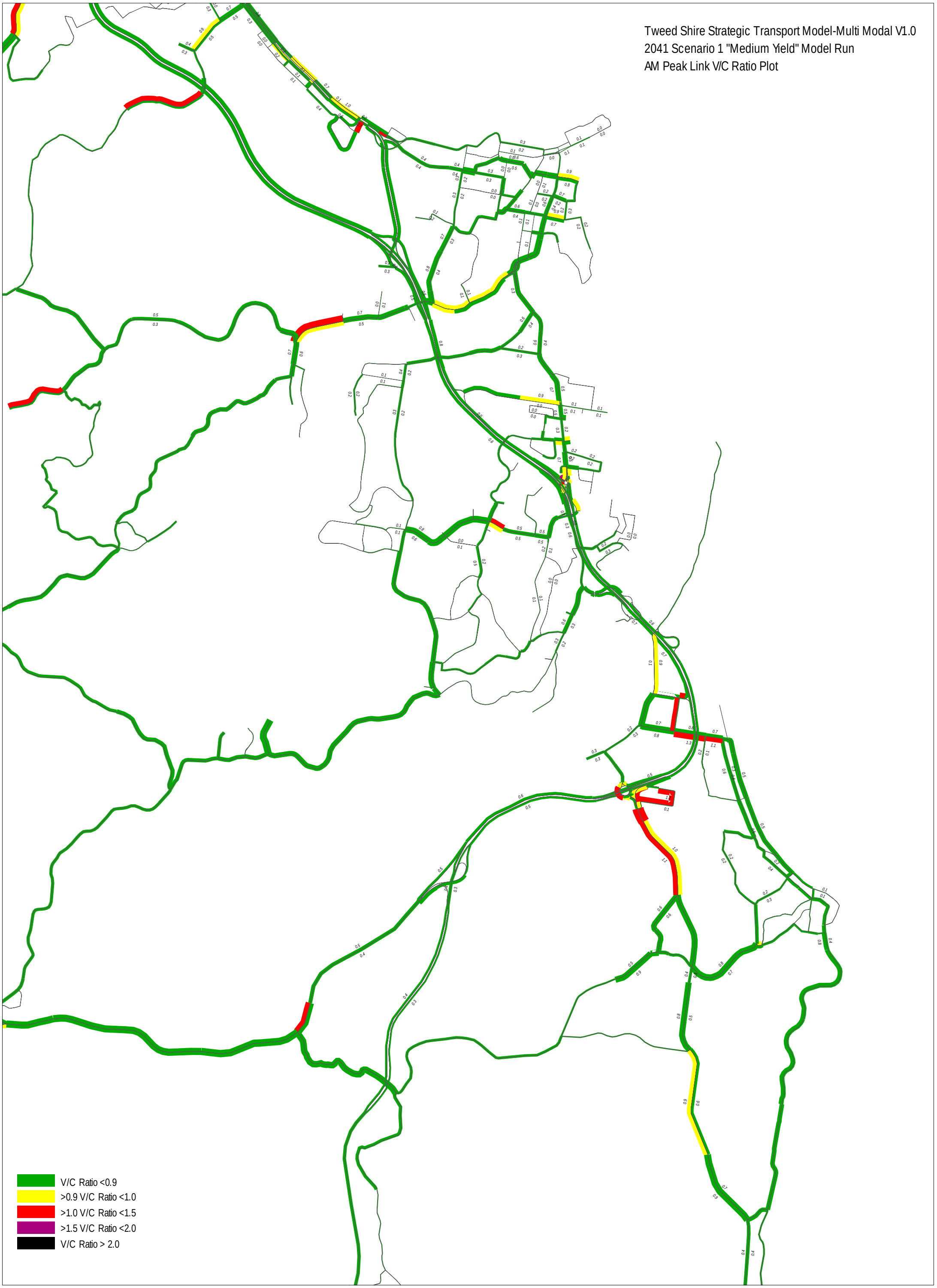
3000 6000 9000 12000 15000

Tweed Shire Strategic Transport Model - Multi Modal V1.0
PM Peak Volume Difference Plot (2 Hrs.)
2041 Scenario 1 "Medium Yield" - 2016 Base

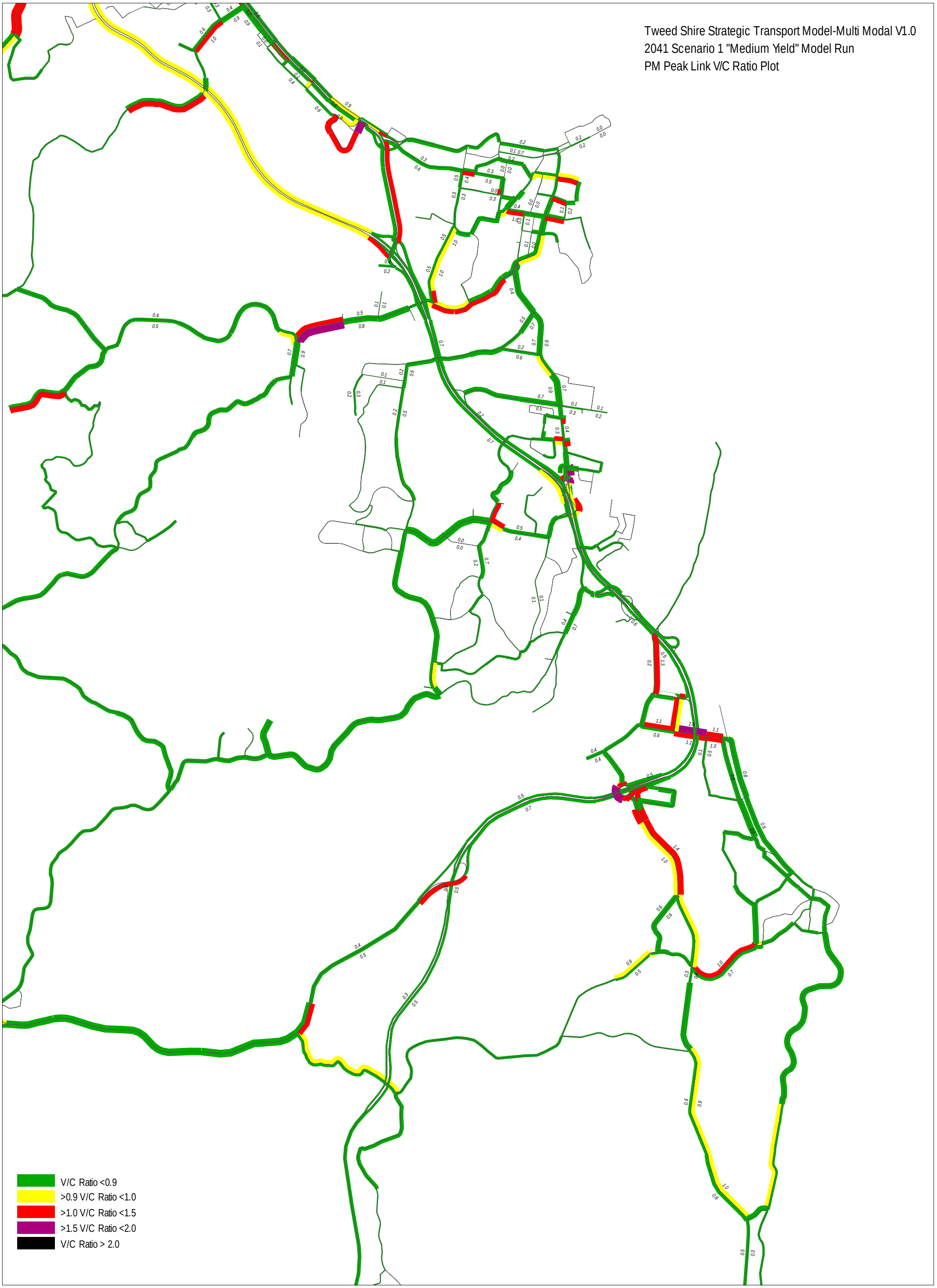
Higher in 2041
Higher in 2016

3000 6000 9000 12000 15000

Tweed Shire Strategic Transport Model-Multi Modal V1.0
2041 Scenario 1 "Medium Yield" Model Run
AM Peak Link V/C Ratio Plot

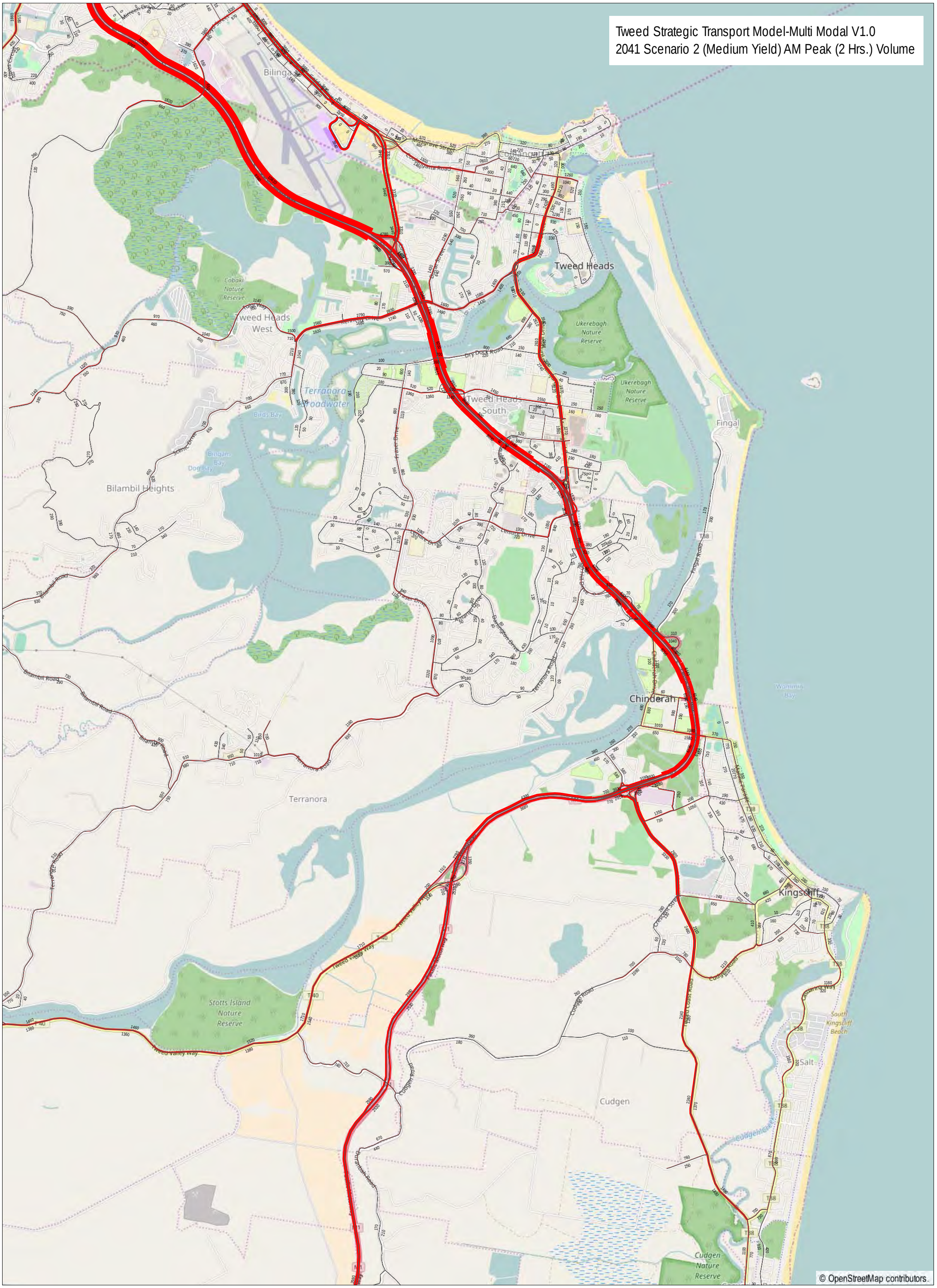


Tweed Shire Strategic Transport Model-Multi Modal V1.0
2041 Scenario 1 "Medium Yield" Model Run
PM Peak Link V/C Ratio Plot



Tweed Strategic Transport Model-Multi Modal V1.0
2041 Scenario 2 (Medium Yield) Daily Volume

Tweed Strategic Transport Model-Multi Modal V1.0
2041 Scenario 2 (Medium Yield) AM Peak (2 Hrs.) Volume



Tweed Strategic Transport Model-Multi Modal V1.0
2041 Scenario 2 (Medium Yield) PM Peak (2 Hrs.) Volume

Tweed Shire Strategic Transport Model - Multi Modal V1.0
Daily Volume Difference Plot
2041 Scenario 2 "Medium Yield" - 2016 Base

Higher in 2041
Higher in 2016

30000 60000 90000 120000 150000

Tweed Shire Strategic Transport Model - Multi Modal V1.0
AM Peak Volume Difference Plot (2 Hrs.)
2041 Scenario 2 "Medium Yield" - 2016 Base

Higher in 2041
Higher in 2016

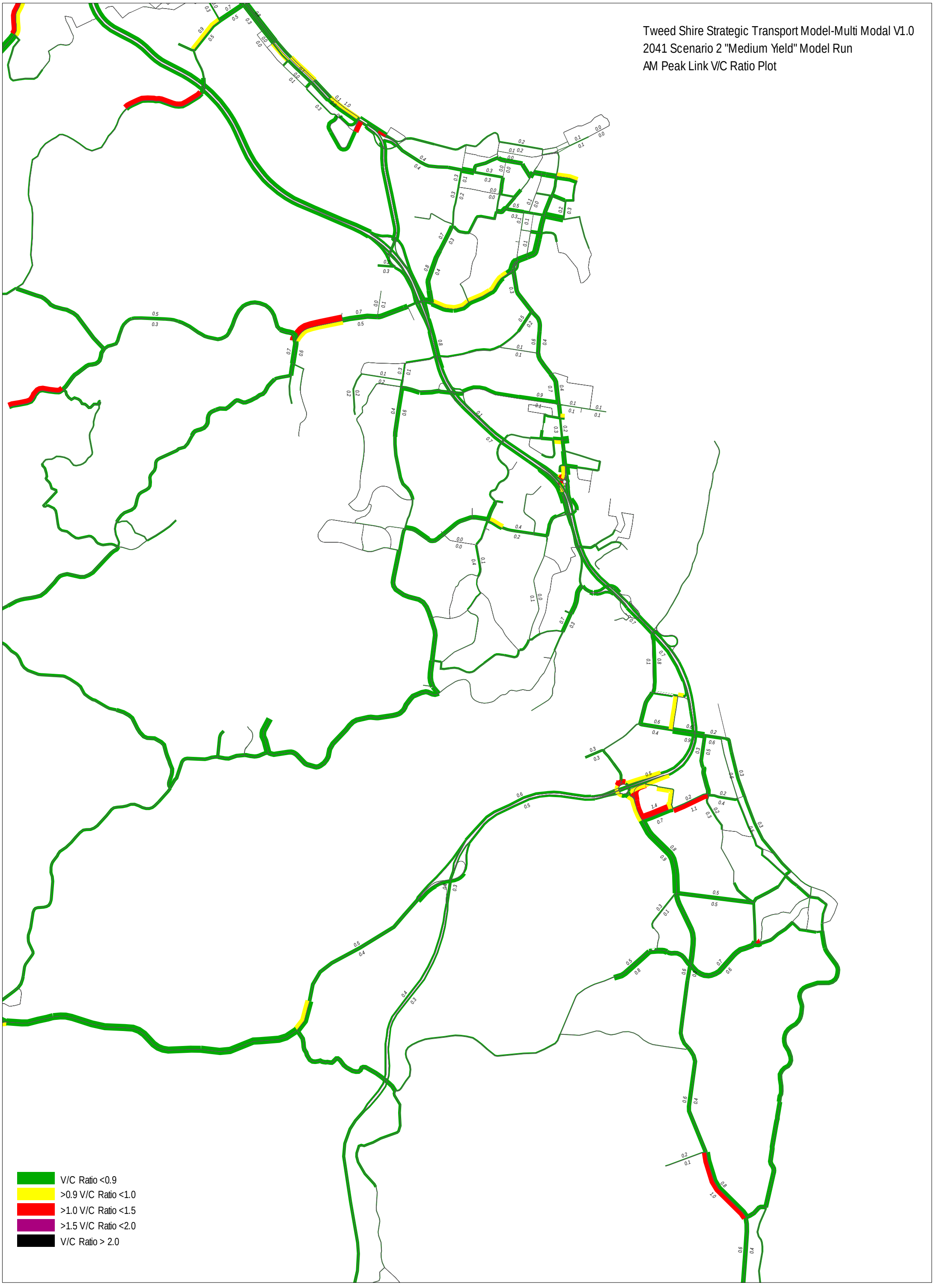
3000 6000 9000 12000 15000

Tweed Shire Strategic Transport Model - Multi Modal V1.0
PM Peak Volume Difference Plot (2 Hrs.)
2041 Scenario 2 "Medium Yield" - 2016 Base

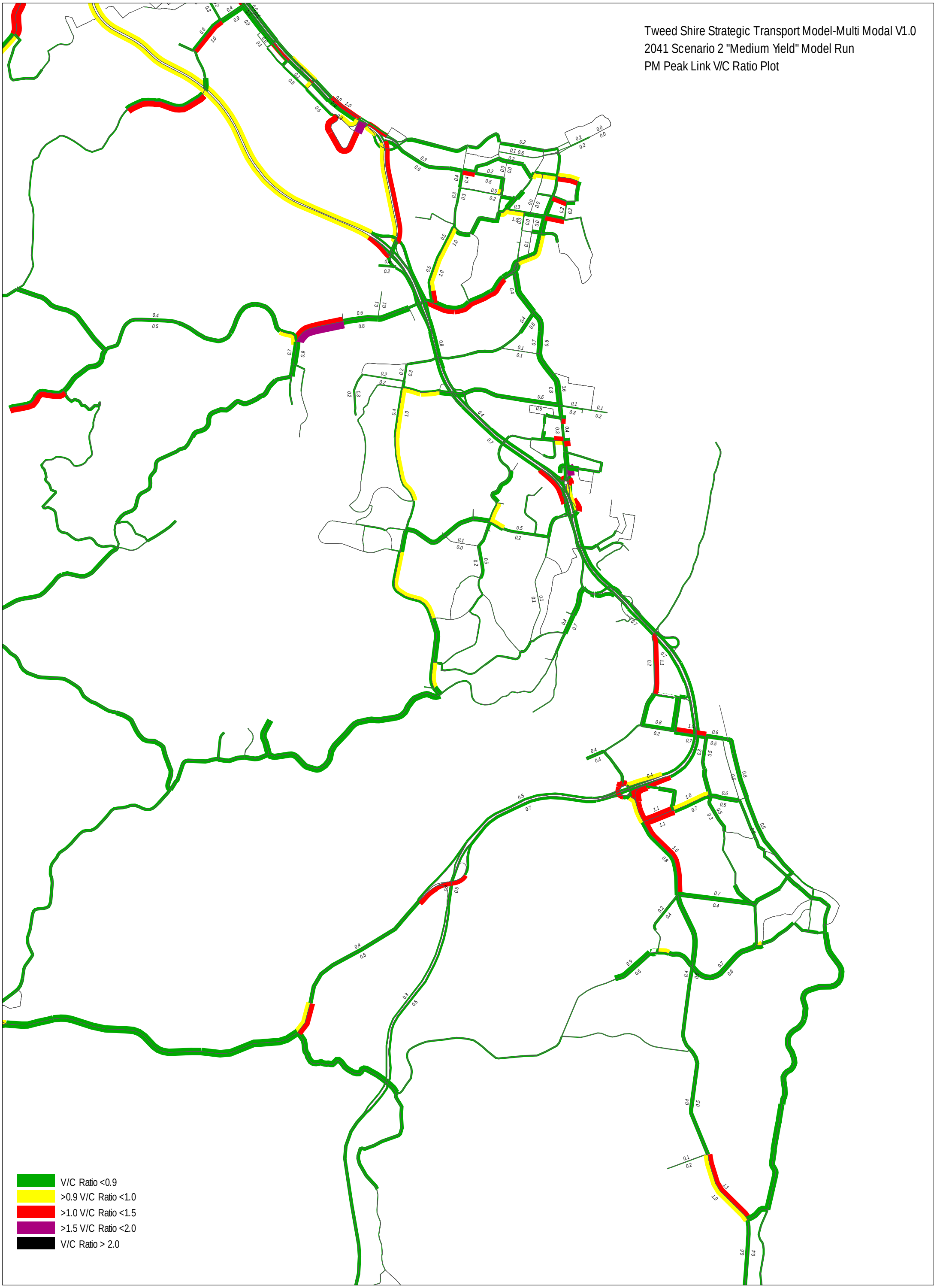
Higher in 2041
Higher in 2016

3000 6000 9000 12000 15000

Tweed Shire Strategic Transport Model-Multi Modal V1.0
2041 Scenario 2 "Medium Yield" Model Run
AM Peak Link V/C Ratio Plot



Tweed Shire Strategic Transport Model-Multi Modal V1.0
2041 Scenario 2 "Medium Yield" Model Run
PM Peak Link V/C Ratio Plot

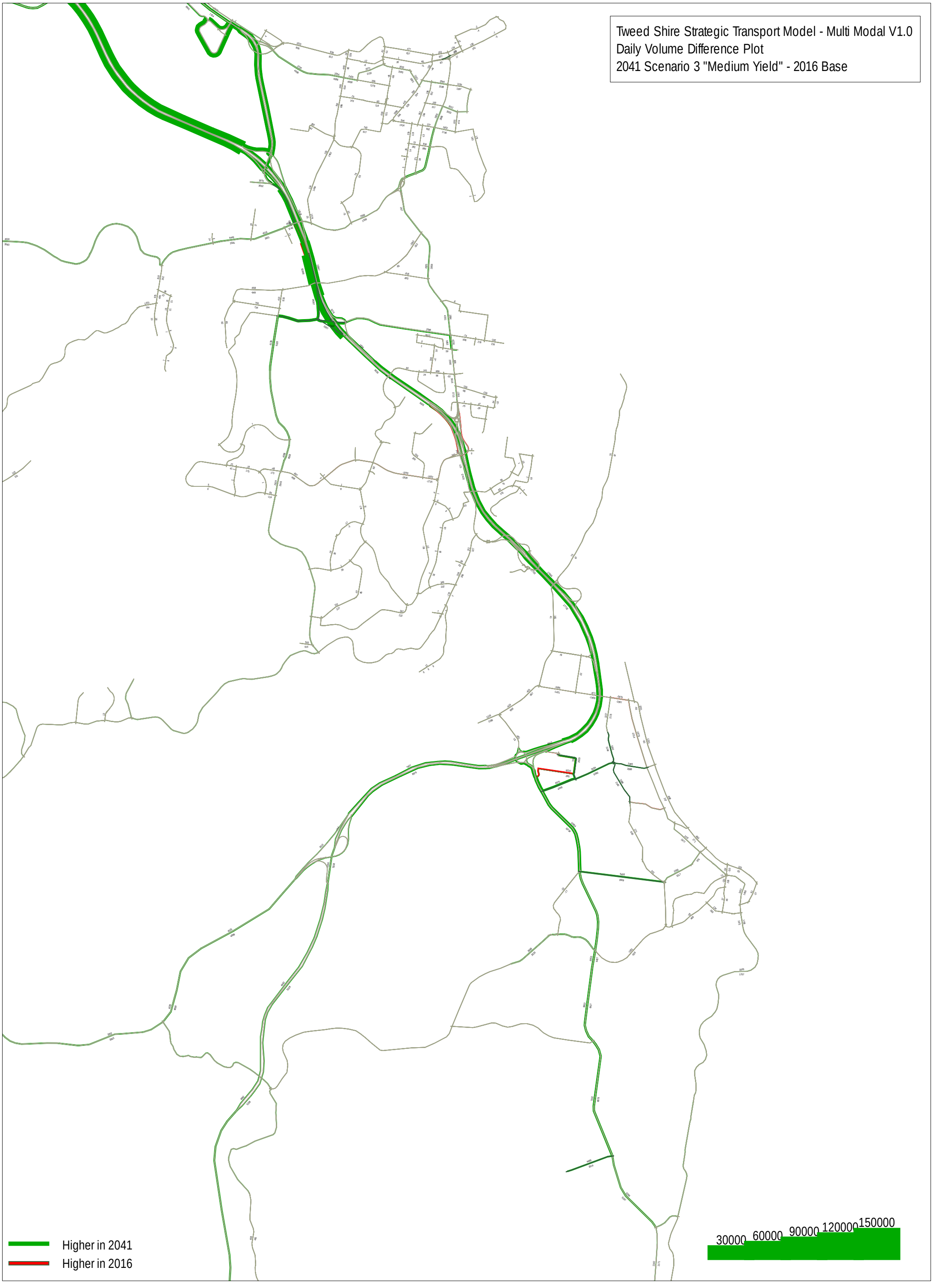


Tweed Strategic Transport Model-Multi Modal V1.0
2041 Scenario 3 (Medium Yield) Daily Volume

