



**Auranga B2**  
**Proposed private plan change 51**  
Additional ITA Assessment

2 August 2021

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## 1 INTRODUCTION AND PURPOSE

Commute Transportation Consultants (Commute) has been engaged to provide transport advice on a proposed Plan Change in Drury, Auckland. The proposal intends to rezone approximately 33.65Ha of land (known as PC51 or Auranga B2), located directly south of the Drury 1 Precinct, from 'Future Urban Zone ("FUZ") to a mixture of Residential and Business zonings.

Following expert witness conferencing on 2 July 2021, it was agreed that additional assessment and an updated ITA was required. This report includes:

- Updated assumptions and trip generation assessment.
- Assessment of traffic on the surrounding transport network
- Implementation plan for network upgrades
- Design of connections to SH22

## 2 PLAN CHANGE DETAILS

The site is zoned 'Future Urban Zone' under the Auckland Unitary Plan – Operative in Part (Unitary Plan) and it is proposed to re-zone the land as follows:

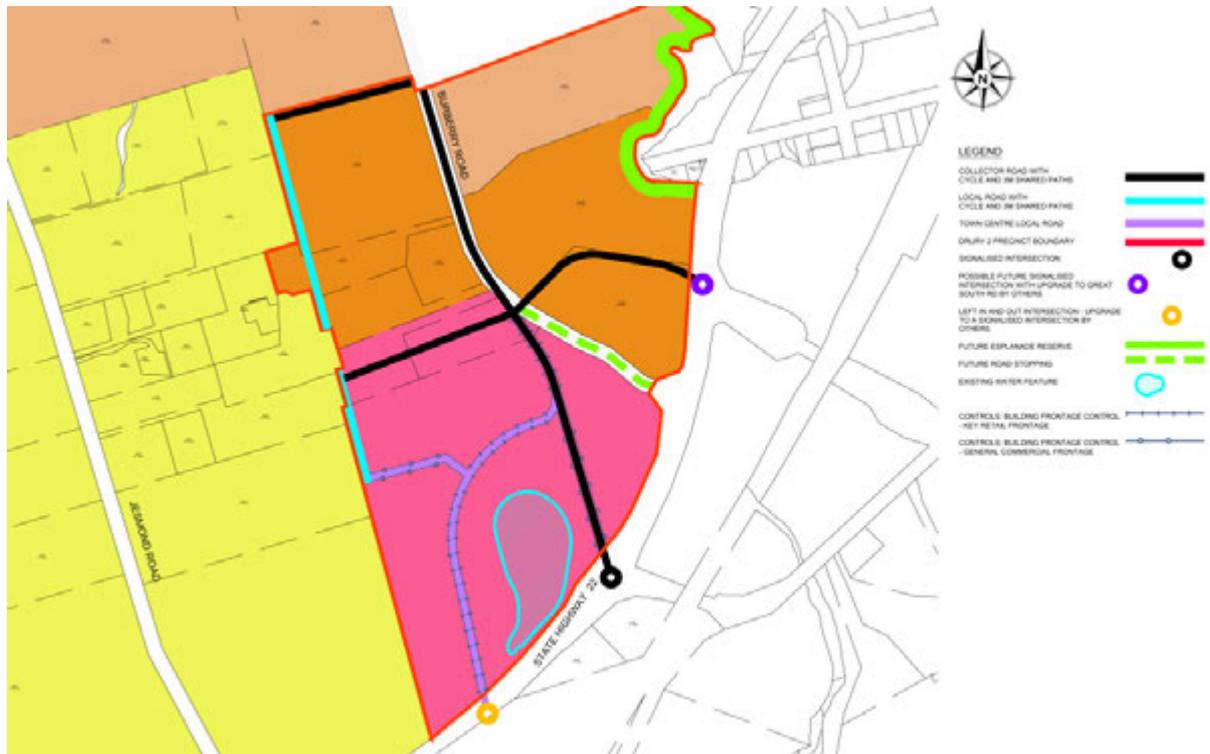
- Residential Mixed Housing Urban – 4.61 ha
- Residential Terrace Housing and Apartment Building zone – 13.75 ha
- Business Town centre zone – 15.29 ha

The lodged ITA assesses the likely number of households and jobs within both the Auranga B2 PPC area and the remaining land in the wider area based on some high-level rates. As the rates adopted are high level and take into account loss to developable area as a result of small centres (such as the neighbourhood centre) and parks, these areas have been assessed as residential land as opposed to split out and considered separately. Figure 2-1 outlines the assumed dwellings and jobs in each area.

**Table 2-1: Summary of number of households and jobs predicted with Zone 561**

Zone 561 areas	Number of households	Number of jobs
Drury 1 Precinct	2650	502 jobs
Auranga B2	921	667 jobs
Other land	870	460 jobs
<b>Total</b>	<b>4,441 households</b>	<b>1629 jobs</b>
<b>Existing Scenario i11.5 model (2048+)</b>	<b>3,819 households</b>	<b>840 jobs</b>

Figure 2-1: Proposed layout (indicative)



The applicant is now aware that the McPherson Road railway underpass will be closed. This compared to the Drury Opaheke Structure Plan changes the logic for the preferred entry into the PC51 site, given that access to the south-east (Drury South employment area) to the site would not be possible using the underpass directly into the realignment of Burberry Road opposite McPherson.

The preferred approach to address this is to establish the main signalised intersection from SH22 to the site through the mainstreet, and making Burberry a left in and out at most. This updated assessment recognises this matter.

### 3 ASSUMPTIONS

#### 3.1 TIMING OF DEVELOPMENT AND LAND USE DETAILS

The development of PC51 is anticipated to occur over time. Table 3-1 sets out the anticipated schedule of development for both the business and residential land. The table represents a likely development schedule anticipated by the client based on market feedback.

Table 3-1: Anticipated Land use development schedule

Activity	Units	2028	2038 (cumulative)	2048 (cumulative)
Residential - Apartments	Dwellings	50	250	500

<b>Residential - MHU</b>	Dwellings	100	350	400
<b>Retail / food beverage</b>	GFA	3500	7000	8000
<b>Discount Department store</b>	GFA	0	3500	3500
<b>Commercial services</b>	GFA	1500	3000	3500
<b>Office</b>	GFA	0	2000	6000
<b>Medical</b>	GFA	500	1500	2000
<b>Supermarket</b>	GFA	3500	3500	6000

### 3.2 TRIP RATES

Trip rates for the various activities onsite have been determined through consideration of trip rate literature and consideration of the structure plan modelling in this area. Table 3-2 sets out a comparison of trip rates for the activities onsite with adopted rates for the purpose of this assessment. Of note some of these have been slightly altered to reflect initial expert witness comments (as well as further justification). It also should be stressed that this rates relate to the commute AM and PM peak hours and may not necessarily be the peak of the individual land use (e.g. retail and discount department store would peak on a Saturday and this is reflected in some higher published trip rates).

A sensitivity test has also been undertaken (section 4.5).

**Table 3-2: Trip rate comparison with adopted rates**

Activity	Typical trip rates		NZTA 453 report		TDB trip rates		AM adopted trip rate	PM adopted trip rate
	RTA trip rate							
<b>Residential Apartments TCZ</b>	0.45	0.4-0.5 trips per dwelling in peak hour	0.8	0.8 trips per dwelling in peak hour for medium density dwellings			0.45	0.45
<b>Residential MHU THAB</b>	0.65	0.5-0.65 trips per 100 sqm in the peak hour	0.8	0.8 trips per dwelling in peak hour for medium density dwellings			0.65	0.65
<b>Retail</b>	16	16 trips per 100 sqm in peak hour	18.9	18.9 trips per 100 sqm in peak hour	15.5	15.5 trips per 100 sqm in peak hour	8	16
<b>Discount Department Store*</b>	6.4	6.4 trips per 100 sqm in peak hour	5.6	5.6 trips per 100 sqm in peak hour	6.8	6.8 trips per 100 sqm in peak hour	3.2	6.4
<b>Commercial</b>	2	2 trips per 100 sqm in peak hour	2.5	2.5 trips per 100 sqm in peak hour	1.6	1.6 trips per 100 sqm in peak hour (excluding banks)	2	2
<b>Medical</b>	15	15 trips per 100 sqm in peak hour	14.2	14.2 trips per 100 sqm in peak hour	9.3	9.3 trips per 100 sqm in peak hour	15	15
<b>Supermarket</b>	16.3	16.3 trips per 100 sqm in peak hour	17.9	17.9 trips per 100 sqm in peak hour	14.6	14.6 trips per 100 sqm in peak hour	8	15

\*based on rates for bulk retail / large format retail for evening commuter peak periods.

### 3.3 REDUCTIONS

These single land use trip estimates tend to overestimate the trip generation behaviour for mixed-use developments. Given the nature of the site, scale of the area, proximity to the strategic network and variety of activities provided onsite, reductions in the trips generated by the individual activities have been applied based on the following:

- **Internal trips** – Trips which originate and end within the development site which do not access the external road network. i.e. A trip between a residential unit and super market
- **Multipurpose trips** - These are people that visit more than one unit / entity within the site without getting in their car and travelling back onto SH22.
- **Pass by trips** - traffic already travelling on SH22 which diverts into the site. This is not calculated as an overall reduction in trips for the land use, rather a reduction in additional SH22 traffic either side of the development.
- **Public transport reduction** – Typical trip rates from the RTA and alike consider a nominal amount of Public Transport use within a trip rate. In the case of Auranga, a higher proportion of PT use is expected given network conditions and the proximity of the site to the strategic PT network.

Reductions for the above factors have been applied to trip rates in both AM and PM peak periods at varying levels depending on the nature of the activity. In addition, rates assumed are considered to vary over time (i.e., higher PT mode share in 2038).

Assumed reductions are included in Table 3-3, Table 3-4 and below.

**Table 3-3: Assumed trip rates and reductions for 2028**

Activity	GFA / Number of dwellings	AM Adopted trip rate	PM Adopted trip rate	Mode share reduction	Internal capture	Multipurpose trip reduction	Pass by	AM		PM	
								Trips inbound	Trips outbound	Trips inbound	Trips outbound
Residential - Apartments	50	0.45	0.45	0%	10%	0%	0%	20%	80%	80%	20%
Residential - MHU	100	0.65	0.65	0%	10%	0%	0%	20%	80%	80%	20%
Retail	3500	8	16	10%	30%	10%	30%	65%	35%	50%	50%
Discount Department	0	3.2	6.4	10%	40%	10%	30%	65%	35%	50%	50%
Commercial S	3000	2	2	20%	30%	0%	5%	90%	10%	10%	90%
Office	0	2	2	20%	30%	0%	5%	90%	10%	10%	90%
Medical	500	15	15	5%	5%	0%	0%	65%	35%	50%	50%
Supermarket	3500	8	15	10%	30%	10%	30%	55%	45%	50%	50%

**Table 3-4: Assumed trip rates and reductions for 2038**

								AM		PM	
Activity	GFA / Number of dwellings	AM Adopted trip rate	PM Adopted trip rate	Mode share reduction	Internal capture	Multipurpose trip reduction	Pass by	Trips inbound	Trips outbound	Trips inbound	Trips outbound
Residential - Apartments	250	0.45	0.45	0%	10%	0%	0%	20%	80%	80%	20%
Residential - MHU	350	0.65	0.65	0%	10%	0%	0%	20%	80%	80%	20%
Retail	7000	8	16	10%	30%	10%	30%	65%	35%	50%	50%
Discount Department	3500	3.2	6.4	10%	40%	10%	30%	65%	35%	50%	50%
Commercial S	3000	2	2	30%	30%	0%	5%	90%	10%	10%	90%
Office	2000	2	2	30%	30%	0%	5%	90%	10%	10%	90%
Medical	1500	15	15	10%	5%	0%	0%	65%	35%	50%	50%
Supermarket	3500	8	15	10%	30%	10%	30%	55%	45%	50%	50%

**Table 3-5: Assumed trip rates and reductions for 2048**

								AM		PM	
Activity	GFA / Number of dwellings	AM Adopted trip rate	PM Adopted trip rate	Mode share reduction	Internal capture	Multipurpose trip reduction	Pass by	Trips inbound	Trips outbound	Trips inbound	Trips outbound
Residential - Apartments	500	0.45	0.45	0%	10%	0%	0%	20%	80%	80%	20%
Residential - MHU	400	0.65	0.65	0%	10%	0%	0%	20%	80%	80%	20%
Retail	8000	8	16	10%	30%	10%	30%	65%	35%	50%	50%
Discount Department	3500	3.2	6.4	10%	40%	10%	30%	65%	35%	50%	50%
Commercial S	3500	2	2	30%	30%	0%	5%	90%	10%	10%	90%
Office	6000	2	2	30%	30%	0%	5%	90%	10%	10%	90%
Medical	2000	15	15	10%	5%	0%	0%	65%	35%	50%	50%
Supermarket	6000	8	15	10%	30%	10%	30%	55%	45%	50%	50%

The trip generation is included in Appendix A.

### 3.4 TRIP DISTRIBUTION

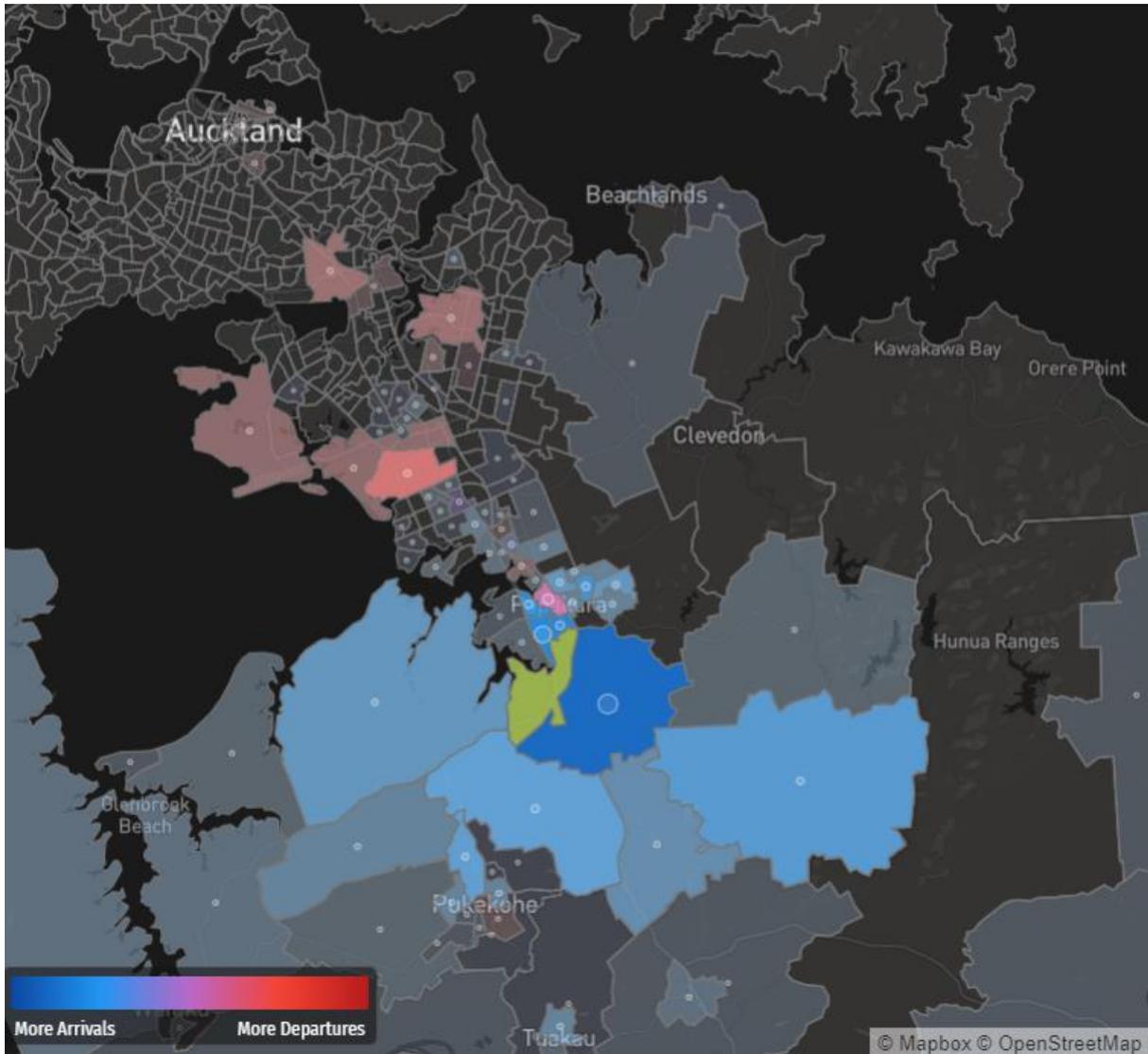
In order to determine an appropriate trip distribution, the Census travel to work data and the trip distribution assumed in the SGA Saturn model have been considered.

#### 3.4.1 CENSUS DATA (2018)

The 2018 census journey to work data shows around 294 people leaving Drury for work and education purposes. While the area is different in nature to the anticipated future development, this provides a useful indication as to the likely travel patterns of future residents.

Currently the majority of travel is to and from the north, with limited employment and schools in the immediate vicinity of Drury.

Figure 3-1: Census Data diagram

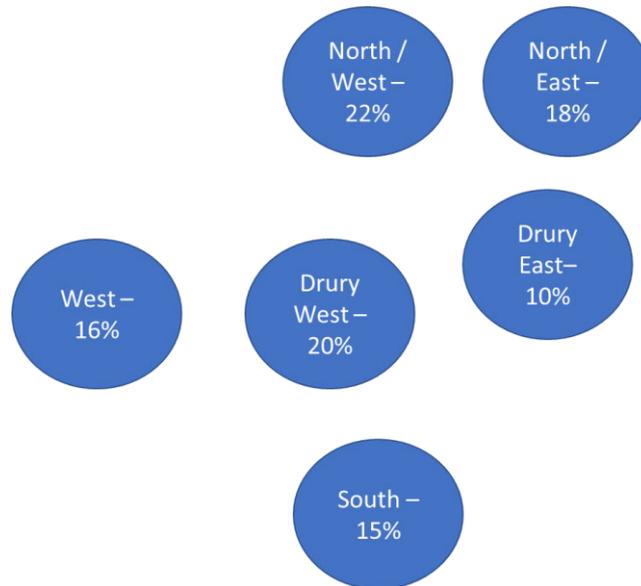


Based on an assessment of Google maps live traffic data during peak periods, routes to and from the North to Papakura and Takanini appear to make use of the Bremner Road / Gt South Road route as opposed to using the SH1 corridor due to congestion around the Drury interchange. These areas represent around 63 of the 294 trips (21%).

### 3.4.2 SGA SATURN MODEL DISTRIBUTION

The SGA Saturn mode in the area has been assessed in terms of trip distribution as a comparison to the assumed distribution.

Figure 3-2: SATURN model trip distribution (2038)



The assumed trip generation for the development onsite is set out in Figure 3-3 and Figure 3-4.

The trip distribution assumes a connection of Burberry Road to the North (through Auranga A – Drury 1 Precinct – Stage 2B collector road currently under construction) but does not assume a connection to the west to Jesmond Road as this is outside the control of the client and represents a worst-case scenario. The current Burberry Road is assumed closed at SH22 (as per the Precinct Plan).

In 2028, only the Town Centre Local Road connection (signalised) and the left in left out connection to SH22 opposite McPherson Road (assumed underpass closed) is anticipated as shown in Figure 3-2. In 2038 and 2048, connection is anticipated to both Gt South Road, McPherson and the Town centre road.

Of note the signalisation of the Town Centre Local Road and the left in left out opposite McPherson Road essentially is the opposite of the Precinct Plan as lodged in Figure 2-1. As above, the reason for this change is the PPC team consider the Town Centre Local Road better aligns with the future Drury Centre rail station and thus represents a better location for full crossing of SH22 (signals) for pedestrians, cyclists and general vehicles).

Figure 3-3: Trip distribution 2028

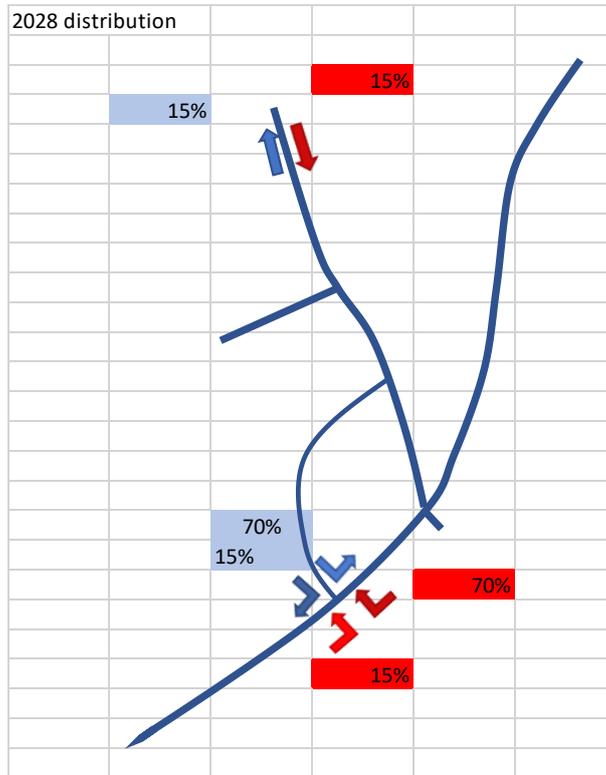
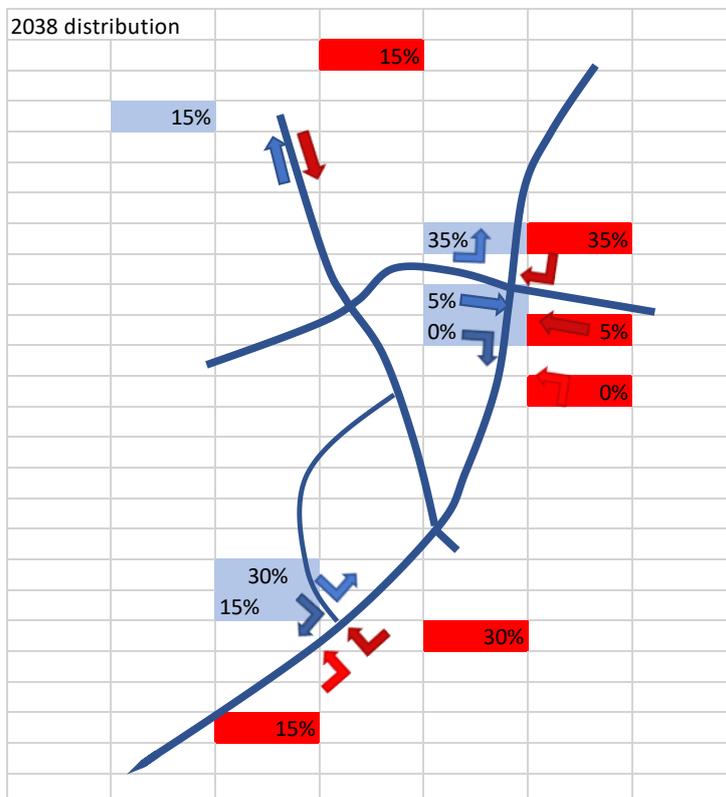


Figure 3-4: Trip distribution 2038 onwards



## 4 MODELLING APPROACH

In order to assess traffic effects of the PPC, future forecasts for the Drury area have been used to assess development traffic on the network.

