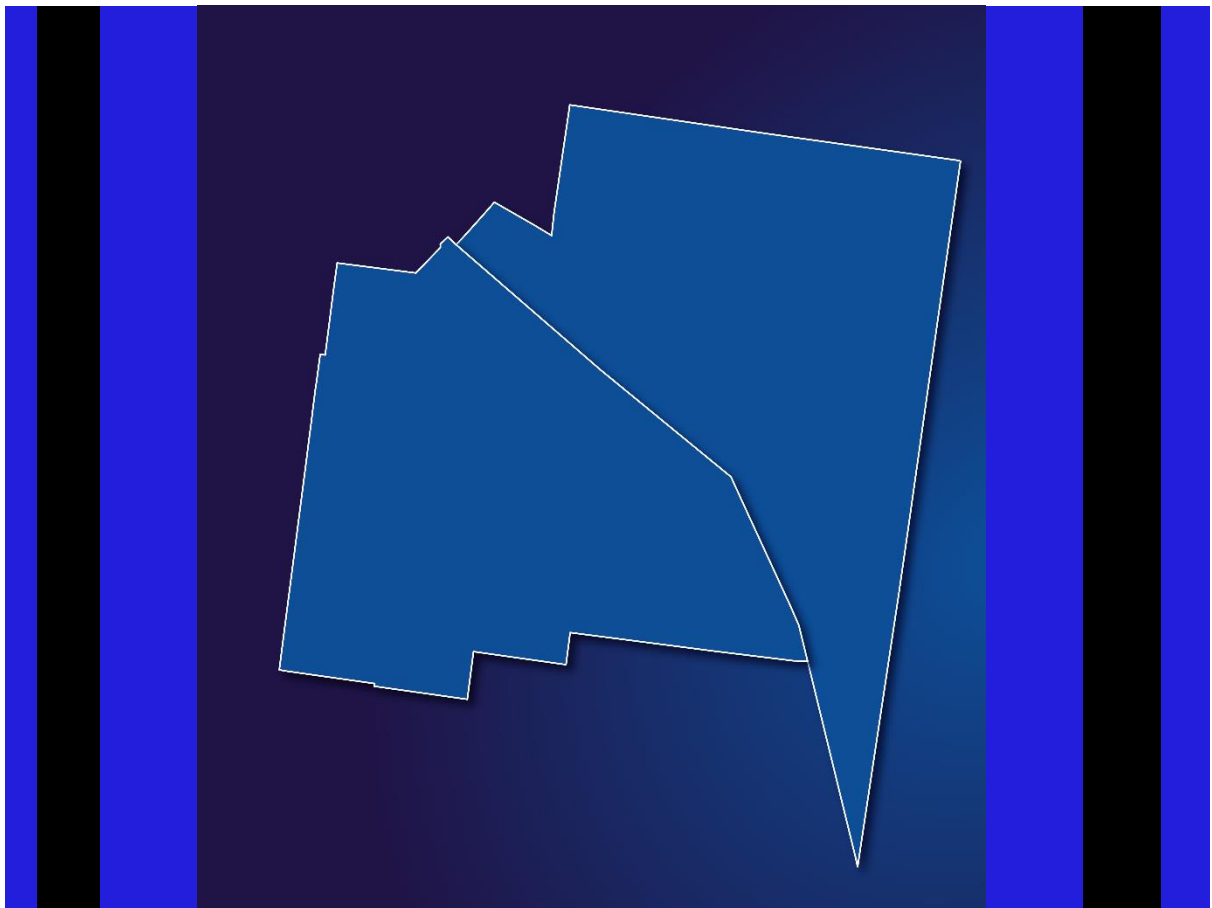


## Strategic Transport Modelling Assessment Report

Document no: 1d  
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Victorian Planning Authority  
*[Client reference]*

Casey Fields South (Employment) and Devon Meadows PSP - Transport  
Modelling Assessment  
30 October 2024