Tweed Strategic Transport Model-Multi Modal V1.0
2041 Scenario 3 (Medium Yield) AM Peak (2 Hrs.) Volume

Tweed Strategic Transport Model-Multi Modal V1.0
2041 Scenario 3 (Medium Yield) PM Peak (2 Hrs.) Volume

Tweed Shire Strategic Transport Model - Multi Modal V1.0
Daily Volume Difference Plot
2041 Scenario 3 "Medium Yield" - 2016 Base

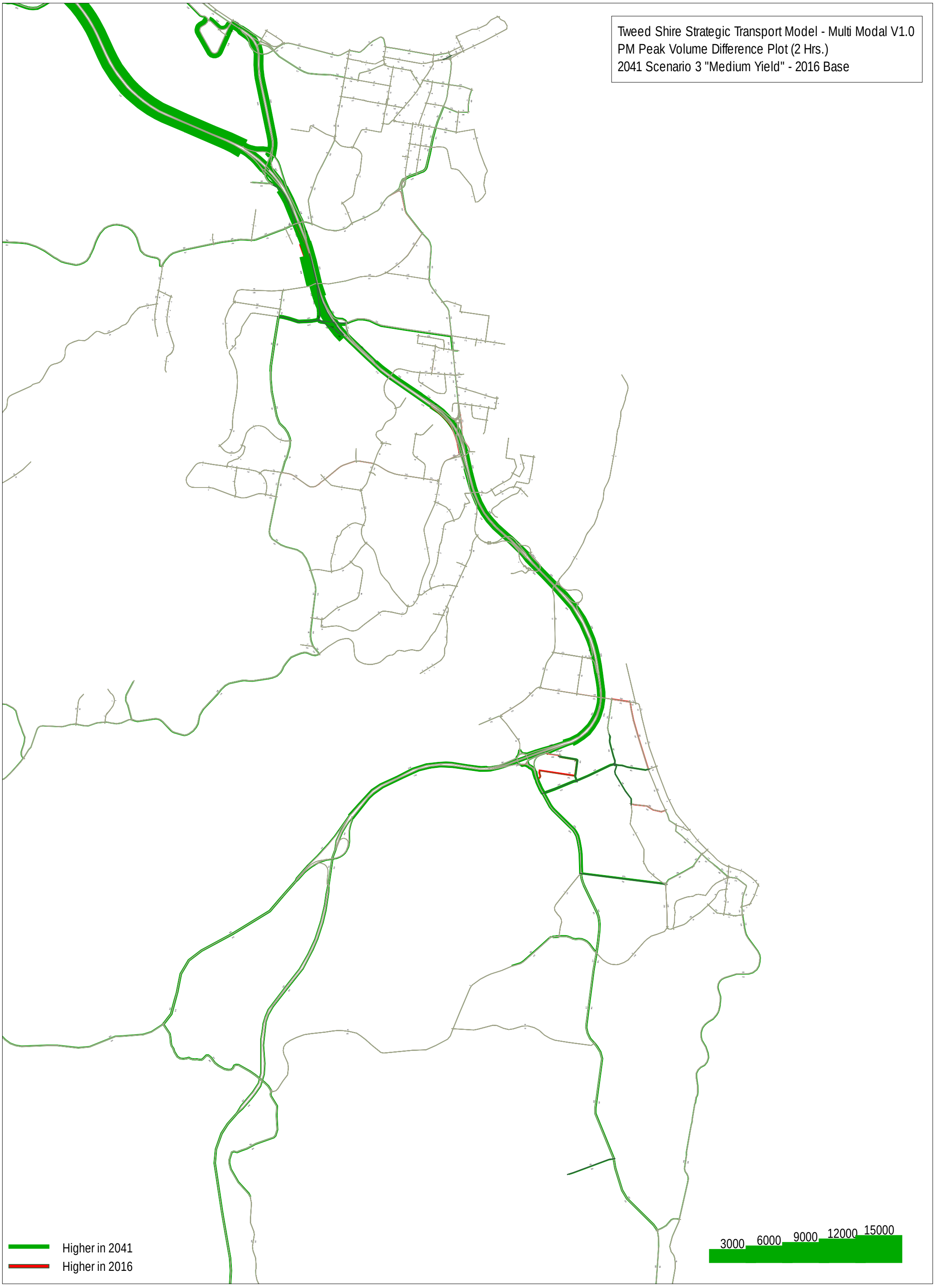


Tweed Shire Strategic Transport Model - Multi Modal V1.0
AM Peak Volume Difference Plot (2 Hrs.)
2041 Scenario 3 "Medium Yield" - 2016 Base

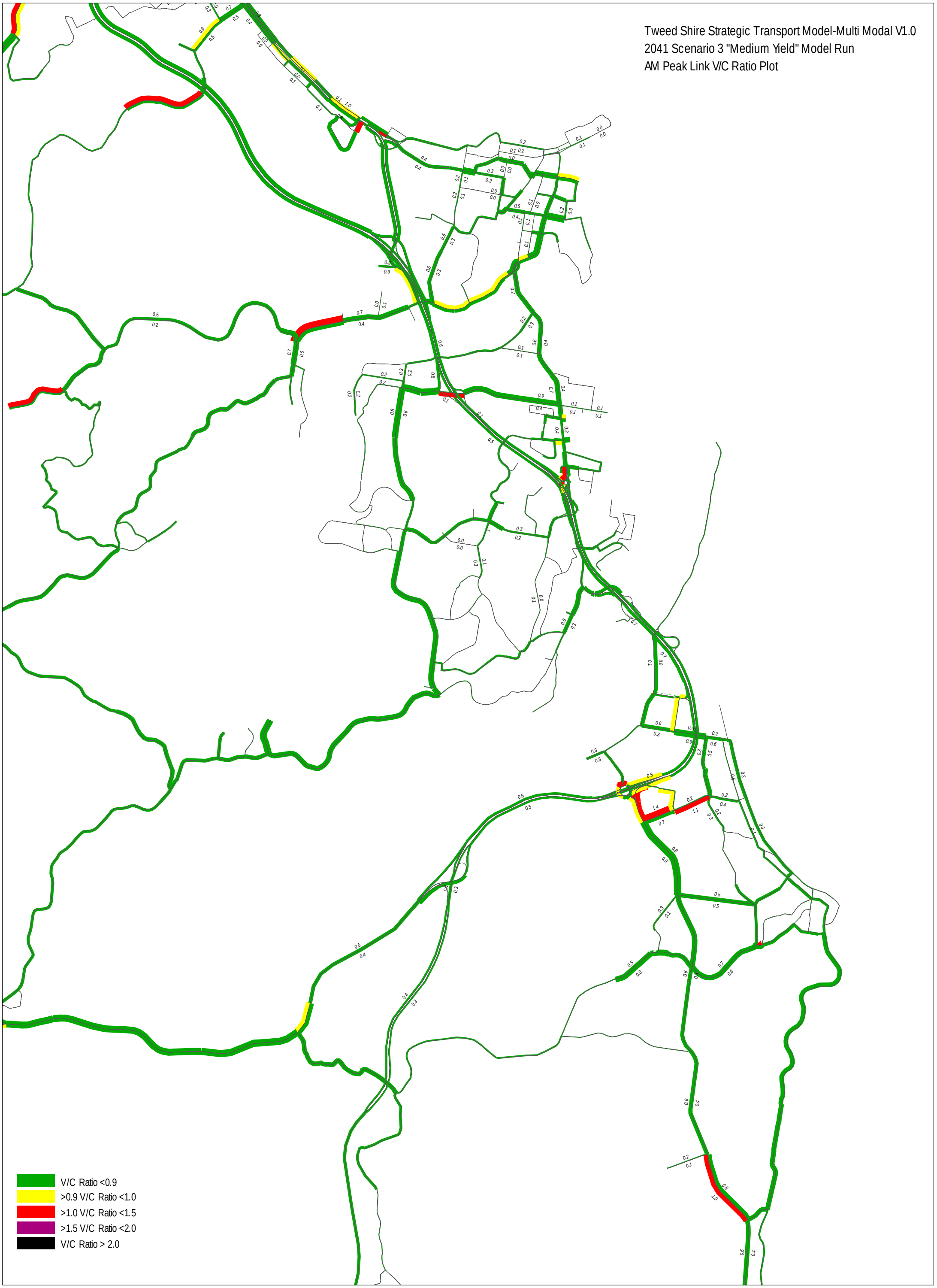
Higher in 2041
Higher in 2016

3000 6000 9000 12000 15000

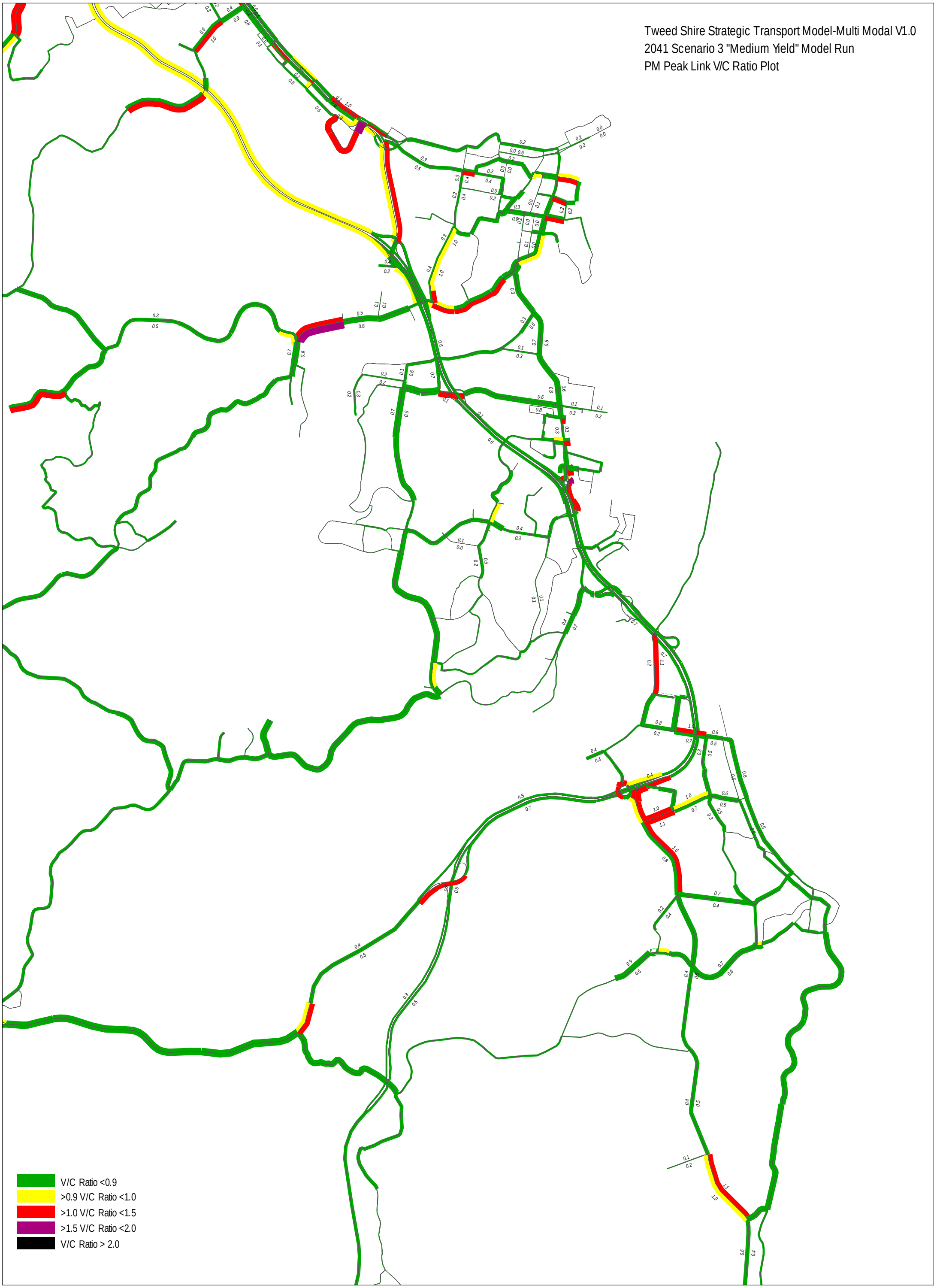
Tweed Shire Strategic Transport Model - Multi Modal V1.0
PM Peak Volume Difference Plot (2 Hrs.)
2041 Scenario 3 "Medium Yield" - 2016 Base



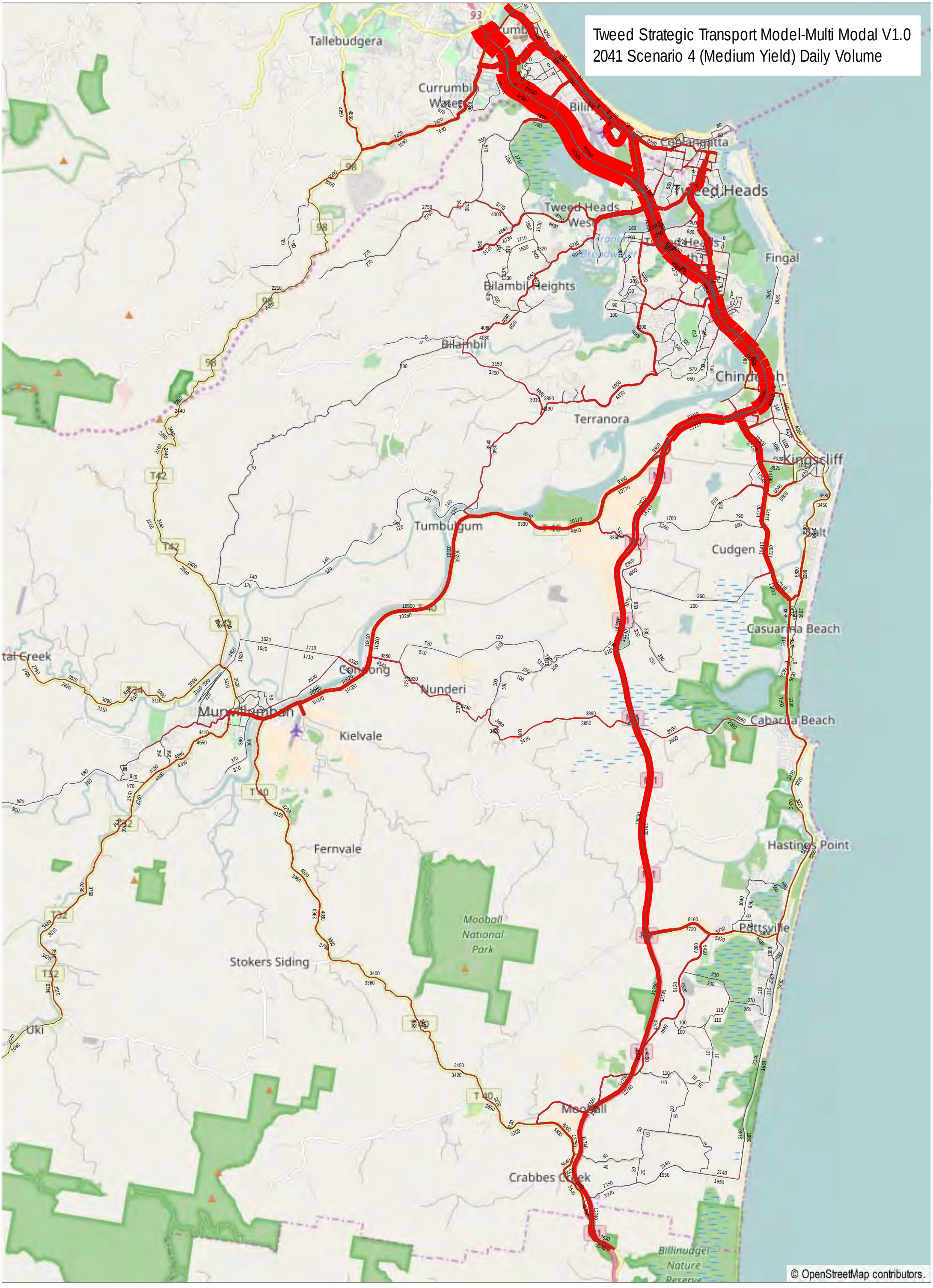
Tweed Shire Strategic Transport Model-Multi Modal V1.0
2041 Scenario 3 "Medium Yield" Model Run
AM Peak Link V/C Ratio Plot



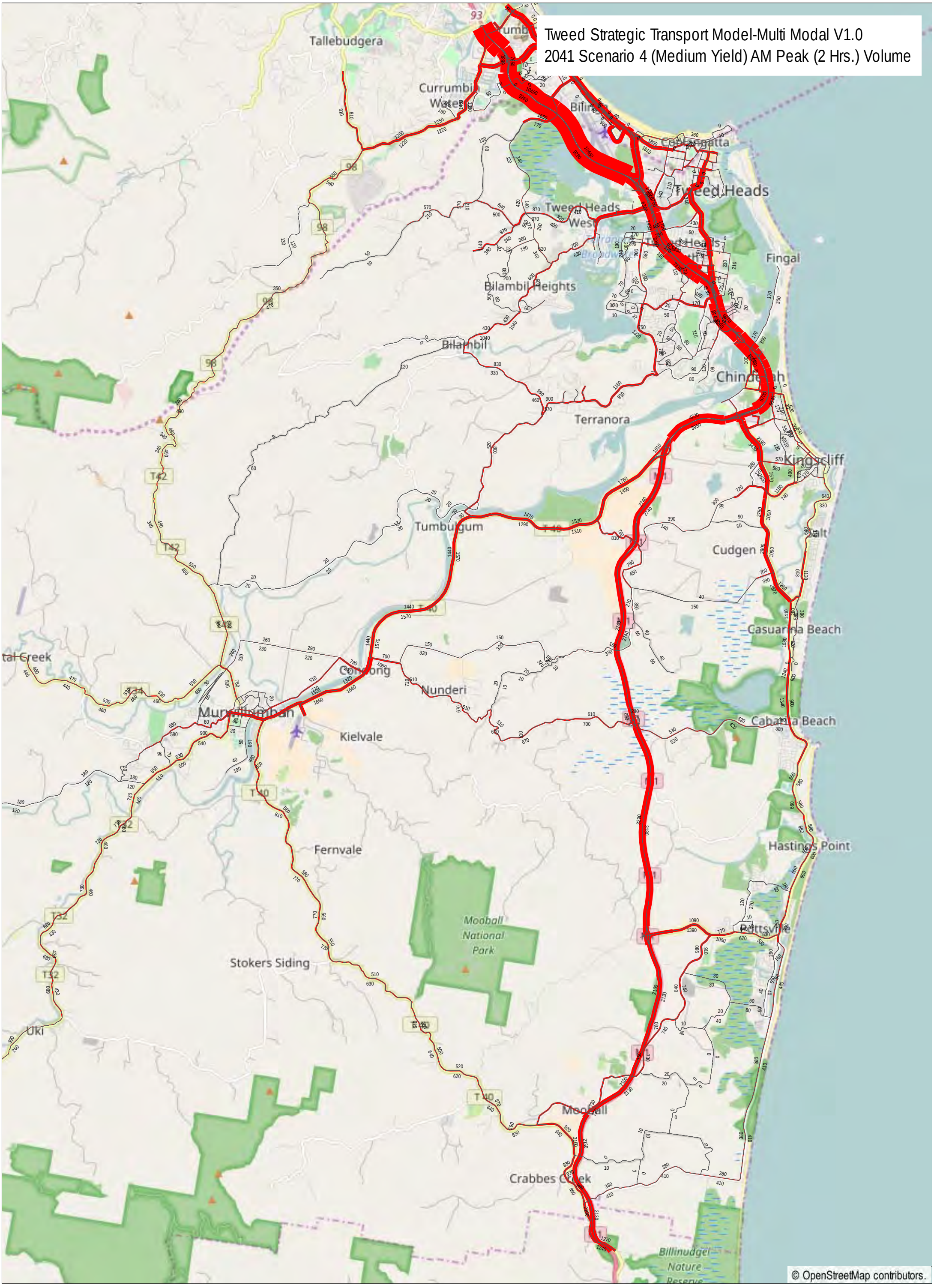
Tweed Shire Strategic Transport Model-Multi Modal V1.0
2041 Scenario 3 "Medium Yield" Model Run
PM Peak Link V/C Ratio Plot



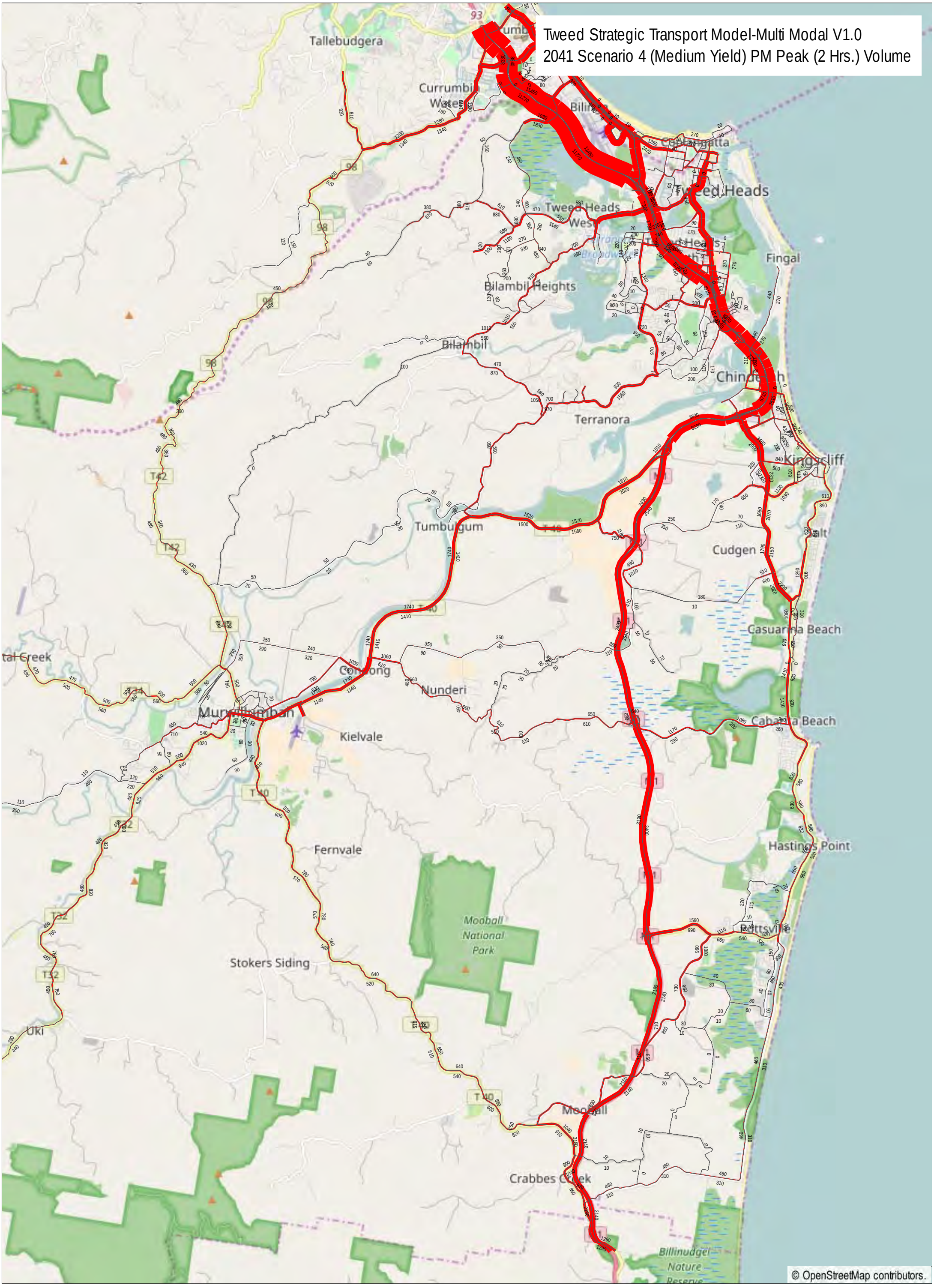
Tweed Strategic Transport Model-Multi Modal V1.0
2041 Scenario 4 (Medium Yield) Daily Volume



Tweed Strategic Transport Model-Multi Modal V1.0
2041 Scenario 4 (Medium Yield) AM Peak (2 Hrs.) Volume



Tweed Strategic Transport Model-Multi Modal V1.0
2041 Scenario 4 (Medium Yield) PM Peak (2 Hrs.) Volume



Tweed Shire Strategic Transport Model - Multi Modal V1.0
Daily Volume Difference Plot
2041 Scenario 4 "Medium Yield" - 2016 Base

Higher in 2041
Higher in 2016

30000 60000 90000 120000 150000

Tweed Shire Strategic Transport Model - Multi Modal V1.0

AM Peak Volume Difference Plot (2 Hrs.)