The Drury Infrastructure Funding and Financing (DIFF) work has developed a series of model runs to inform ongoing work in the area related to funding of the transport network. Model runs from this work have been used to inform demands on the surrounding transport network.

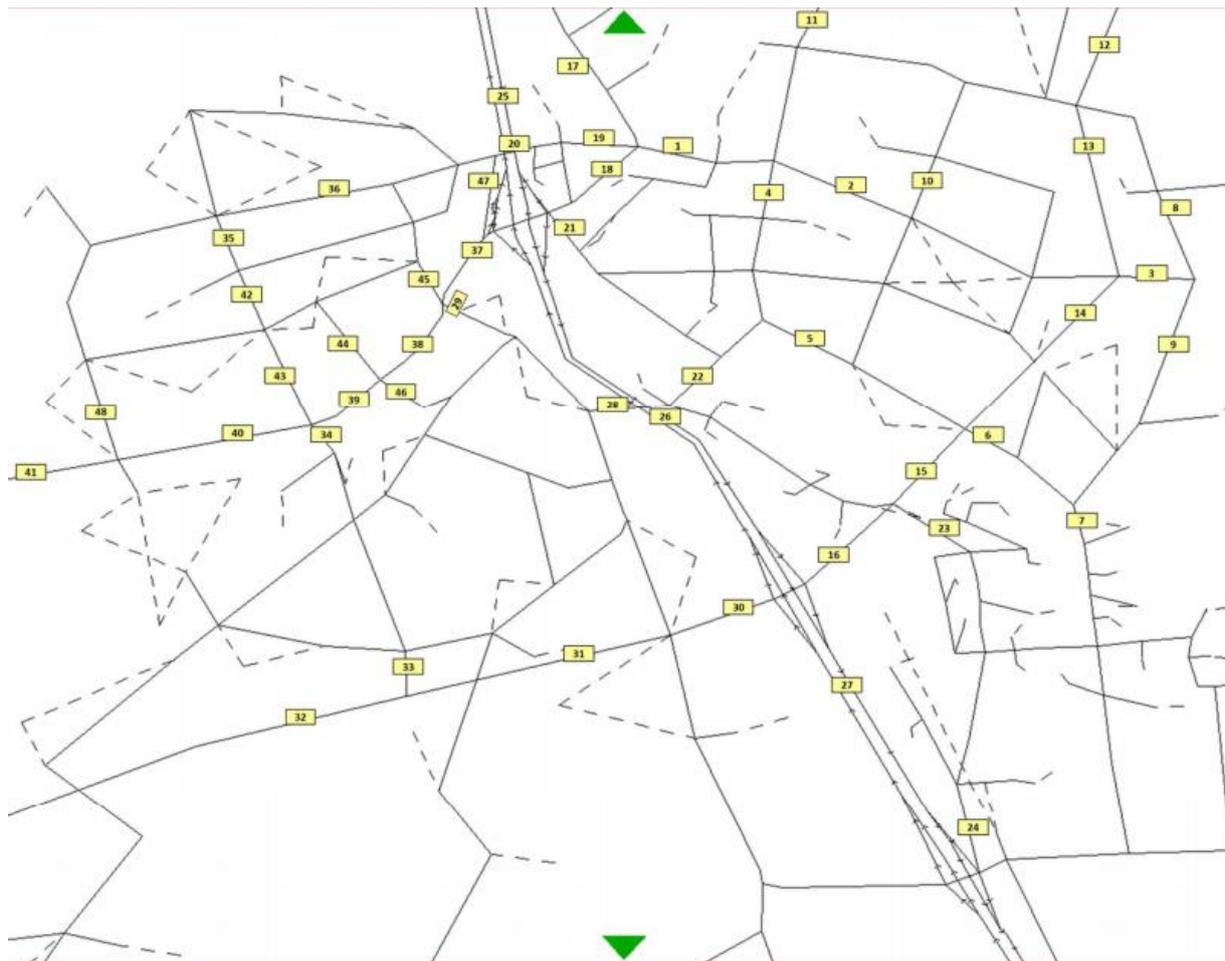
SIDRA models have been developed for the following intersection:

- SH22 / Main road
- SH22 / Gt South Road / New Road

The DIFF model assumes some traffic within the Auranga B2 area in future years. For the purposes of this assessment, this traffic has been overridden replaced by the assumed traffic generation for the site.

The Network of the DIFF model is shown in Figure 4-1.

**Figure 4-1: DIFF Saturn model In the Drury area (2048 network)**



GA 2048+ AM PEAK EMERGING PREFERRED NETWORK FOR DRURY PLAN CHANG 8- 4-21

## 4.1 DIFF MODELLING SCENARIOS

The DIFF work considered a number of scenarios with various assumptions around infrastructure timing. The DIFF modelling assumes FUZ development in both Drury West (Auranga and Waipupuke) and in Drury East (Kiwi and FH – PCs 48 to 50). The following scenarios have been selected to form the basis of this assessment:

- 2028 – Scenario D – Removes the Mill Road project south of Papakura, but includes Maketu-Waihoehoe Road internal collector Roads and Brookfield-Quarry Link (BQL) and Drury-Kiwi ramp access.
- 2038 – Scenario B – Includes Mill Road, P2DS projects, Pukekohe Expressway and all of the above.
- 2048 – Scenario D – Includes Mill Road, P2DS, Pukekohe Expressway and all of above.

In the context of the Auranga PPC, the inclusion of Waihoehoe collector roads, BQL and the Kiwi ramp access is considered to reduce rerouting of traffic from Drury East to the West as a result of a congested network from the removal of Mill Road.

## 4.2 SIDRA MODEL SCENARIOS

The assessment considers two intersections:

- SH22 / Main Road
- SH22 / Great South Road / Auranga connection

The intersection with Mcpherson has been excluded from this assessment as we understand the intention of SGA is too close Mcpherson Road. There is potential for the Auranga site to include a left in left out intersection in this location. We have excluded this from the assessment to represent a worst-case scenario as more traffic will be using the intersections outlined above.

The intersections have been modelled for the 2028, 2038, and 2048 years. For the Great South Road intersection, no connection from Auranga is anticipated in the 2028 year so the SIDRA model includes no development traffic.

The DIFF volumes have been used as a base with Passenger Car Equivalents (PCU) converted to vehicles in the SIDRA analysis.

Any traffic in the DIFF model to/ from Auranga B2 (linking directly to SH22) has been removed from the SIDRA model before adding the total new volumes (to ensure the modelling does not double up on Auranga B2 traffic).

The pass-by traffic has been calculated by:

- Calculating the overall site wide % of pass-by as per table 3-3 to 3-5
- Applying this % to PPC entry movements from SH22 (ie the reduction only applies to entry movements on SH22)
- Reducing through movements on SH22 by this amount.

AM and PM peak commuter periods are modelled with the detailed results contained in Appendix A.

### 4.3 INTERSECTION FORM

The intersection form as included in the SIDRA models is outlined in Figure 4-2, Figure 4-3 and Figure 4-4.

Figure 4-2: Main Road / SH22 intersection

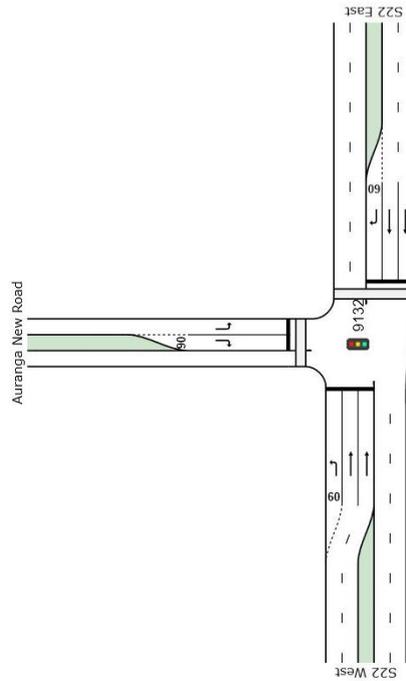


Figure 4-3: SH22 / Great South Road intersection (prior to Auranga connection, 2028)

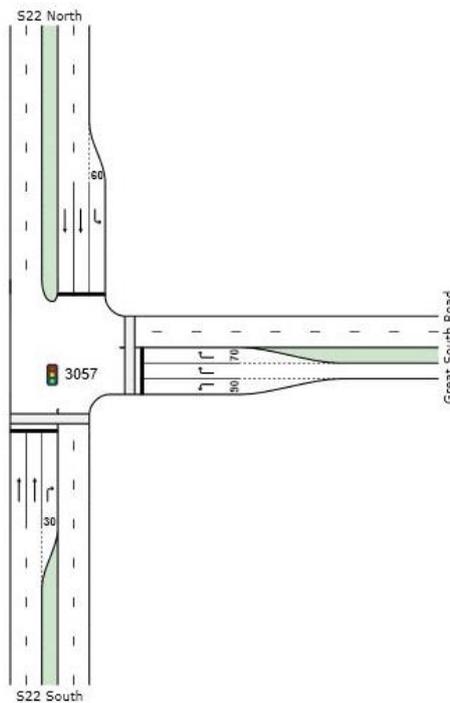
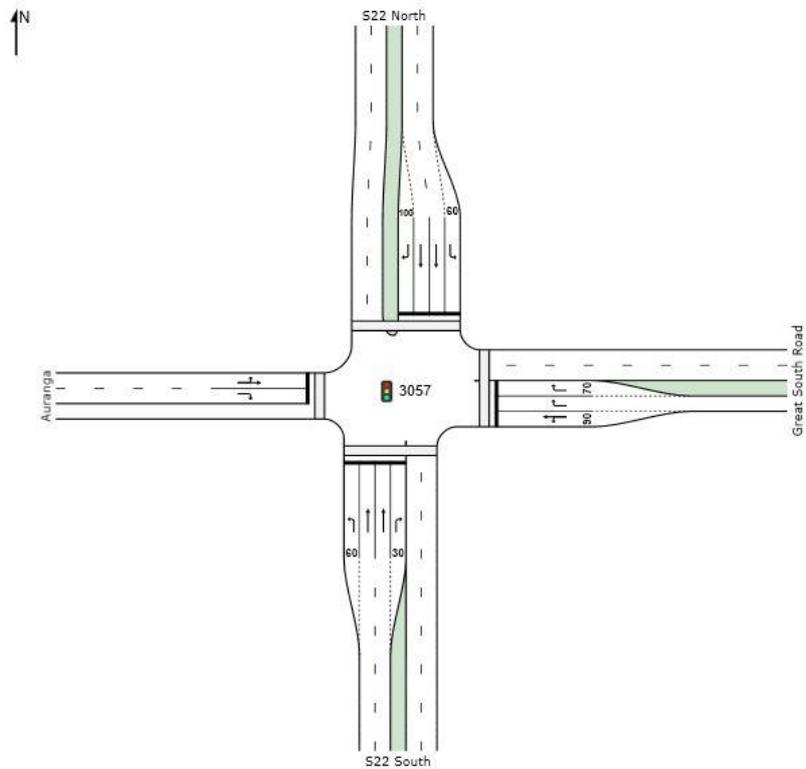


Figure 4-4: SH22 / Great South Road intersection (2038 onwards)



Of note all intersections above show SH22 being four lanes (two each way).

### 4.4 SIDRA RESULTS

Results from the SIDRA modelling for the Main Road / SH22 intersection are summarised in Table 4-1. The assessment indicates traffic from the proposed development can be accommodated by the proposed intersection in all time periods.

The DIFF traffic modelling shows a reduction in through traffic on SH22 between the 2028 year and 2038 as a result of the Pukekohe Expressway being assumed in 2038.

Table 4-1: Main Local Road / SH22 intersection

Intersection	Year and period	DOS	Delay	LOS	85th percentile queue (m)	
Main Road / SH22	2028 AM	0.738	16.7	B	152	SH22 West
	2028 PM	0.774	14.6	B	78	SH22 West
	2038 AM	0.64	15	B	70	SH22 West
	2038 PM	0.61	11.9	B	39	SH22 East
	2048 AM	0.766	18.3	B	107	SH22 West
	2048 PM	0.794	14.8	B	49	SH22 East

Of note, should SH22 remain as two lanes the 2028 scenario has been further tested and it has been found the four lanes shown on SH22 in Figure 4-2 need to be approximately 130-150m in length to ensure the intersection remains within acceptable parameters.

Results from the SIDRA modelling for the Great South Road / SH22 intersection are summarised in Table 4-2.

The intersection between Great South Road and SH22 requires signalisation prior to 2028 to cater for increased traffic from Drury South and Drury East. In 2028 a signalised intersection is expected to operate within capacity.

In 2038, Auranga B2 proposes to connect to this intersection with a fourth arm. As a result, changes to the phasing and addition of pedestrian crossings are required. With 2038 development traffic added from the Auranga B2 site, the intersection operates close to capacity with a degree of saturation over 0.9. Queues of up to 340m are experienced in the AM peak period.

In 2048 with development traffic added, the intersection is above capacity in the morning peak.

**Table 4-2: Gt South Road / SH22 intersection**

Intersection	Year and period	DOS	Delay	LOS	85th percentile queue (m)	
Great South Road / SH22	2028 AM	0.788	14.5	B	73	SH22 South
	2028 PM	0.743	15.9	B	82	SH22 South
	2038 AM	0.891	55.5	E	270	SH22 South
	2038 PM	0.851	36.4	D	119	Gt South Road
	2048 AM	1.103	117	F	595	SH22 South
	2048 PM	0.989	59.1	E	202	Gt South Road

## 4.5 SENSITIVITY TESTING

Sensitivity testing has been undertaken on the SIDRA models to understand sensitivity of assumptions made during this assessment. This follows a review of the assumptions by other expert witnesses. While we disagree with some of the comments, we do recognise that traffic generation/distribution is not an exact science and thus we have undertaken a sensitivity test of the traffic generation.

Traffic flows from the development have been scaled by 120% to simulate a higher trip generation. The results from this assessment are outlined in Table 4-3 and Table 4-4. The sensitivity test shows the Main Road / SH22 intersection operates within capacity during all time periods with additional traffic associated with the development.

**Table 4-3: Main Road / SH22 intersection sensitivity test**

Intersection	Year and period	DOS	Delay	LOS	85th percentile queue (m)	
Main Road / SH22	2028 AM	0.872	25.3	C	275	SH22 West
	2028 PM	0.866	18.8	B	125	SH22 West
	2038 AM	0.858	20.9	C	118	SH22 West
	2038 PM	0.731	12.6	B	51	SH22 East
	2048 AM	0.875	26.2	C	199	SH22 West
	2048 PM	0.786	16.2	B	74	SH22 East

The sensitivity test shows the Great South Road / SH22 intersection has little overall change in the 2038 year with more traffic from the development. In 2048, the intersection remains over capacity in both morning and evening peak.

**Table 4-4: Gt South Road / SH22 intersection sensitivity test**

Intersection	Year and period	DOS	Delay	LOS	85th percentile queue (m)	
Great South Road / SH22	2028 AM					
	2028 PM					
	2038 AM	1.077	110.2	F	557	SH22 South
	2038 PM	0.943	69.9	E	315	Gt South Road
	2048 AM	1.351	223.4	F	1057	SH22 South
	2048 PM	1.172	166.3	F	570	SH22 North

It is noted that the 2048 model is some 27 years into the future and includes significant levels of development in the surrounding Drury area including Drury east. In fact, the 2048 model is what is known as the “2048+” model which includes all future urban land fully developed in the Drury / Pukekohe and other areas of Auckland.

It is also noted that the trip rates used in this analysis for PPC are typically greater than that used in the DIFF modelling (for example the DIFF regional model typically used 0.4 trips per household while the PPC modelling above uses 0.45-0.65 trips per dwelling). This is to reflect the significant change in public transport take-up in later years of Auckland. If the DIFF model rates were to be used the intersection would perform significantly better than shown above.

## 4.6 ALTERNATIVE ASSESSMENT / MITIGATION

An additional test has been undertaken for the Great South Road / SH22 intersection with an additional northbound through lane (linking to Drury interchange). The results show that with this additional lane the intersection will operate essentially at capacity.

Alternatively, an additional 2048 test has been undertaken with only left in / left out at the Great South Road / SH22 intersection from Auranga B2 (essentially the intersection will be a signalised “T” intersection), with all the right turning vehicles to / from Auranga B2 transferring to the new Main Road / SH22 signalised intersection. The results of this are shown in Table 4-5.

**Table 4-5: Intersection testing left in left out Great South**

Intersection	Year and period	DOS	Delay	LOS	85th percentile queue (m)	
Great South Road / SH22	2048 AM	0.690	22.5	C	81	SH22 south
	2048 PM	0.781	22.8	C	145	SH22 north
Main Road / SH22	2048 AM	0.894	32.4	C	196	SH22 West
	2048 PM	0.889	32.2	D	258	SH22 east

The results of this option show both intersections operating with acceptable parameters even in 2048. As such this is considered a viable access arrangement.

## 4.7 OVERALL

Overall, the PPC Main Road / SH22 intersection continues to operate within acceptable levels even in 2048. The Great South Road / SH22 intersection is considered over capacity (particularly in the AM commute peak) and is thus likely to result in further peak spreading or increase in public transport usage beyond that assumed.

As an alternative, all right turning traffic from Auranga B2 can be accommodated at the new Main Road / SH22 signals and thus the road to Great South Road / SH22 from Aurang B2 can be left in / left out only.

Should SH22 remain as two lanes in 2028 it has been found the four lanes shown on SH22 in Figure 4-2 (at the intersection) need to be approximately 130-150m in length to ensure the intersection remains within acceptable parameters.

## 5 ADDITIONAL TRAFFIC ON DRURY MOTORWAY INTERCHANGE RAMPS

An assessment of the additional traffic movements at the Drury interchange has been outlined for each of the forecast years (as requested). The numbers have been extracted from the trip generation and distribution numbers with pass by trips removed. 90% of trips heading towards the Drury interchange have been assumed to make use of the ramps.

The bold numbers indicate peak direction flows for the various traffic movements on the ramps.

**Table 5-1: SH1 Drury interchange additional traffic volumes**

Year	NB onramp		SB off ramp	
	AM	PM	AM	PM
<b>2028</b>	<b>141</b>	243	139	<b>195</b>
<b>2038</b>	<b>320</b>	422	272	<b>404</b>
<b>2048</b>	<b>444</b>	372	568	<b>547</b>

## 6 IMPLEMENTATION PLAN FOR NETWORK UPGRADES

**Appendix B** shows three plans for the intended implementation of:

- Walking and cycling
- Public transport and
- General vehicles

These plans also include the neighbouring Waipupuke (PC61) as these are the two current Plan Changes on the west side of Drury and the local upgrades will need to be co-ordinated.

## 7 DESIGN OF CONNECTIONS TO SH22

**Appendix C** shows two plans for the intended design of SH22 including:

- Interim layout with one access point to SH22 from the PPC and keeping SH22 at two-lanes. This assumes Jesmond Road / SH22 is already constructed as part of NZUP programme.
- Future layout with SH22 increased to four lanes.

Of note:

- Yellow lines are the proposed SH22 NOR designation lines
- Layout of SH22 (which is considered conceptual at this stage) based on the concept design lodged with the NoR
- The plans show the main signalised access to the PPC to be at the location of the “Town Centre local Road” shown on the Precinct Plan as notified.

## APPENDIX A: SIDRA ANALYSIS / VOLUMES

## APPENDIX B: IMPLEMENTATION PLAN

## APPENDIX C: SH22 DESIGN



# MOVEMENT SUMMARY

 Site: 3057 [2048 AM Great South/Auranga/S22 - LH - left in left out]

2048 Great South/Auranga/S22

Signals - Fixed Time Isolated Cycle Time = 90 seconds (Optimum Cycle Time - Minimum Delay)

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: S22 South											
1	L2	1	0.0	0.001	6.1	LOS A	0.0	0.0	0.15	0.56	53.8
2	T1	982	12.6	0.439	6.4	LOS A	10.5	81.4	0.46	0.41	54.3
3	R2	335	3.8	0.690	25.5	LOS C	10.5	75.8	0.74	0.79	41.5
Approach		1318	10.4	0.690	11.3	LOS B	10.5	81.4	0.53	0.51	50.4
East: Great South Road											
4	L2	120	8.8	0.351	35.6	LOS D	5.7	42.4	0.86	0.77	37.6
5	T1	37	0.0	0.351	30.0	LOS C	5.7	42.4	0.86	0.77	38.5
6	R2	394	11.0	0.646	44.5	LOS D	8.4	64.4	0.98	0.83	34.1
Approach		551	9.8	0.646	41.6	LOS D	8.4	64.4	0.95	0.81	35.1
North: S22 North											
7	L2	137	2.3	0.174	22.3	LOS C	3.7	26.1	0.65	0.73	43.0
8	T1	472	4.7	0.663	38.0	LOS D	10.0	72.8	0.98	0.83	37.0
Approach		608	4.2	0.663	34.5	LOS C	10.0	72.8	0.91	0.81	38.2
West: Auranga											
10	L2	253	0.4	0.331	10.3	LOS B	3.5	24.6	0.53	0.71	50.8
Approach		253	0.4	0.331	10.3	LOS B	3.5	24.6	0.53	0.71	50.8
All Vehicles		2729	7.9	0.690	22.5	LOS C	10.5	81.4	0.70	0.66	43.5

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Vehicle movement LOS values are based on average delay per movement.