## Strategic Transport Modelling Assessment Report

<b>Client name:</b>	Victorian Planning Authority		
<b>Project name:</b>	Casey Fields South (Employment) and Devon Meadows PSP - Transport Modelling Assessment		
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## Executive summary

The Victorian Planning Authority (VPA) is currently developing the Casey Fields South (Employment) and Devon Meadows Precinct Structure Plan (PSP). Jacobs has been engaged by the VPA to undertake an assessment of the proposed future transport network for the Casey Fields South (Employment) and Devon Meadows PSP. The Project involves preparing a Strategic Transport Modelling Assessment (STMA) to examine traffic impacts of the proposed development of the PSP and understand future transport planning requirements. It includes a review of the validation of the VITM 2018 Reference Year model, modelling of the VITM 2051 Reference Case and the development of a future (2051) project-specific model.

The model was validated to a 2018 base year and deemed fit for purpose for assessing the transport impacts in and around the Casey Fields South (Employment) and Devon Meadows Precinct Structure Plan. Full details of the validation are found in the report: *Transport Model Validation Report, Casey Fields South & Devon Meadows PSP – Transport Modelling Assessment, Jacobs, 8 December 2023*

The 2051 Project Case model includes the latest proposed land use and transport networks for the Casey Fields South (Employment) and Devon Meadows PSP. Further land use and transport network updates were also made to the surrounding PSPs based on the latest available information. In particular, Clyde South, Cranbourne East, Officer South Employment and Croskell required updating to match the latest PSP forecasts. Overall, the Project Case takes into account an increase of 15,000 residents, 38,300 jobs and 2,700 school enrolments compared to the Reference Case.

This report details the results of the VITM 2051 Reference Case, and 2051 Project Case model runs. The strategic transport modelling assessment shows that traffic volumes noticeably increase in the Project Case as compared to the Reference Case across the entire local network surrounded by the PSP.

A comparison of the proposed road network and modelled Project Case volumes demonstrates that most of the proposed road classifications will be appropriate. However, several of the proposed connector level roads are approaching capacity and sections of the Clyde South PSP are forecast to exceed capacity. It is recommended that these roads be investigated in the next phase of the Project, the Integrated Transport Assessment. The suitability of bus routes and the connections to rail stations and services should also be considered.

### **Important note about this report**

The primary purpose of this report and the associated services performed by Jacobs is primarily to document the assumptions used in the development of the VITM 2051 Project Case and the model outputs for the Casey Fields South (Employment) and Devon Meadows PSP in accordance with the scope of services set out in the contract between Jacobs and the VPA.

In preparing this report, Jacobs has relied upon, and presumed accurate, any information (or confirmation of the absence thereof) provided by the Client and/or from other sources. Except as otherwise stated in the report, Jacobs has not attempted to verify the accuracy or completeness of any such information. If the information is subsequently determined to be false, inaccurate, or incomplete then it is possible that our observations and conclusions as expressed in this report may change.

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## Acronyms and abbreviations

DTP	Department of Transport and Planning
ITA	Integrated Transport Assessment
PSP	Precinct Structure Plan
VITM	Victorian Integrated Transport Model
V/C	Volume Capacity
VPA	Victorian Planning Authority

## **1. Introduction**

### **1.1 Background**

The Victorian Planning Authority (VPA) is currently developing the Casey Fields South (Employment) and Devon Meadows Precinct Structure Plan (PSP). Jacobs has been engaged by the VPA to undertake an assessment of the proposed future transport network for the Casey Fields South (Employment) and Devon Meadows PSP.

The Casey Fields South (Employment) and Devon Meadows precincts are undeveloped parcels of land located within the City of Casey, within the Southeast Growth Corridor of Melbourne, approximately 50km south-east of Melbourne CBD. Devon Meadows has been identified for primarily residential land use and Casey Fields South (Employment) has been identified for primarily industrial and mixed business land use, adjacent to the existing South Gippsland Highway. Casey Fields South (Employment) is considered a regionally significant industrial precinct which will provide approximately 9,100 job opportunities for emerging residents from surrounding precincts to live and work locally.