2041 Scenario 4 "Medium Yield" - 2016 Base

Higher in 2041

Higher in 2016

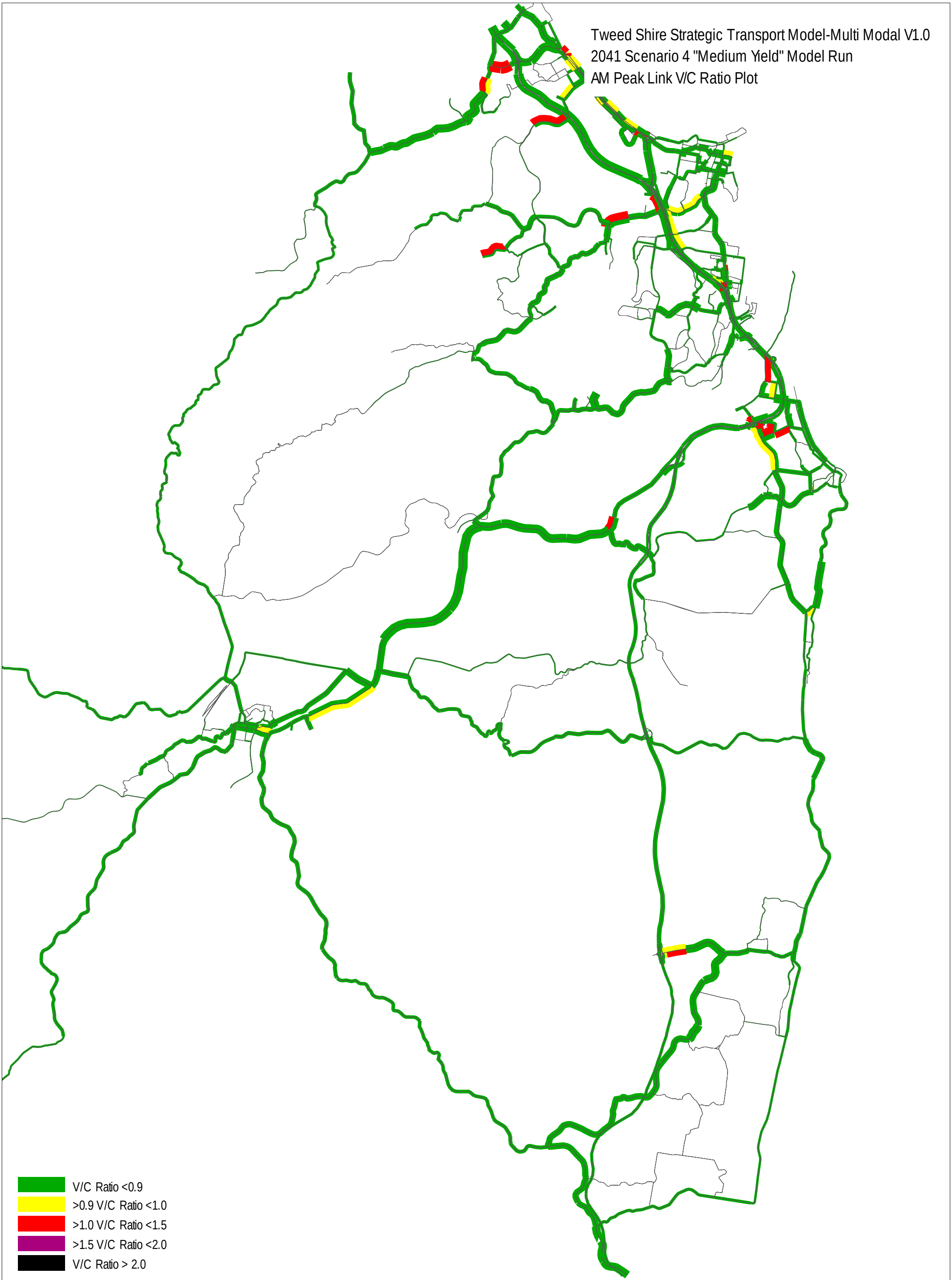
5000 10000 15000 20000 25000

Tweed Shire Strategic Transport Model - Multi Modal V1.0
PM Peak Volume Difference Plot (2 Hrs.)
2041 Scenario 4 "Medium Yield" - 2016 Base

Higher in 2041
Higher in 2016

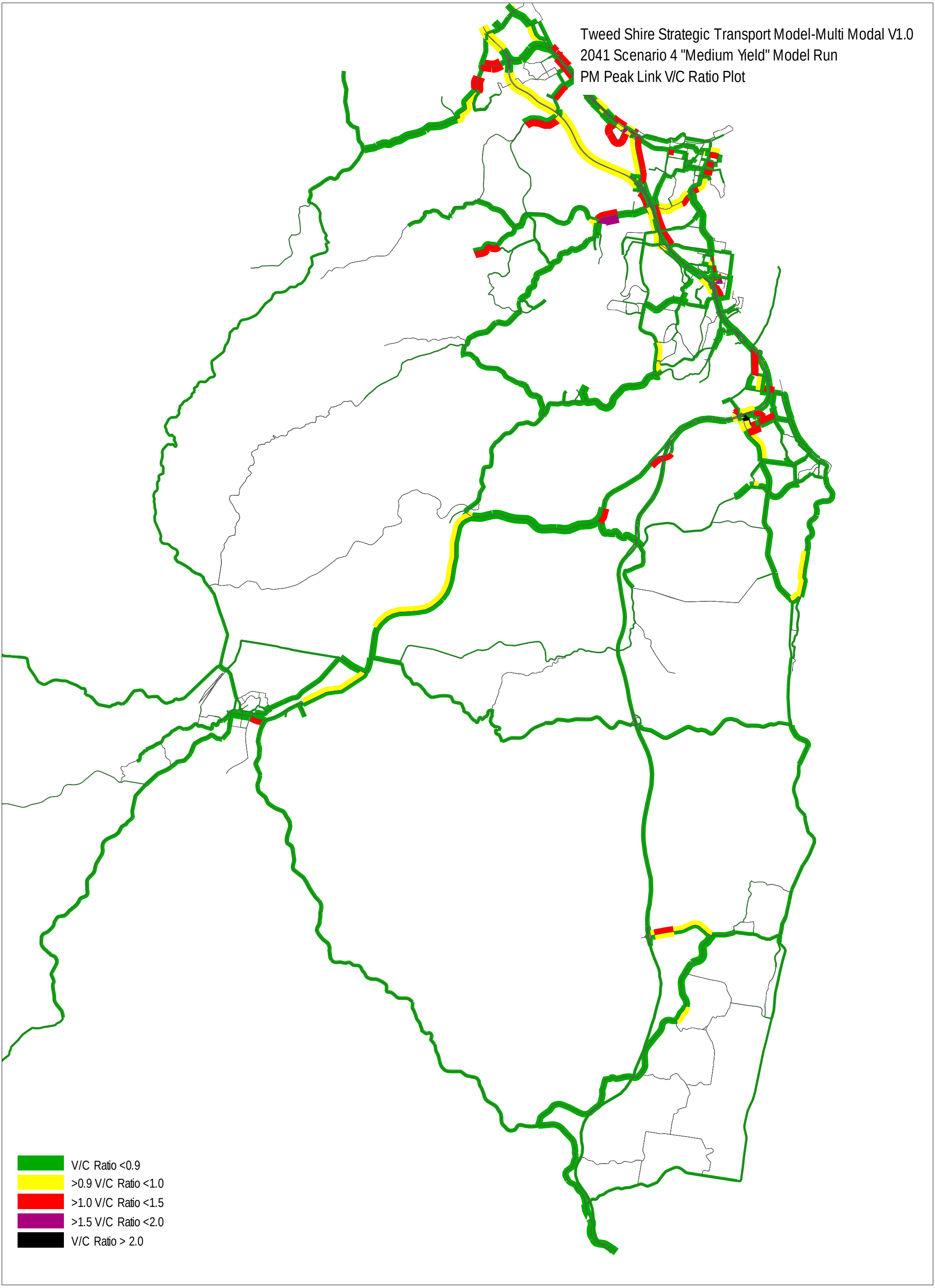
5000 10000 15000 20000 25000

Tweed Shire Strategic Transport Model-Multi Modal V1.0
2041 Scenario 4 "Medium Yield" Model Run
AM Peak Link V/C Ratio Plot

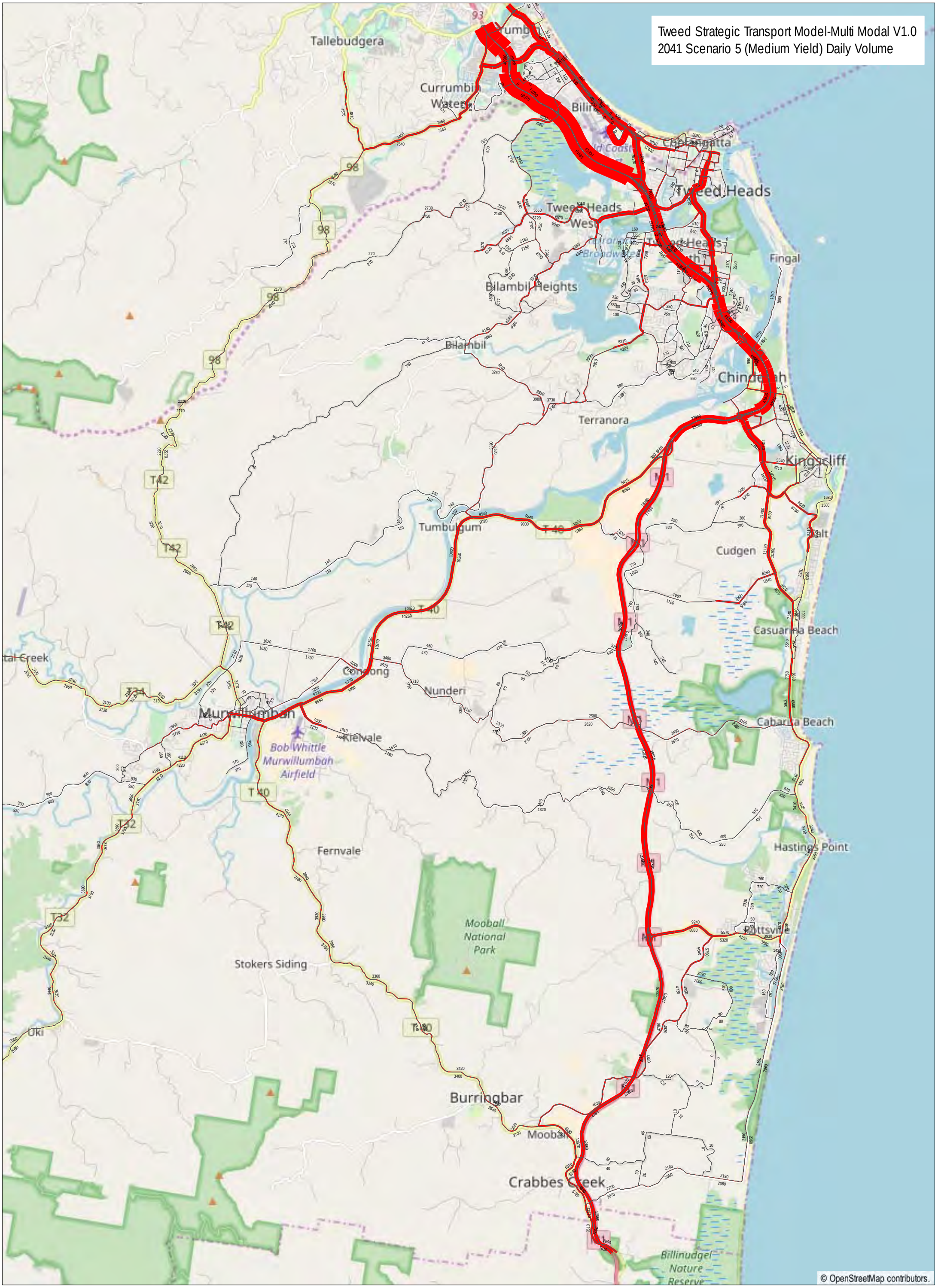


V/C Ratio <0.9
>0.9 V/C Ratio <1.0
>1.0 V/C Ratio <1.5
>1.5 V/C Ratio <2.0
V/C Ratio > 2.0

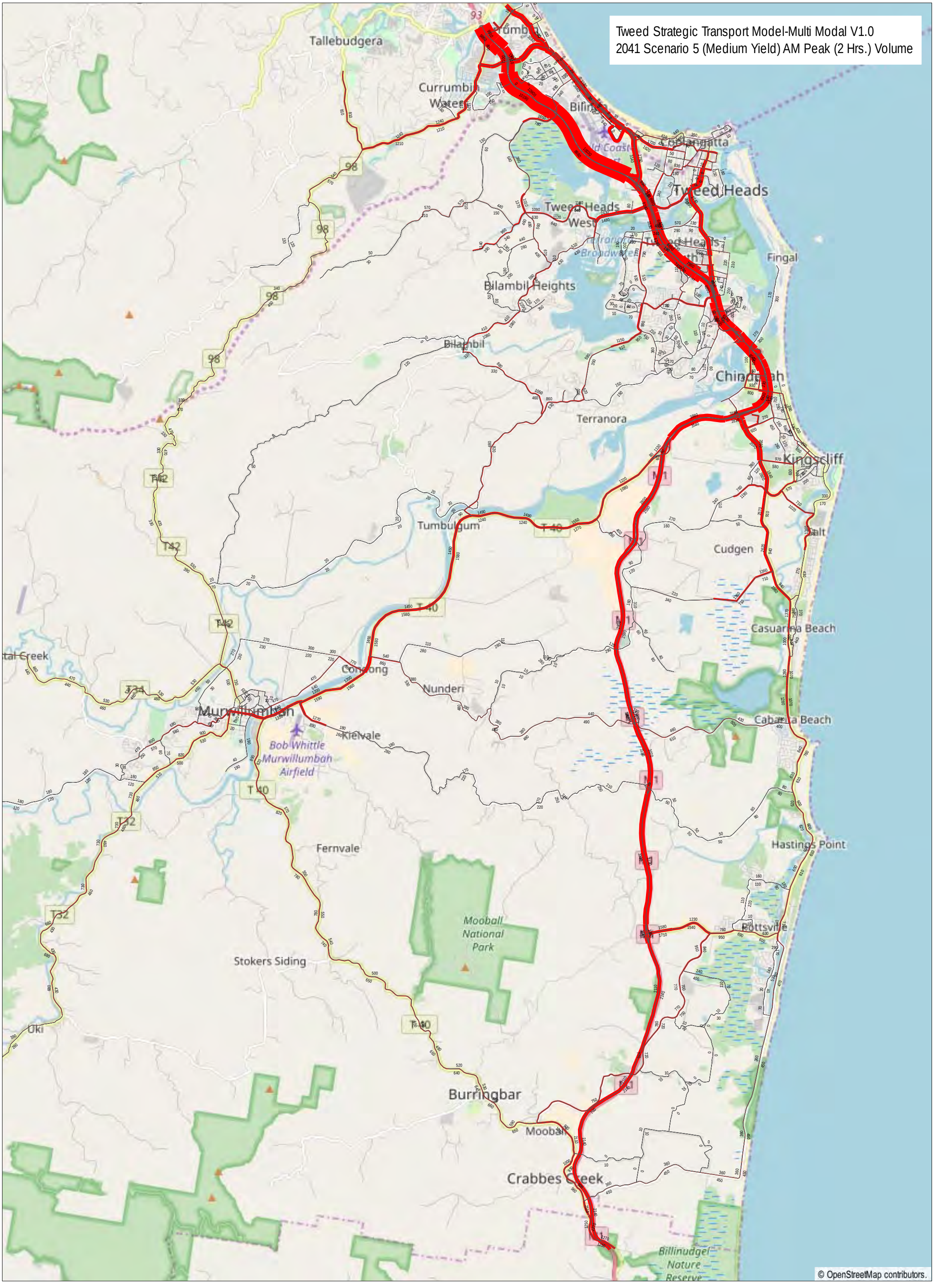
Tweed Shire Strategic Transport Model-Multi Modal V1.0
2041 Scenario 4 "Medium Yield" Model Run
PM Peak Link V/C Ratio Plot



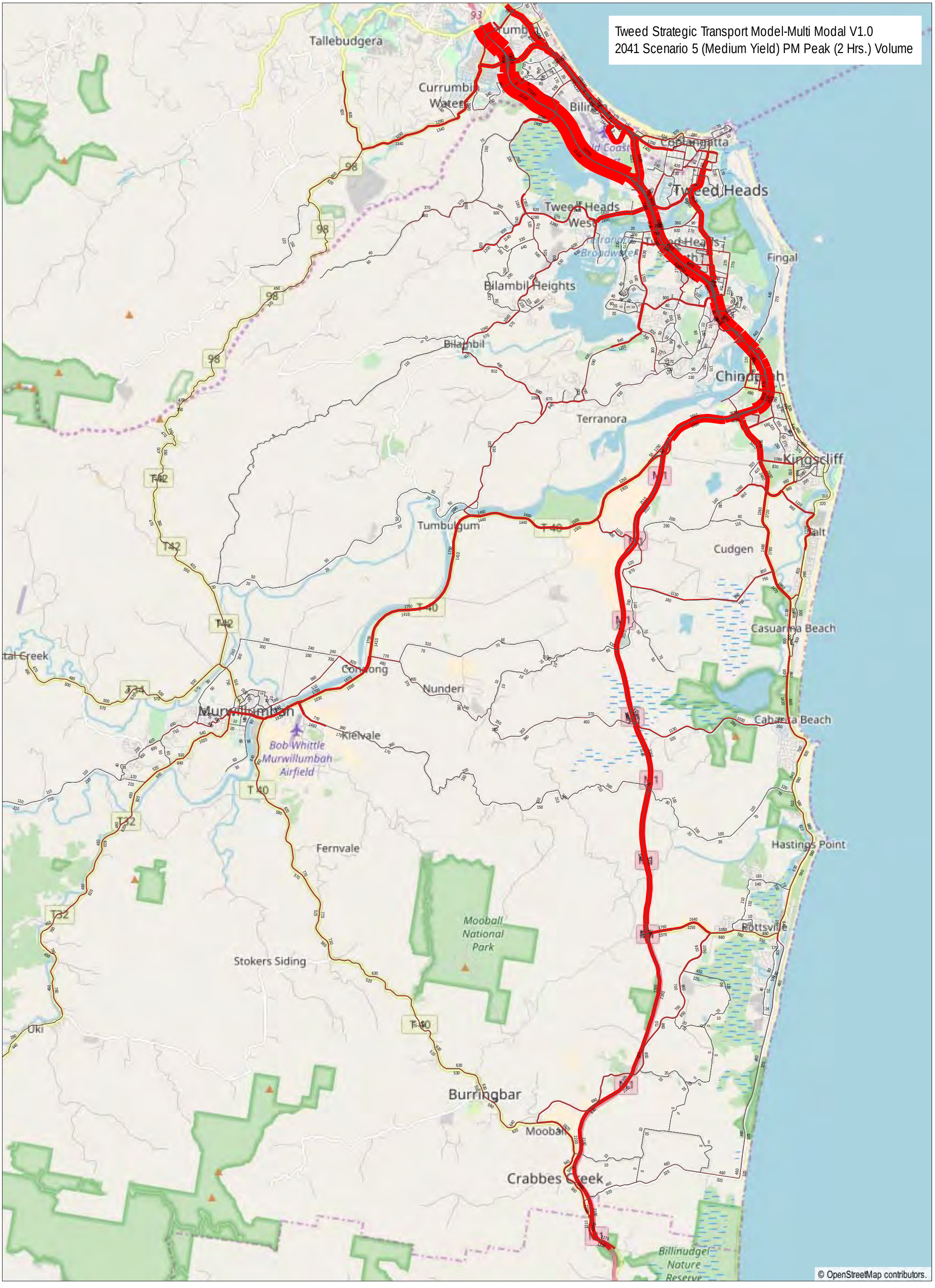
Tweed Strategic Transport Model-Multi Modal V1.0
2041 Scenario 5 (Medium Yield) Daily Volume



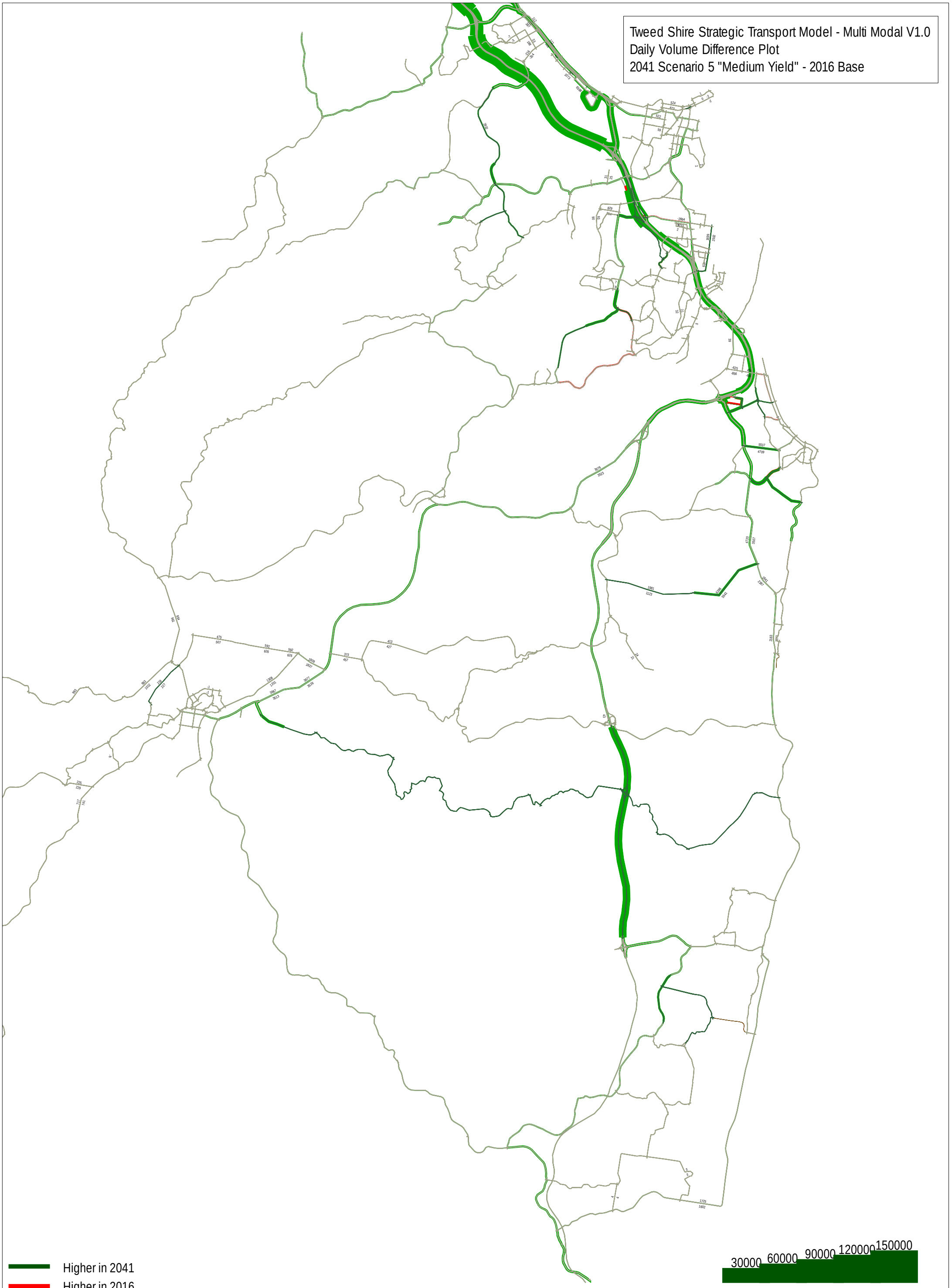
Tweed Strategic Transport Model-Multi Modal V1.0
2041 Scenario 5 (Medium Yield) AM Peak (2 Hrs.) Volume



Tweed Strategic Transport Model-Multi Modal V1.0
2041 Scenario 5 (Medium Yield) PM Peak (2 Hrs.) Volume



Tweed Shire Strategic Transport Model - Multi Modal V1.0
Daily Volume Difference Plot
2041 Scenario 5 "Medium Yield" - 2016 Base