Intersection and Approach LOS values are based on average delay for all vehicle movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Movement Performance - Pedestrians									
Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Distance m	Prop. Queued	Effective Stop Rate per ped	
P1	South Full Crossing	53	39.3	LOS D	0.1	0.1	0.94	0.94	
P2	East Full Crossing	53	39.3	LOS D	0.1	0.1	0.94	0.94	
All Pedestrians		105	39.3	LOS D			0.94	0.94	

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)

Pedestrian movement LOS values are based on average delay per pedestrian movement.

Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

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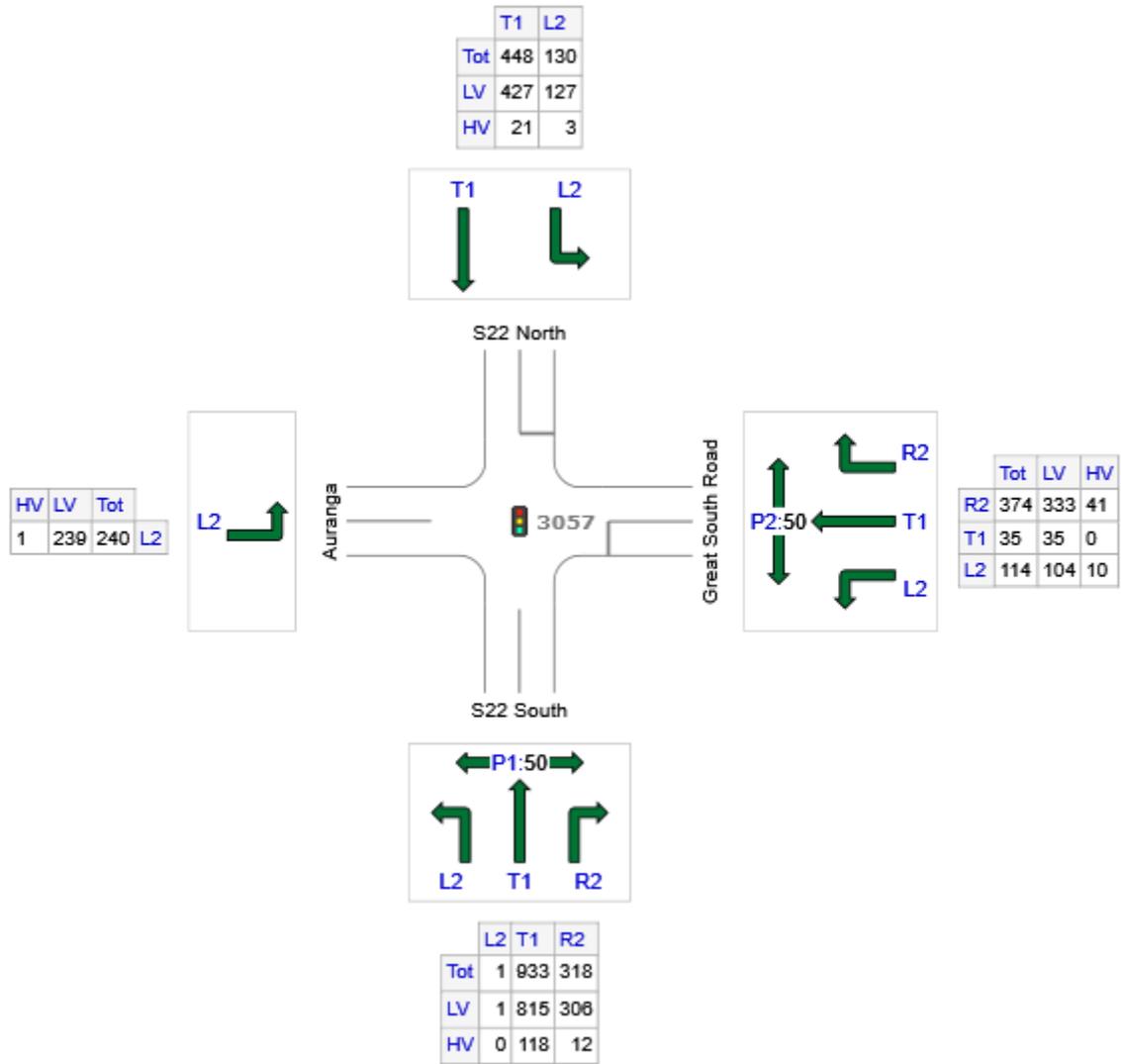
# INPUT VOLUMES

Vehicles and pedestrians per 60 minutes

 Site: 3057 [2048 AM Great South/Auranga/S22 - LH - left in left out]

2048 Great South/Auranga/S22  
Signals - Fixed Time Isolated

Volume Display Method: Separate



	All MCs	Light Vehicles (LV)	Heavy Vehicles (HV)
S: S22 South	1252	1122	130
E: Great South Road	523	472	51
N: S22 North	578	554	24
W: Auranga	240	239	1
Total	2593	2387	206

# MOVEMENT SUMMARY

 **Site: 3057 [2048 PM Great South/Auranga/S22 - LH - left in left out]**

2048 Great South/Auranga/S22

Signals - Fixed Time Isolated Cycle Time = 90 seconds (Optimum Cycle Time - Minimum Delay)

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: S22 South											
1	L2	1	0.0	0.001	6.2	LOS A	0.0	0.0	0.16	0.56	53.7
2	T1	643	1.8	0.260	7.2	LOS A	5.9	42.2	0.46	0.40	53.6
3	R2	194	9.2	0.781	45.3	LOS D	8.5	63.9	0.94	0.90	33.9
Approach		838	3.5	0.781	16.0	LOS B	8.5	63.9	0.57	0.51	47.3
East: Great South Road											
4	L2	404	1.0	0.719	33.3	LOS C	17.9	126.4	0.93	0.86	38.4
5	T1	57	0.0	0.719	27.8	LOS C	17.9	126.4	0.93	0.86	39.1
6	R2	223	3.3	0.278	37.4	LOS D	4.1	29.8	0.87	0.77	36.6
Approach		684	1.7	0.719	34.2	LOS C	17.9	126.4	0.91	0.83	37.8
North: S22 North											
7	L2	175	1.8	0.146	11.8	LOS B	2.9	20.4	0.40	0.68	49.1
8	T1	1000	1.6	0.740	27.4	LOS C	20.4	144.9	0.92	0.83	41.4
Approach		1175	1.6	0.740	25.1	LOS C	20.4	144.9	0.84	0.81	42.4
West: Auranga											
10	L2	322	0.0	0.286	7.6	LOS A	2.7	18.9	0.34	0.66	52.8
Approach		322	0.0	0.286	7.6	LOS A	2.7	18.9	0.34	0.66	52.8
All Vehicles		3019	2.0	0.781	22.8	LOS C	20.4	144.9	0.73	0.71	43.4

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Vehicle movement LOS values are based on average delay per movement.

Intersection and Approach LOS values are based on average delay for all vehicle movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Movement Performance - Pedestrians									
Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Distance m	Prop. Queued	Effective Stop Rate per ped	
P1	South Full Crossing	53	37.4	LOS D	0.1	0.1	0.91	0.91	
P2	East Full Crossing	53	26.5	LOS C	0.1	0.1	0.77	0.77	
All Pedestrians		105	32.0	LOS D			0.84	0.84	

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)

Pedestrian movement LOS values are based on average delay per pedestrian movement.

Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

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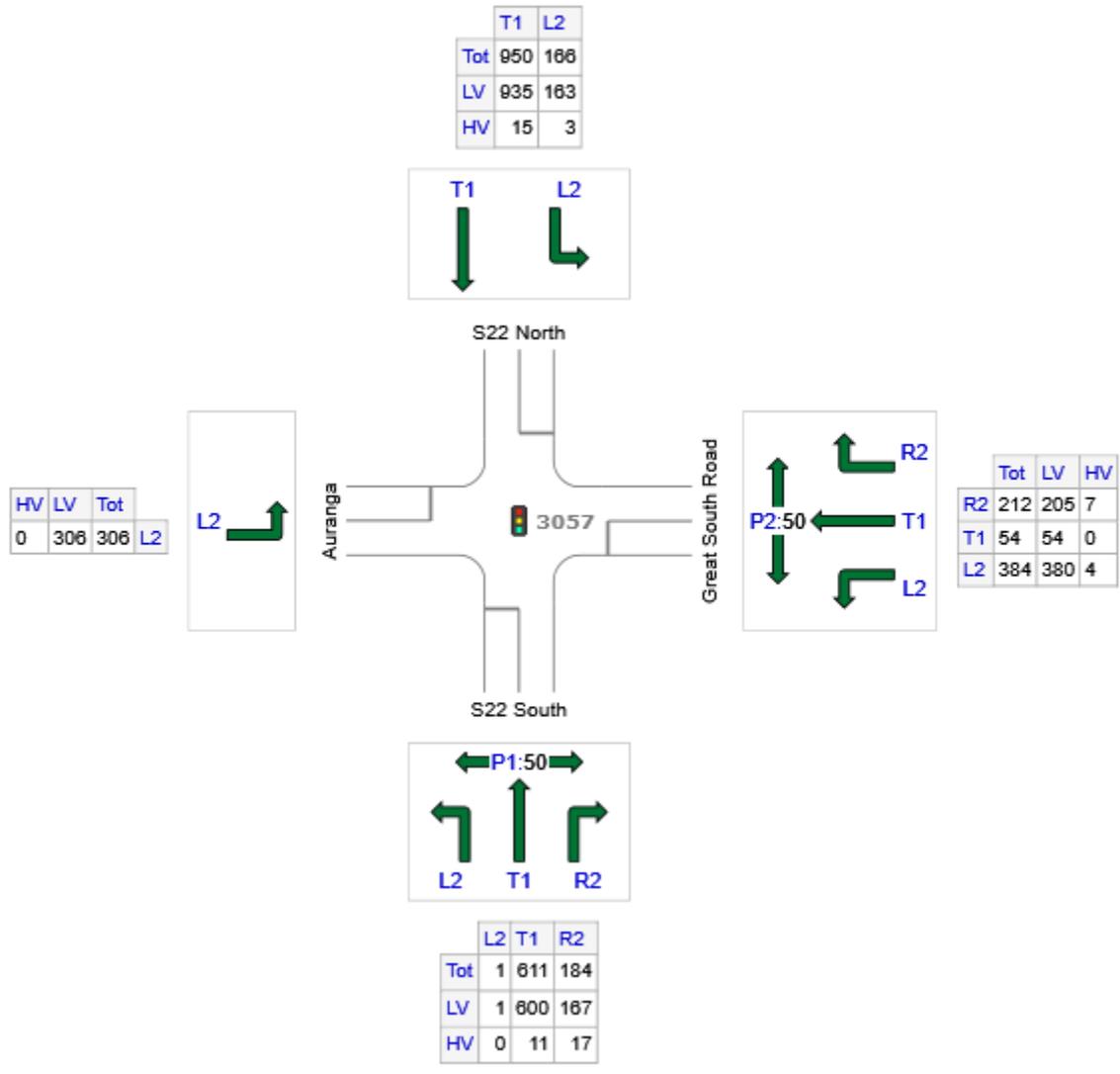
# INPUT VOLUMES

Vehicles and pedestrians per 60 minutes

 Site: 3057 [2048 PM Great South/Auranga/S22 - LH - left in left out]

2048 Great South/Auranga/S22  
Signals - Fixed Time Isolated

Volume Display Method: Separate



	All MCs	Light Vehicles (LV)	Heavy Vehicles (HV)
S: S22 South	796	768	28
E: Great South Road	650	639	11
N: S22 North	1116	1098	18
W: Auranga	306	306	0
Total	2868	2811	57

# MOVEMENT SUMMARY

 **Site: 9132 [2048 AM S22/Main Road - 1h left in left out]**

S22/Main Road intersection

Signals - Fixed Time Isolated Cycle Time = 80 seconds (Optimum Cycle Time - Minimum Delay)

Movement Performance - Vehicles												
Mov ID	OD Mov	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h	
East: S22 East												
5	T1	289	10.9	0.110	3.5	LOS A	1.7	12.7	0.32	0.26	56.8	
6	R2	473	0.2	0.869	42.9	LOS D	20.7	145.1	0.99	0.98	34.6	
Approach		762	4.3	0.869	27.9	LOS C	20.7	145.1	0.73	0.71	40.6	
North: Auranga New Road												
7	L2	252	0.4	0.266	17.3	LOS B	5.5	38.8	0.60	0.74	45.7	
9	R2	107	0.0	0.465	42.4	LOS D	4.1	28.7	0.97	0.78	34.8	
Approach		359	0.3	0.465	24.8	LOS C	5.5	38.8	0.71	0.75	41.8	
West: S22 West												
10	L2	109	0.0	0.110	15.2	LOS B	2.1	14.5	0.52	0.70	47.0	
11	T1	1046	13.0	0.894	40.2	LOS D	25.3	196.5	0.99	1.10	36.1	
Approach		1156	11.7	0.894	37.9	LOS D	25.3	196.5	0.95	1.07	36.9	
All Vehicles		2277	7.4	0.894	32.5	LOS C	25.3	196.5	0.84	0.90	38.8	

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Vehicle movement LOS values are based on average delay per movement.

Intersection and Approach LOS values are based on average delay for all vehicle movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Movement Performance - Pedestrians										
Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Distance m	Prop. Queued	Effective Stop Rate per ped		
P2	East Full Crossing	53	34.3	LOS D	0.1	0.1	0.93	0.93		
P3	North Full Crossing	53	22.5	LOS C	0.1	0.1	0.75	0.75		
All Pedestrians		105	28.4	LOS C			0.84	0.84		

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)

Pedestrian movement LOS values are based on average delay per pedestrian movement.

Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

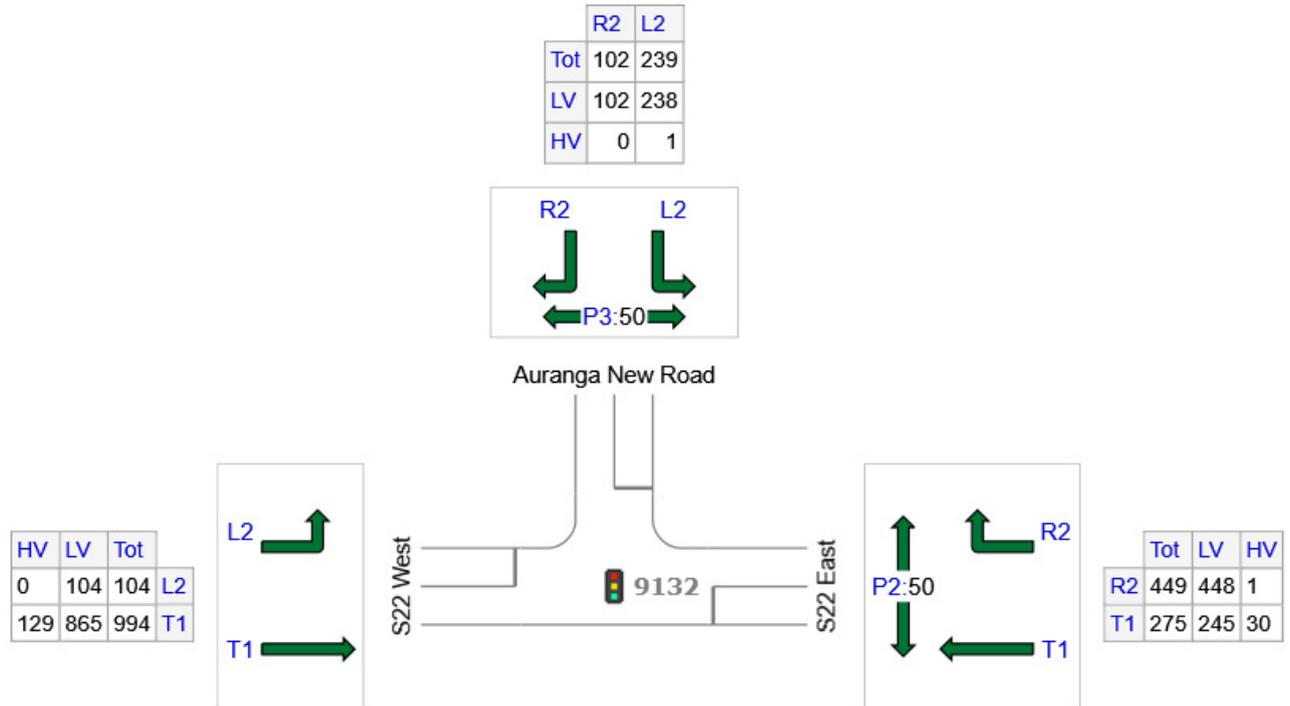
# INPUT VOLUMES

Vehicles and pedestrians per 60 minutes

 Site: 9132 [2048 AM S22/Main Road - 1h left in left out]

S22/Main Road intersection  
Signals - Fixed Time Isolated

Volume Display Method: Separate



	All MCs	Light Vehicles (LV)	Heavy Vehicles (HV)
E: S22 East	724	693	31
N: Auranga New Road	341	340	1
W: S22 West	1098	969	129
Total	2163	2002	161

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# MOVEMENT SUMMARY

 Site: 9132 [2028 PM S22/Main Road]

S22/Main Road intersection

Signals - Fixed Time Isolated Cycle Time = 50 seconds (Practical Cycle Time)

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back Vehicles veh	of Queue Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
East: S22 East											
5	T1	1195	6.3	0.534	6.4	LOS A	8.7	64.1	0.63	0.56	54.3
6	R2	274	0.0	0.741	29.0	LOS C	7.1	49.6	0.99	0.91	39.9
Approach		1468	5.1	0.741	10.6	LOS B	8.7	64.1	0.70	0.63	50.8
North: Main Road											
7	L2	256	0.0	0.287	14.1	LOS B	3.8	26.8	0.64	0.75	47.6
9	R2	55	0.0	0.184	26.2	LOS C	1.2	8.6	0.90	0.73	41.2
Approach		311	0.0	0.287	16.3	LOS B	3.8	26.8	0.69	0.74	46.4
West: S22 West											
10	L2	59	0.0	0.057	10.9	LOS B	0.7	4.6	0.48	0.67	49.7
11	T1	784	11.0	0.774	21.6	LOS C	10.1	77.5	0.98	0.94	44.3
Approach		843	10.2	0.774	20.8	LOS C	10.1	77.5	0.94	0.93	44.6
All Vehicles		2622	6.1	0.774	14.6	LOS B	10.1	77.5	0.78	0.74	48.1

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Vehicle movement LOS values are based on average delay per movement.

Intersection and Approach LOS values are based on average delay for all vehicle movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Movement Performance - Pedestrians									
Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Pedestrian ped	Back of Queue Distance m	Prop. Queued	Effective Stop Rate per ped	
P2	East Full Crossing	53	19.4	LOS B	0.1	0.1	0.88	0.88	
P3	North Full Crossing	53	19.4	LOS B	0.1	0.1	0.88	0.88	
All Pedestrians		105	19.4	LOS B			0.88	0.88	

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)

Pedestrian movement LOS values are based on average delay per pedestrian movement.

Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

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# INPUT VOLUMES

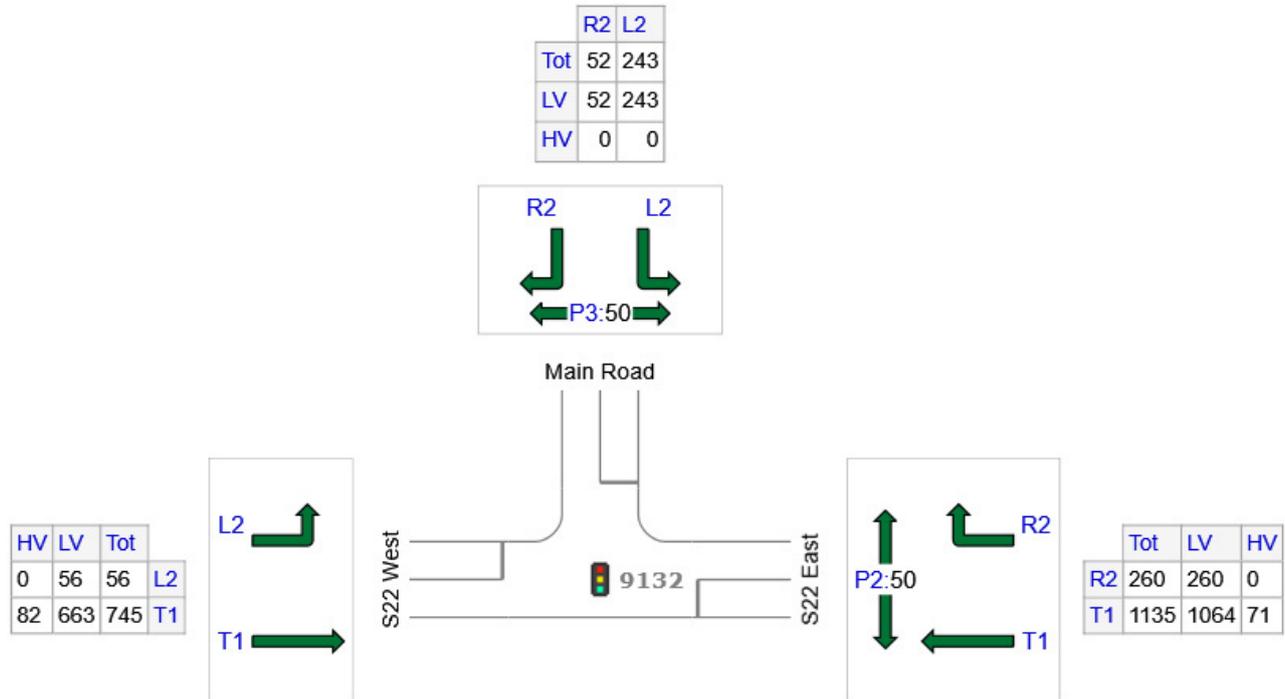
Vehicles and pedestrians per 60 minutes

 Site: 9132 [2028 PM S22/Main Road]

S22/Main Road intersection

Signals - Fixed Time Isolated

Volume Display Method: Separate



	All MCs	Light Vehicles (LV)	Heavy Vehicles (HV)
E: S22 East	1395	1324	71
N: Main Road	295	295	0
W: S22 West	801	719	82
Total	2491	2338	153

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# MOVEMENT SUMMARY

 **Site: 3057 [2048 PM Great South/Auranga/S22]**

2048 Great South/Auranga/S22

Signals - Fixed Time Isolated Cycle Time = 100 seconds (Optimum Cycle Time - Minimum Delay)

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: S22 South											
1	L2	1	0.0	0.003	40.4	LOS D	0.0	0.3	0.83	0.60	35.5
2	T1	643	1.8	0.989	83.5	LOS F	25.7	182.6	1.00	1.27	25.4
3	R2	147	12.1	0.394	42.2	LOS D	6.3	48.4	0.90	0.79	34.8
Approach		792	3.7	0.989	75.8	LOS E	25.7	182.6	0.98	1.18	26.7
East: Great South Road											
4	L2	404	1.0	0.934	65.4	LOS E	28.6	202.1	1.00	1.06	28.7
5	T1	57	0.0	0.934	59.8	LOS E	28.6	202.1	1.00	1.06	29.1
6	R2	223	3.3	0.412	48.4	LOS D	5.1	36.6	0.95	0.78	33.1
Approach		684	1.7	0.934	59.4	LOS E	28.6	202.1	0.98	0.97	30.1
North: S22 North											
7	L2	175	1.8	0.504	45.5	LOS D	7.8	55.6	0.95	0.80	33.8
8	T1	604	2.6	0.834	48.7	LOS D	15.9	113.4	1.00	0.97	33.4
9	R2	396	0.0	0.974	81.3	LOS F	27.3	190.9	1.00	1.11	25.4
Approach		1175	1.6	0.974	59.2	LOS E	27.3	190.9	0.99	0.99	30.2
West: Auranga											
10	L2	322	0.0	0.645	22.9	LOS C	9.7	67.7	0.92	0.82	43.1
11	T1	46	0.0	0.645	17.4	LOS B	9.7	67.7	0.92	0.82	44.0
12	R2	1	0.0	0.003	39.5	LOS D	0.0	0.3	0.82	0.60	36.0
Approach		369	0.0	0.645	22.3	LOS C	9.7	67.7	0.92	0.82	43.2
All Vehicles		3020	2.0	0.989	59.1	LOS E	28.6	202.1	0.98	1.02	30.3

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Vehicle movement LOS values are based on average delay per movement.