### **1.2 Project Overview**

The Project involves preparing a Strategic Transport Modelling Assessment (STMA) to examine traffic impacts of the proposed development of the PSP and understand future transport planning requirements. It includes a review and validation of the VITM 2018 Reference Year model, modelling of the VITM 2051 Reference Case, and development of a future (2051) Project-specific model.

An Integrated Transport Assessment (ITA) will also be undertaken to provide recommendations for the Casey Fields South (Employment) and Devon Meadows PSP to support the development of a complete, integrated multi-modal precinct. This will involve a detailed background review and understanding of the existing conditions and draft PSP. The findings from the STMA will then be considered to develop recommendations for the public transport, active travel and road networks within the precinct.

### **1.3 Study Area**

Determined in discussions with VPA, the agreed study area is shown in green in Figure 1-1, along with a wider assessment area in pink. Model updates and validation have concentrated on the study area, with impacts reported for the wider assessment area.



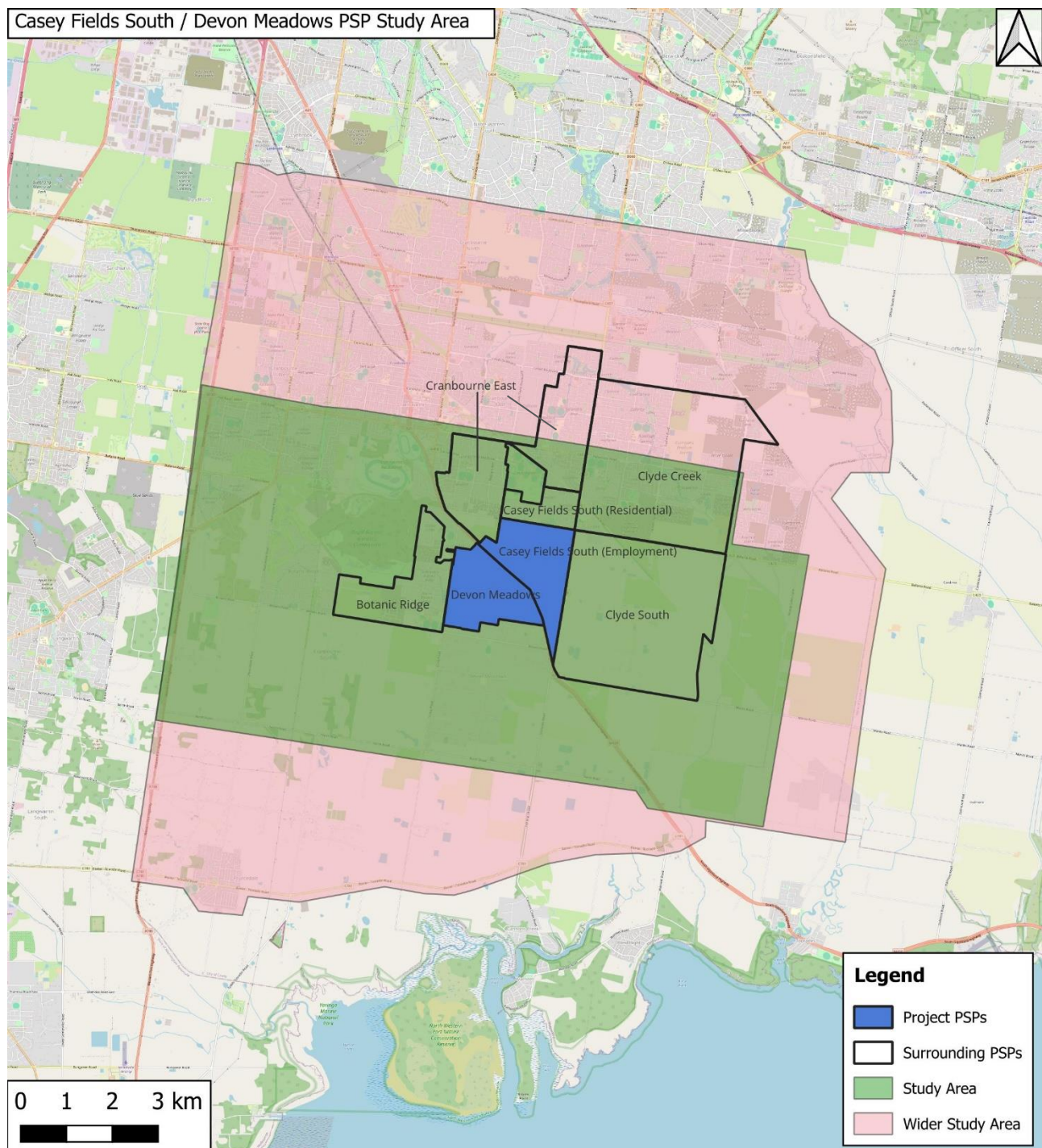


Figure 1-1: Project study area (in green) and wider assessment area (in pink)