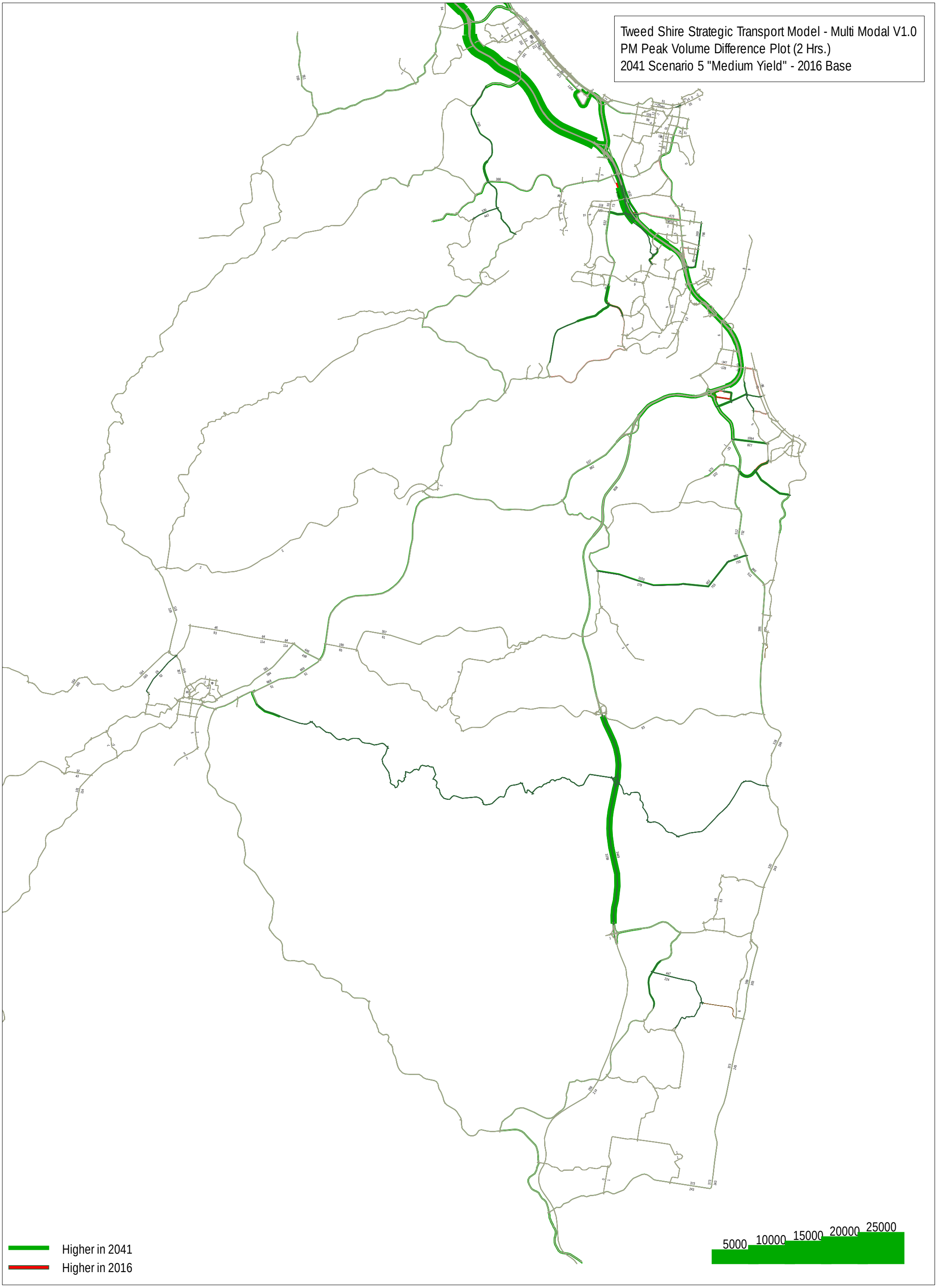


Tweed Shire Strategic Transport Model - Multi Modal V1.0
AM Peak Volume Difference Plot (2 Hrs.)
2041 Scenario 5 "Medium Yield" - 2016 Base

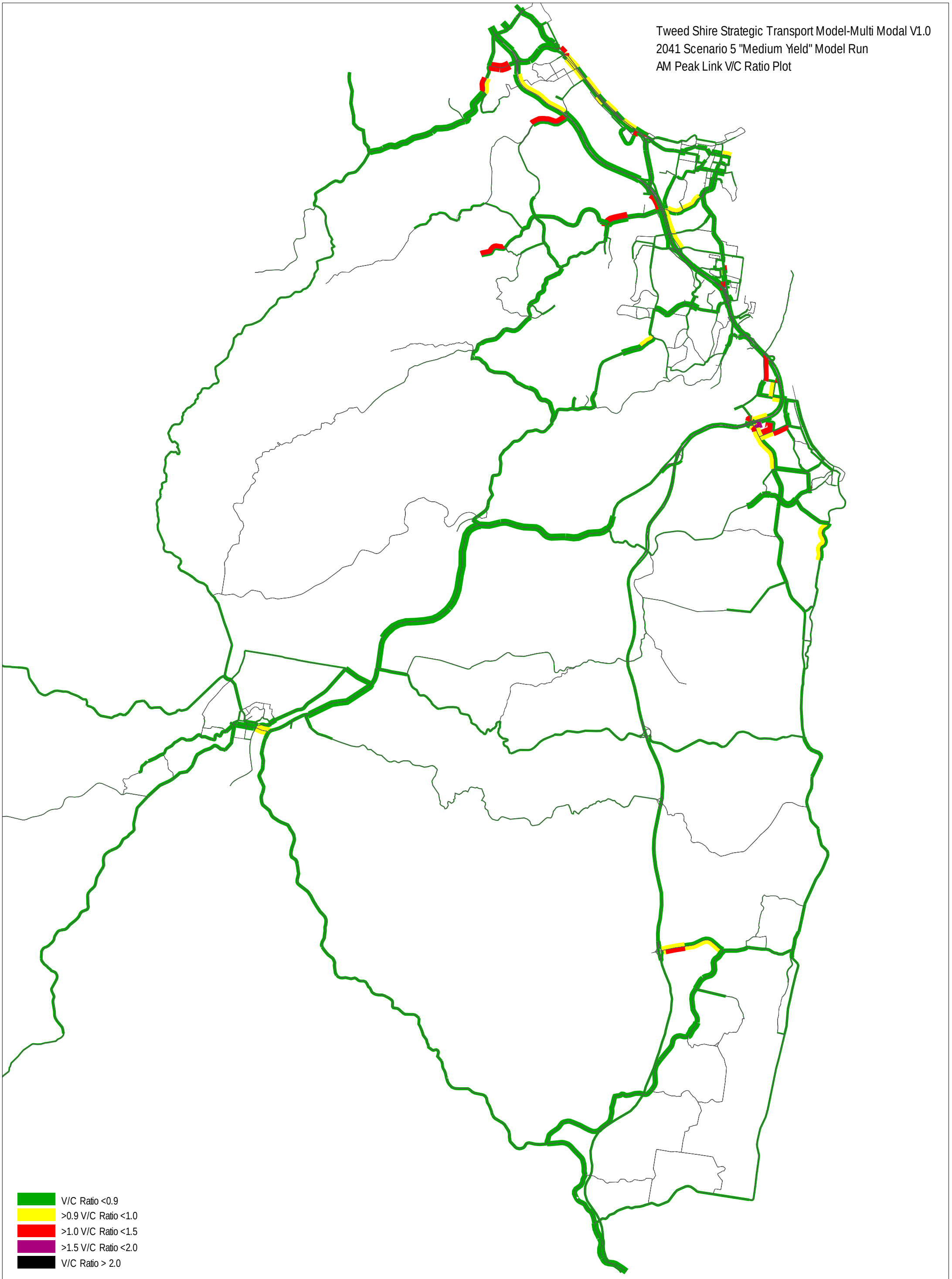
Higher in 2041
Higher in 2016

5000 10000 15000 20000 25000

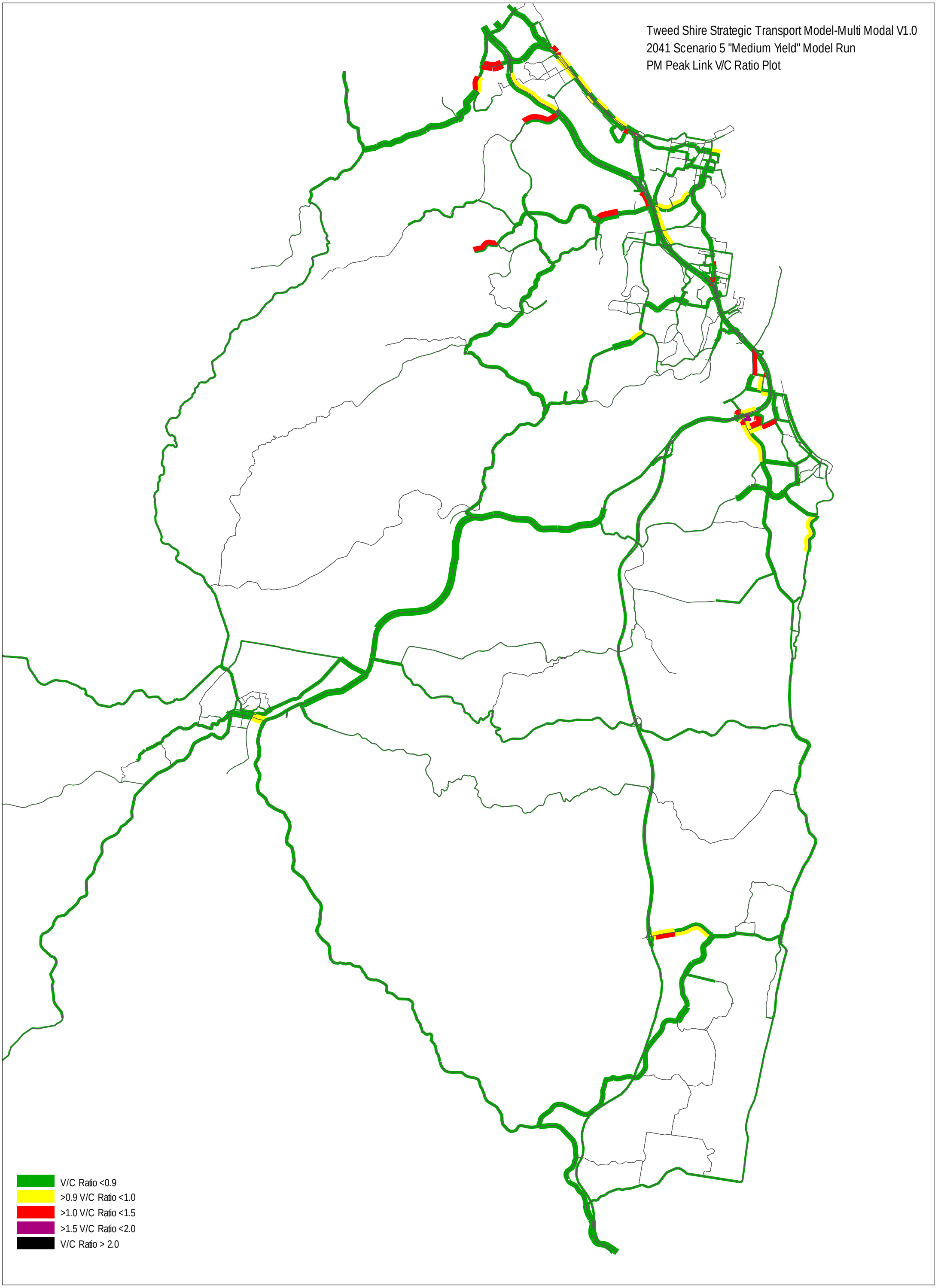
Tweed Shire Strategic Transport Model - Multi Modal V1.0
PM Peak Volume Difference Plot (2 Hrs.)
2041 Scenario 5 "Medium Yield" - 2016 Base



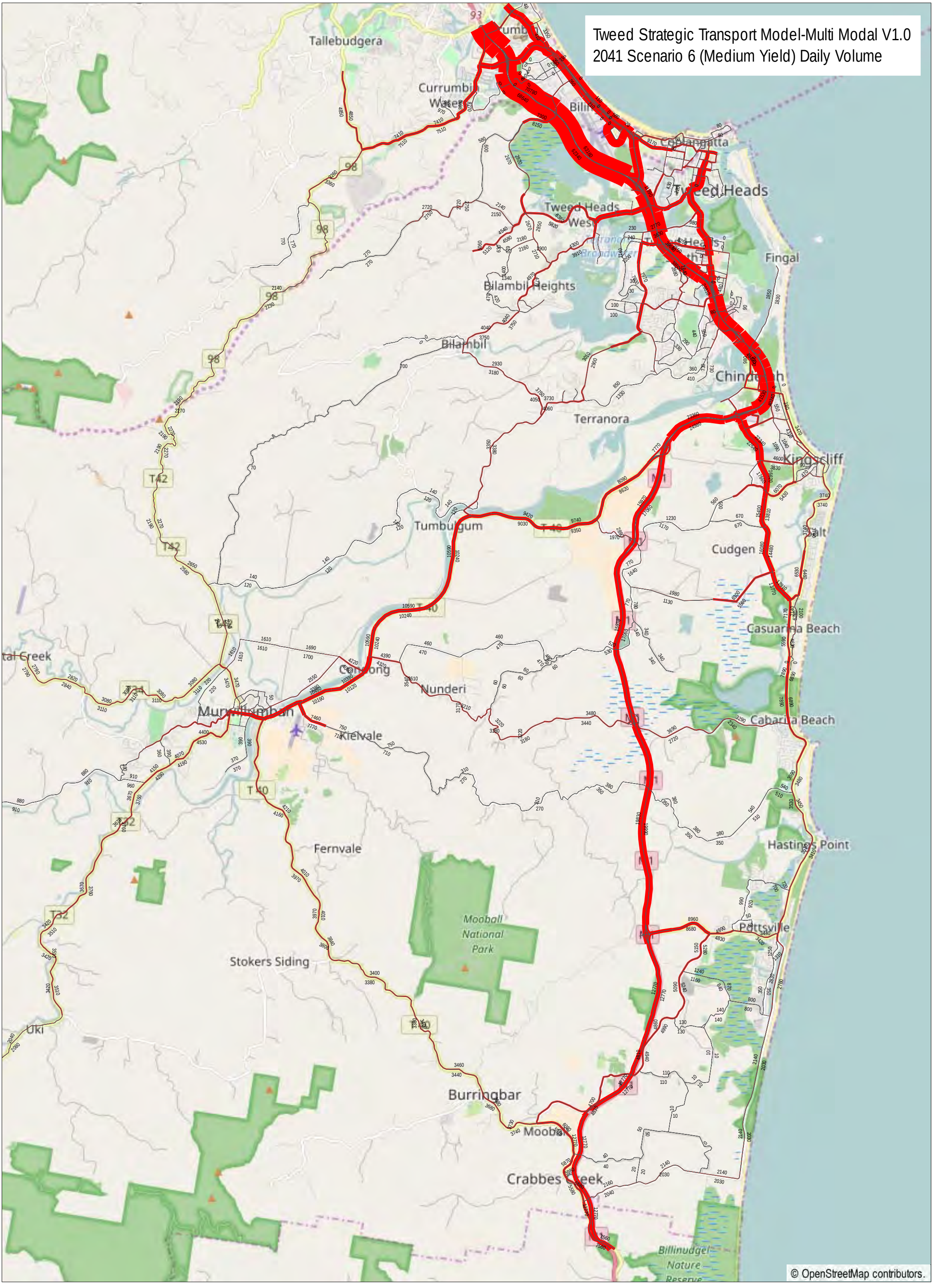
Tweed Shire Strategic Transport Model-Multi Modal V1.0
2041 Scenario 5 "Medium Yield" Model Run
AM Peak Link V/C Ratio Plot



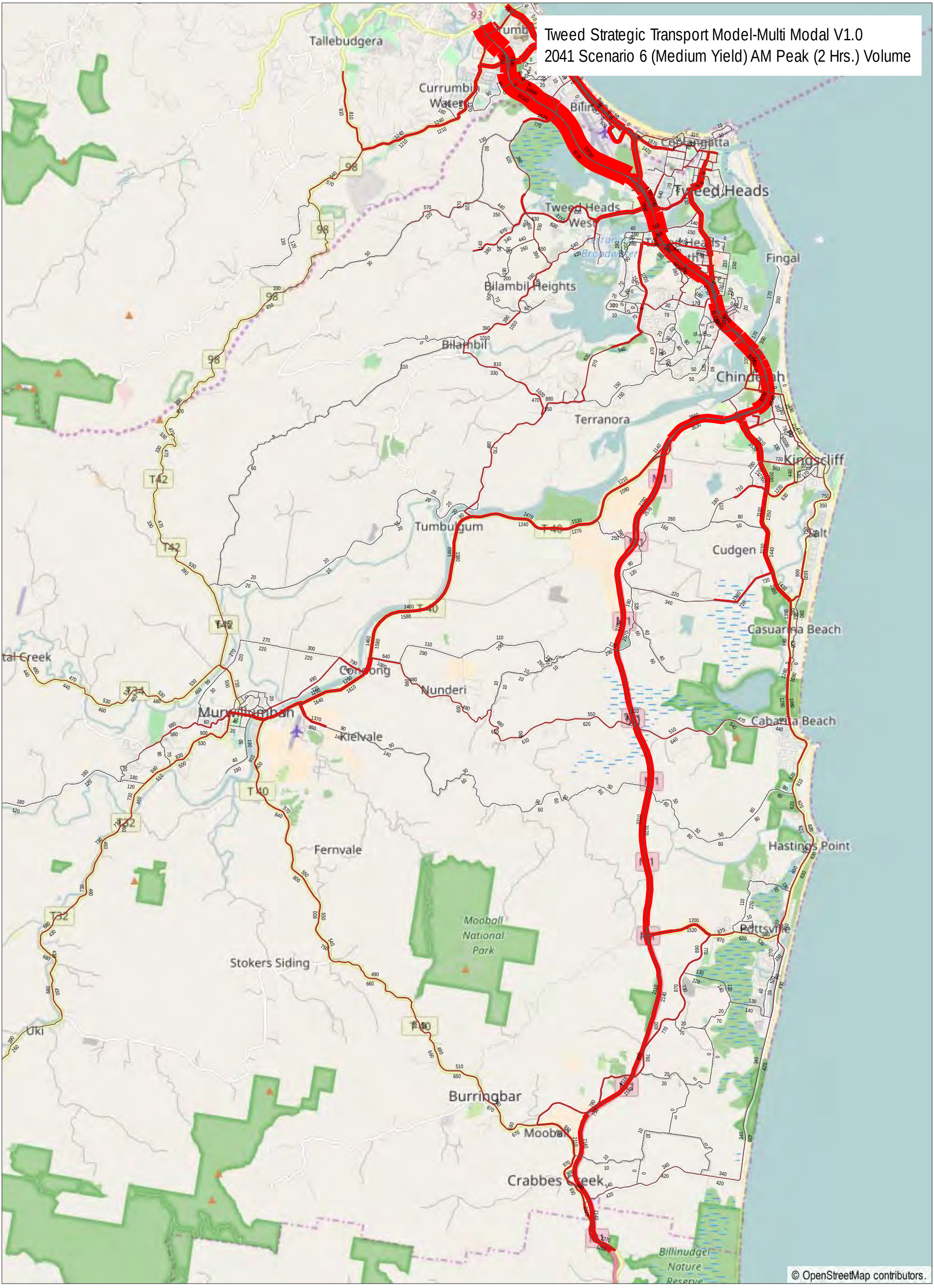
Tweed Shire Strategic Transport Model-Multi Modal V1.0
2041 Scenario 5 "Medium Yield" Model Run
PM Peak Link V/C Ratio Plot



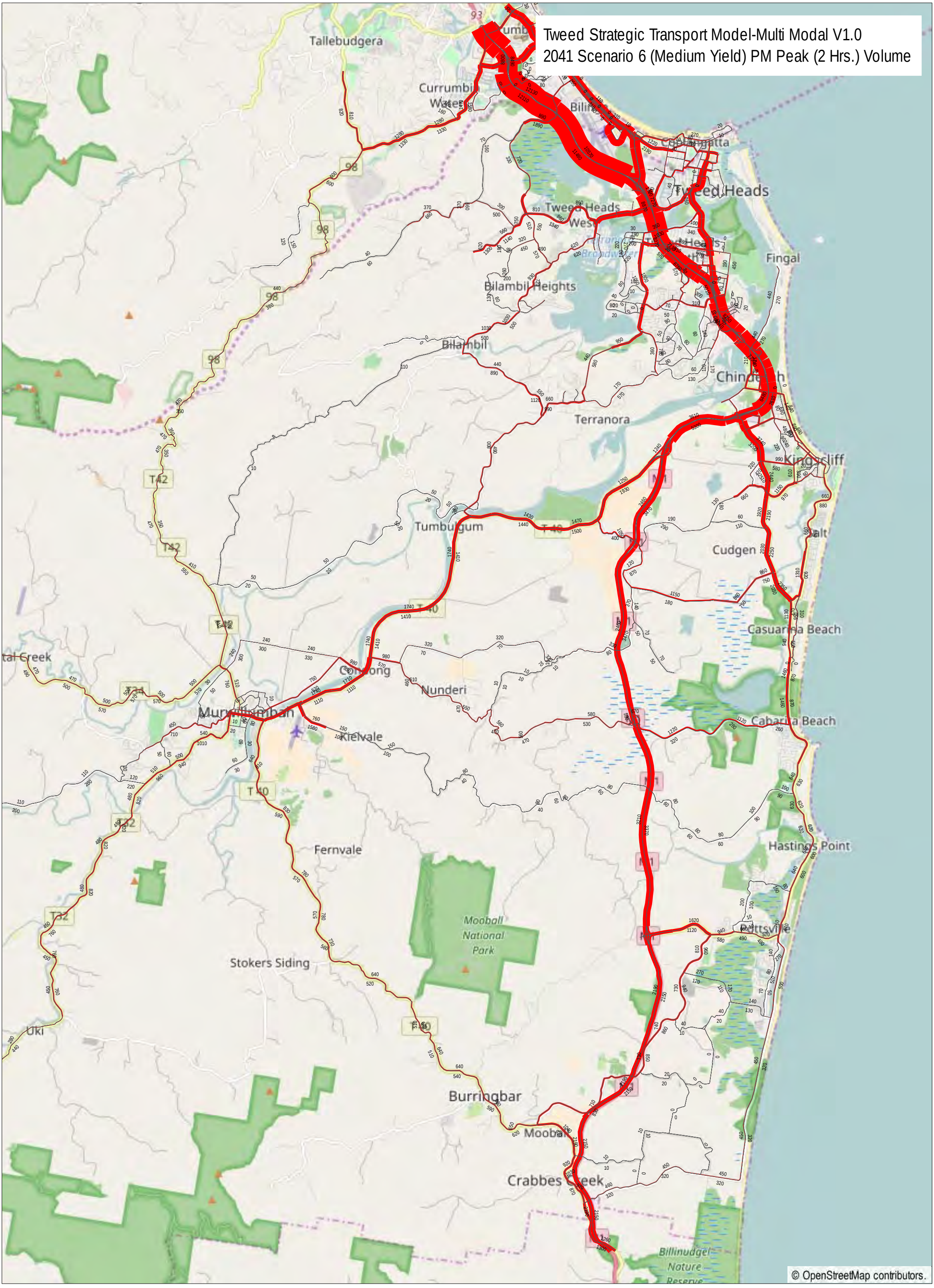
Tweed Strategic Transport Model-Multi Modal V1.0
2041 Scenario 6 (Medium Yield) Daily Volume



Tweed Strategic Transport Model-Multi Modal V1.0
2041 Scenario 6 (Medium Yield) AM Peak (2 Hrs.) Volume



Tweed Strategic Transport Model-Multi Modal V1.0
2041 Scenario 6 (Medium Yield) PM Peak (2 Hrs.) Volume



Tweed Shire Strategic Transport Model - Multi Modal V1.0
Daily Volume Difference Plot
2041 Scenario 6 "Medium Yield" - 2016 Base

Higher in 2041
Higher in 2016

30000 60000 90000 120000 150000

Tweed Shire Strategic Transport Model - Multi Modal V1.0
AM Peak Volume Difference Plot (2 Hrs.)
2041 Scenario 6 "Medium Yield" - 2016 Base

Higher in 2041
Higher in 2016

5000 10000 15000 20000 25000

Tweed Shire Strategic Transport Model - Multi Modal V1.0
PM Peak Volume Difference Plot (2 Hrs.)
2041 Scenario 6 "Medium Yield" - 2016 Base