Intersection and Approach LOS values are based on average delay for all vehicle movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Movement Performance - Pedestrians									
Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Distance m	Prop. Queued	Effective Stop Rate per ped	
P1	South Full Crossing	53	44.3	LOS E	0.1	0.1	0.94	0.94	
P2	East Full Crossing	53	43.3	LOS E	0.1	0.1	0.93	0.93	
P3	North Full Crossing	53	44.3	LOS E	0.1	0.1	0.94	0.94	
P4	West Full Crossing	53	38.8	LOS D	0.1	0.1	0.88	0.88	
All Pedestrians		211	42.7	LOS E			0.92	0.92	

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)

Pedestrian movement LOS values are based on average delay per pedestrian movement.

Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

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\SIDRA\2021-07-28 base models.sip7

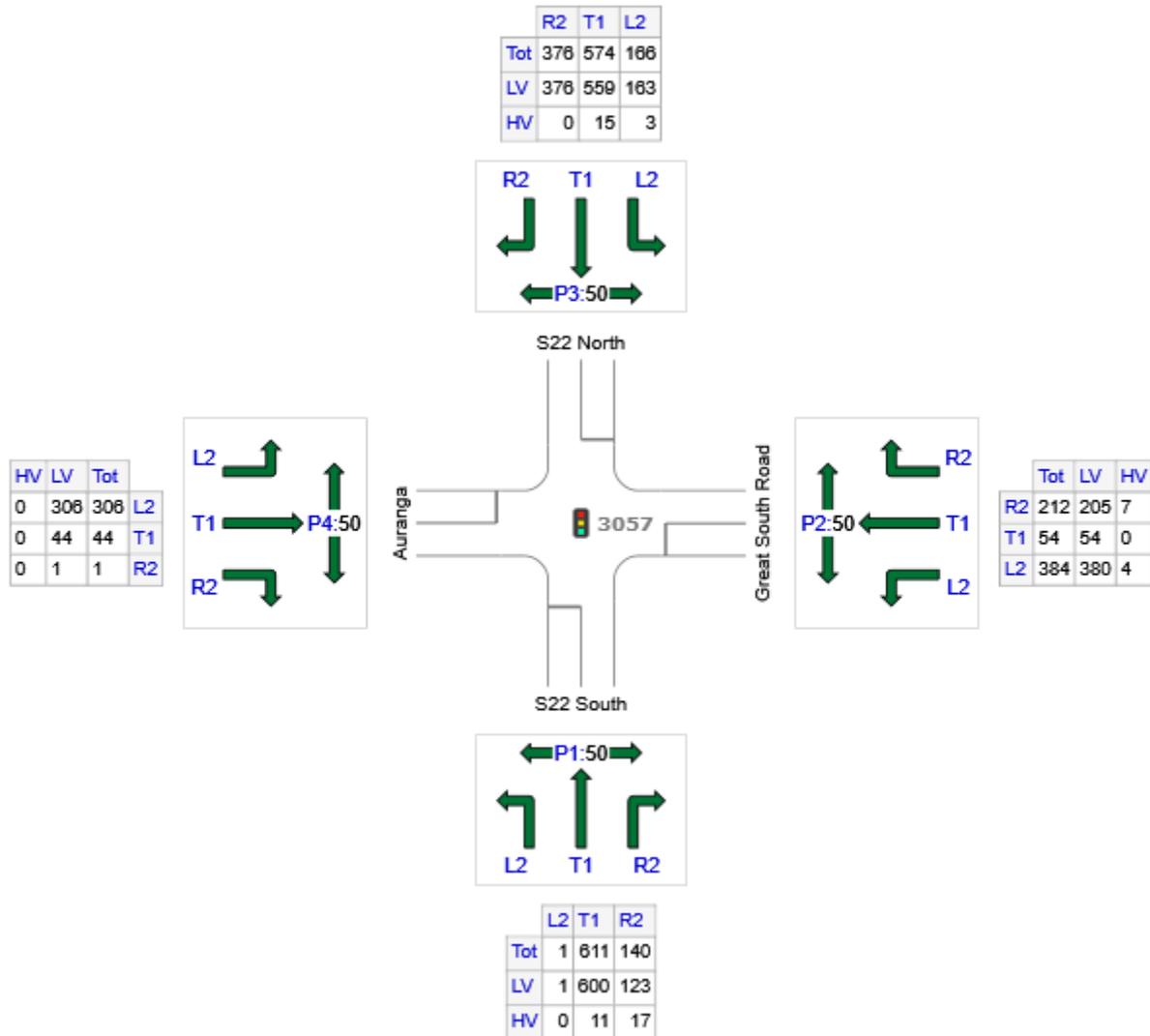
# INPUT VOLUMES

Vehicles and pedestrians per 60 minutes

 Site: 3057 [2048 PM Great South/Auranga/S22]

2048 Great South/Auranga/S22  
Signals - Fixed Time Isolated

Volume Display Method: Separate



	All MCs	Light Vehicles (LV)	Heavy Vehicles (HV)
S: S22 South	752	724	28
E: Great South Road	650	639	11
N: S22 North	1116	1098	18
W: Auranga	351	351	0
Total	2869	2812	57

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# MOVEMENT SUMMARY

 Site: 3057 [2038 PM Great South/Auranga/S22]

2048 Great South/Auranga/S22

Signals - Fixed Time Isolated Cycle Time = 80 seconds (Optimum Cycle Time - Minimum Delay)

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: S22 South											
1	L2	1	0.0	0.003	33.8	LOS C	0.0	0.2	0.83	0.59	37.9
2	T1	486	3.2	0.705	35.0	LOS D	9.8	70.3	0.99	0.86	38.2
3	R2	94	16.9	0.303	37.0	LOS D	3.3	26.1	0.90	0.77	36.6
Approach		581	5.4	0.705	35.3	LOS D	9.8	70.3	0.97	0.85	37.9
East: Great South Road											
4	L2	392	1.1	0.782	36.2	LOS D	16.9	119.0	0.97	0.91	37.2
5	T1	42	0.0	0.782	30.6	LOS C	16.9	119.0	0.97	0.91	37.9
6	R2	197	3.7	0.365	39.9	LOS D	3.6	26.0	0.94	0.77	35.9
Approach		631	1.8	0.782	37.0	LOS D	16.9	119.0	0.96	0.87	36.8
North: S22 North											
7	L2	108	2.9	0.319	36.8	LOS D	3.8	27.1	0.91	0.77	36.7
8	T1	582	3.4	0.818	39.5	LOS D	12.3	88.8	1.00	0.97	36.5
9	R2	295	0.0	0.851	47.4	LOS D	13.0	90.9	1.00	0.97	33.2
Approach		985	2.4	0.851	41.5	LOS D	13.0	90.9	0.99	0.95	35.5
West: Auranga											
10	L2	234	0.0	0.501	18.9	LOS B	5.1	35.6	0.87	0.79	45.2
11	T1	34	0.0	0.501	13.3	LOS B	5.1	35.6	0.87	0.79	46.2
12	R2	1	0.0	0.003	34.7	LOS C	0.0	0.2	0.84	0.59	37.7
Approach		268	0.0	0.501	18.2	LOS B	5.1	35.6	0.87	0.79	45.3
All Vehicles		2465	2.7	0.851	36.4	LOS D	16.9	119.0	0.97	0.89	37.3

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Vehicle movement LOS values are based on average delay per movement.

Intersection and Approach LOS values are based on average delay for all vehicle movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Movement Performance - Pedestrians									
Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Distance m	Prop. Queued	Effective Stop Rate per ped	
P1	South Full Crossing	53	34.3	LOS D	0.1	0.1	0.93	0.93	
P2	East Full Crossing	53	34.3	LOS D	0.1	0.1	0.93	0.93	
P3	North Full Crossing	53	34.3	LOS D	0.1	0.1	0.93	0.93	
P4	West Full Crossing	53	32.5	LOS D	0.1	0.1	0.90	0.90	
All Pedestrians		211	33.8	LOS D			0.92	0.92	

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)

Pedestrian movement LOS values are based on average delay per pedestrian movement.

Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

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\SIDRA\2021-07-28 base models.sip7

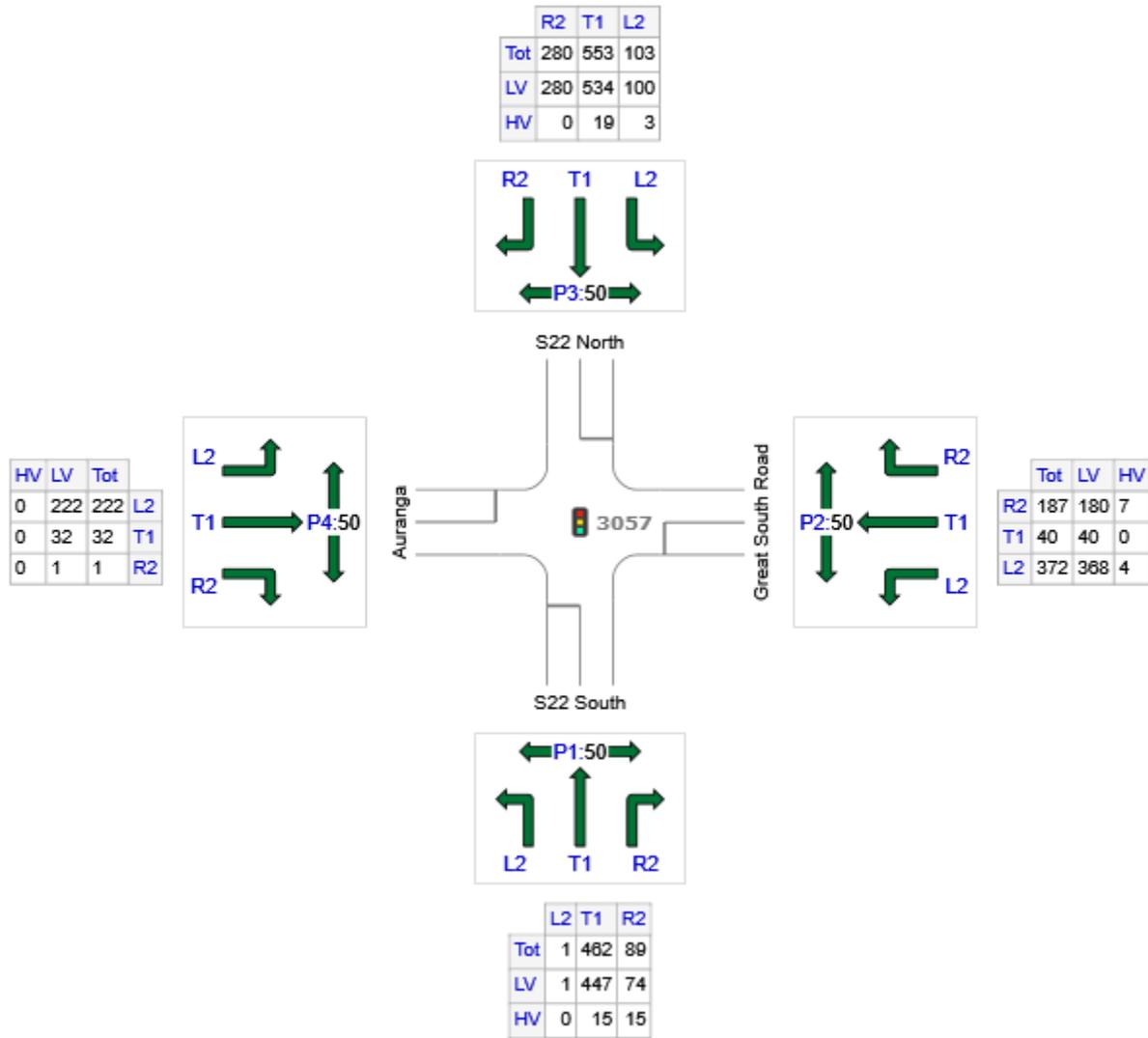
# INPUT VOLUMES

Vehicles and pedestrians per 60 minutes

 Site: 3057 [2038 PM Great South/Auranga/S22]

2048 Great South/Auranga/S22  
Signals - Fixed Time Isolated

Volume Display Method: Separate



	All MCs	Light Vehicles (LV)	Heavy Vehicles (HV)
S: S22 South	552	522	30
E: Great South Road	599	588	11
N: S22 North	936	914	22
W: Auranga	255	255	0
Total	2342	2279	63

# MOVEMENT SUMMARY

 **Site: 3057 [2038 AM Great South/Auranga/S22]**

2048 Great South/Auranga/S22

Signals - Fixed Time Isolated Cycle Time = 135 seconds (Optimum Cycle Time - Minimum Delay)

Movement Performance - Vehicles												
Mov ID	OD Mov	Demand Flows		Deg. Satn	Average Delay	Level of Service	95% Back of Queue		Prop. Queued	Effective Stop Rate	Average Speed	
		Total veh/h	HV %	v/c	sec		Vehicles veh	Distance m		per veh	km/h	
South: S22 South												
1	L2	1	0.0	0.002	39.6	LOS D	0.0	0.3	0.71	0.60	35.7	
2	T1	829	10.3	0.891	60.4	LOS E	35.5	270.2	0.96	1.01	30.2	
3	R2	221	5.2	0.888	71.4	LOS E	15.3	112.3	0.92	0.95	27.3	
Approach		1052	9.2	0.891	62.7	LOS E	35.5	270.2	0.95	1.00	29.5	
East: Great South Road												
4	L2	75	11.3	0.339	59.4	LOS E	5.9	44.5	0.92	0.77	30.3	
5	T1	26	0.0	0.339	53.8	LOS D	5.9	44.5	0.92	0.77	30.8	
6	R2	182	4.6	0.404	65.5	LOS E	5.7	41.2	0.96	0.78	28.7	
Approach		283	5.9	0.404	62.8	LOS E	5.9	44.5	0.95	0.77	29.3	
North: S22 North												
7	L2	64	3.3	0.117	41.7	LOS D	3.0	21.7	0.76	0.73	35.0	
8	T1	180	7.0	0.160	36.6	LOS D	4.3	31.8	0.77	0.61	37.5	
9	R2	187	0.0	0.415	51.7	LOS D	10.4	72.7	0.89	0.80	31.9	
Approach		432	3.4	0.415	43.9	LOS D	10.4	72.7	0.82	0.71	34.5	
West: Auranga												
10	L2	181	0.0	0.470	34.0	LOS C	8.5	59.5	0.90	0.79	38.1	
11	T1	26	0.0	0.470	28.4	LOS C	8.5	59.5	0.90	0.79	38.8	
12	R2	1	0.0	0.004	57.5	LOS E	0.1	0.4	0.87	0.60	30.6	
Approach		208	0.0	0.470	33.4	LOS C	8.5	59.5	0.90	0.79	38.2	
All Vehicles		1975	6.5	0.891	55.5	LOS E	35.5	270.2	0.92	0.88	31.2	

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Vehicle movement LOS values are based on average delay per movement.

Intersection and Approach LOS values are based on average delay for all vehicle movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Movement Performance - Pedestrians										
Mov ID	Description	Demand Flow	Average Delay	Level of Service	Average Back of Queue	Prop. Queued	Effective Stop Rate			
		ped/h	sec		Pedestrian ped	Distance m	per ped			
P1	South Full Crossing	53	61.8	LOS F	0.2	0.2	0.96			
P2	East Full Crossing	53	41.7	LOS E	0.2	0.2	0.79			
P3	North Full Crossing	53	61.8	LOS F	0.2	0.2	0.96			
P4	West Full Crossing	53	37.9	LOS D	0.2	0.2	0.75			
All Pedestrians		211	50.8	LOS E			0.86			

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)

Pedestrian movement LOS values are based on average delay per pedestrian movement.

Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

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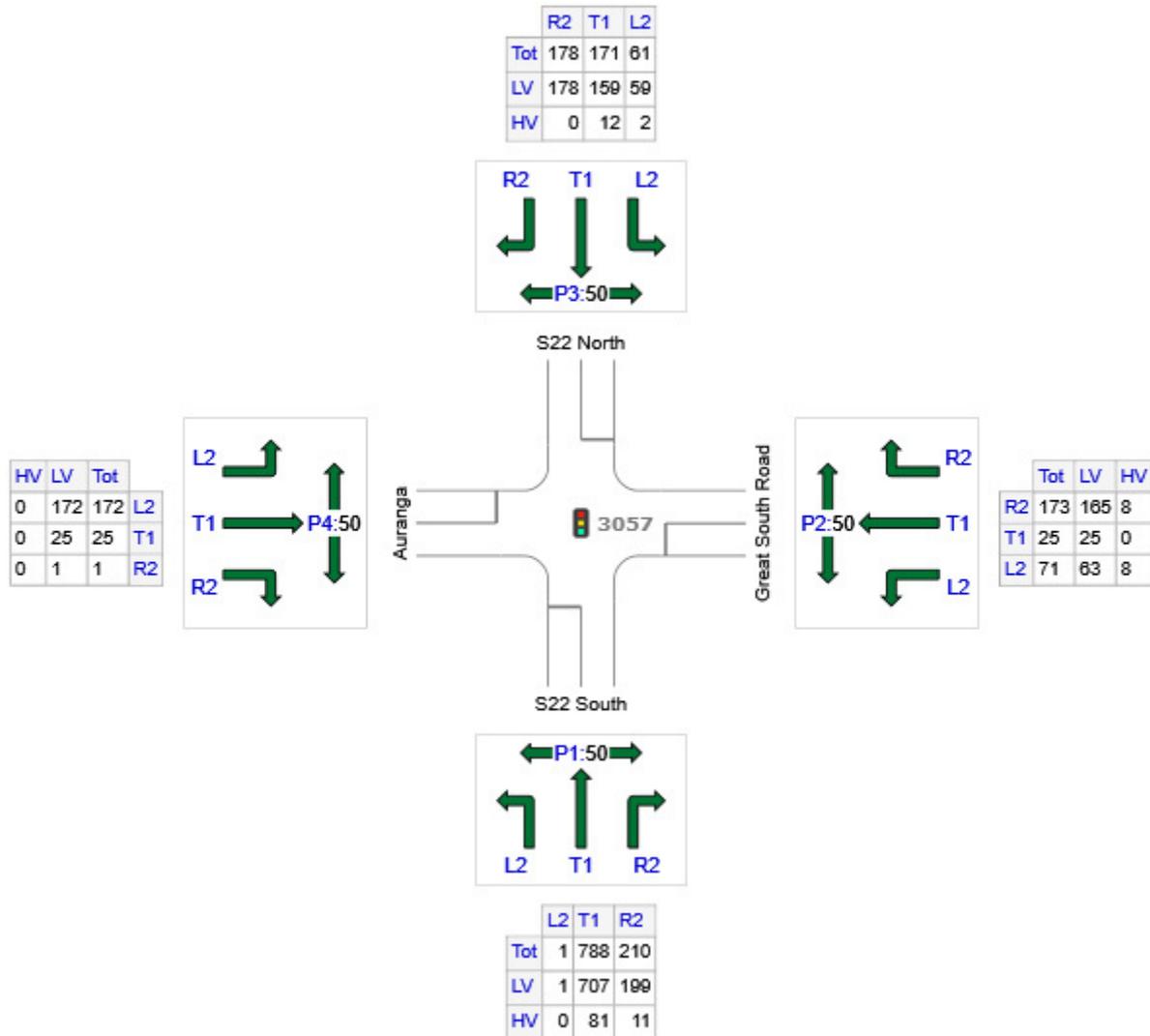
# INPUT VOLUMES

Vehicles and pedestrians per 60 minutes

 Site: 3057 [2038 AM Great South/Auranga/S22]

2048 Great South/Auranga/S22  
Signals - Fixed Time Isolated

Volume Display Method: Separate



	All MCs	Light Vehicles (LV)	Heavy Vehicles (HV)
S: S22 South	999	907	92
E: Great South Road	269	253	16
N: S22 North	410	396	14
W: Auranga	198	198	0
Total	1876	1754	122

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# MOVEMENT SUMMARY

 **Site: 3057 [2028 AM Great South/Auranga/S22]**

2048 Great South/Auranga/S22

Signals - Fixed Time Isolated Cycle Time = 40 seconds (Optimum Cycle Time - Minimum Delay)

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: S22 South											
2	T1	1215	9.6	0.662	7.1	LOS A	9.6	72.5	0.73	0.66	53.8
3	R2	208	10.6	0.693	25.1	LOS C	4.4	33.4	0.99	0.89	41.6
Approach		1423	9.8	0.693	9.7	LOS A	9.6	72.5	0.77	0.69	51.6
East: Great South Road											
4	L2	116	12.7	0.144	12.2	LOS B	1.3	10.1	0.59	0.71	48.5
6	R2	392	16.1	0.788	28.1	LOS C	4.5	35.5	1.00	0.97	40.1
Approach		507	15.4	0.788	24.5	LOS C	4.5	35.5	0.91	0.91	41.8
North: S22 North											
7	L2	75	8.5	0.082	10.8	LOS B	0.7	5.5	0.52	0.68	49.6
8	T1	571	11.4	0.702	17.8	LOS B	5.8	44.6	0.97	0.89	46.5
Approach		645	11.1	0.702	17.0	LOS B	5.8	44.6	0.92	0.86	46.8
All Vehicles		2576	11.2	0.788	14.5	LOS B	9.6	72.5	0.83	0.78	48.1

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Vehicle movement LOS values are based on average delay per movement.