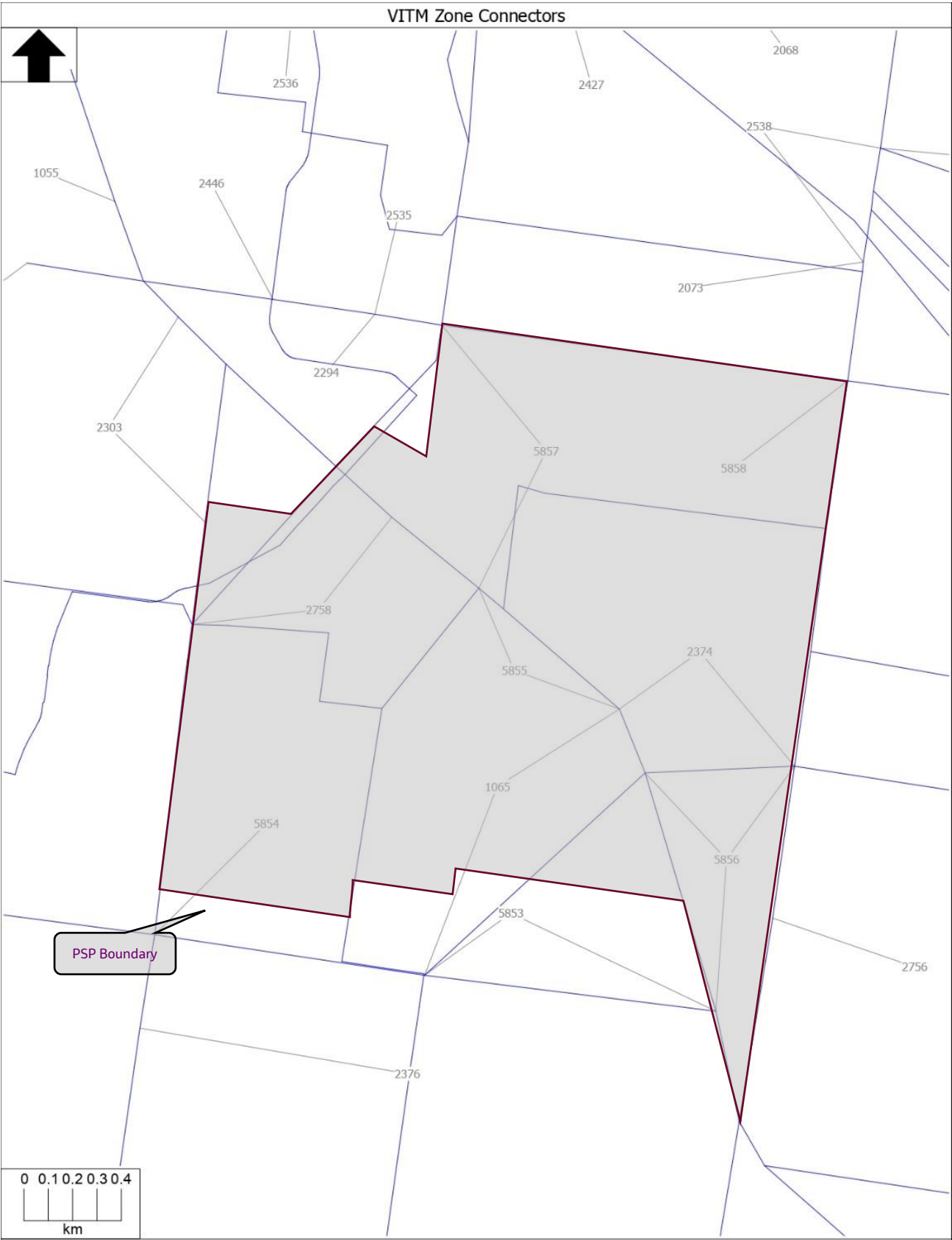


Figure 2-2: VITM Zone Connectors

### **3. 2051 Reference Case Model**

This section describes the 2051 VITM Reference Case which has been used to assess the network performance prior to the inclusion of the Casey Fields South (Employment) and Devon Meadows PSP (which is presented in Section 4).

#### **3.1 Future Transport Network**

The 2051 road and rail network is shown in Figure 3-1 and Figure 3-2. The key changes to the transport network from the 2018 Base Model are as follows:

- Clyde Rail Extension
- Monash Freeway Widening: 6 lane motorway from Clyde Road, Berwick, to South Gippsland Highway
- Koo Wee Rup Road Upgrade: Conversion to motorway (4 lanes) from Princes Freeway, Pakenham, to South Gippsland Highway, Koo Wee Rup
- Thompsons Road Widening: 6 lanes from Dandenong Valley Highway to Berwick-Cranbourne Road
- Clyde-Five Ways Road Widening: 4 lanes from South Gippsland Highway to Thompsons Road
- Ballarto Road Widening: 4 lanes from South Gippsland Highway to Clyde-Five Ways Road
- Berwick-Cranbourne Road Widening: 4 lanes from Cameron Street to Clyde-Five Ways Road
- Bells Road/Soldiers Road New Route: 6 lanes from O'Shea Road to Thompsons Road
- Western Port Highway Duplication: 4 lanes from North Road to Baxter Tooradin Road