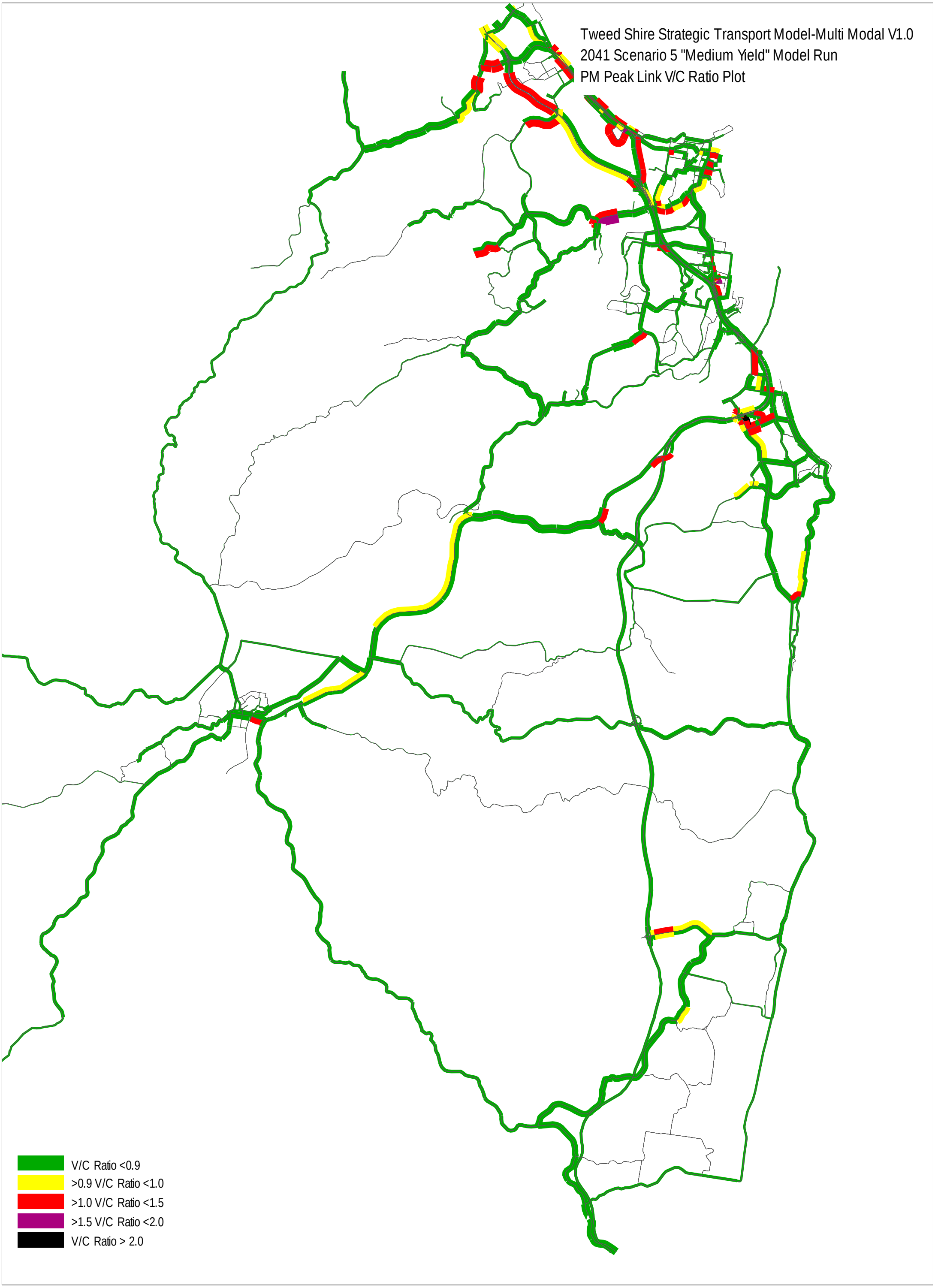
Higher in 2041
Higher in 2016

5000 10000 15000 20000 25000

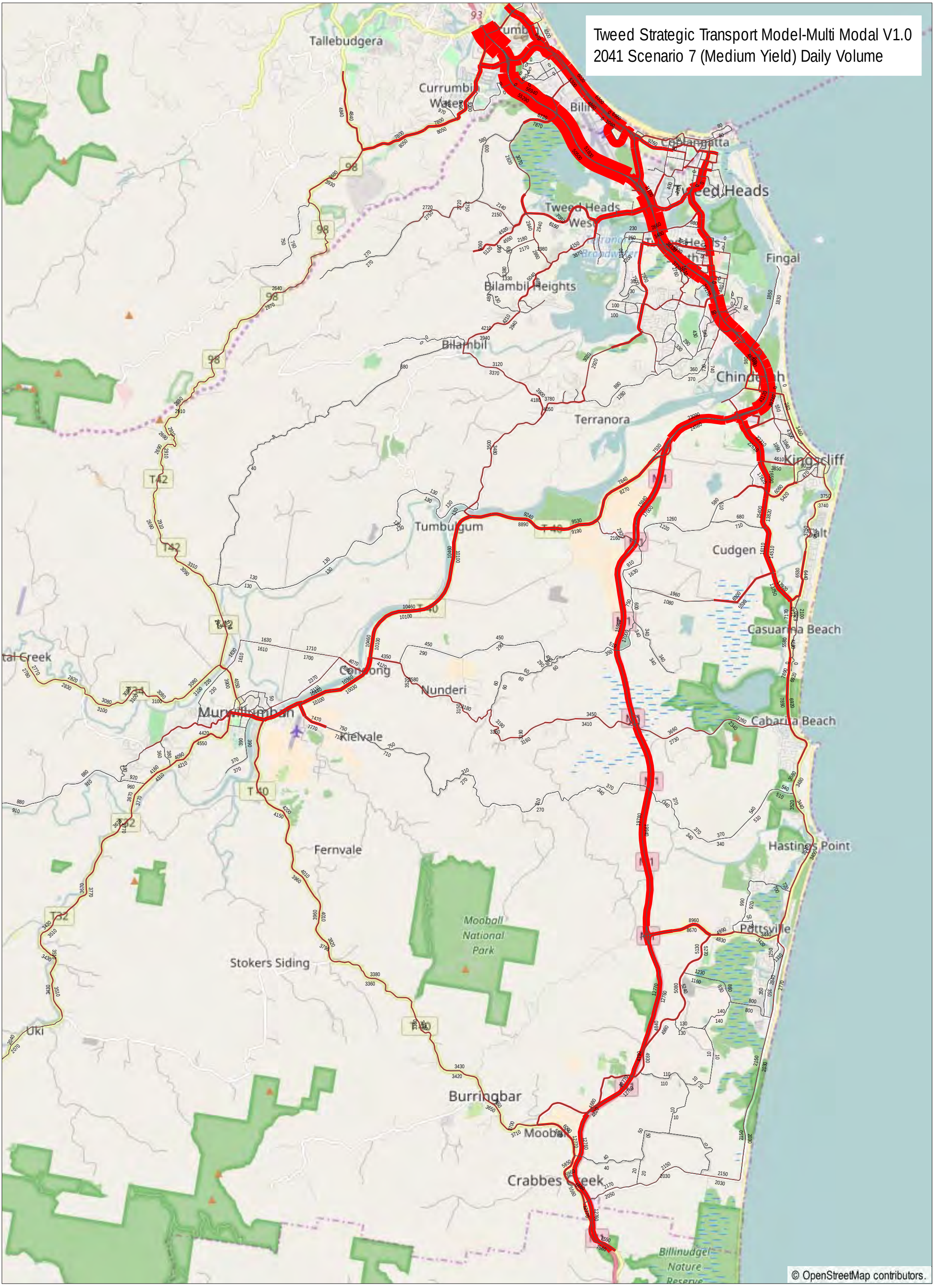
Tweed Shire Strategic Transport Model-Multi Modal V1.0
2041 Scenario 6 "Medium Yield" Model Run
AM Peak Link V/C Ratio Plot

V/C Ratio <0.9
>0.9 V/C Ratio <1.0
>1.0 V/C Ratio <1.5
>1.5 V/C Ratio <2.0
V/C Ratio > 2.0

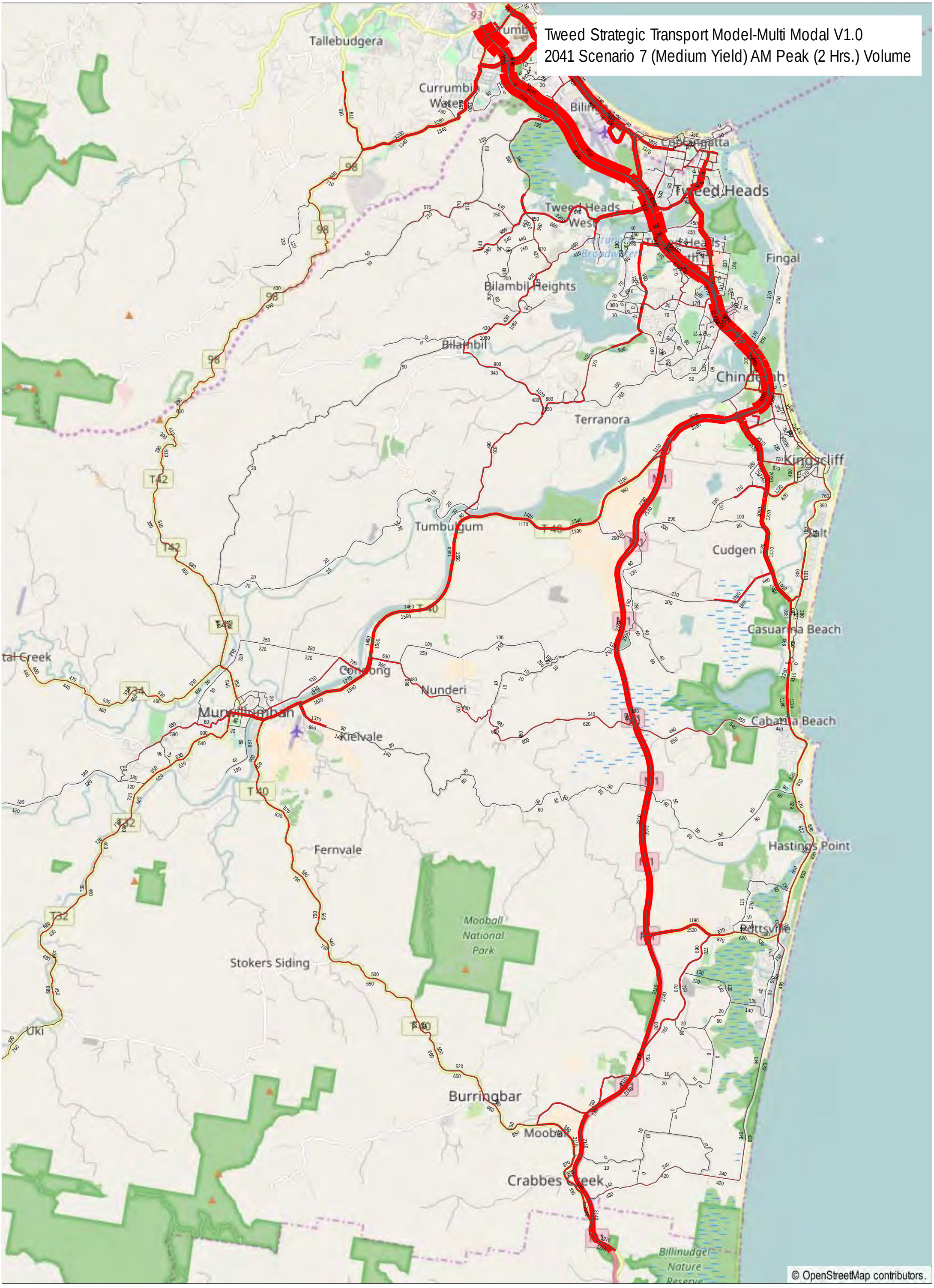
Tweed Shire Strategic Transport Model-Multi Modal V1.0
2041 Scenario 5 "Medium Yield" Model Run
PM Peak Link V/C Ratio Plot



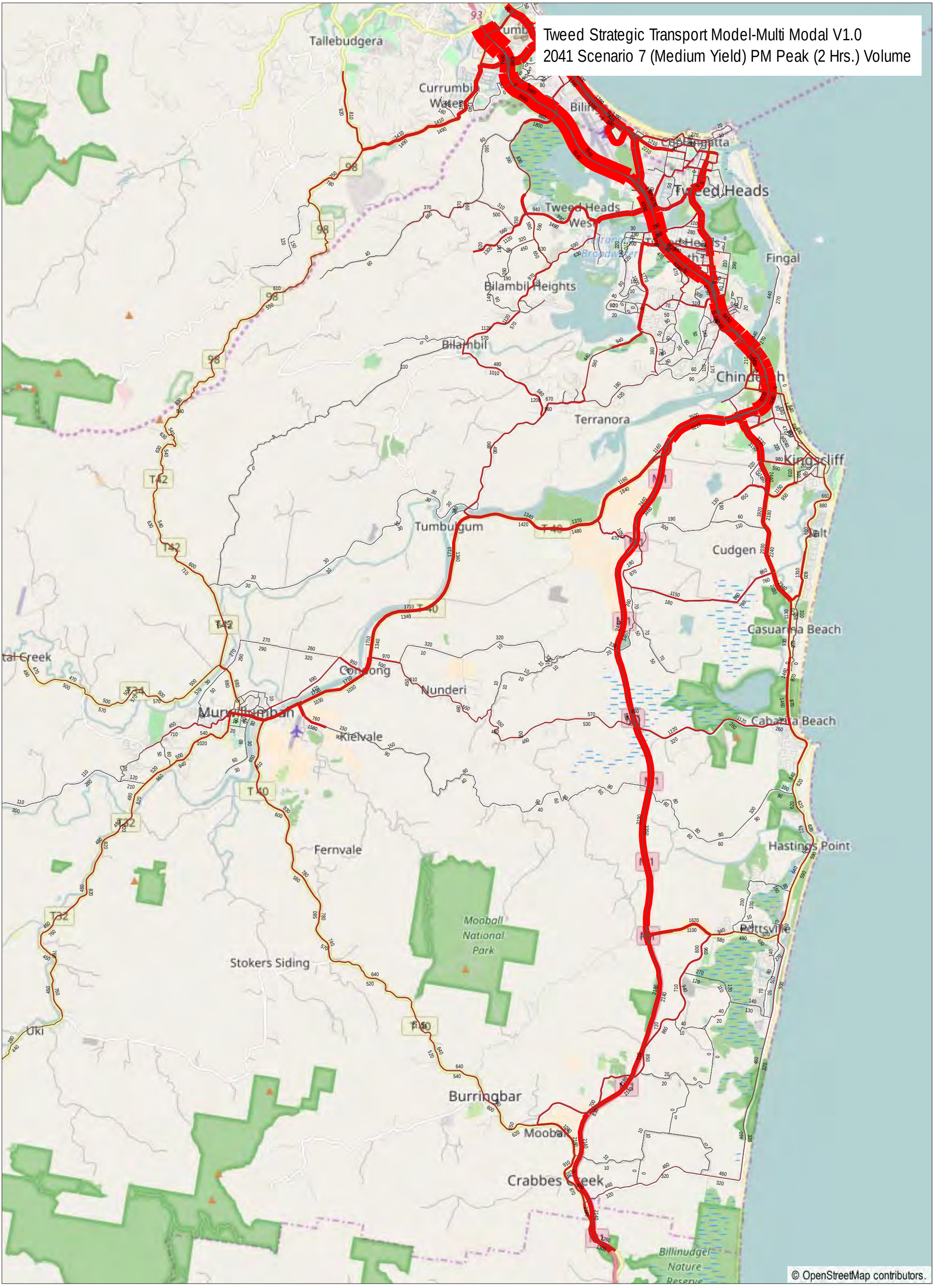
Tweed Strategic Transport Model-Multi Modal V1.0
2041 Scenario 7 (Medium Yield) Daily Volume



Tweed Strategic Transport Model-Multi Modal V1.0
2041 Scenario 7 (Medium Yield) AM Peak (2 Hrs.) Volume



Tweed Strategic Transport Model-Multi Modal V1.0
2041 Scenario 7 (Medium Yield) PM Peak (2 Hrs.) Volume



Tweed Shire Strategic Transport Model - Multi Modal V1.0
Daily Volume Difference Plot
2041 Scenario 7 "Medium Yield" - 2016 Base

Higher in 2041
Higher in 2016

30000 60000 90000 120000 150000

Tweed Shire Strategic Transport Model - Multi Modal V1.0
AM Peak Volume Difference Plot (2 Hrs.)
2041 Scenario 7 "Medium Yield" - 2016 Base

Higher in 2041
Higher in 2016

5000 10000 15000 20000 25000

Tweed Shire Strategic Transport Model - Multi Modal V1.0
PM Peak Volume Difference Plot (2 Hrs.)
2041 Scenario 7 "Medium Yield" - 2016 Base

Higher in 2041
Higher in 2016

5000 10000 15000 20000 25000

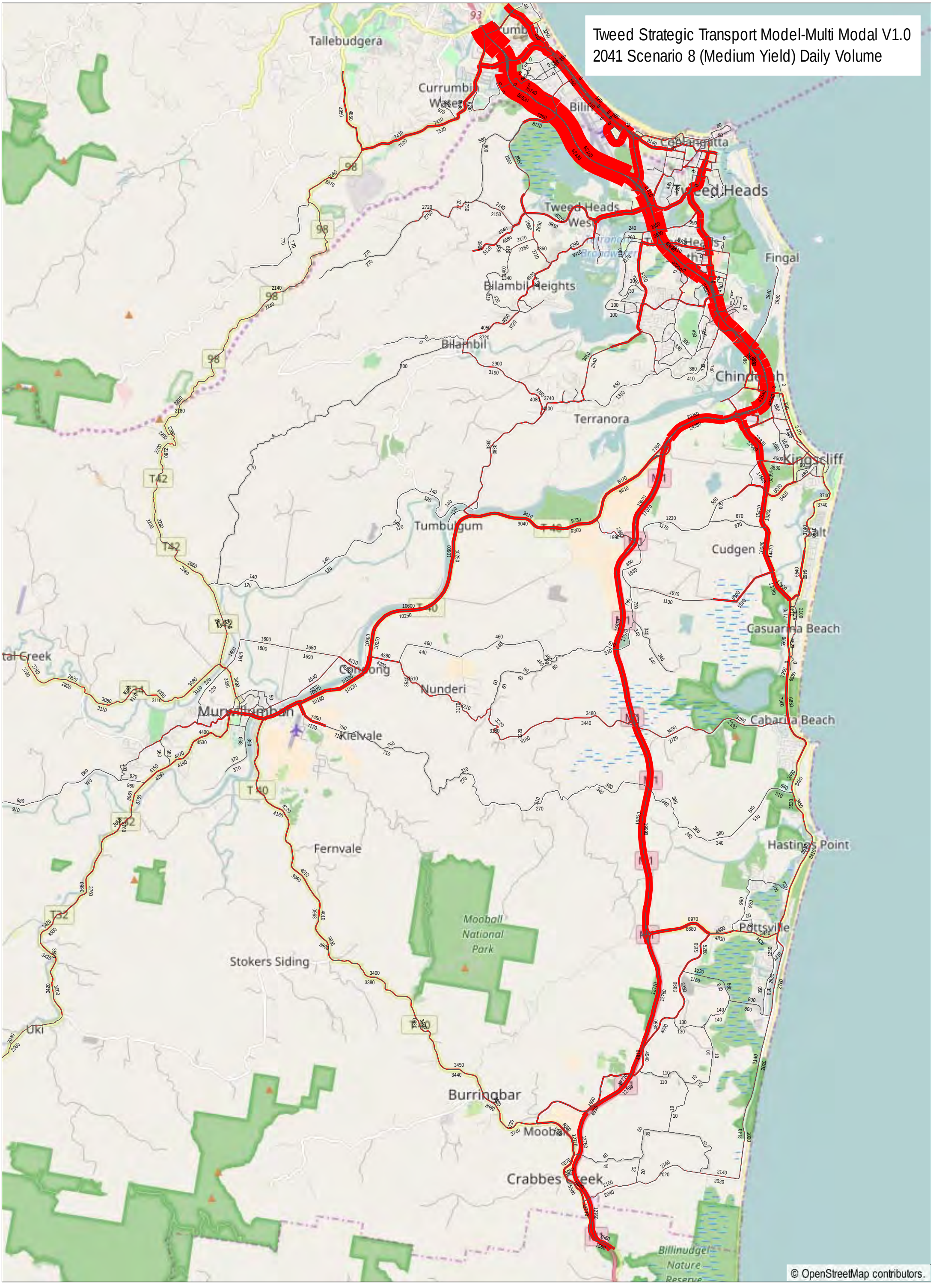
Tweed Shire Strategic Transport Model-Multi Modal V1.0
2041 Scenario 7 "Medium Yield" Model Run
AM Peak Link V/C Ratio Plot

V/C Ratio <0.9
>0.9 V/C Ratio <1.0
>1.0 V/C Ratio <1.5
>1.5 V/C Ratio <2.0
V/C Ratio > 2.0

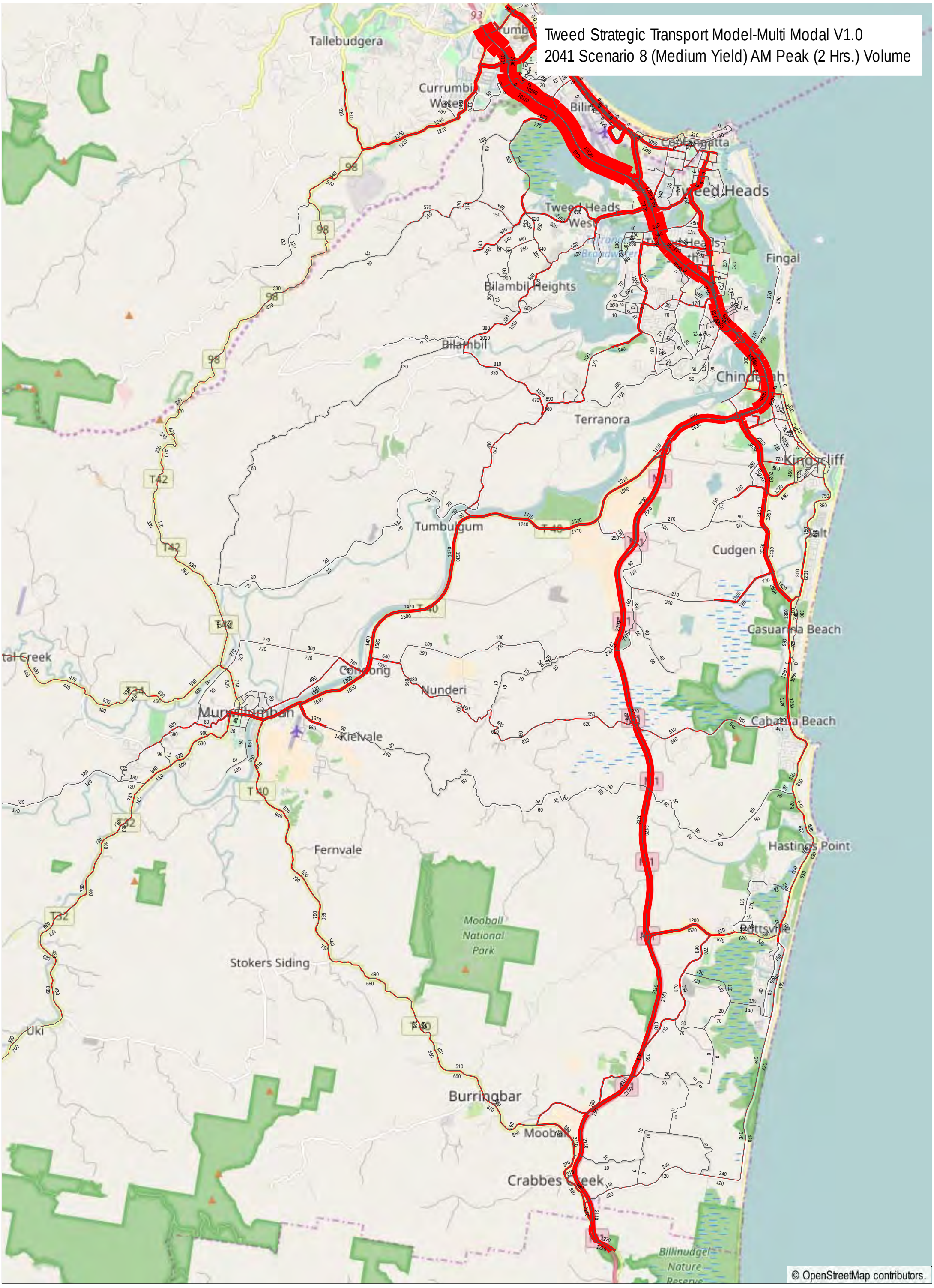
Tweed Shire Strategic Transport Model-Multi Modal V1.0
2041 Scenario 5 "Medium Yield" Model Run
PM Peak Link V/C Ratio Plot

V/C Ratio <0.9
>0.9 V/C Ratio <1.0
>1.0 V/C Ratio <1.5
>1.5 V/C Ratio <2.0
V/C Ratio > 2.0