Intersection and Approach LOS values are based on average delay for all vehicle movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Movement Performance - Pedestrians									
Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Distance m	Prop. Queued	Effective Stop Rate per ped	
P1	South Full Crossing	53	14.5	LOS B	0.1	0.1	0.85	0.85	
P2	East Full Crossing	53	14.5	LOS B	0.1	0.1	0.85	0.85	
All Pedestrians		105	14.5	LOS B			0.85	0.85	

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)

Pedestrian movement LOS values are based on average delay per pedestrian movement.

Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

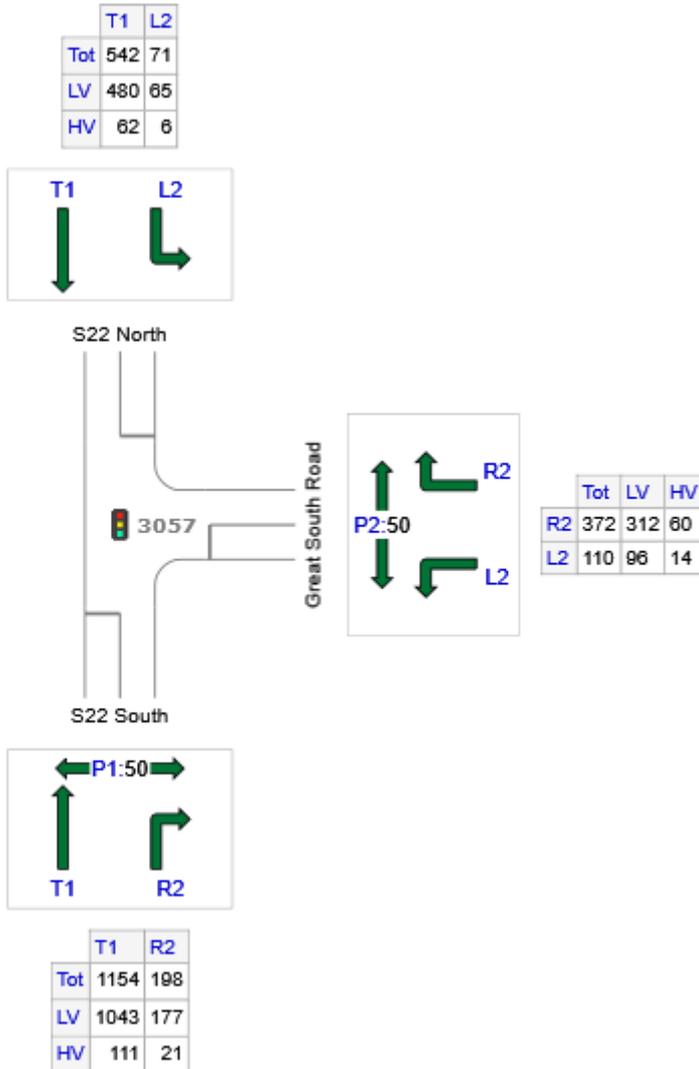
# INPUT VOLUMES

## Vehicles and pedestrians per 60 minutes

 Site: 3057 [2028 AM Great South/Auranga/S22]

2048 Great South/Auranga/S22  
Signals - Fixed Time Isolated

Volume Display Method: Separate



	All MCs	Light Vehicles (LV)	Heavy Vehicles (HV)
S: S22 South	1352	1220	132
E: Great South Road	482	408	74
N: S22 North	613	545	68
Total	2447	2173	274

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# MOVEMENT SUMMARY

 **Site: 3057 [2028 PM Great South/Auranga/S22]**

2048 Great South/Auranga/S22

Signals - Fixed Time Isolated Cycle Time = 50 seconds (Optimum Cycle Time - Minimum Delay)

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: S22 South											
2	T1	906	7.4	0.408	5.8	LOS A	5.9	44.1	0.57	0.49	54.8
3	R2	151	13.3	0.743	32.8	LOS C	4.1	32.1	1.00	0.91	38.2
Approach		1057	8.3	0.743	9.6	LOS A	5.9	44.1	0.63	0.55	51.6
East: Great South Road											
4	L2	303	1.7	0.415	17.5	LOS B	5.5	38.8	0.76	0.78	45.6
6	R2	418	6.5	0.740	30.8	LOS C	5.5	41.0	1.00	0.92	39.1
Approach		721	4.5	0.740	25.2	LOS C	5.5	41.0	0.90	0.86	41.6
North: S22 North											
7	L2	120	5.3	0.105	9.3	LOS A	1.1	8.3	0.41	0.67	50.6
8	T1	960	7.2	0.720	16.8	LOS B	11.1	82.2	0.92	0.85	47.1
Approach		1080	7.0	0.720	16.0	LOS B	11.1	82.2	0.86	0.83	47.4
All Vehicles		2858	6.9	0.743	15.9	LOS B	11.1	82.2	0.79	0.74	47.2

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Vehicle movement LOS values are based on average delay per movement.

Intersection and Approach LOS values are based on average delay for all vehicle movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Movement Performance - Pedestrians									
Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Distance m	Prop. Queued	Effective Stop Rate per ped	
P1	South Full Crossing	53	19.4	LOS B	0.1	0.1	0.88	0.88	
P2	East Full Crossing	53	19.4	LOS B	0.1	0.1	0.88	0.88	
All Pedestrians		105	19.4	LOS B			0.88	0.88	

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)

Pedestrian movement LOS values are based on average delay per pedestrian movement.

Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

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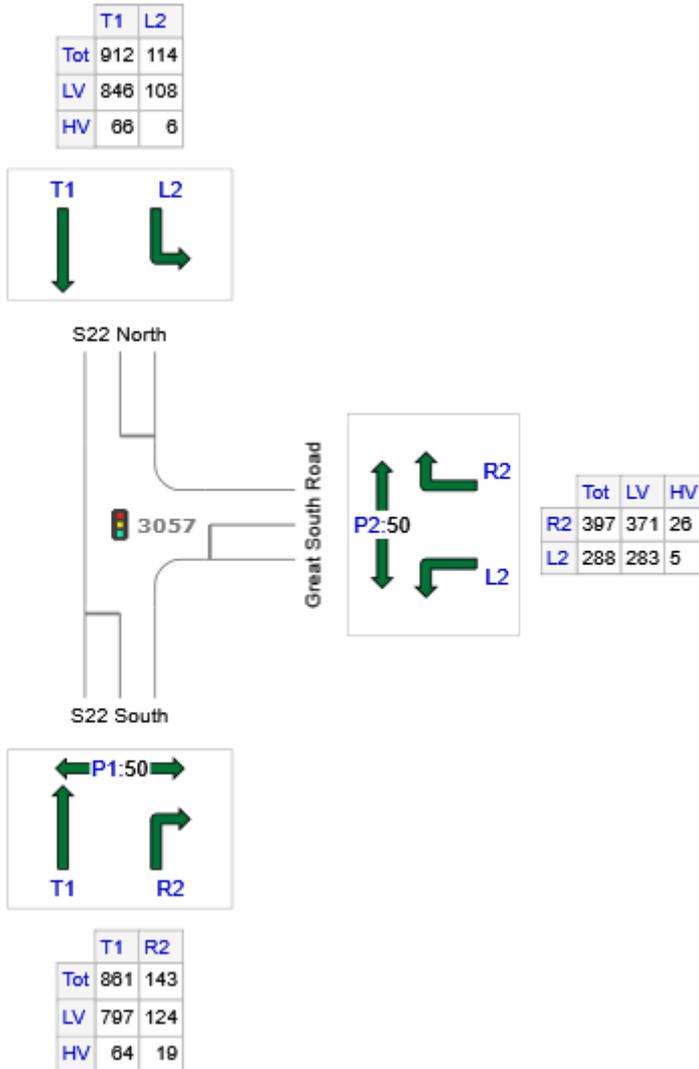
# INPUT VOLUMES

Vehicles and pedestrians per 60 minutes

 Site: 3057 [2028 PM Great South/Auranga/S22]

2048 Great South/Auranga/S22  
Signals - Fixed Time Isolated

Volume Display Method: Separate



	All MCs	Light Vehicles (LV)	Heavy Vehicles (HV)
S: S22 South	1004	921	83
E: Great South Road	685	654	31
N: S22 North	1026	954	72
Total	2715	2529	186

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# MOVEMENT SUMMARY

 Site: 9132 [2038 AM S22/Main Road]

S22/Main Road intersection

Signals - Fixed Time Isolated Cycle Time = 50 seconds (Optimum Cycle Time - Minimum Delay)

Movement Performance - Vehicles												
Mov ID	OD Mov	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back Vehicles veh	of Queue Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h	
East: S22 East												
5	T1	242	8.3	0.103	3.7	LOS A	1.1	8.5	0.41	0.33	56.5	
6	R2	161	0.7	0.626	29.7	LOS C	4.1	28.7	0.99	0.84	39.6	
Approach		403	5.2	0.626	14.1	LOS B	4.1	28.7	0.64	0.53	48.2	
North: Auranga New Road												
7	L2	156	0.7	0.223	17.1	LOS B	2.6	18.5	0.71	0.74	45.8	
9	R2	78	0.0	0.351	29.1	LOS C	1.9	13.2	0.96	0.75	39.9	
Approach		234	0.5	0.351	21.1	LOS C	2.6	18.5	0.79	0.75	43.7	
West: S22 West												
10	L2	80	0.0	0.070	9.6	LOS A	0.8	5.4	0.42	0.66	50.6	
11	T1	881	10.9	0.640	14.2	LOS B	9.2	70.0	0.87	0.76	48.6	
Approach		961	10.0	0.640	13.9	LOS B	9.2	70.0	0.84	0.75	48.8	
All Vehicles		1598	7.4	0.640	15.0	LOS B	9.2	70.0	0.78	0.70	47.8	

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Vehicle movement LOS values are based on average delay per movement.

Intersection and Approach LOS values are based on average delay for all vehicle movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Movement Performance - Pedestrians										
Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Pedestrian ped	Back of Queue Distance m	Prop. Queued	Effective Stop Rate per ped		
P2	East Full Crossing	53	19.4	LOS B	0.1	0.1	0.88	0.88		
P3	North Full Crossing	53	14.5	LOS B	0.1	0.1	0.76	0.76		
All Pedestrians		105	16.9	LOS B			0.82	0.82		

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)

Pedestrian movement LOS values are based on average delay per pedestrian movement.

Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

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# INPUT VOLUMES

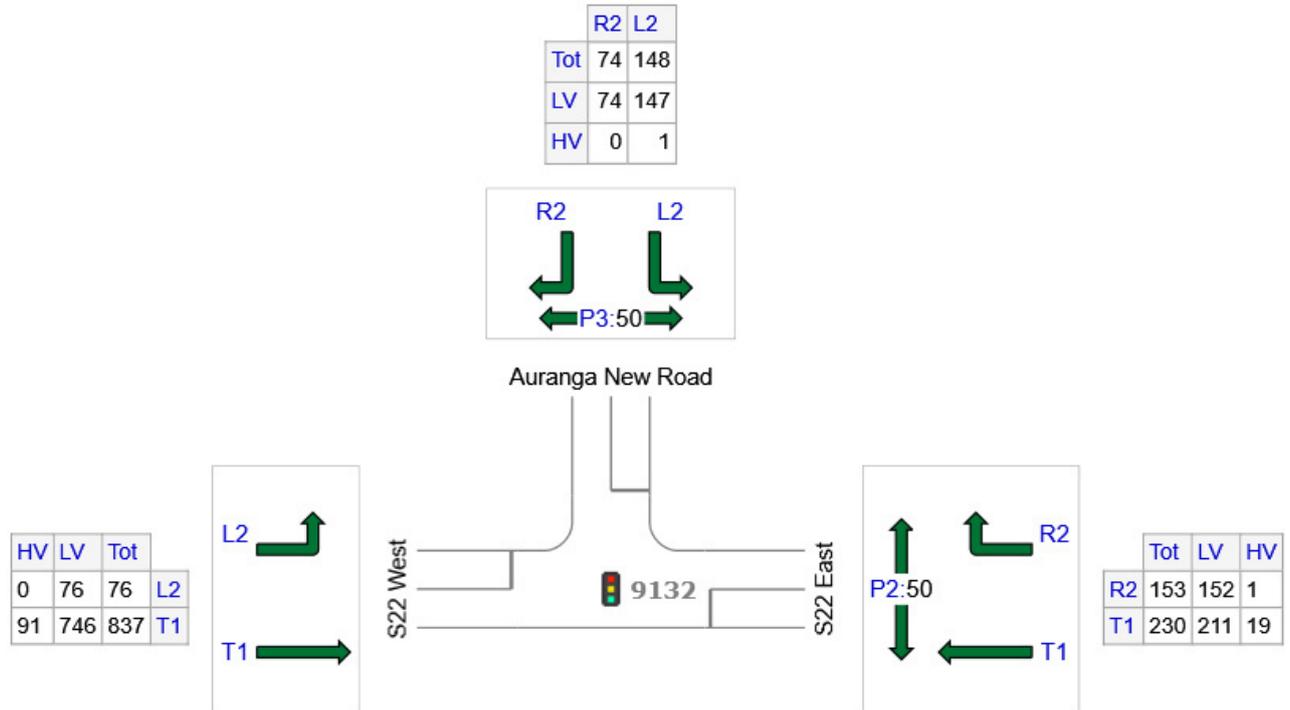
Vehicles and pedestrians per 60 minutes

 Site: 9132 [2038 AM S22/Main Road]

S22/Main Road intersection

Signals - Fixed Time Isolated

Volume Display Method: Separate



	All MCs	Light Vehicles (LV)	Heavy Vehicles (HV)
E: S22 East	383	363	20
N: Auranga New Road	222	221	1
W: S22 West	913	822	91
Total	1518	1406	112

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# MOVEMENT SUMMARY

 Site: 9132 [2028 AM S22/Main Road]

S22/Main Road intersection

Signals - Fixed Time Isolated Cycle Time = 80 seconds (Optimum Cycle Time - Minimum Delay)

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back Vehicles veh	of Queue Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
East: S22 East											
5	T1	644	12.4	0.256	4.7	LOS A	4.5	35.2	0.39	0.34	55.7
6	R2	187	0.0	0.738	45.0	LOS D	7.7	53.7	1.00	0.88	34.0
Approach		832	9.6	0.738	13.7	LOS B	7.7	53.7	0.53	0.46	48.7
North: Main Road											
7	L2	148	0.0	0.220	24.6	LOS C	4.0	28.2	0.73	0.75	41.9
9	R2	32	0.0	0.113	38.1	LOS D	1.1	7.7	0.90	0.71	36.3
Approach		180	0.0	0.220	27.0	LOS C	4.0	28.2	0.76	0.75	40.8
West: S22 West											
10	L2	40	0.0	0.030	9.1	LOS A	0.4	3.1	0.31	0.63	51.0
11	T1	1266	10.9	0.724	17.5	LOS B	19.8	151.9	0.85	0.76	46.6
Approach		1306	10.6	0.724	17.2	LOS B	19.8	151.9	0.83	0.76	46.7
All Vehicles		2318	9.4	0.738	16.7	LOS B	19.8	151.9	0.72	0.65	46.9

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Vehicle movement LOS values are based on average delay per movement.

Intersection and Approach LOS values are based on average delay for all vehicle movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Movement Performance - Pedestrians									
Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Pedestrian ped	Back of Queue Distance m	Prop. Queued	Effective Stop Rate per ped	
P2	East Full Crossing	53	34.3	LOS D	0.1	0.1	0.93	0.93	
P3	North Full Crossing	53	15.7	LOS B	0.1	0.1	0.63	0.63	
All Pedestrians		105	25.0	LOS C			0.78	0.78	

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)

Pedestrian movement LOS values are based on average delay per pedestrian movement.

Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

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# INPUT VOLUMES

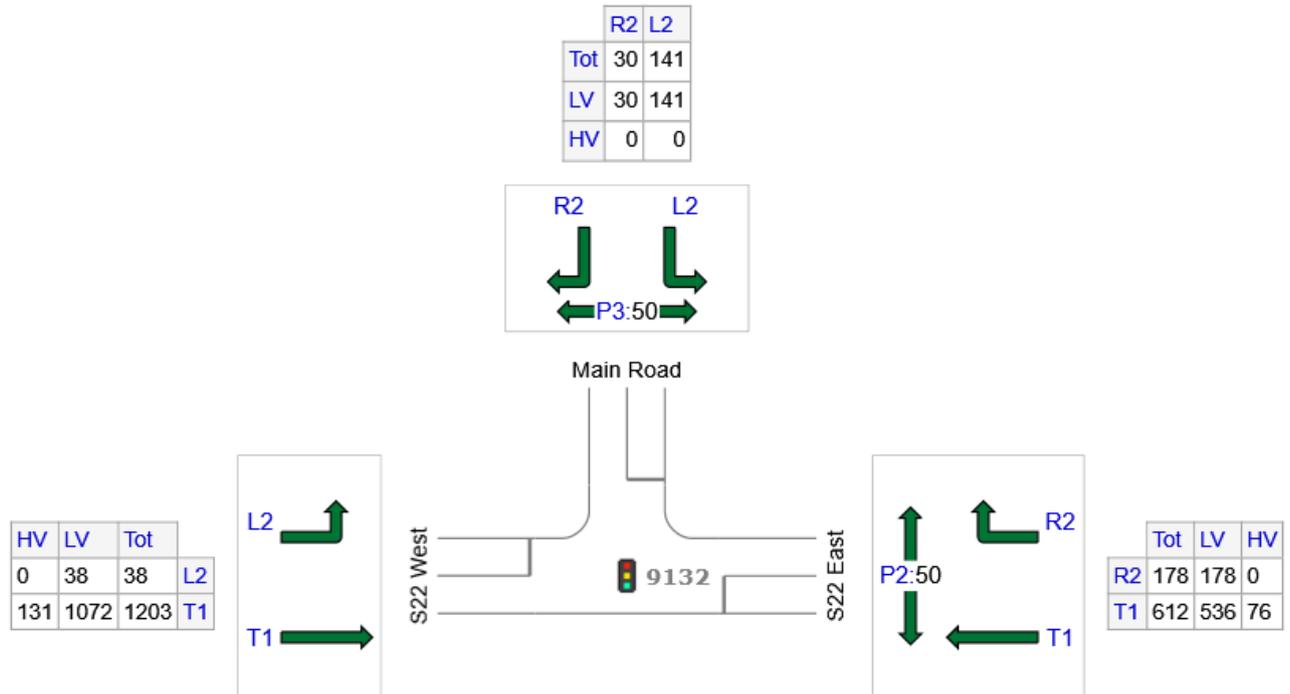
Vehicles and pedestrians per 60 minutes

 Site: 9132 [2028 AM S22/Main Road]

S22/Main Road intersection

Signals - Fixed Time Isolated

Volume Display Method: Separate



	All MCs	Light Vehicles (LV)	Heavy Vehicles (HV)
E: S22 East	790	714	76
N: Main Road	171	171	0
W: S22 West	1241	1110	131
Total	2202	1995	207

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# MOVEMENT SUMMARY

 Site: 9132 [2048 AM S22/Main Road]

S22/Main Road intersection

Signals - Fixed Time Isolated Cycle Time = 55 seconds (Optimum Cycle Time - Minimum Delay)

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back Vehicles veh	Queue Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
East: S22 East											
5	T1	289	10.9	0.122	3.8	LOS A	1.5	11.1	0.40	0.33	56.4
6	R2	218	0.5	0.723	32.2	LOS C	6.2	43.6	1.00	0.89	38.5
Approach		507	6.4	0.723	16.0	LOS B	6.2	43.6	0.66	0.57	47.0
North: Auranga New Road											
7	L2	216	0.5	0.293	17.8	LOS B	4.0	28.2	0.72	0.76	45.4
9	R2	107	0.0	0.457	31.3	LOS C	2.9	20.1	0.97	0.77	38.9
Approach		323	0.3	0.457	22.3	LOS C	4.0	28.2	0.80	0.76	43.0
West: S22 West											
10	L2	109	0.0	0.096	10.1	LOS B	1.2	8.3	0.43	0.67	50.3
11	T1	1046	13.0	0.766	19.1	LOS B	13.8	107.3	0.93	0.90	45.6
Approach		1156	11.7	0.766	18.3	LOS B	13.8	107.3	0.89	0.88	46.0
All Vehicles		1986	8.5	0.766	18.3	LOS B	13.8	107.3	0.81	0.78	45.8

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Vehicle movement LOS values are based on average delay per movement.

Intersection and Approach LOS values are based on average delay for all vehicle movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Movement Performance - Pedestrians									
Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Queue Distance m	Prop. Queued	Effective Stop Rate per ped	
P2	East Full Crossing	53	21.9	LOS C	0.1	0.1	0.89	0.89	
P3	North Full Crossing	53	15.3	LOS B	0.1	0.1	0.75	0.75	
All Pedestrians		105	18.6	LOS B			0.82	0.82	

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)

Pedestrian movement LOS values are based on average delay per pedestrian movement.

Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

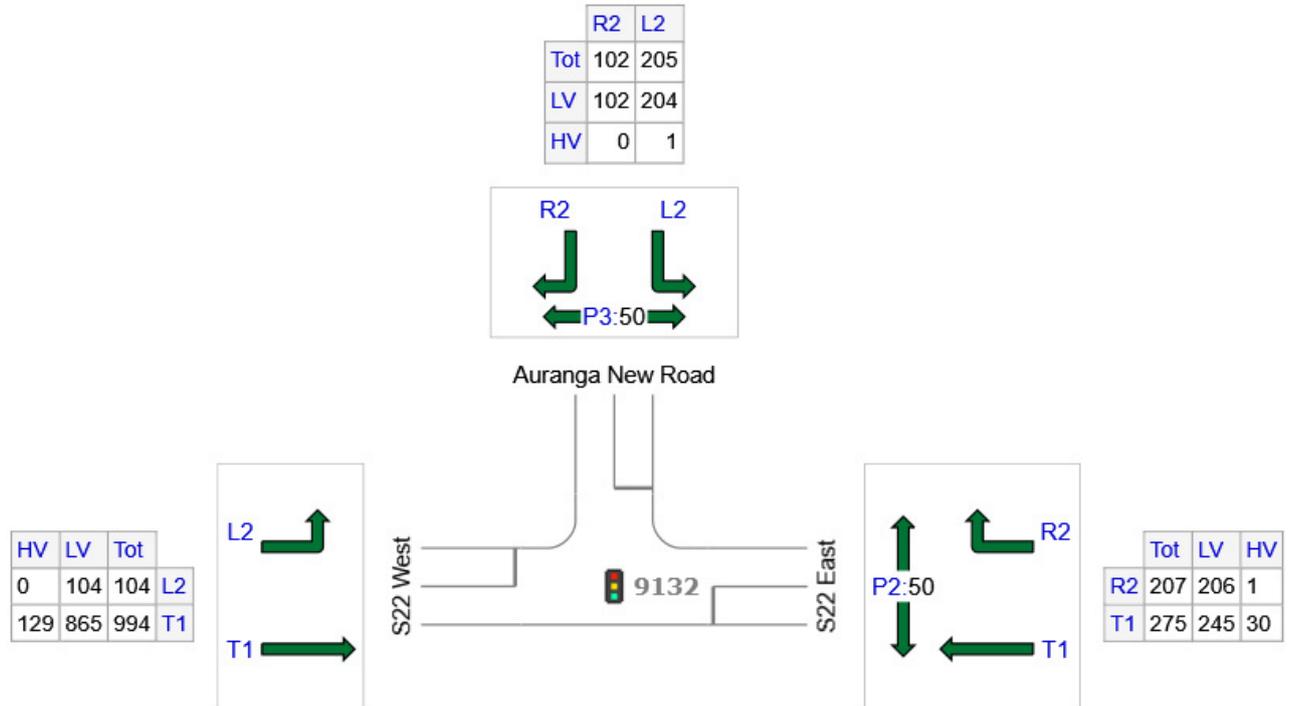
# INPUT VOLUMES

Vehicles and pedestrians per 60 minutes

 Site: 9132 [2048 AM S22/Main Road]

S22/Main Road intersection  
Signals - Fixed Time Isolated

Volume Display Method: Separate



	All MCs	Light Vehicles (LV)	Heavy Vehicles (HV)
E: S22 East	482	451	31
N: Auranga New Road	307	306	1
W: S22 West	1098	969	129
Total	1887	1726	161

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# MOVEMENT SUMMARY

 **Site: 3057 [2048 AM Great South/Auranga/S22]**

2048 Great South/Auranga/S22

Signals - Fixed Time Isolated Cycle Time = 150 seconds (Optimum Cycle Time - Minimum Delay)

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: S22 South											
1	L2	1	0.0	0.002	43.0	LOS D	0.1	0.4	0.71	0.60	34.6
2	T1	982	12.6	1.093	171.8	LOS F	76.7	594.9	1.00	1.53	15.4
3	R2	299	4.2	1.103	193.0	LOS F	39.9	289.4	1.00	1.26	14.0
Approach		1282	10.7	1.103	176.6	LOS F	76.7	594.9	1.00	1.47	15.1
East: Great South Road											
4	L2	120	8.8	0.537	68.0	LOS E	10.6	78.8	0.97	0.81	28.2
5	T1	37	0.0	0.537	62.4	LOS E	10.6	78.8	0.97	0.81	28.7
6	R2	394	11.0	0.957	104.9	LOS F	17.8	136.7	1.00	1.04	21.9
Approach		551	9.8	0.957	94.0	LOS F	17.8	136.7	0.99	0.98	23.4
North: S22 North											
7	L2	137	2.3	0.246	47.1	LOS D	7.4	53.0	0.79	0.77	33.3
8	T1	217	10.2	0.194	40.7	LOS D	5.8	44.0	0.78	0.63	36.0
9	R2	255	0.0	0.504	54.8	LOS D	15.6	109.5	0.90	0.82	31.1
Approach		608	4.2	0.504	48.0	LOS D	15.6	109.5	0.83	0.74	33.2
West: Auranga											
10	L2	252	0.0	0.685	41.7	LOS D	14.6	102.1	0.97	0.83	35.3
11	T1	36	0.0	0.685	36.1	LOS D	14.6	102.1	0.97	0.83	35.9
12	R2	1	0.0	0.004	64.3	LOS E	0.1	0.5	0.88	0.60	28.9
Approach		288	0.0	0.685	41.1	LOS D	14.6	102.1	0.97	0.83	35.3
All Vehicles		2729	7.9	1.103	117.0	LOS F	76.7	594.9	0.96	1.14	20.2

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Vehicle movement LOS values are based on average delay per movement.

Intersection and Approach LOS values are based on average delay for all vehicle movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Movement Performance - Pedestrians									
Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Distance m	Prop. Queued	Effective Stop Rate per ped	
P1	South Full Crossing	53	69.3	LOS F	0.2	0.2	0.96	0.96	
P2	East Full Crossing	53	45.0	LOS E	0.2	0.2	0.78	0.78	
P3	North Full Crossing	53	69.3	LOS F	0.2	0.2	0.96	0.96	
P4	West Full Crossing	53	41.2	LOS E	0.2	0.2	0.74	0.74	
All Pedestrians		211	56.2	LOS E			0.86	0.86	

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)

Pedestrian movement LOS values are based on average delay per pedestrian movement.

Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

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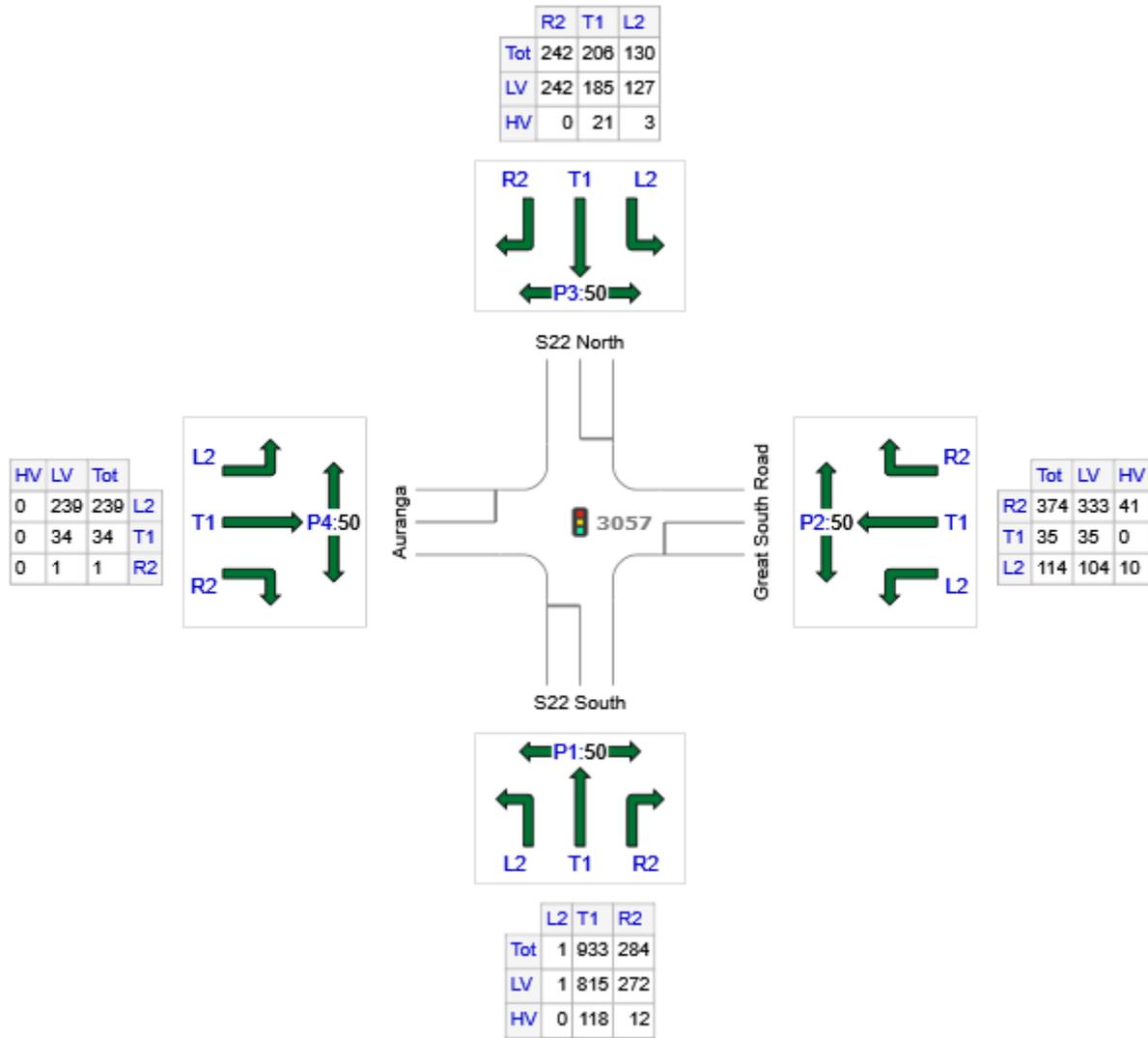
# INPUT VOLUMES

Vehicles and pedestrians per 60 minutes

 Site: 3057 [2048 AM Great South/Auranga/S22]

2048 Great South/Auranga/S22  
Signals - Fixed Time Isolated

Volume Display Method: Separate



	All MCs	Light Vehicles (LV)	Heavy Vehicles (HV)
S: S22 South	1218	1088	130
E: Great South Road	523	472	51
N: S22 North	578	554	24
W: Auranga	274	274	0
Total	2593	2388	205

# MOVEMENT SUMMARY

 **Site: 9132 [2048 PM S22/Main Road]**

S22/Main Road intersection

Signals - Fixed Time Isolated Cycle Time = 40 seconds (Practical Cycle Time)

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Queue Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
East: S22 East											
5	T1	886	2.1	0.421	5.8	LOS A	5.2	36.9	0.62	0.54	54.8
6	R2	338	0.3	0.733	23.1	LOS C	6.9	48.7	0.97	0.91	42.6
Approach		1224	1.6	0.733	10.6	LOS B	6.9	48.7	0.72	0.64	50.7
North: Auranga New Road											
7	L2	276	0.0	0.271	10.8	LOS B	2.9	20.3	0.56	0.73	49.8
9	R2	138	0.0	0.498	23.9	LOS C	2.7	18.9	0.96	0.78	42.3
Approach		414	0.0	0.498	15.1	LOS B	2.9	20.3	0.69	0.74	47.0
West: S22 West											
10	L2	169	0.0	0.612	24.7	LOS C	3.5	24.2	0.98	0.83	41.8
11	T1	443	6.7	0.794	22.2	LOS C	5.0	37.0	1.00	0.97	44.0
Approach		613	4.8	0.794	22.9	LOS C	5.0	37.0	0.99	0.93	43.3
All Vehicles		2251	2.2	0.794	14.8	LOS B	6.9	48.7	0.79	0.74	47.8

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Vehicle movement LOS values are based on average delay per movement.

Intersection and Approach LOS values are based on average delay for all vehicle movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Movement Performance - Pedestrians									
Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Queue Distance m	Prop. Queued	Effective Stop Rate per ped	
P2	East Full Crossing	53	14.5	LOS B	0.1	0.1	0.85	0.85	
P3	North Full Crossing	53	14.5	LOS B	0.1	0.1	0.85	0.85	
All Pedestrians		105	14.5	LOS B			0.85	0.85	

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)

Pedestrian movement LOS values are based on average delay per pedestrian movement.

Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

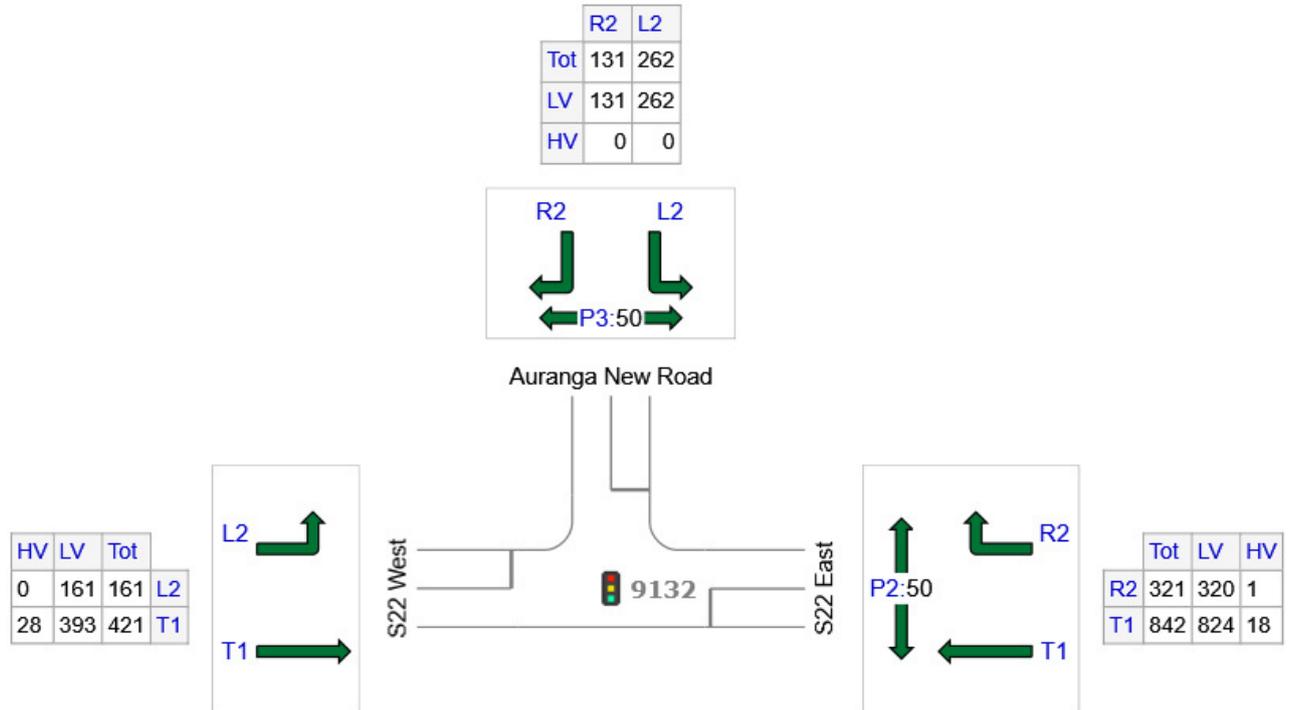
# INPUT VOLUMES

Vehicles and pedestrians per 60 minutes

 Site: 9132 [2048 PM S22/Main Road]

S22/Main Road intersection  
Signals - Fixed Time Isolated

Volume Display Method: Separate



	All MCs	Light Vehicles (LV)	Heavy Vehicles (HV)
E: S22 East	1163	1144	19
N: Auranga New Road	393	393	0
W: S22 West	582	554	28
Total	2138	2091	47

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# MOVEMENT SUMMARY

 Site: 9132 [2038 PM S22/Main Road]

S22/Main Road intersection

Signals - Fixed Time Isolated Cycle Time = 40 seconds (Practical Cycle Time)

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back Vehicles veh	of Queue Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
East: S22 East											
5	T1	928	2.5	0.442	5.9	LOS A	5.5	39.4	0.63	0.55	54.7
6	R2	253	0.4	0.610	21.9	LOS C	4.8	33.9	0.95	0.84	43.2
Approach		1181	2.0	0.610	9.3	LOS A	5.5	39.4	0.70	0.61	51.7
North: Auranga New Road											
7	L2	235	0.4	0.243	11.2	LOS B	2.5	17.9	0.58	0.72	49.5
9	R2	102	0.0	0.368	23.5	LOS C	2.0	13.7	0.94	0.76	42.5
Approach		337	0.3	0.368	14.9	LOS B	2.5	17.9	0.69	0.74	47.1
West: S22 West											
10	L2	126	0.0	0.144	12.0	LOS B	1.4	9.9	0.59	0.71	49.0
11	T1	348	8.8	0.542	17.6	LOS B	3.4	25.4	0.96	0.78	46.5
Approach		475	6.4	0.542	16.2	LOS B	3.4	25.4	0.86	0.76	47.1
All Vehicles		1993	2.8	0.610	11.9	LOS B	5.5	39.4	0.74	0.67	49.8

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Vehicle movement LOS values are based on average delay per movement.

Intersection and Approach LOS values are based on average delay for all vehicle movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Movement Performance - Pedestrians									
Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Pedestrian ped	Back of Queue Distance m	Prop. Queued	Effective Stop Rate per ped	
P2	East Full Crossing	53	14.5	LOS B	0.1	0.1	0.85	0.85	
P3	North Full Crossing	53	14.5	LOS B	0.1	0.1	0.85	0.85	
All Pedestrians		105	14.5	LOS B			0.85	0.85	

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)

Pedestrian movement LOS values are based on average delay per pedestrian movement.

Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

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# INPUT VOLUMES

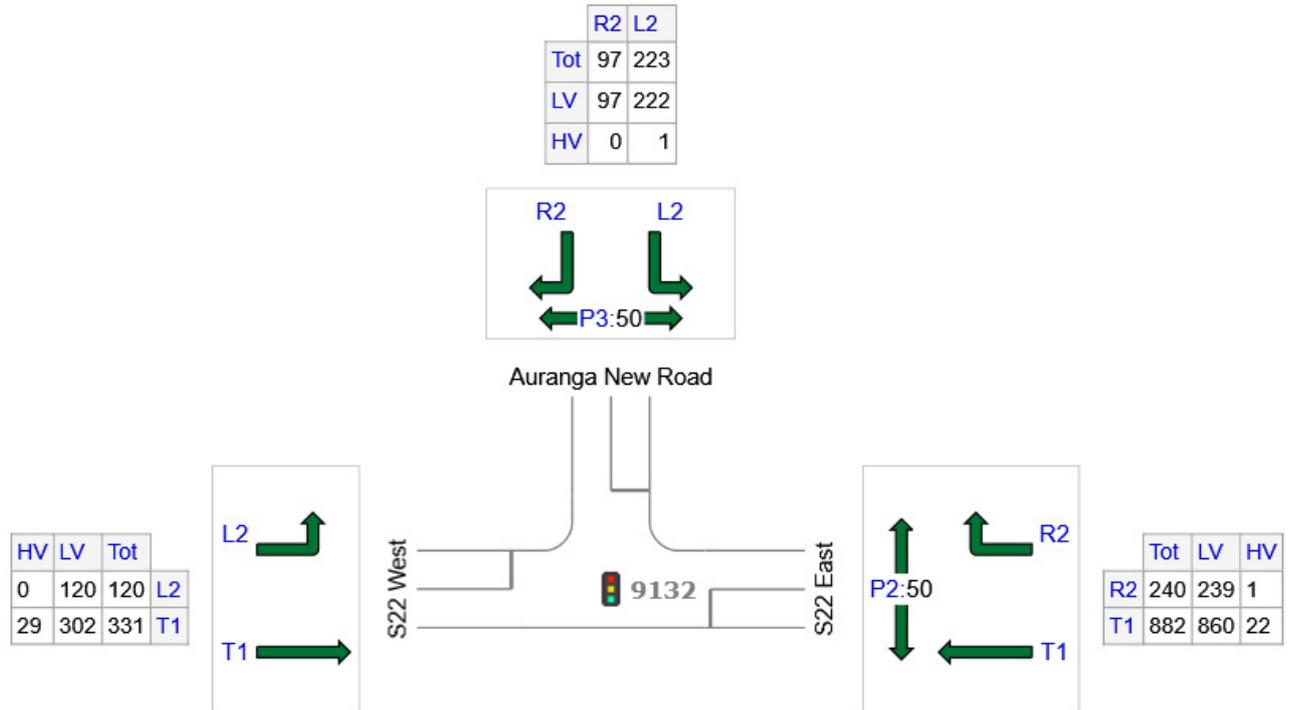
Vehicles and pedestrians per 60 minutes

 Site: 9132 [2038 PM S22/Main Road]

S22/Main Road intersection

Signals - Fixed Time Isolated

Volume Display Method: Separate



	All MCs	Light Vehicles (LV)	Heavy Vehicles (HV)
E: S22 East	1122	1099	23
N: Auranga New Road	320	319	1
W: S22 West	451	422	29
Total	1893	1840	53

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# MOVEMENT SUMMARY

 **Site: 9132 [2038 AM S22/Main Road]**

S22/Main Road intersection

Signals - Fixed Time Isolated Cycle Time = 50 seconds (Practical Cycle Time)

Flow Scale Analysis (Practical Capacity): Results for Flow Scale (chosen as largest for any movement) = 120.0 %

Movement Performance - Vehicles												
Mov ID	OD Mov	Demand Flows		Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue		Prop. Queued	Effective Stop Rate per veh	Average Speed km/h	
		Total veh/h	HV %				Vehicles veh	Distance m				
East: S22 East												
5	T1	291	8.3	0.132	4.7	LOS A	1.5	11.6	0.46	0.37	55.7	
6	R2	193	0.7	0.751	31.7	LOS C	5.2	36.6	1.00	0.92	38.7	
Approach		484	5.2	0.751	15.5	LOS B	5.2	36.6	0.67	0.59	47.4	
North: Auranga New Road												
7	L2	187	0.7	0.242	15.8	LOS B	3.0	21.1	0.68	0.74	46.6	
9	R2	93	0.0	0.316	26.8	LOS C	2.1	15.0	0.92	0.76	40.9	
Approach		280	0.5	0.316	19.5	LOS B	3.0	21.1	0.76	0.75	44.5	
West: S22 West												
10	L2	96	0.0	0.084	9.6	LOS A	0.9	6.6	0.42	0.67	50.6	
11	T1	1057	10.9	0.858	24.8	LOS C	15.4	117.8	1.00	1.08	42.6	
Approach		1153	10.0	0.858	23.6	LOS C	15.4	117.8	0.95	1.04	43.2	
All Vehicles		1917	7.4	0.858	20.9	LOS C	15.4	117.8	0.85	0.89	44.4	

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Vehicle movement LOS values are based on average delay per movement.