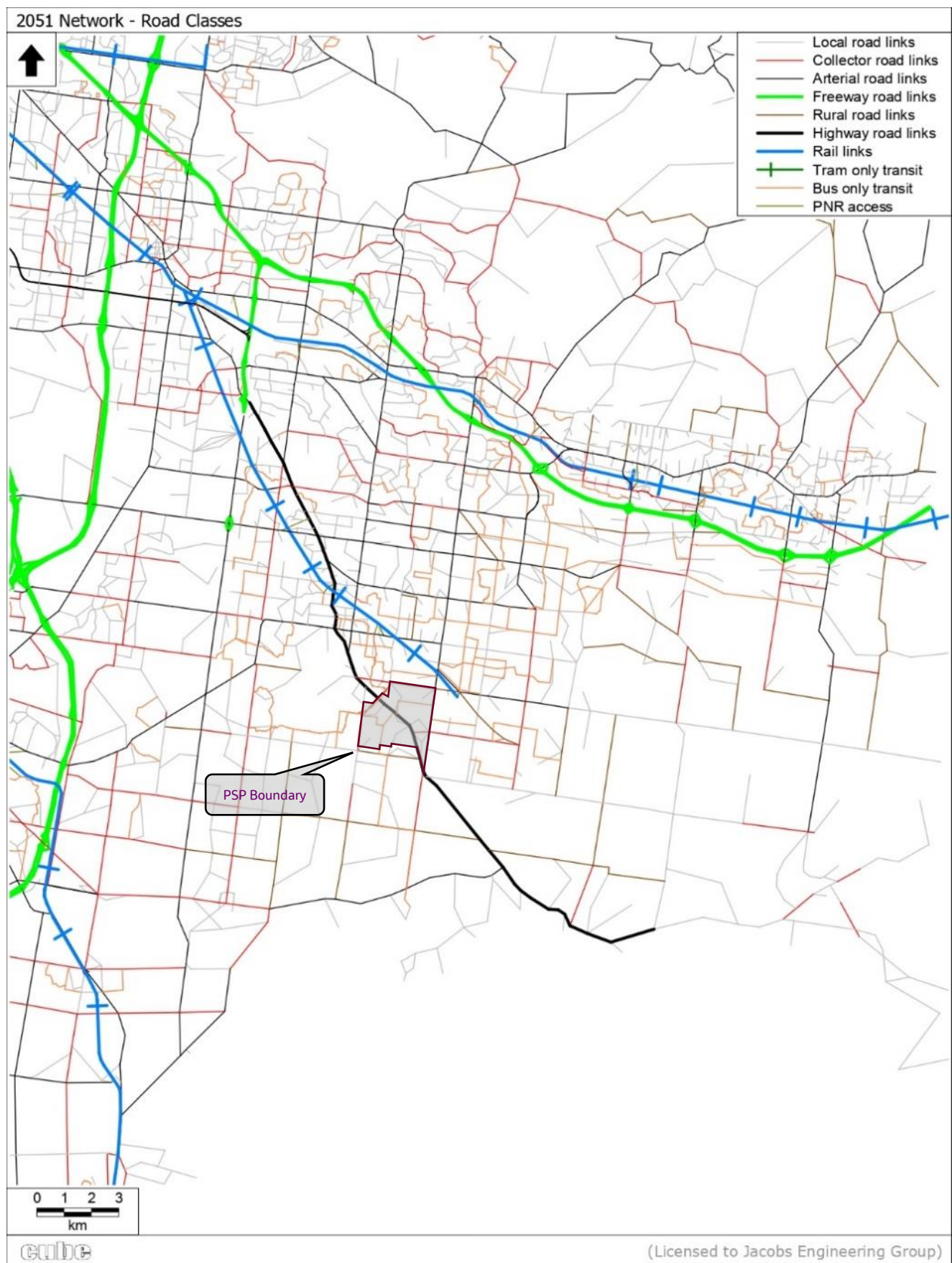


Figure 3-1: 2051 Road network classes



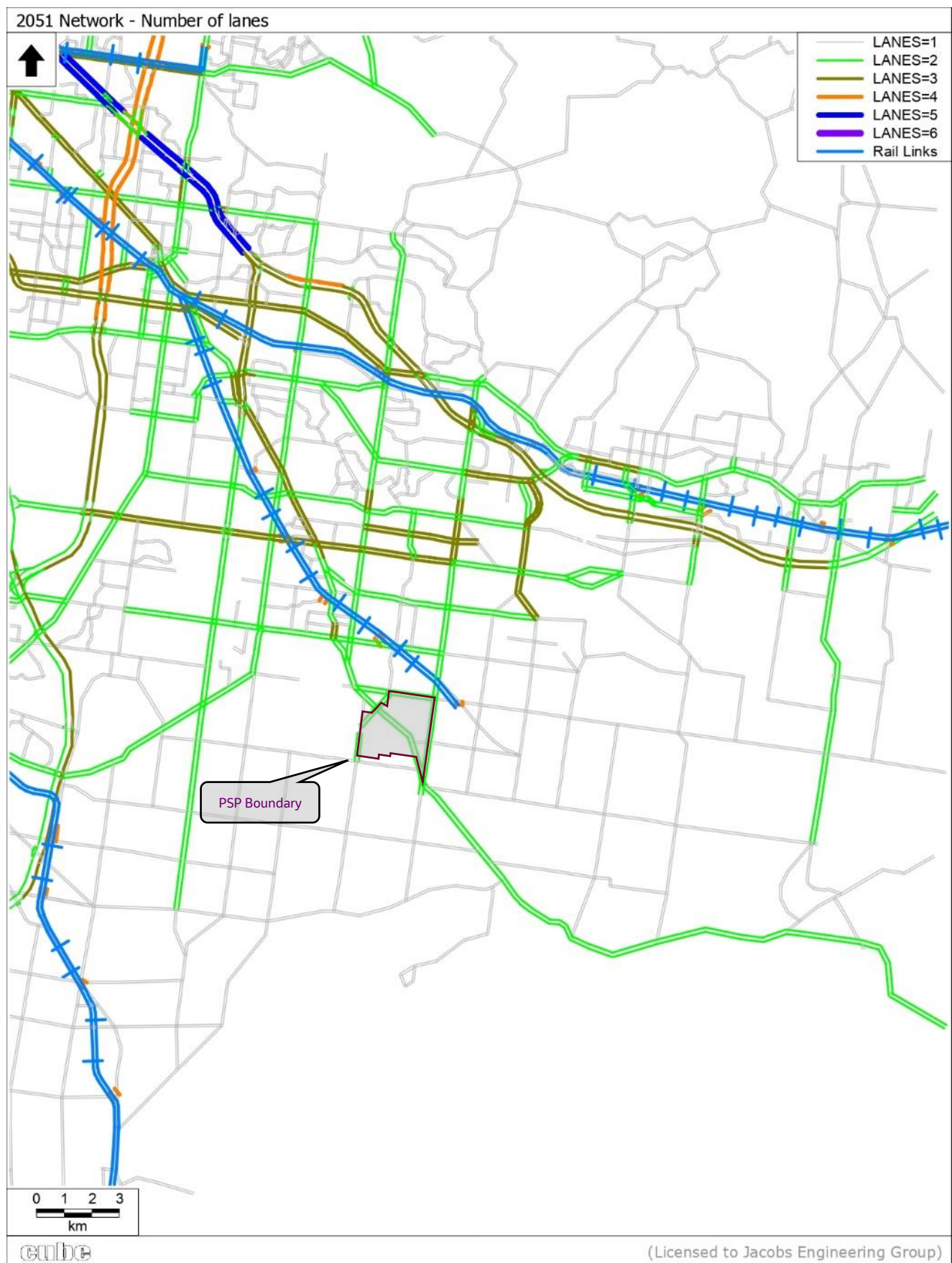


Figure 3-2: 2051 Road network number of lanes

### 3.2 Future Land Use

Table 3-1 lists the demographic inputs used in the 2051 Reference Case, these are the default inputs used in VITM prior to making updates to align them with the latest PSP forecasts.