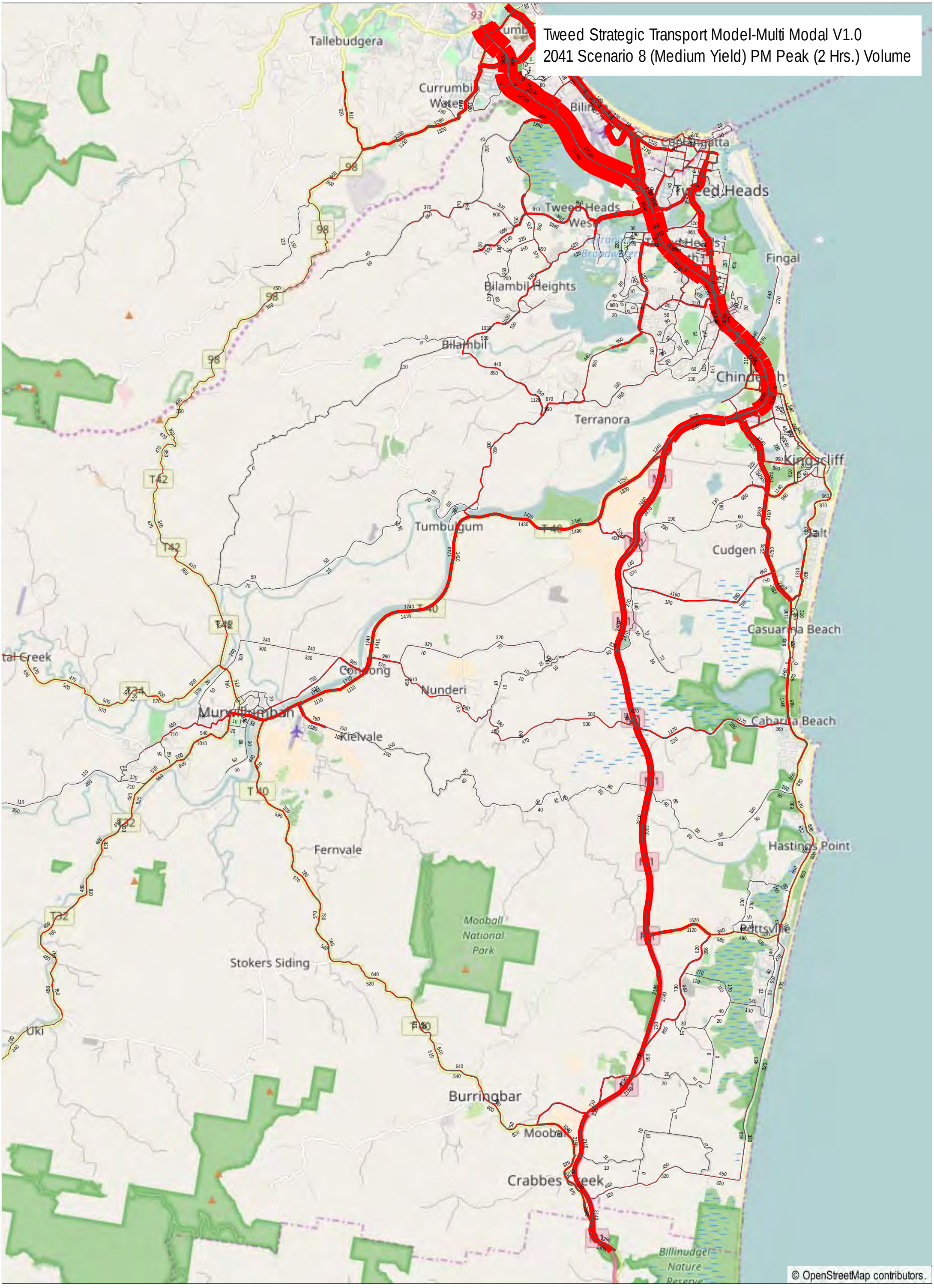
Tweed Strategic Transport Model-Multi Modal V1.0
2041 Scenario 8 (Medium Yield) Daily Volume



Tweed Strategic Transport Model-Multi Modal V1.0
2041 Scenario 8 (Medium Yield) AM Peak (2 Hrs.) Volume



Tweed Strategic Transport Model-Multi Modal V1.0
2041 Scenario 8 (Medium Yield) PM Peak (2 Hrs.) Volume



Tweed Shire Strategic Transport Model - Multi Modal V1.0
Daily Volume Difference Plot
2041 Scenario 8 "Medium Yield" - 2016 Base

Higher in 2041
Higher in 2016

30000 60000 90000 120000 150000

Tweed Shire Strategic Transport Model - Multi Modal V1.0
AM Peak Volume Difference Plot (2 Hrs.)
2041 Scenario 8 "Medium Yield" - 2016 Base

Higher in 2041
Higher in 2016

5000 10000 15000 20000 25000

Tweed Shire Strategic Transport Model - Multi Modal V1.0
PM Peak Volume Difference Plot (2 Hrs.)
2041 Scenario 8 "Medium Yield" - 2016 Base

Higher in 2041
Higher in 2016

5000 10000 15000 20000 25000

Tweed Shire Strategic Transport Model-Multi Modal V1.0
2041 Scenario 8 "Medium Yield" Model Run
AM Peak Link V/C Ratio Plot

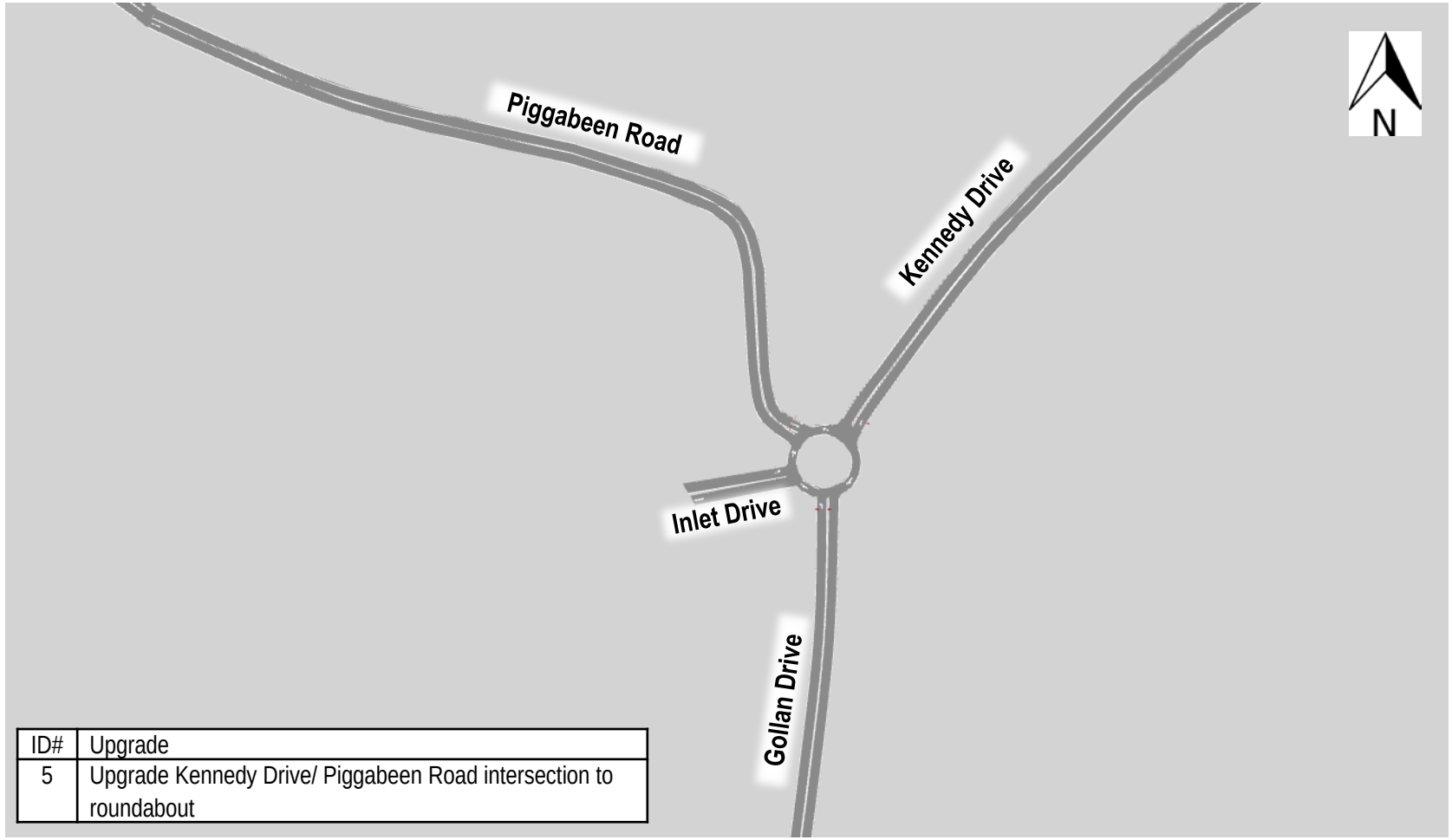
V/C Ratio <0.9
>0.9 V/C Ratio <1.0
>1.0 V/C Ratio <1.5
>1.5 V/C Ratio <2.0
V/C Ratio > 2.0

Tweed Shire Strategic Transport Model-Multi Modal V1.0
2041 Scenario 8 "Medium Yield" Model Run
PM Peak Link V/C Ratio Plot

V/C Ratio <0.9
>0.9 V/C Ratio <1.0
>1.0 V/C Ratio <1.5
>1.5 V/C Ratio <2.0
V/C Ratio > 2.0

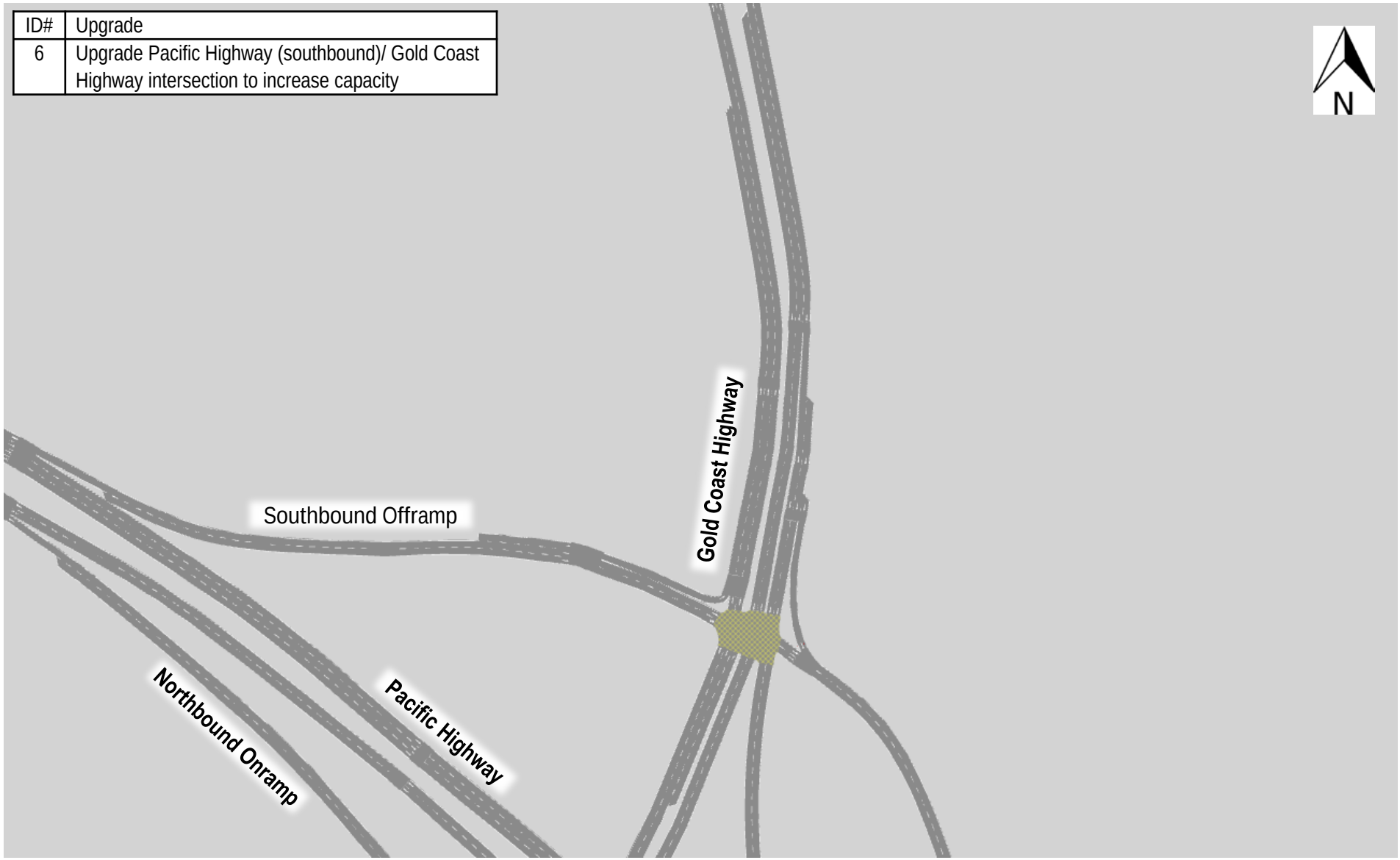
APPENDIX E

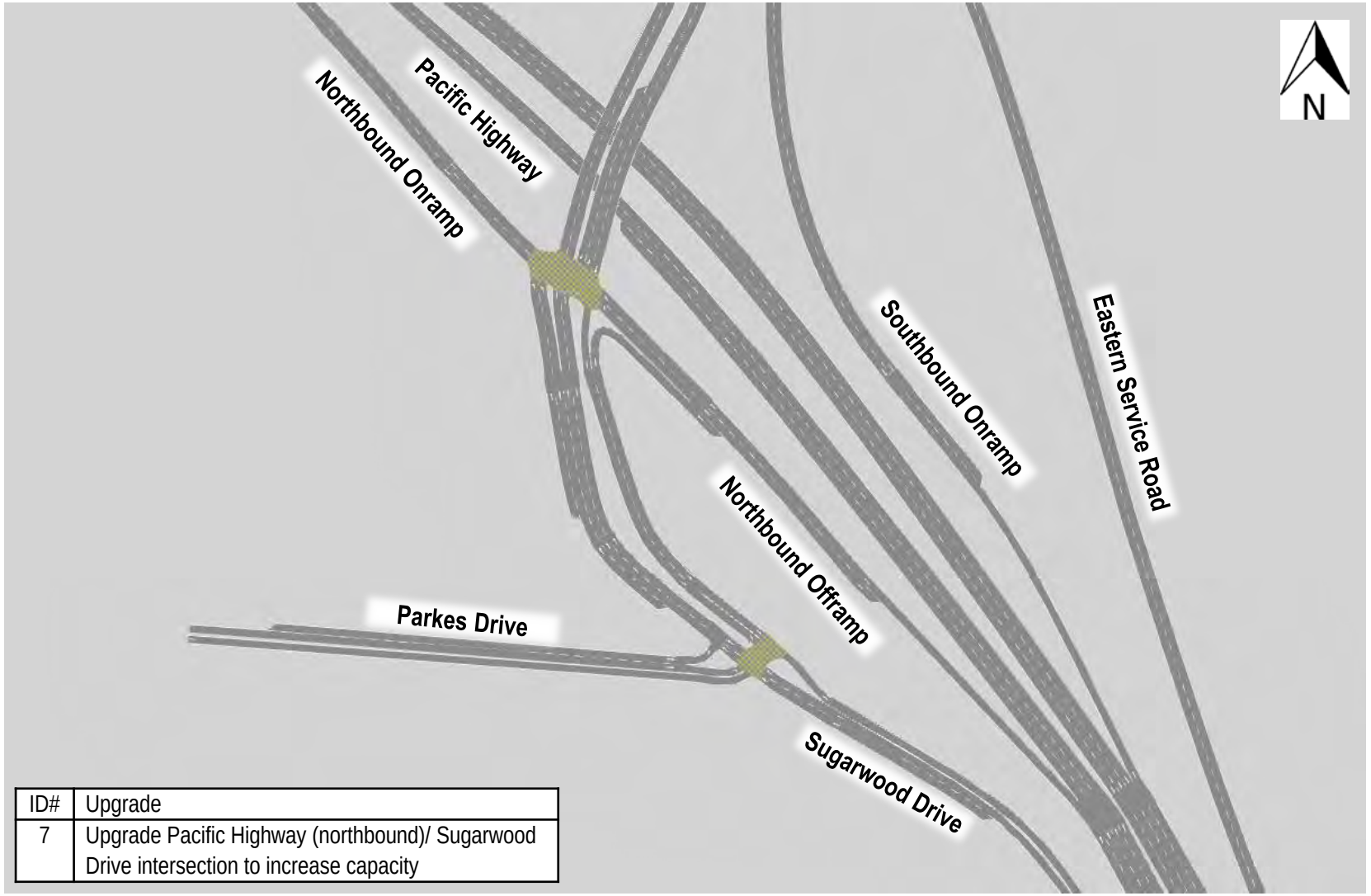
PRELIMINARY INTERSECTION CONCEPTS



ID#	Upgrade
5	Upgrade Kennedy Drive/ Piggabeen Road intersection to roundabout

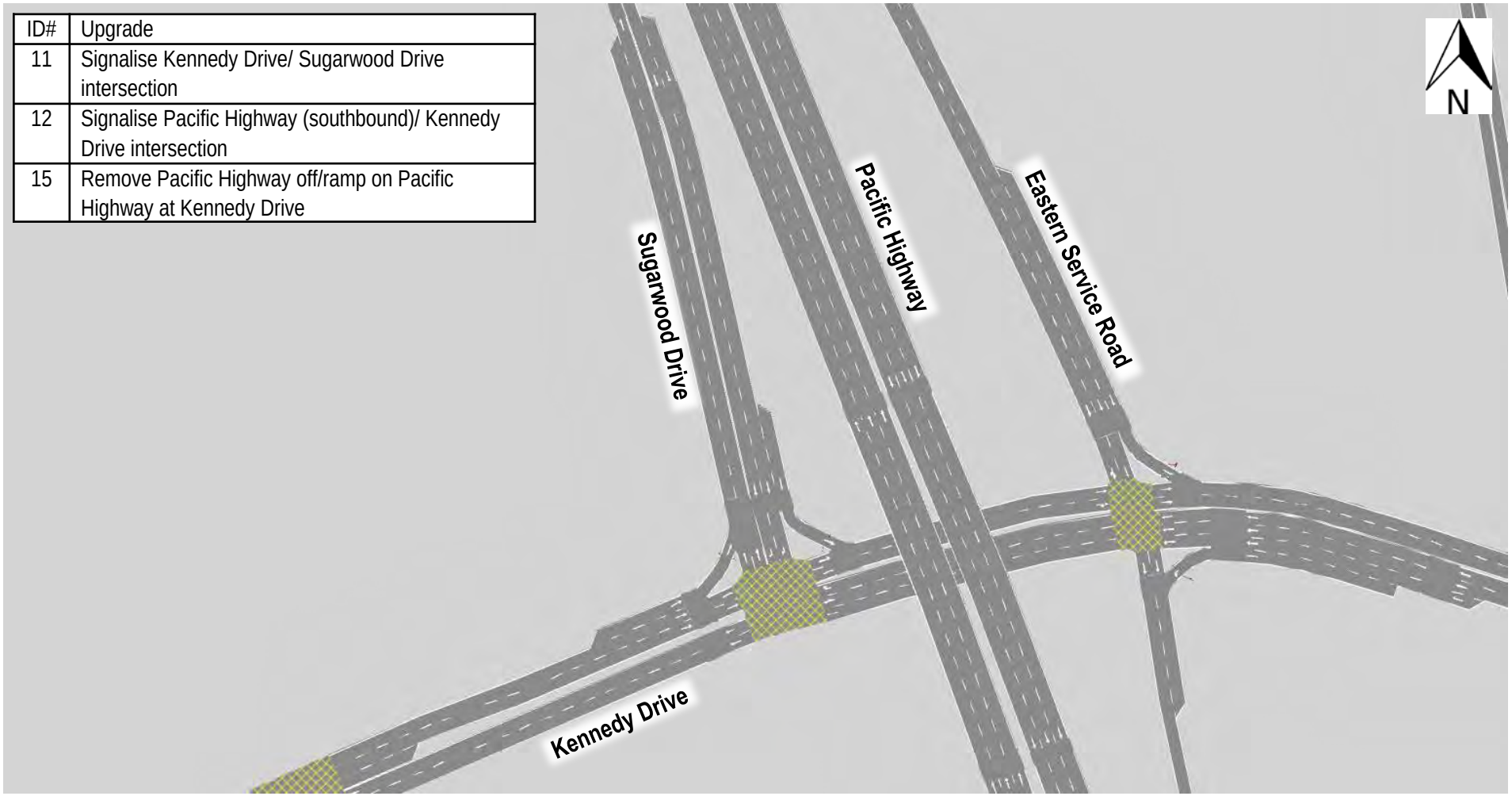
ID#	Upgrade
6	Upgrade Pacific Highway (southbound)/ Gold Coast Highway intersection to increase capacity

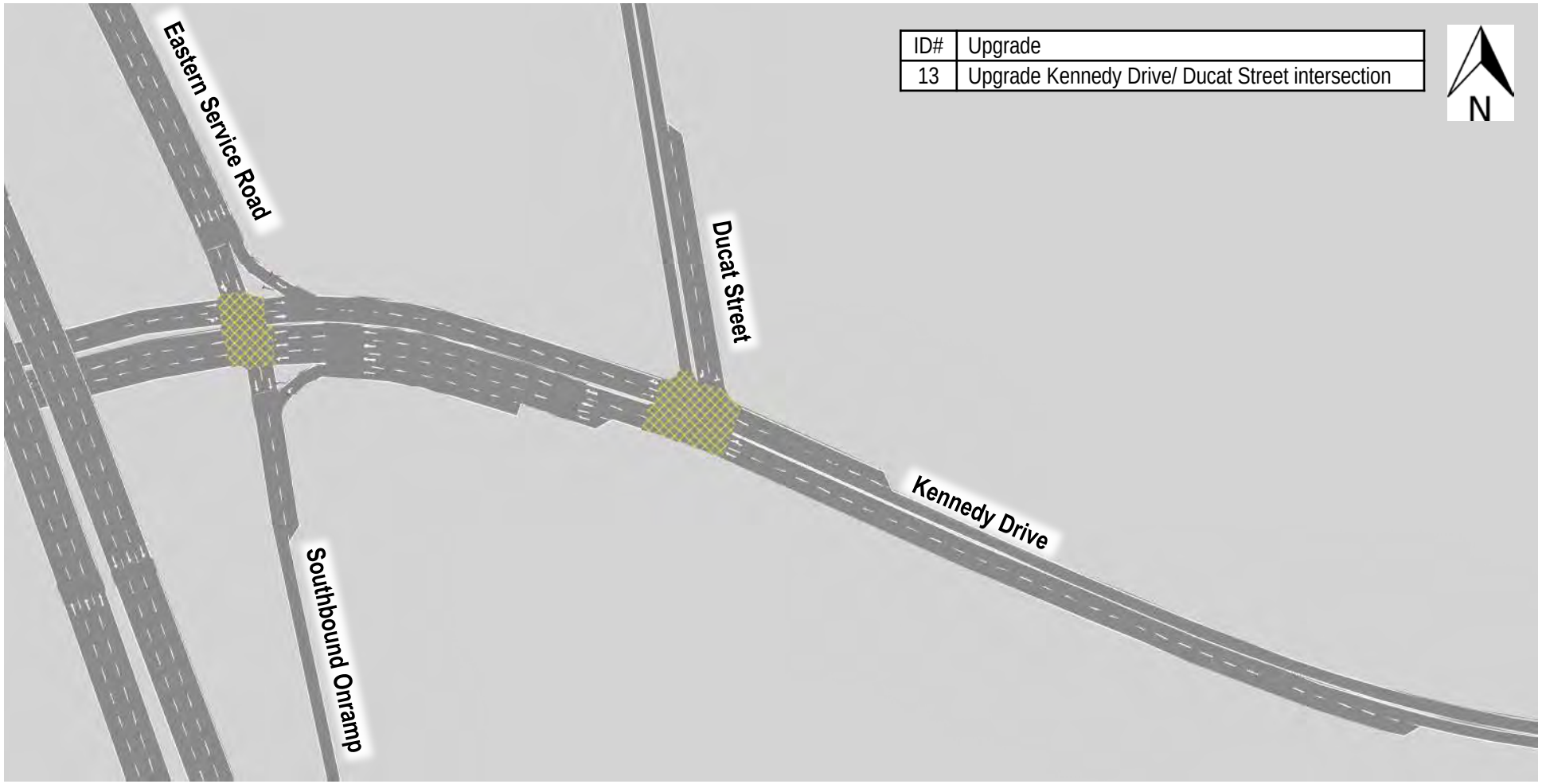


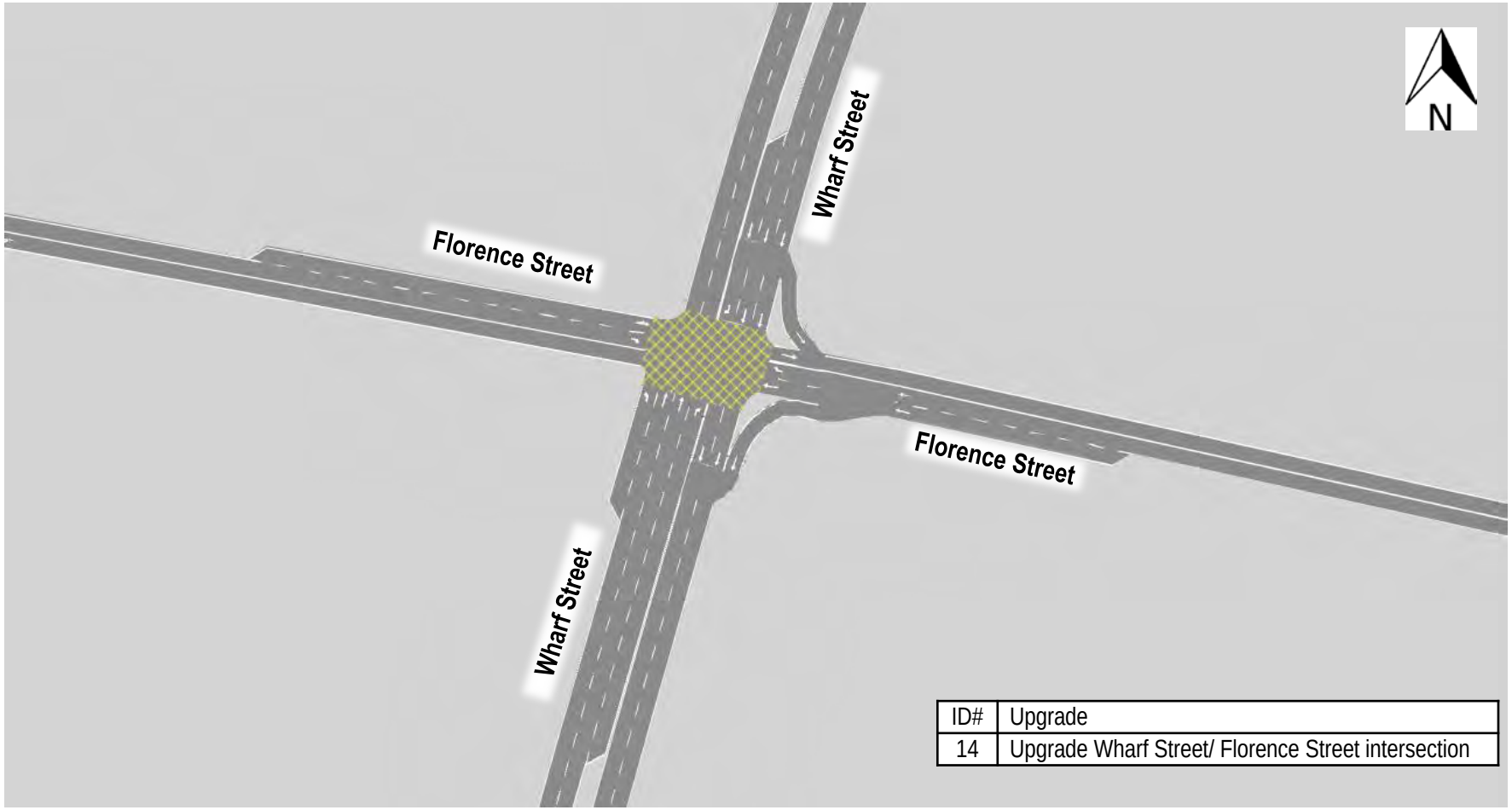


ID#	Upgrade
7	Upgrade Pacific Highway (northbound)/ Sugarwood Drive intersection to increase capacity