Intersection and Approach LOS values are based on average delay for all vehicle movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Movement Performance - Pedestrians									
Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue		Prop. Queued	Effective Stop Rate per ped	
					Pedestrian ped	Distance m			
P2	East Full Crossing	63	19.4	LOS B	0.1	0.1	0.88	0.88	
P3	North Full Crossing	63	16.0	LOS B	0.1	0.1	0.80	0.80	
All Pedestrians		126	17.7	LOS B			0.84	0.84	

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)

Pedestrian movement LOS values are based on average delay per pedestrian movement.

Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

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# MOVEMENT SUMMARY

 **Site: 9132 [2028 AM S22/Main Road]**

S22/Main Road intersection

Signals - Fixed Time Isolated Cycle Time = 90 seconds (Practical Cycle Time)

Flow Scale Analysis (Practical Capacity): Results for Flow Scale (chosen as largest for any movement) = 120.0 %

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Flows		Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue		Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
		Total veh/h	HV %				Vehicles veh	Distance m			
East: S22 East											
5	T1	773	12.4	0.308	5.5	LOS A	6.4	49.6	0.41	0.36	55.0
6	R2	225	0.0	0.843	53.6	LOS D	11.0	77.0	1.00	0.95	31.4
Approach		998	9.6	0.843	16.3	LOS B	11.0	77.0	0.54	0.49	47.1
North: Main Road											
7	L2	178	0.0	0.254	26.3	LOS C	5.4	37.7	0.73	0.76	41.1
9	R2	38	0.0	0.122	40.6	LOS D	1.4	10.1	0.88	0.72	35.4
Approach		216	0.0	0.254	28.8	LOS C	5.4	37.7	0.76	0.75	40.0
West: S22 West											
10	L2	48	0.0	0.036	9.3	LOS A	0.6	4.1	0.30	0.64	50.8
11	T1	1520	10.9	0.872	31.1	LOS C	35.9	274.5	0.95	0.99	39.7
Approach		1568	10.6	0.872	30.4	LOS C	35.9	274.5	0.93	0.98	40.0
All Vehicles		2781	9.4	0.872	25.3	LOS C	35.9	274.5	0.78	0.79	42.2

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Vehicle movement LOS values are based on average delay per movement.

Intersection and Approach LOS values are based on average delay for all vehicle movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Movement Performance - Pedestrians									
Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue		Prop. Queued	Effective Stop Rate per ped	
					Pedestrian ped	Distance m			
P2	East Full Crossing	63	39.3	LOS D	0.2	0.2	0.94	0.94	
P3	North Full Crossing	63	16.8	LOS B	0.1	0.1	0.61	0.61	
All Pedestrians		126	28.1	LOS C			0.77	0.77	

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)

Pedestrian movement LOS values are based on average delay per pedestrian movement.

Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

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# MOVEMENT SUMMARY

 **Site: 9132 [2048 AM S22/Main Road]**

S22/Main Road intersection

Signals - Fixed Time Isolated Cycle Time = 70 seconds (Practical Cycle Time)

Flow Scale Analysis (Practical Capacity): Results for Flow Scale (chosen as largest for any movement) = 120.0 %

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back Vehicles veh	of Queue Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
East: S22 East											
5	T1	347	10.9	0.143	4.5	LOS A	2.1	16.3	0.39	0.32	55.9
6	R2	261	0.5	0.828	42.2	LOS D	10.0	70.3	1.00	0.96	34.8
Approach		609	6.4	0.828	20.7	LOS C	10.0	70.3	0.65	0.59	44.4
North: Auranga New Road											
7	L2	259	0.5	0.339	20.7	LOS C	6.1	42.7	0.72	0.77	43.9
9	R2	129	0.0	0.444	35.7	LOS D	4.2	29.3	0.95	0.78	37.2
Approach		388	0.3	0.444	25.7	LOS C	6.1	42.7	0.80	0.77	41.4
West: S22 West											
10	L2	131	0.0	0.108	10.3	LOS B	1.6	11.5	0.39	0.67	50.2
11	T1	1256	13.0	0.875	30.7	LOS C	25.6	199.0	0.97	1.06	39.9
Approach		1387	11.7	0.875	28.7	LOS C	25.6	199.0	0.92	1.02	40.7
All Vehicles		2384	8.5	0.875	26.2	LOS C	25.6	199.0	0.83	0.87	41.7

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Vehicle movement LOS values are based on average delay per movement.

Intersection and Approach LOS values are based on average delay for all vehicle movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Movement Performance - Pedestrians									
Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Pedestrian ped	Back of Queue Distance m	Prop. Queued	Effective Stop Rate per ped	
P2	East Full Crossing	63	29.3	LOS C	0.1	0.1	0.92	0.92	
P3	North Full Crossing	63	16.5	LOS B	0.1	0.1	0.69	0.69	
All Pedestrians		126	22.9	LOS C			0.80	0.80	

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)

Pedestrian movement LOS values are based on average delay per pedestrian movement.

Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

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# MOVEMENT SUMMARY

 Site: 3057 [2048 AM Great South/Auranga/S22]

2048 Great South/Auranga/S22

Signals - Fixed Time Isolated Cycle Time = 150 seconds (Practical Cycle Time)

Flow Scale Analysis (Practical Capacity): Results for Flow Scale (chosen as largest for any movement) = 120.0 %

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: S22 South											
1	L2	1	0.0	0.002	43.8	LOS D	0.1	0.4	0.72	0.61	34.4
2	T1	1179	12.6	1.340	374.6	LOS F <sup>11</sup>	136.3	1057.2	1.00	2.21	8.2
3	R2	359	4.2	1.351	395.2	LOS F <sup>11</sup>	69.2	502.1	1.00	1.62	7.7
Approach		1539	10.7	1.351	379.1	LOS F <sup>11</sup>	136.3	1057.2	1.00	2.07	8.1
East: Great South Road											
4	L2	144	8.8	0.620	68.2	LOS E <sup>11</sup>	12.9	95.6	0.98	0.82	28.2
5	T1	44	0.0	0.620	62.6	LOS E <sup>11</sup>	12.9	95.6	0.98	0.82	28.7
6	R2	472	11.0	1.088	178.0	LOS F <sup>11</sup>	28.9	221.7	1.00	1.24	14.9
Approach		661	9.8	1.088	146.3	LOS F <sup>11</sup>	28.9	221.7	0.99	1.12	17.2
North: S22 North											
7	L2	164	2.3	0.301	48.6	LOS D	9.2	65.4	0.82	0.78	32.8
8	T1	260	10.2	0.238	42.1	LOS D	7.1	54.0	0.80	0.65	35.5
9	R2	306	0.0	0.620	57.4	LOS E <sup>11</sup>	19.6	137.3	0.94	0.84	30.4
Approach		730	4.2	0.620	50.0	LOS D	19.6	137.3	0.86	0.76	32.6
West: Auranga											
10	L2	302	0.0	0.800	45.0	LOS D	18.7	130.9	1.00	0.88	34.2
11	T1	43	0.0	0.800	39.5	LOS D	18.7	130.9	1.00	0.88	34.8
12	R2	1	0.0	0.005	63.4	LOS E <sup>11</sup>	0.1	0.5	0.87	0.60	29.2
Approach		346	0.0	0.800	44.4	LOS D	18.7	130.9	1.00	0.88	34.2
All Vehicles		3275	7.9	1.351	223.4	LOS F <sup>11</sup>	136.3	1057.2	0.97	1.46	12.5

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Vehicle movement LOS values are based on average delay per movement.

Intersection and Approach LOS values are based on average delay for all vehicle movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

<sup>11</sup> Level of Service is worse than the Level of Service Target specified in the Parameter Settings dialog.

Movement Performance - Pedestrians									
Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Distance m	Prop. Queued	Effective Stop Rate per ped	
P1	South Full Crossing	63	69.3	LOS F <sup>12</sup>	0.3	0.3	0.96	0.96	
P2	East Full Crossing	63	45.8	LOS E <sup>12</sup>	0.2	0.2	0.78	0.78	
P3	North Full Crossing	63	69.3	LOS F <sup>12</sup>	0.3	0.3	0.96	0.96	
P4	West Full Crossing	63	41.9	LOS E <sup>12</sup>	0.2	0.2	0.75	0.75	
All Pedestrians		253	56.6	LOS E <sup>12</sup>			0.86	0.86	

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)

Pedestrian movement LOS values are based on average delay per pedestrian movement.

Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

<sup>12</sup> Level of Service is worse than the Pedestrian Level of Service Target specified in the Parameter Settings dialog.

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# MOVEMENT SUMMARY

 **Site: 9132 [2048 PM S22/Main Road]**

S22/Main Road intersection

Signals - Fixed Time Isolated Cycle Time = 50 seconds (Practical Cycle Time)

Flow Scale Analysis (Practical Capacity): Results for Flow Scale (chosen as largest for any movement) = 120.0 %

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
East: S22 East											
5	T1	1064	2.1	0.463	6.0	LOS A	7.3	51.8	0.59	0.52	54.6
6	R2	405	0.3	0.786	27.5	LOS C	10.6	74.3	0.98	0.94	40.5
Approach		1469	1.6	0.786	12.0	LOS B	10.6	74.3	0.70	0.64	49.8
North: Auranga New Road											
7	L2	331	0.0	0.320	12.0	LOS B	4.4	30.6	0.57	0.74	49.0
9	R2	165	0.0	0.560	28.0	LOS C	4.0	28.1	0.97	0.80	40.3
Approach		496	0.0	0.560	17.3	LOS B	4.4	30.6	0.70	0.76	45.7
West: S22 West											
10	L2	203	0.0	0.550	26.1	LOS C	4.7	33.1	0.95	0.80	41.2
11	T1	532	6.7	0.715	22.8	LOS C	6.8	50.0	0.99	0.89	43.6
Approach		735	4.8	0.715	23.7	LOS C	6.8	50.0	0.97	0.87	42.9
All Vehicles		2701	2.2	0.786	16.2	LOS B	10.6	74.3	0.78	0.72	47.0

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Vehicle movement LOS values are based on average delay per movement.

Intersection and Approach LOS values are based on average delay for all vehicle movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Movement Performance - Pedestrians									
Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Pedestrian	Back of Queue Distance m	Prop. Queued	Effective Stop Rate per ped	
P2	East Full Crossing	63	19.4	LOS B	0.1	0.1	0.88	0.88	
P3	North Full Crossing	63	19.4	LOS B	0.1	0.1	0.88	0.88	
All Pedestrians		126	19.4	LOS B			0.88	0.88	

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)

Pedestrian movement LOS values are based on average delay per pedestrian movement.

Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

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# MOVEMENT SUMMARY

 **Site: 9132 [2038 PM S22/Main Road]**

S22/Main Road intersection

Signals - Fixed Time Isolated Cycle Time = 40 seconds (Practical Cycle Time)

Flow Scale Analysis (Practical Capacity): Results for Flow Scale (chosen as largest for any movement) = 120.0 %

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Flows		Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue		Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
		Total veh/h	HV %				Vehicles veh	Distance m			
East: S22 East											
5	T1	1114	2.5	0.531	6.3	LOS A	7.1	50.6	0.68	0.60	54.4
6	R2	303	0.4	0.731	23.9	LOS C	6.3	44.3	0.98	0.91	42.2
Approach		1417	2.0	0.731	10.1	LOS B	7.1	50.6	0.74	0.66	51.2
North: Auranga New Road											
7	L2	282	0.4	0.291	11.4	LOS B	3.2	22.2	0.59	0.73	49.4
9	R2	123	0.0	0.442	23.7	LOS C	2.4	16.6	0.95	0.77	42.4
Approach		404	0.3	0.442	15.1	LOS B	3.2	22.2	0.70	0.75	47.0
West: S22 West											
10	L2	152	0.0	0.173	12.1	LOS B	1.7	12.1	0.60	0.72	48.9
11	T1	418	8.8	0.651	18.7	LOS B	4.3	32.0	0.98	0.85	45.9
Approach		570	6.4	0.651	16.9	LOS B	4.3	32.0	0.88	0.81	46.7
All Vehicles		2391	2.8	0.731	12.6	LOS B	7.1	50.6	0.77	0.71	49.3

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Vehicle movement LOS values are based on average delay per movement.

Intersection and Approach LOS values are based on average delay for all vehicle movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Movement Performance - Pedestrians									
Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue		Prop. Queued	Effective Stop Rate per ped	
					Pedestrian ped	Distance m			
P2	East Full Crossing	63	14.5	LOS B	0.1	0.1	0.85	0.85	
P3	North Full Crossing	63	14.5	LOS B	0.1	0.1	0.85	0.85	
All Pedestrians		126	14.5	LOS B			0.85	0.85	

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)

Pedestrian movement LOS values are based on average delay per pedestrian movement.

Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

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# MOVEMENT SUMMARY

 **Site: 9132 [2028 PM S22/Main Road]**

S22/Main Road intersection

Signals - Fixed Time Isolated Cycle Time = 60 seconds (Practical Cycle Time)

Flow Scale Analysis (Practical Capacity): Results for Flow Scale (chosen as largest for any movement) = 120.0 %

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Flows		Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue		Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
		Total veh/h	HV %				Vehicles veh	Distance m			
East: S22 East											
5	T1	1434	6.3	0.624	7.8	LOS A	13.2	97.0	0.67	0.61	53.2
6	R2	328	0.0	0.820	35.5	LOS D	10.7	75.1	1.00	0.96	37.2
Approach		1762	5.1	0.820	12.9	LOS B	13.2	97.0	0.73	0.67	49.3
North: Main Road											
7	L2	307	0.0	0.331	15.3	LOS B	5.4	38.0	0.64	0.75	46.9
9	R2	66	0.0	0.193	28.8	LOS C	1.7	11.9	0.88	0.74	40.0
Approach		373	0.0	0.331	17.7	LOS B	5.4	38.0	0.68	0.75	45.5
West: S22 West											
10	L2	71	0.0	0.066	11.3	LOS B	0.9	6.2	0.45	0.67	49.4
11	T1	941	11.0	0.866	30.6	LOS C	16.3	125.2	1.00	1.08	39.9
Approach		1012	10.2	0.866	29.3	LOS C	16.3	125.2	0.96	1.05	40.4
All Vehicles		3147	6.1	0.866	18.8	LOS B	16.3	125.2	0.80	0.80	45.6

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Vehicle movement LOS values are based on average delay per movement.

Intersection and Approach LOS values are based on average delay for all vehicle movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Movement Performance - Pedestrians									
Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue		Prop. Queued	Effective Stop Rate per ped	
					Pedestrian ped	Distance m			
P2	East Full Crossing	63	24.4	LOS C	0.1	0.1	0.90	0.90	
P3	North Full Crossing	63	21.7	LOS C	0.1	0.1	0.85	0.85	
All Pedestrians		126	23.0	LOS C			0.88	0.88	

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)

Pedestrian movement LOS values are based on average delay per pedestrian movement.

Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

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# MOVEMENT SUMMARY

 **Site: 3057 [2048 PM Great South/Auranga/S22]**

2048 Great South/Auranga/S22

Signals - Fixed Time Isolated Cycle Time = 150 seconds (Practical Cycle Time)

Flow Scale Analysis (Practical Capacity): Results for Flow Scale (chosen as largest for any movement) = 120.0 %

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: S22 South											
1	L2	1	0.0	0.003	55.9	LOS E <sup>11</sup>	0.1	0.5	0.82	0.61	30.8
2	T1	772	1.8	1.172	234.8	LOS F <sup>11</sup>	65.7	467.1	1.00	1.68	12.0
3	R2	177	12.1	0.716	59.1	LOS E <sup>11</sup>	11.2	86.8	0.89	0.82	30.0
Approach		950	3.7	1.172	201.9	LOS F <sup>11</sup>	65.7	467.1	0.98	1.52	13.5
East: Great South Road											
4	L2	485	1.0	1.161	228.8	LOS F <sup>11</sup>	80.9	570.4	1.00	1.39	12.2
5	T1	68	0.0	1.161	223.2	LOS F <sup>11</sup>	80.9	570.4	1.00	1.39	12.3
6	R2	268	3.3	0.384	62.6	LOS E <sup>11</sup>	8.6	61.7	0.92	0.79	29.4
Approach		821	1.7	1.161	174.1	LOS F <sup>11</sup>	80.9	570.4	0.97	1.19	15.1
North: S22 North											
7	L2	210	1.8	0.575	64.3	LOS E <sup>11</sup>	14.0	99.2	0.96	0.82	28.8
8	T1	725	2.6	1.088	170.3	LOS F <sup>11</sup>	48.0	343.5	1.00	1.46	15.5
9	R2	475	0.0	1.170	238.0	LOS F <sup>11</sup>	70.2	491.4	1.00	1.34	11.8
Approach		1410	1.6	1.170	177.3	LOS F <sup>11</sup>	70.2	491.4	0.99	1.33	15.0
West: Auranga											
10	L2	387	0.0	0.840	41.1	LOS D	21.3	149.2	1.00	0.91	35.5
11	T1	56	0.0	0.840	35.5	LOS D	21.3	149.2	1.00	0.91	36.1
12	R2	1	0.0	0.003	56.0	LOS E <sup>11</sup>	0.1	0.5	0.82	0.60	31.0
Approach		443	0.0	0.840	40.4	LOS D	21.3	149.2	1.00	0.91	35.6
All Vehicles		3624	2.0	1.172	166.3	LOS F <sup>11</sup>	80.9	570.4	0.99	1.30	15.7

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Vehicle movement LOS values are based on average delay per movement.

Intersection and Approach LOS values are based on average delay for all vehicle movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

<sup>11</sup> Level of Service is worse than the Level of Service Target specified in the Parameter Settings dialog.

Movement Performance - Pedestrians									
Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Distance m	Prop. Queued	Effective Stop Rate per ped	
P1	South Full Crossing	63	61.8	LOS F <sup>12</sup>	0.2	0.2	0.91	0.91	
P2	East Full Crossing	63	58.2	LOS E <sup>12</sup>	0.2	0.2	0.88	0.88	
P3	North Full Crossing	63	63.6	LOS F <sup>12</sup>	0.2	0.2	0.92	0.92	
P4	West Full Crossing	63	53.9	LOS E <sup>12</sup>	0.2	0.2	0.85	0.85	
All Pedestrians		253	59.4	LOS E <sup>12</sup>			0.89	0.89	

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)

Pedestrian movement LOS values are based on average delay per pedestrian movement.

Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

<sup>12</sup> Level of Service is worse than the Pedestrian Level of Service Target specified in the Parameter Settings dialog.

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# MOVEMENT SUMMARY

 Site: 3057 [2038 PM Great South/Auranga/S22]

2048 Great South/Auranga/S22

Signals - Fixed Time Isolated Cycle Time = 150 seconds (Practical Cycle Time)

Flow Scale Analysis (Practical Capacity): Results for Flow Scale (chosen as largest for any movement) = 120.0 %

Movement Performance - Vehicles												
Mov ID	OD Mov	Demand Flows		Deg. Satn	Average Delay	Level of Service	95% Back of Queue		Prop. Queued	Effective Stop Rate	Average Speed	
		Total veh/h	HV %	v/c	sec		Vehicles veh	Distance m		per veh	km/h	
South: S22 South												
1	L2	1	0.0	0.003	53.3	LOS D	0.1	0.5	0.80	0.61	31.5	
2	T1	584	3.2	0.789	61.7	LOS E <sup>11</sup>	23.6	169.8	0.98	0.89	29.9	
3	R2	112	16.9	0.378	60.5	LOS E <sup>11</sup>	7.0	56.4	0.90	0.78	29.6	
Approach		697	5.4	0.789	61.5	LOS E <sup>11</sup>	23.6	169.8	0.97	0.87	29.8	
East: Great South Road												
4	L2	470	1.1	0.943	82.0	LOS F <sup>11</sup>	44.7	315.3	1.00	1.01	25.4	
5	T1	51	0.0	0.943	76.5	LOS E <sup>11</sup>	44.7	315.3	1.00	1.01	25.7	
6	R2	236	3.7	0.290	57.2	LOS E <sup>11</sup>	7.1	51.6	0.87	0.78	30.7	
Approach		757	1.8	0.943	73.9	LOS E <sup>11</sup>	44.7	315.3	0.96	0.94	26.8	
North: S22 North												
7	L2	130	2.9	0.327	58.5	LOS E <sup>11</sup>	8.0	57.4	0.89	0.79	30.2	
8	T1	699	3.4	0.931	82.2	LOS F <sup>11</sup>	30.9	223.0	1.00	1.09	25.6	
9	R2	354	0.0	0.942	92.6	LOS F <sup>11</sup>	31.1	217.6	1.00	1.00	23.5	
Approach		1182	2.4	0.942	82.7	LOS F <sup>11</sup>	31.1	223.0	0.99	1.03	25.4	
West: Auranga												
10	L2	280	0.0	0.648	32.8	LOS C	12.1	84.4	0.94	0.83	38.6	
11	T1	40	0.0	0.648	27.3	LOS C	12.1	84.4	0.94	0.83	39.3	
12	R2	1	0.0	0.004	57.8	LOS E <sup>11</sup>	0.1	0.5	0.83	0.60	30.5	
Approach		322	0.0	0.648	32.2	LOS C	12.1	84.4	0.94	0.83	38.6	
All Vehicles		2958	2.7	0.943	69.9	LOS E <sup>11</sup>	44.7	315.3	0.97	0.95	27.8	

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Vehicle movement LOS values are based on average delay per movement.

Intersection and Approach LOS values are based on average delay for all vehicle movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

<sup>11</sup> Level of Service is worse than the Level of Service Target specified in the Parameter Settings dialog.

Movement Performance - Pedestrians									
Mov ID	Description	Demand Flow	Average Delay	Level of Service	Average Back of Queue	Prop. Queued	Effective Stop Rate		
		ped/h	sec		Pedestrian ped	Distance m	per ped		
P1	South Full Crossing	63	57.4	LOS E <sup>12</sup>	0.2	0.2	0.88	0.88	
P2	East Full Crossing	63	55.6	LOS E <sup>12</sup>	0.2	0.2	0.86	0.86	
P3	North Full Crossing	63	65.5	LOS F <sup>12</sup>	0.3	0.3	0.94	0.94	
P4	West Full Crossing	63	51.4	LOS E <sup>12</sup>	0.2	0.2	0.83	0.83	
All Pedestrians		253	57.5	LOS E <sup>12</sup>			0.88	0.88	

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)

Pedestrian movement LOS values are based on average delay per pedestrian movement.

Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

<sup>12</sup> Level of Service is worse than the Pedestrian Level of Service Target specified in the Parameter Settings dialog.