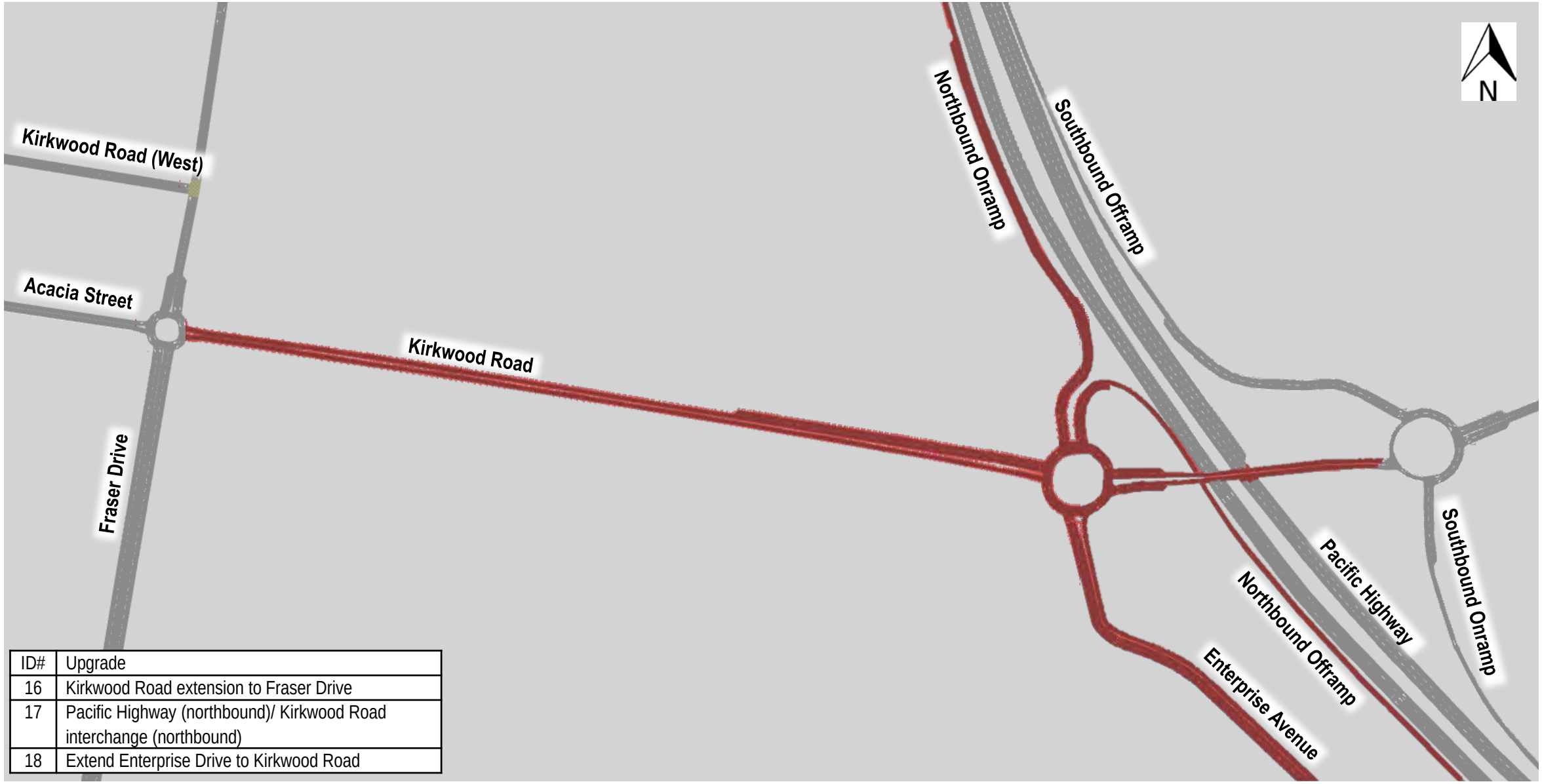
ID#	Upgrade
11	Signalise Kennedy Drive/ Sugarwood Drive intersection
12	Signalise Pacific Highway (southbound)/ Kennedy Drive intersection
15	Remove Pacific Highway off/ramp on Pacific Highway at Kennedy Drive



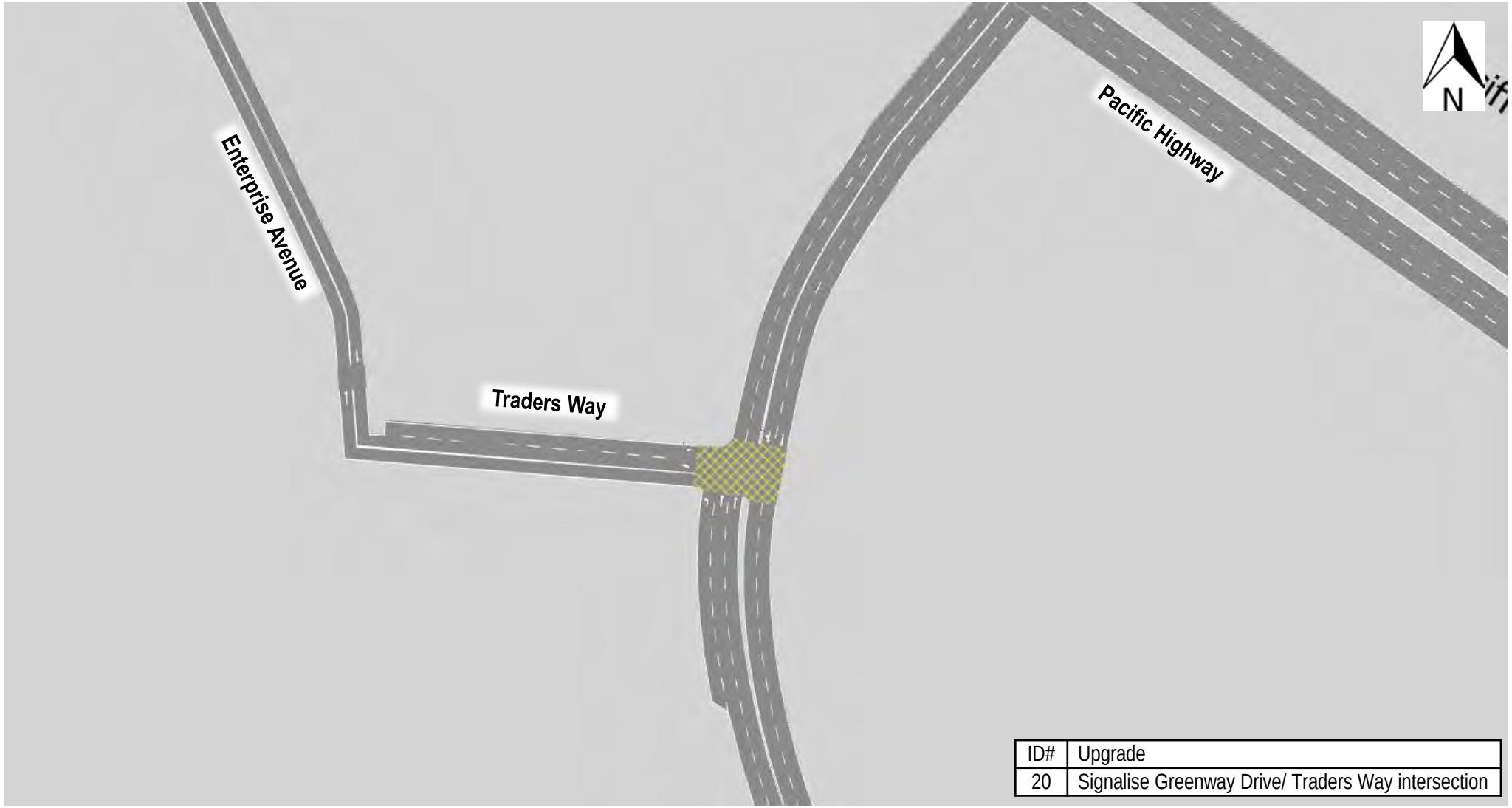

ID# | Upgrade
13 | Upgrade Kennedy Drive/ Ducat Street intersection
N
Eastern Service Road
Ducat Street
Kennedy Drive
Southbound Onramp



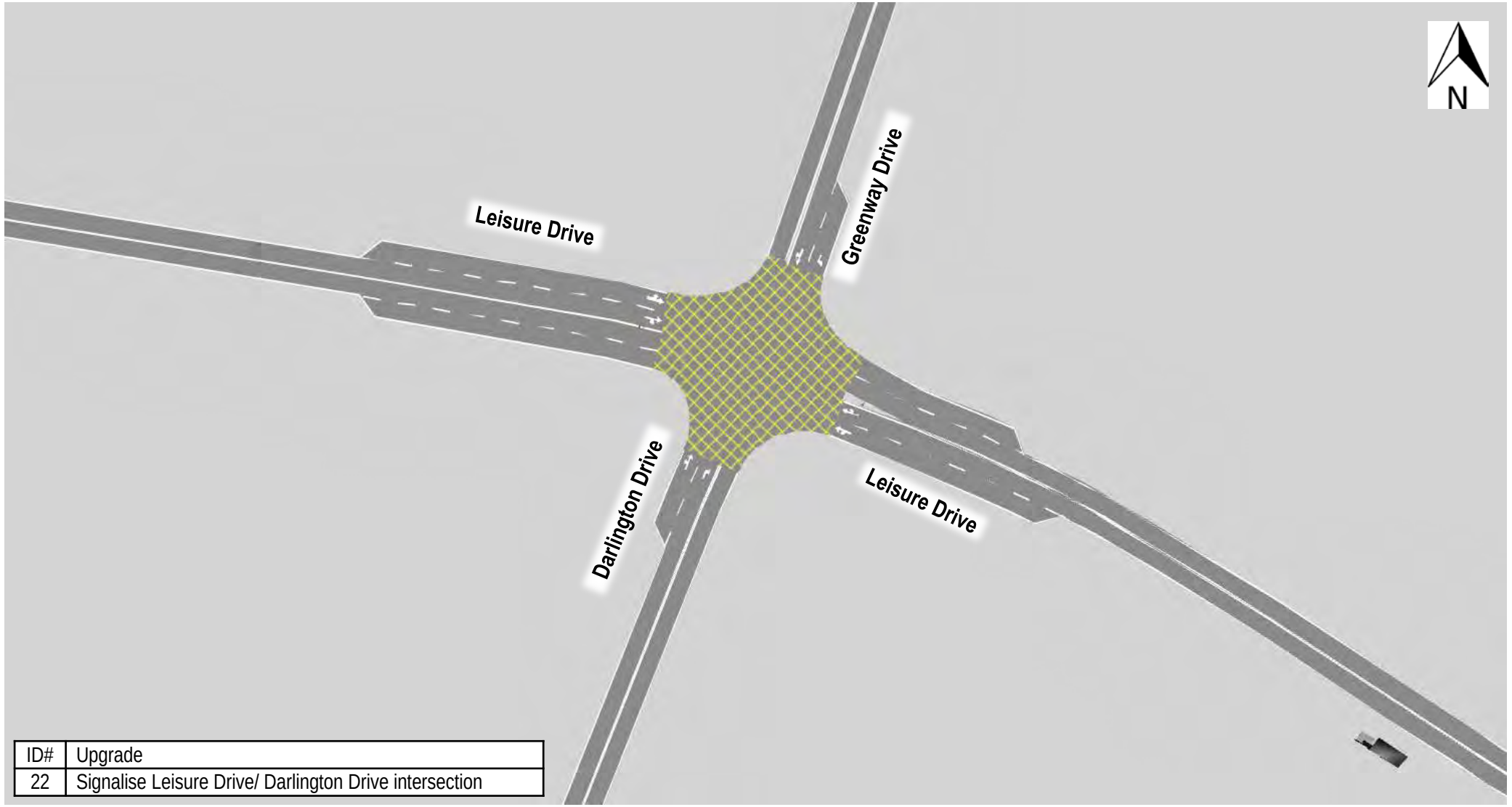
ID#	Upgrade
14	Upgrade Wharf Street/ Florence Street intersection



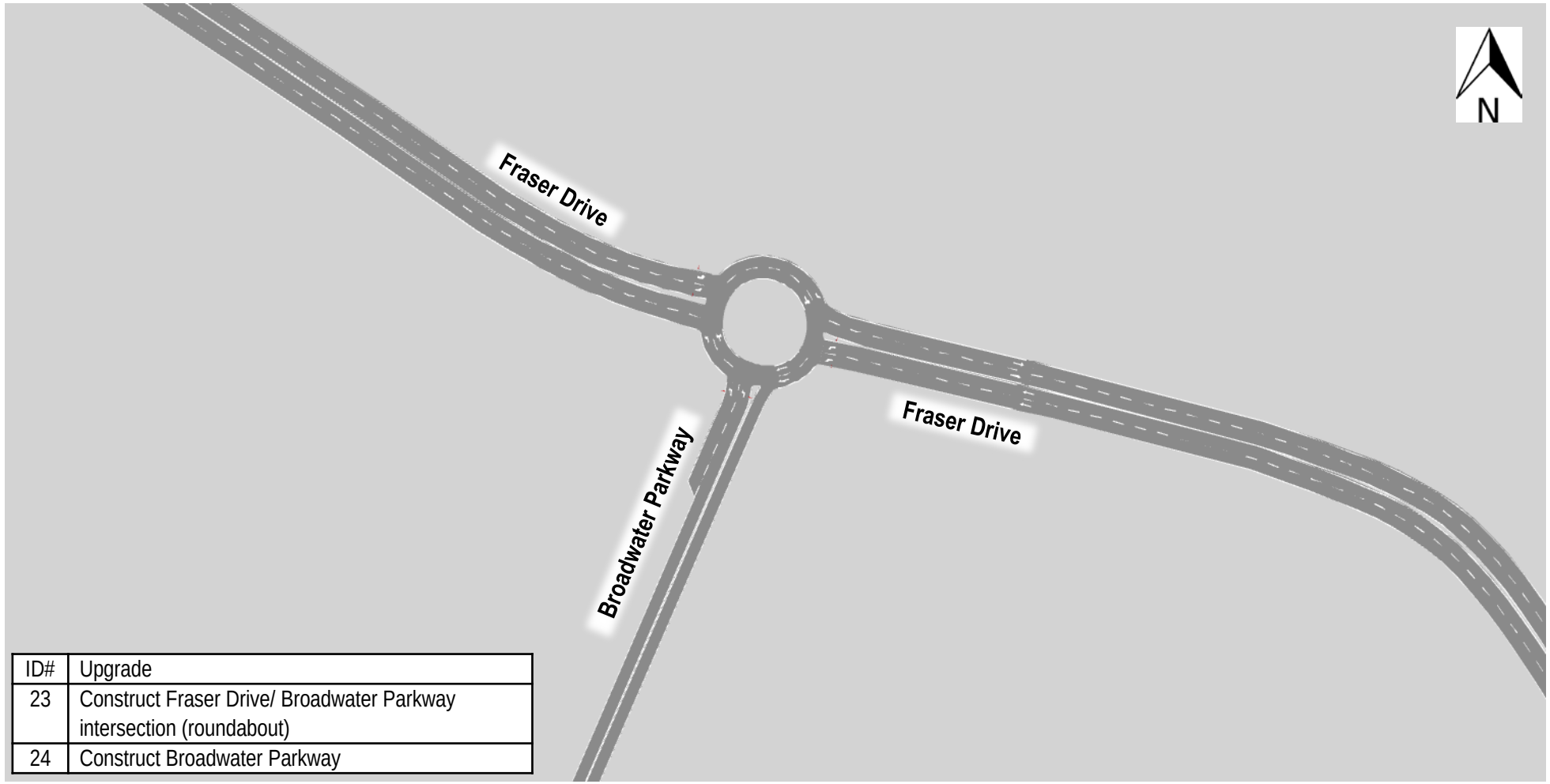
ID#	Upgrade
16	Kirkwood Road extension to Fraser Drive
17	Pacific Highway (northbound)/ Kirkwood Road interchange (northbound)
18	Extend Enterprise Drive to Kirkwood Road



ID#	Upgrade
20	Signalise Greenway Drive/ Traders Way intersection

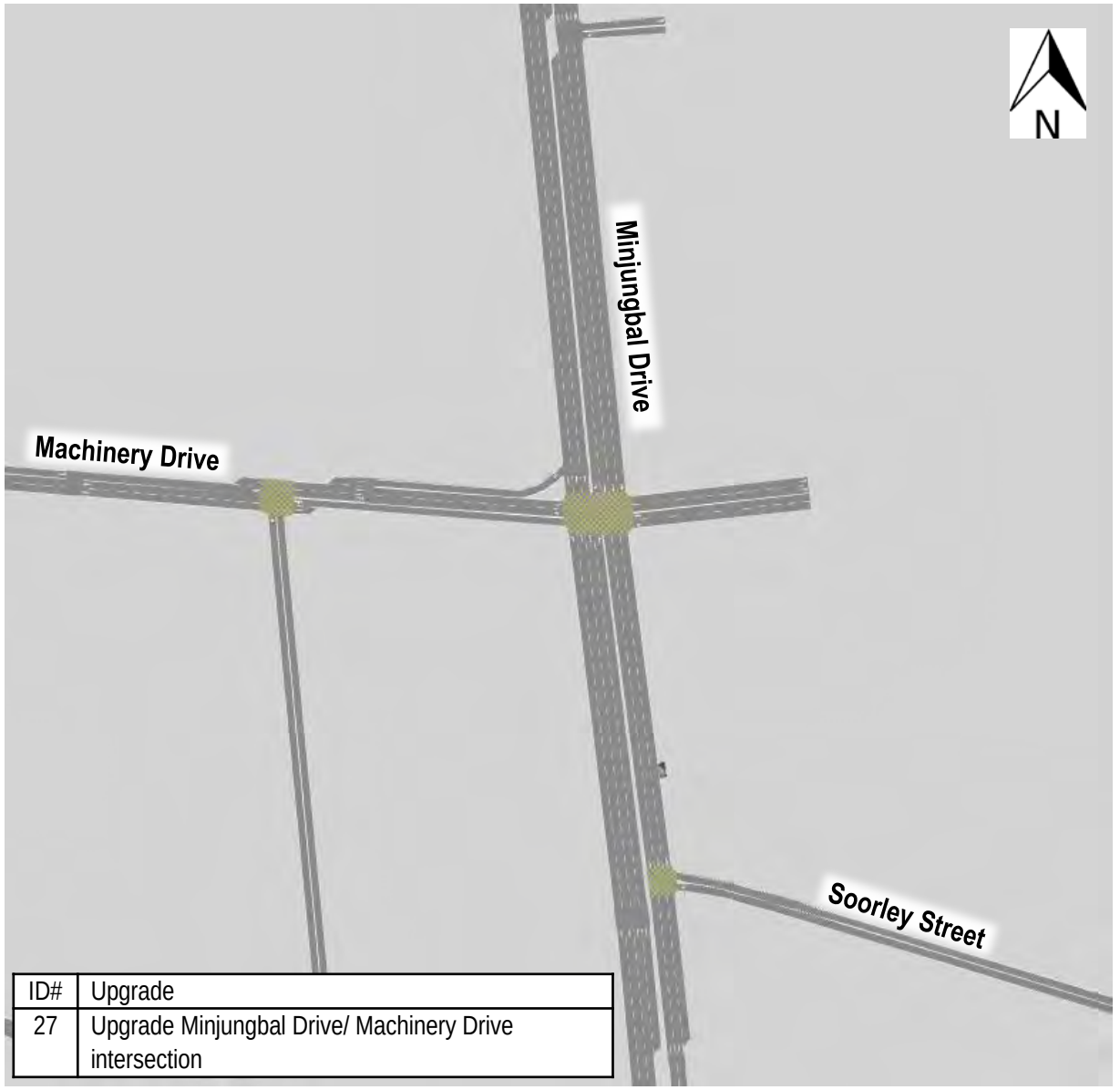


ID#	Upgrade
22	Signalise Leisure Drive/ Darlington Drive intersection

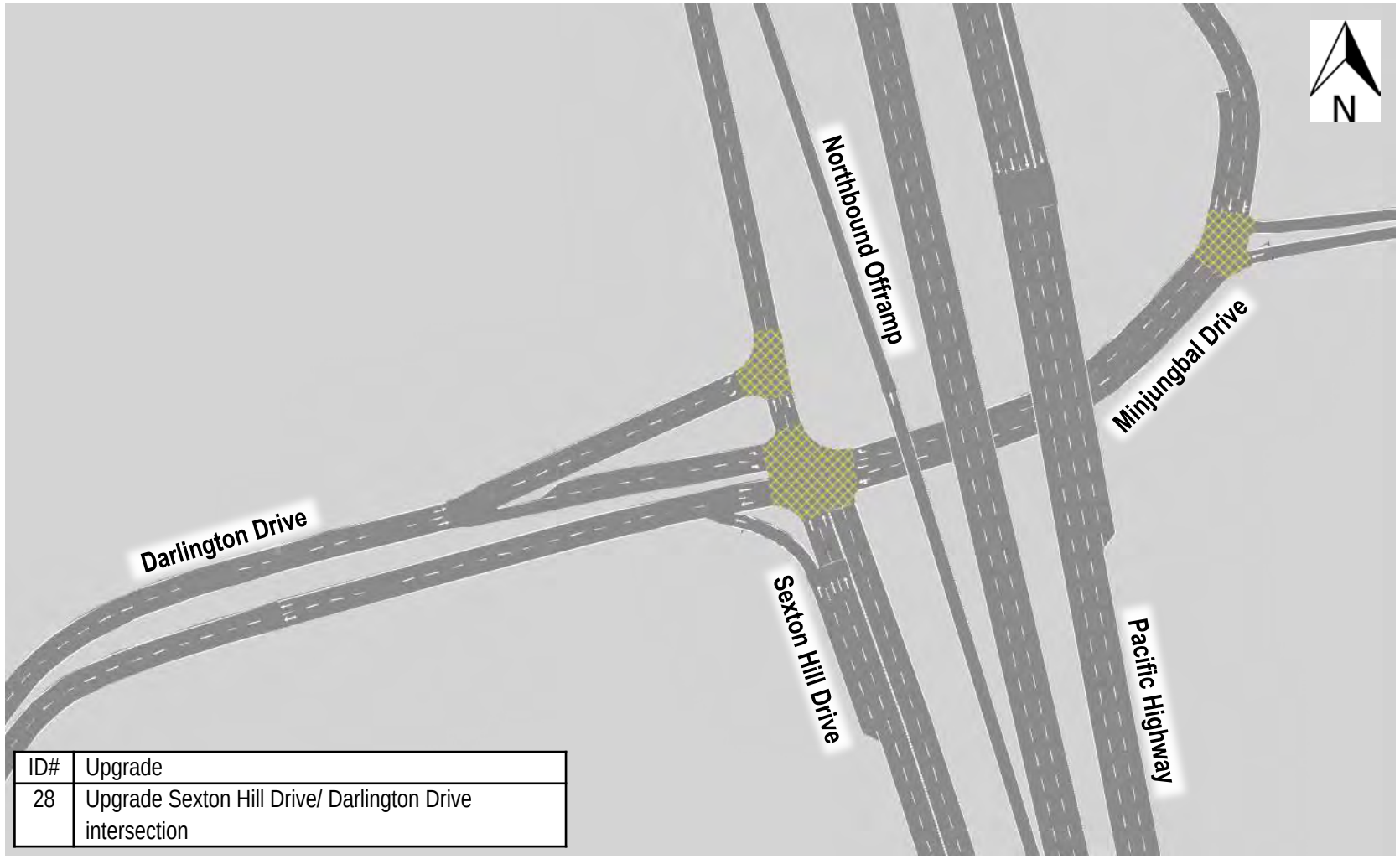


ID#	Upgrade
23	Construct Fraser Drive/ Broadwater Parkway intersection (roundabout)
24	Construct Broadwater Parkway

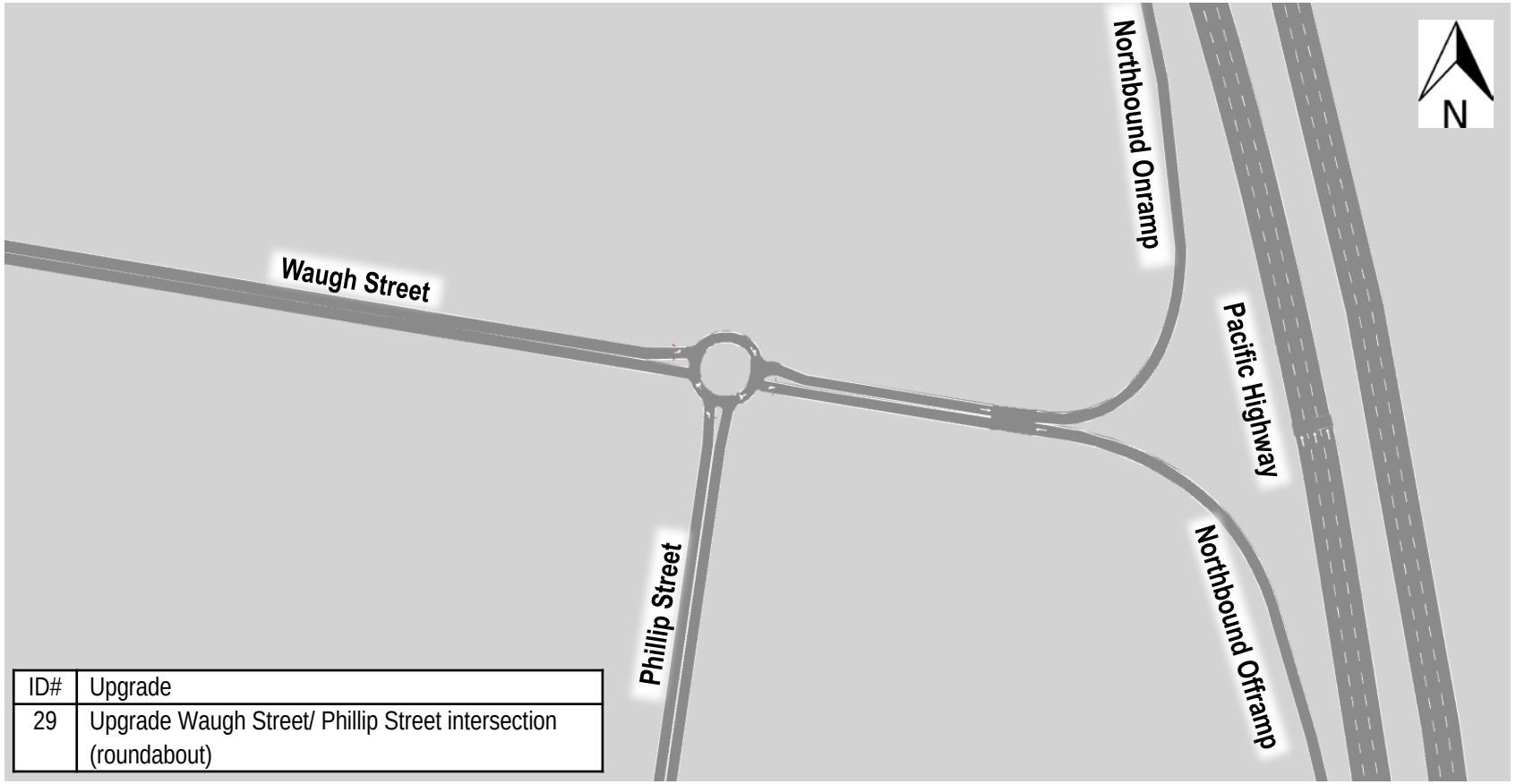
ID#	Upgrade
26	Extend Davey Street to Minjungbal Drive



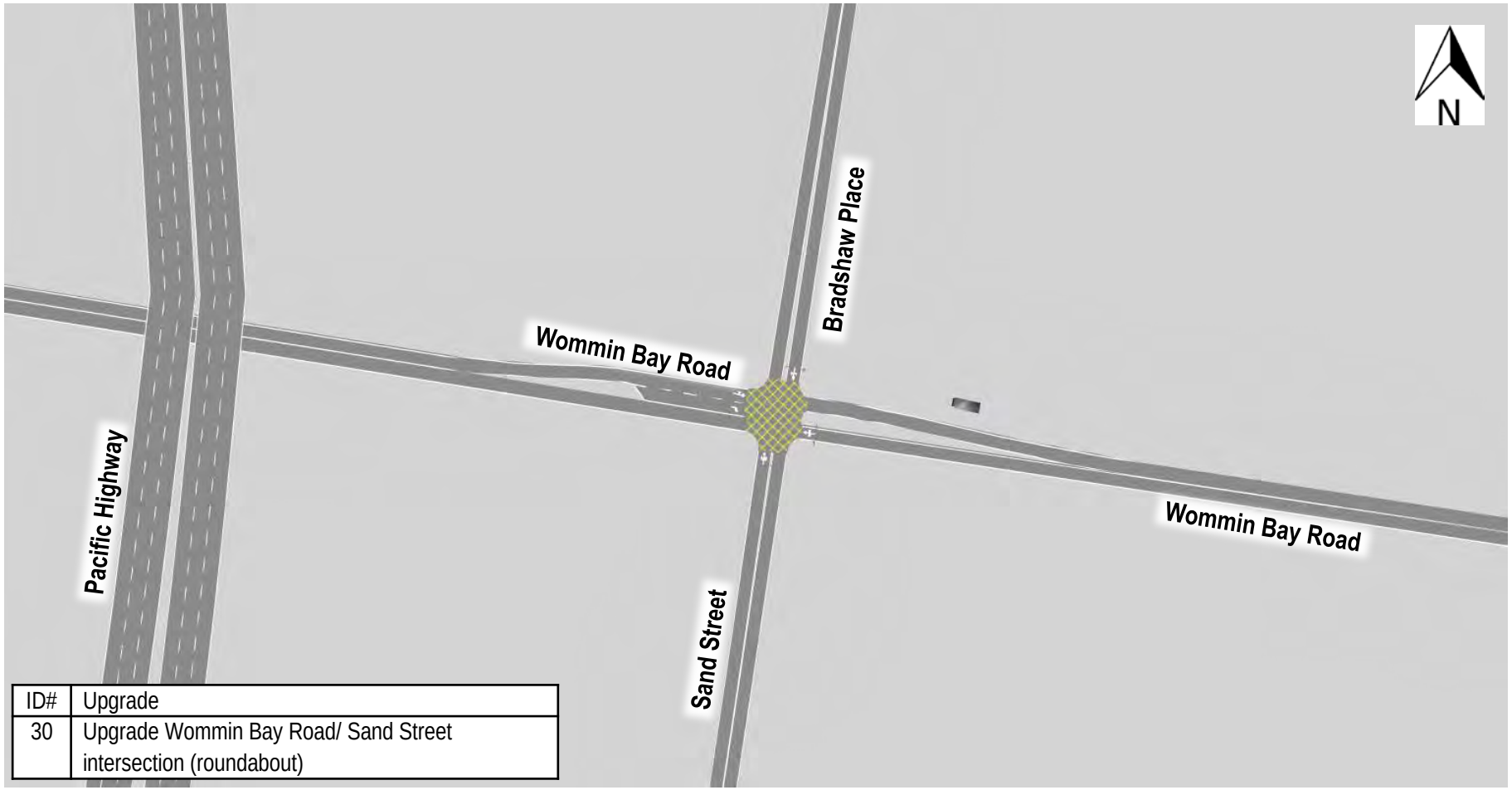
ID#	Upgrade
27	Upgrade Minjungbal Drive/ Machinery Drive intersection



ID#	Upgrade
28	Upgrade Sexton Hill Drive/ Darlington Drive intersection

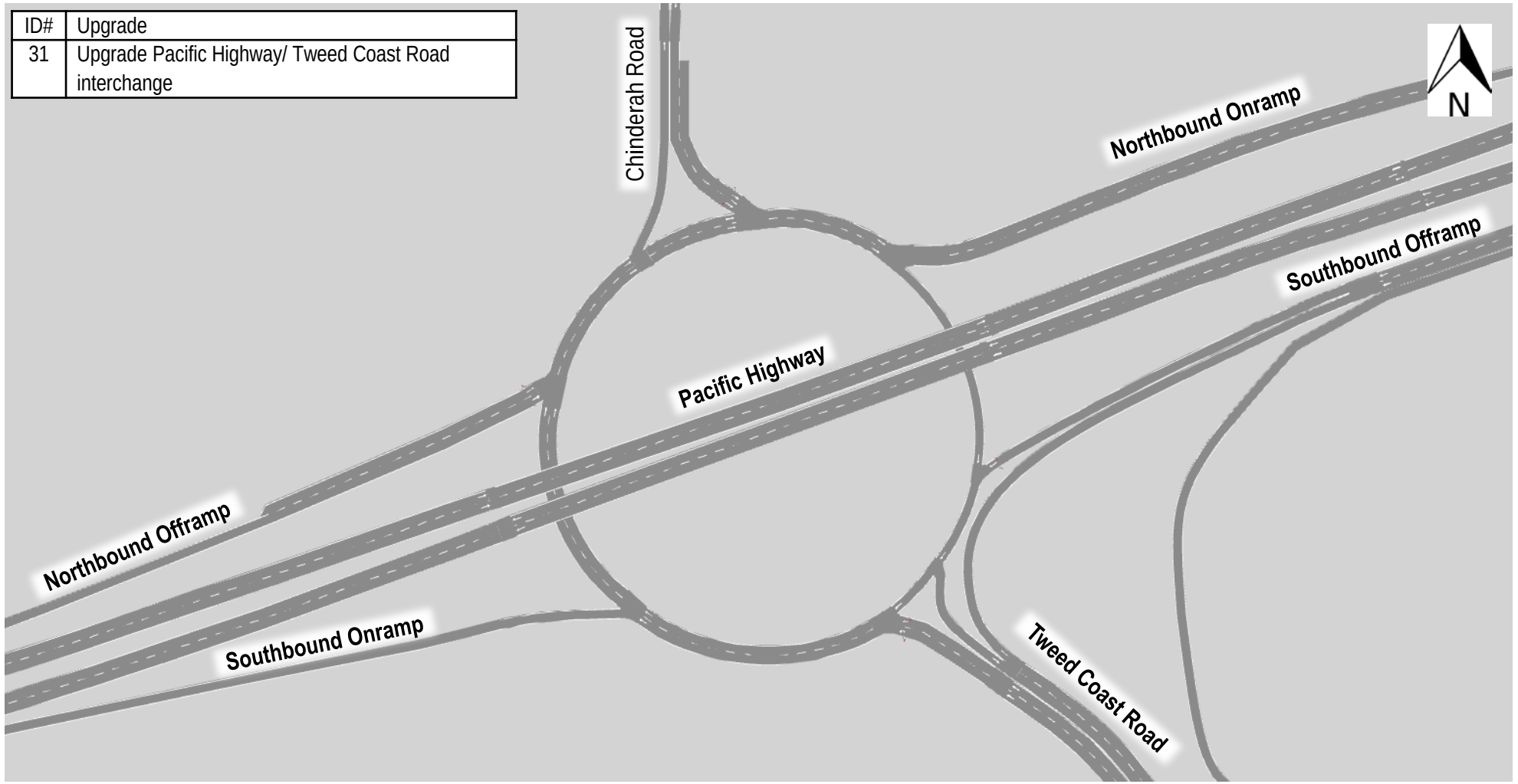


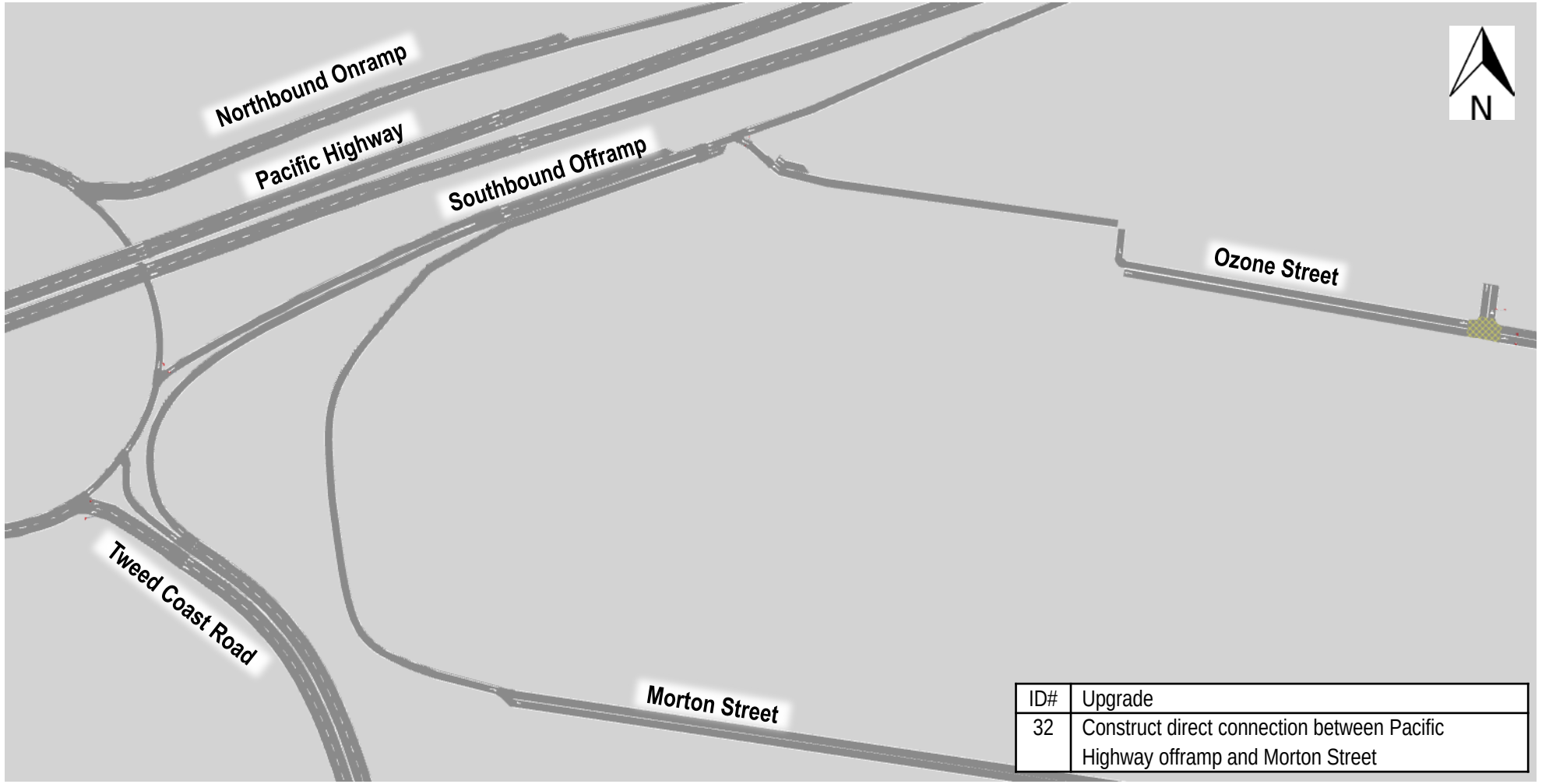
ID#	Upgrade
29	Upgrade Waugh Street/ Phillip Street intersection (roundabout)



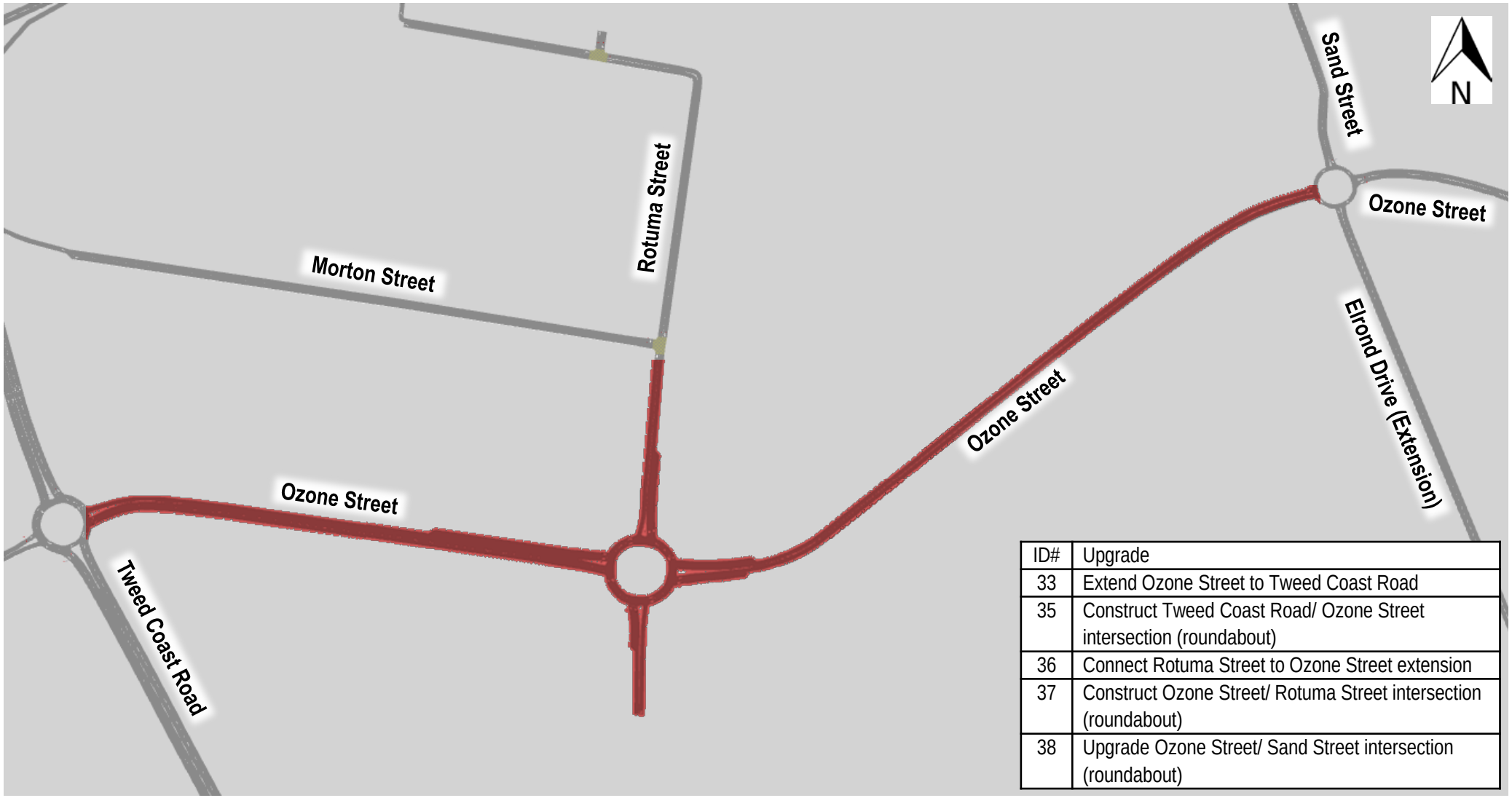
ID#	Upgrade
30	Upgrade Wommin Bay Road/ Sand Street intersection (roundabout)

ID#	Upgrade
31	Upgrade Pacific Highway/ Tweed Coast Road interchange





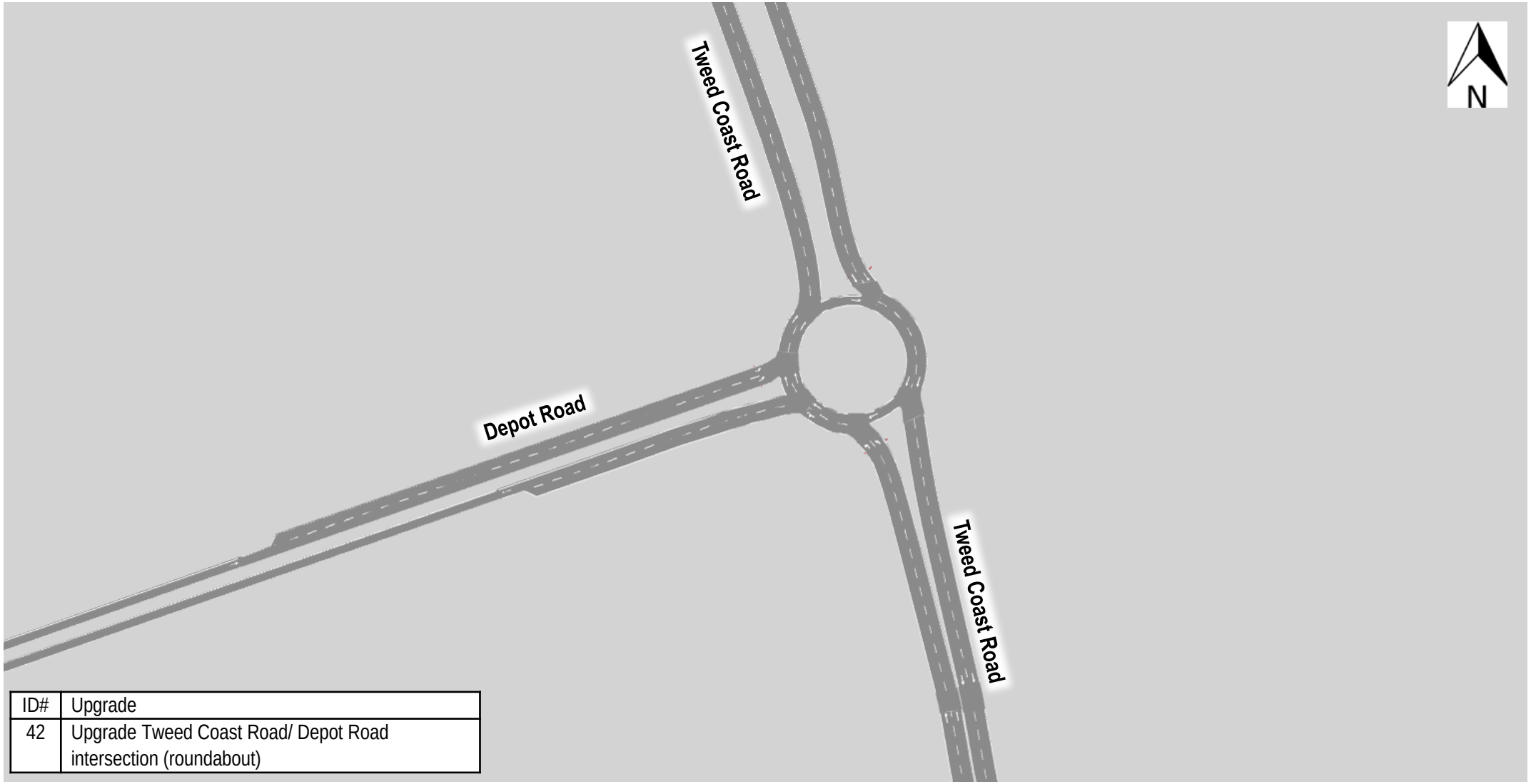
ID#	Upgrade
32	Construct direct connection between Pacific Highway offramp and Morton Street



ID#	Upgrade
33	Extend Ozone Street to Tweed Coast Road
35	Construct Tweed Coast Road/ Ozone Street intersection (roundabout)
36	Connect Rotuma Street to Ozone Street extension
37	Construct Ozone Street/ Rotuma Street intersection (roundabout)
38	Upgrade Ozone Street/ Sand Street intersection (roundabout)

ID#	Upgrade
39	Extend Elrond Drive to Ozone Street

ID#	Upgrade
40	Upgrade Tweed Coast Road/ Crescent Street intersection (roundabout)
41	Extend Turnock Street to Tweed Coast Road



ID#	Upgrade
42	Upgrade Tweed Coast Road/ Depot Road intersection (roundabout)