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\SIDRA\2021-07-28 base models.sip7

# MOVEMENT SUMMARY

 Site: 3057 [2038 AM Great South/Auranga/S22]

2048 Great South/Auranga/S22

Signals - Fixed Time Isolated Cycle Time = 150 seconds (Practical Cycle Time)

Flow Scale Analysis (Practical Capacity): Results for Flow Scale (chosen as largest for any movement) = 120.0 %

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: S22 South											
1	L2	1	0.0	0.002	43.1	LOS D	0.1	0.4	0.71	0.61	34.6
2	T1	995	10.3	1.074	157.1	LOS F <sup>11</sup>	73.1	556.6	1.00	1.48	16.5
3	R2	265	5.2	1.077	174.8	LOS F <sup>11</sup>	33.5	244.9	1.00	1.22	15.2
Approach		1262	9.2	1.077	160.7	LOS F <sup>11</sup>	73.1	556.6	1.00	1.42	16.2
East: Great South Road											
4	L2	90	11.3	0.416	66.6	LOS E <sup>11</sup>	8.0	60.2	0.94	0.78	28.6
5	T1	32	0.0	0.416	60.9	LOS E <sup>11</sup>	8.0	60.2	0.94	0.78	29.1
6	R2	219	4.6	0.482	72.6	LOS E <sup>11</sup>	7.6	55.2	0.98	0.79	27.2
Approach		340	5.9	0.482	69.9	LOS E <sup>11</sup>	8.0	60.2	0.96	0.79	27.7
North: S22 North											
7	L2	77	3.3	0.139	45.5	LOS D	4.0	29.0	0.76	0.74	33.8
8	T1	216	7.0	0.190	40.6	LOS D	5.7	42.6	0.78	0.63	36.0
9	R2	225	0.0	0.468	55.7	LOS E <sup>11</sup>	13.8	96.7	0.89	0.81	30.9
Approach		518	3.4	0.468	47.9	LOS D	13.8	96.7	0.83	0.73	33.3
West: Auranga											
10	L2	217	0.0	0.582	39.5	LOS D	12.0	84.0	0.94	0.82	36.0
11	T1	32	0.0	0.582	34.0	LOS C	12.0	84.0	0.94	0.82	36.7
12	R2	1	0.0	0.005	63.4	LOS E <sup>11</sup>	0.1	0.5	0.87	0.60	29.2
Approach		250	0.0	0.582	39.0	LOS D	12.0	84.0	0.94	0.81	36.1
All Vehicles		2370	6.5	1.077	110.2	LOS F <sup>11</sup>	73.1	556.6	0.95	1.11	21.0

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Vehicle movement LOS values are based on average delay per movement.

Intersection and Approach LOS values are based on average delay for all vehicle movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

<sup>11</sup> Level of Service is worse than the Level of Service Target specified in the Parameter Settings dialog.

Movement Performance - Pedestrians									
Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Distance m	Prop. Queued	Effective Stop Rate per ped	
P1	South Full Crossing	63	69.3	LOS F <sup>12</sup>	0.3	0.3	0.96	0.96	
P2	East Full Crossing	63	45.0	LOS E <sup>12</sup>	0.2	0.2	0.78	0.78	
P3	North Full Crossing	63	69.3	LOS F <sup>12</sup>	0.3	0.3	0.96	0.96	
P4	West Full Crossing	63	41.2	LOS E <sup>12</sup>	0.2	0.2	0.74	0.74	
All Pedestrians		253	56.2	LOS E <sup>12</sup>			0.86	0.86	

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)

Pedestrian movement LOS values are based on average delay per pedestrian movement.

Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

<sup>12</sup> Level of Service is worse than the Pedestrian Level of Service Target specified in the Parameter Settings dialog.

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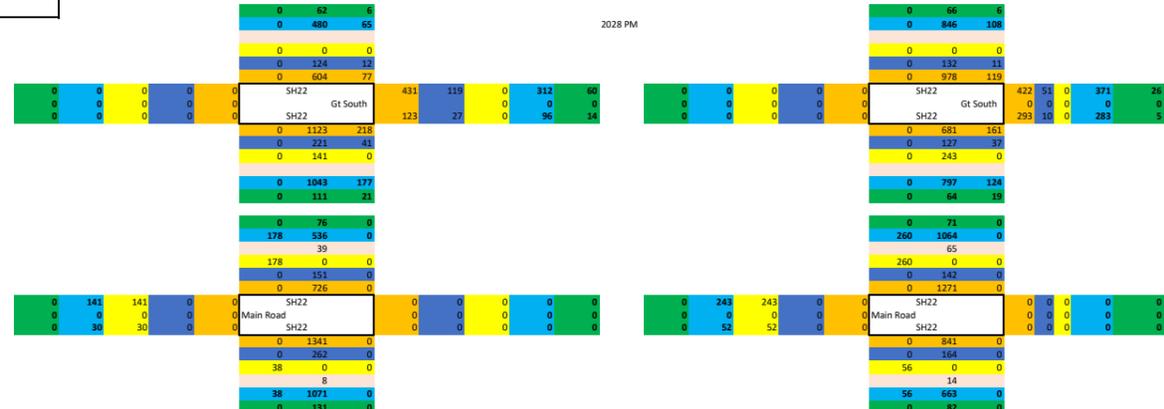
Organisation: COMMUTE TRANSPORTATION | Processed: Friday, 30 July 2021 4:59:12 PM

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\SIDRA\2021-07-28 base models.sip7

Legend	
model total PCU	
Model HCV PCU	
Development trips	
Pass by reductions	
EV	
HCV	

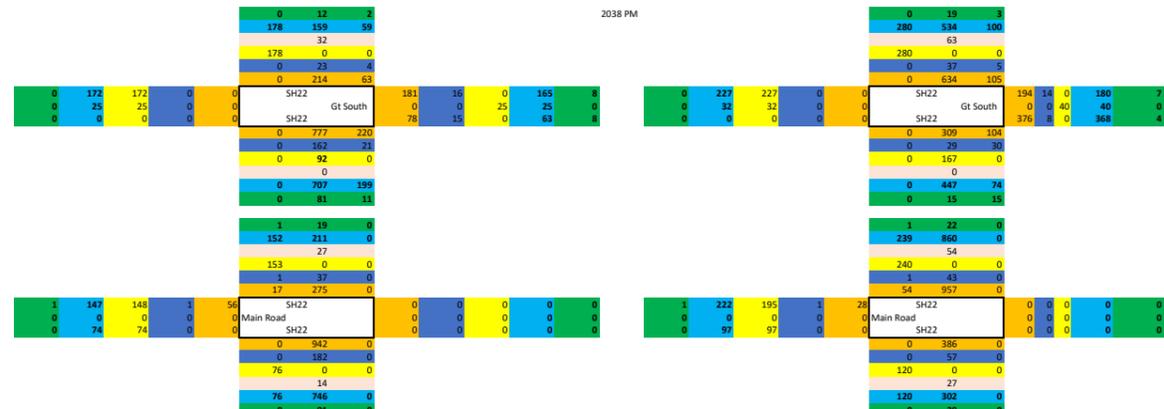
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2028 PM



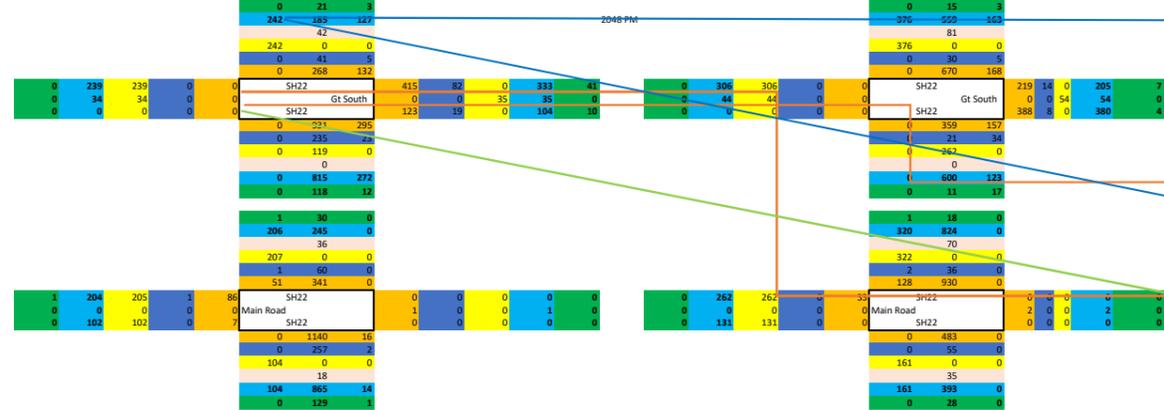
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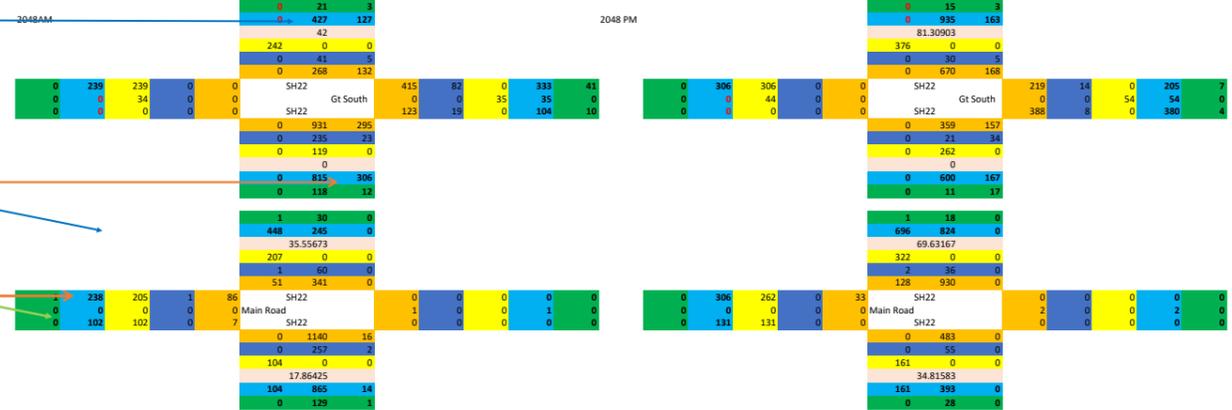
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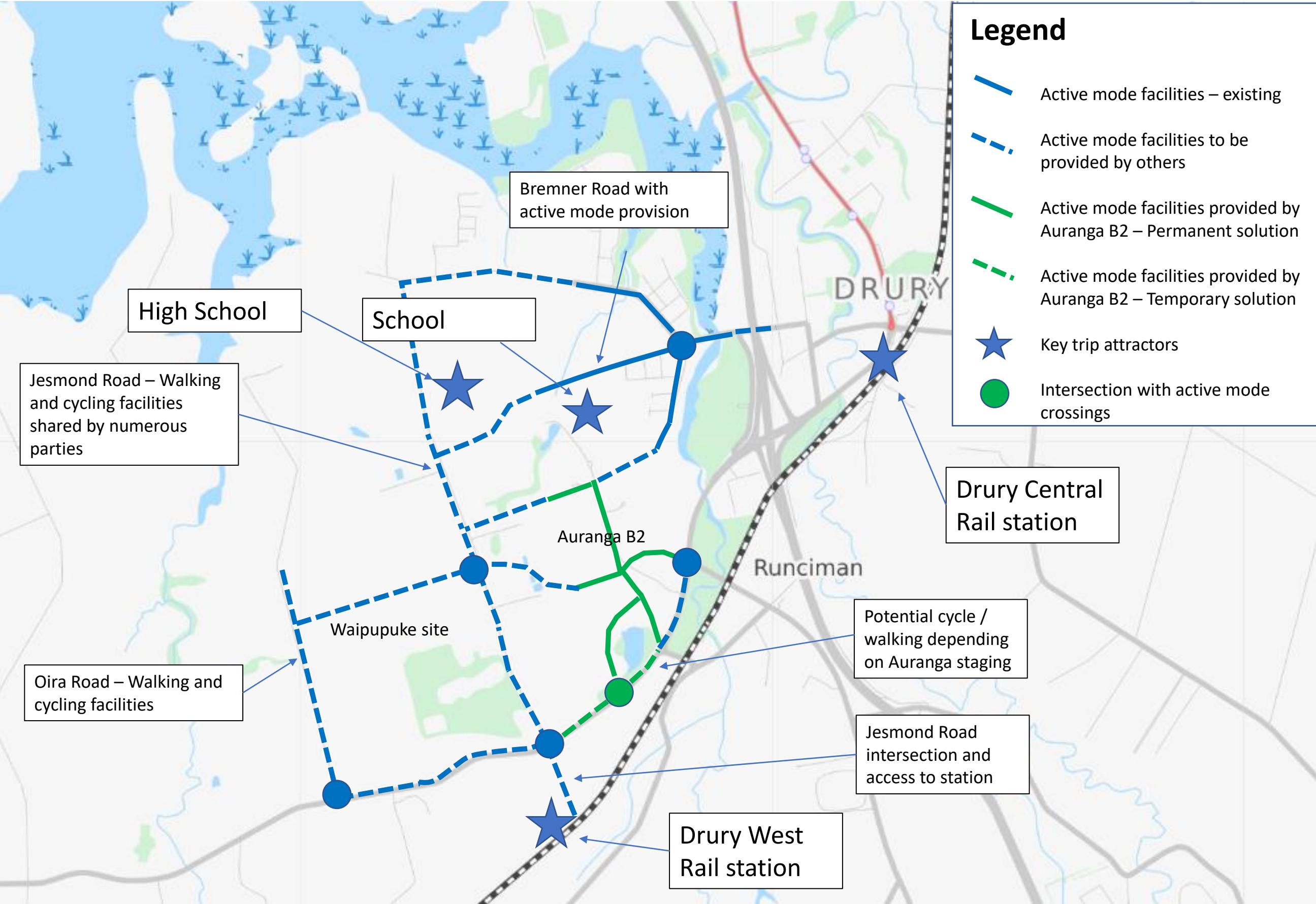


left in left out at GSR

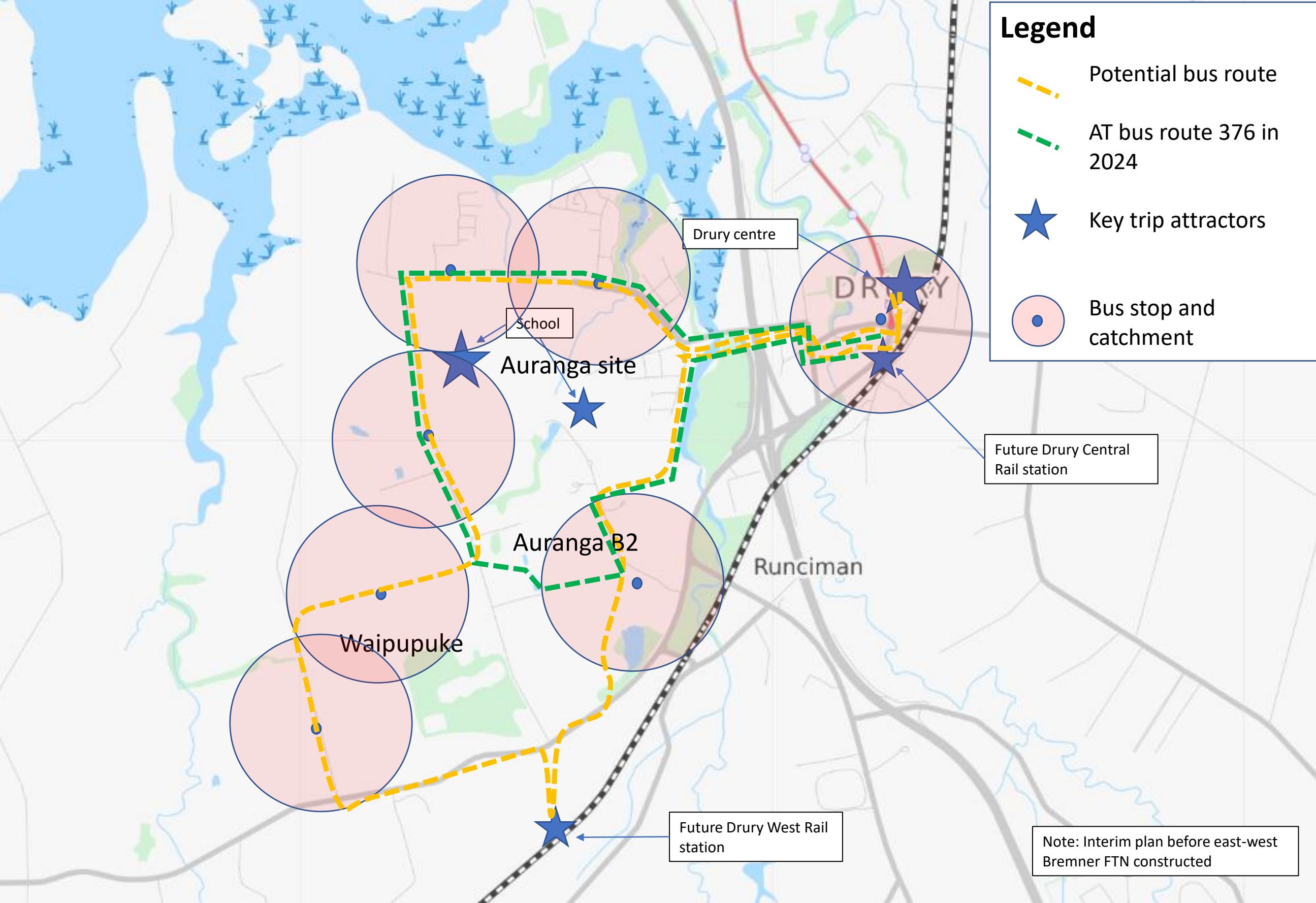
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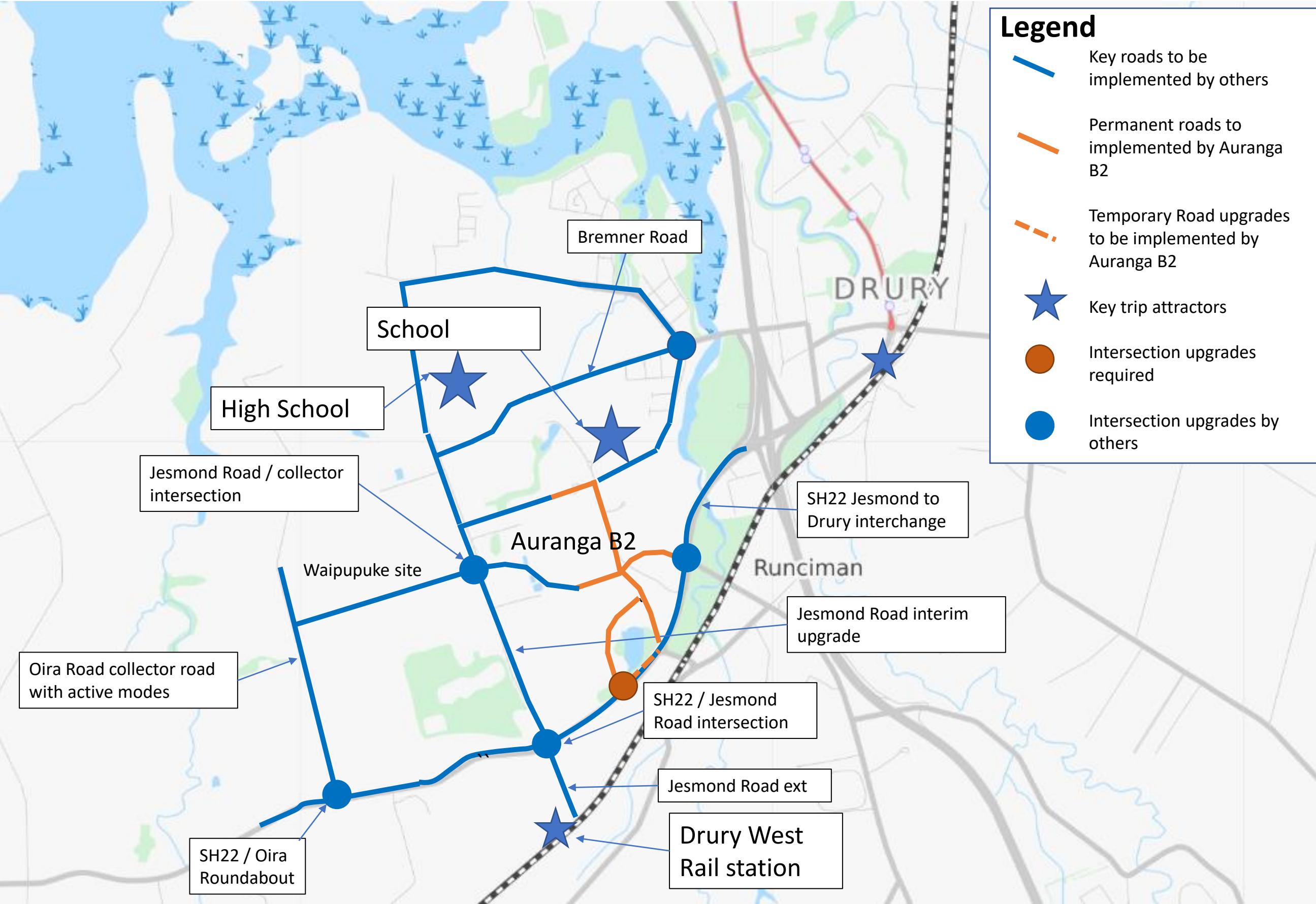
# Map 1: Walking and cycling –Access Plan



# Map 2: Public Transport –Access Plan



# Map 3: General vehicles –Access Plan





Revision notes:  
 Rev:      Date:      Notes:

Drawn by:  
 GAN  
 J01163 - Auranga B2

Client:  
**AURANGA B2**

Project:  
**AURANGA B2**  
 SH-22 Upgrade

Drawing Title:  
 Overall  
 Interim Arrangement

Date:  
 27 July 2021

Scale @ A3:  
 1:4000

Revision:  
 A



Revision notes:  
 Rev:      Date:      Notes:

Drawn by:  
 GAN  
 J01163 - Auranga B2  
 Client:  
**AURANGA B2**

Project:  
**AURANGA B2**  
 SH-22 Upgrade  
 Drawing Title:  
 Overall  
 Ultimate Layout

Date:  
 27 July 2021  
 Scale @ A3:  
 1:4000  
 Revision:  
 A



Figure:  
**1**