**Table 3-1: 2051 Reference Case demographics**

PSP	VITM Zone	2051 Reference Case				
		Pop	Emp	Primary	Secondary	Tertiary
Devon Meadows	2758	2,778	177	9	-	-
	1065	2,213	183	-	-	-
	5854	-	-	-	-	-
	5855	-	-	-	-	-
<b>Devon Meadows TOTAL</b>		<b>4,991</b>	<b>360</b>	<b>9</b>	<b>-</b>	<b>-</b>
Casey Fields South (Employment)	2374	1,699	317	436	288	-
	5856	-	-	-	-	-
	5857	-	-	-	-	-
	5858	-	-	-	-	-
<b>Casey Fields South (Employment) TOTAL</b>		<b>1,699</b>	<b>317</b>	<b>436</b>	<b>288</b>	<b>-</b>
Casey Fields South (Residential)	2073	3,802	409	0	-	-
<b>Casey Fields South (Residential) TOTAL</b>		<b>3,802</b>	<b>409</b>	<b>0</b>	<b>-</b>	<b>-</b>
Botanic Ridge	2076	9,433	558	1,119	613	-
	2303	3,488	568	-	-	-
<b>Botanic Ridge TOTAL</b>		<b>12,921</b>	<b>1,125</b>	<b>1,119</b>	<b>613</b>	<b>-</b>
Clyde South	2373*	2,068	202	-	-	-
	2753	4,353	81	125	-	-
	2757	3,964	266	108	0	-
	2756	3,087	69	228	0	-
	2755	3,622	173	114	873	-
	2754	2,192	48	0	0	-
<b>Clyde South TOTAL</b>		<b>19,285</b>	<b>839</b>	<b>574</b>	<b>873</b>	<b>-</b>
Cranbourne East	2294	735	424	52	34	-
	2446	3,412	204	4	-	-
	2535	3,585	181	0	-	-
	2536	40	6	2	-	-
	2537	3,856	236	2	-	-
	925	3,357	301	36	46	-
	2538	611	56	-	-	-
	2068	4,647	223	4	2	-
	2445	2,989	117	78	235	-
	2310	2,441	414	769	1,161	-
	2534	279	46	23	-	-
	2309	1,324	91	12	-	-
	2065	3,497	703	11	20	-
	2284	2,793	103	4	-	-
<b>Cranbourne East TOTAL</b>		<b>33,565</b>	<b>3,106</b>	<b>996</b>	<b>1,498</b>	<b>-</b>
<b>Clyde Creek</b>	2760	9,778	159	800	0	-

PSP	VITM Zone	2051 Reference Case				
		Pop	Emp	Primary	Secondary	Tertiary
	2761	9,876	1,023	553	313	-
	2763	4,729	97	3	4	-
	2764	11,045	576	870	1,419	-
	2765	10,503	372	751	-	-
	2373*	2,068	202	2,185	-	-
<b>Clyde Creek TOTAL</b>		<b>47,999</b>	<b>2,428</b>	<b>5,162</b>	<b>1,736</b>	<b>-</b>
<b>Officer South Employment</b>	2158	943	352	19	-	-
	2459	808	321	10	0	-
	2269	6	322	0	-	-
	2270	21	384	5	2	-
	2271	476	104	5	9	-
	2457	5	233	-	-	-
	2186	9	571	0	-	-
	891	17	384	-	-	-
<b>Officer South Employment TOTAL</b>		<b>2,285</b>	<b>2,672</b>	<b>39</b>	<b>10</b>	<b>-</b>
<b>Croskell**</b>	2060	816	429	-	-	-
	2318	594	239	-	-	-
	924	3,711	356	-	-	-
<b>Croskell TOTAL</b>		<b>5,121</b>	<b>1,023</b>	<b>-</b>	<b>-</b>	<b>-</b>
<b>Overall TOTAL</b>		<b>129,601</b>	<b>12,078</b>	<b>8,334</b>	<b>5,019</b>	<b>-</b>

\*Southern half of zone is in Clyde South, northern half in Clyde Creek

\*\* Croskell zone 924 contains part of the PSP + an already established area.

### 3.3 Future Transport Network Performance

To assist in the assessment of transport needs in the area, the performance of the 2051 Reference Case model was assessed at a high level.

The 2051 Reference Case network shows that higher volumes are concentrated on the major highways and arterial roads such as South Gippsland Highway and Berwick-Cranbourne Road around the PSP (Figure 3-3 and Figure 3-4). Volumes can be also seen to drop off noticeably on smaller and minor arterial roads in the network across underdeveloped areas, south and southeast of Cranbourne.

The same pattern is observed in the volume to capacity (V/C) ratio analysis in Figure 3-6 and Figure 3-7, where the South Gippsland Highway is showing pockets of congestion in the AM and PM peak. The PM peak shows higher congestion, including to the east of the study area into the Clyde South PSP. However, in general the network is observed to be sufficient for the amount of traffic forecast.



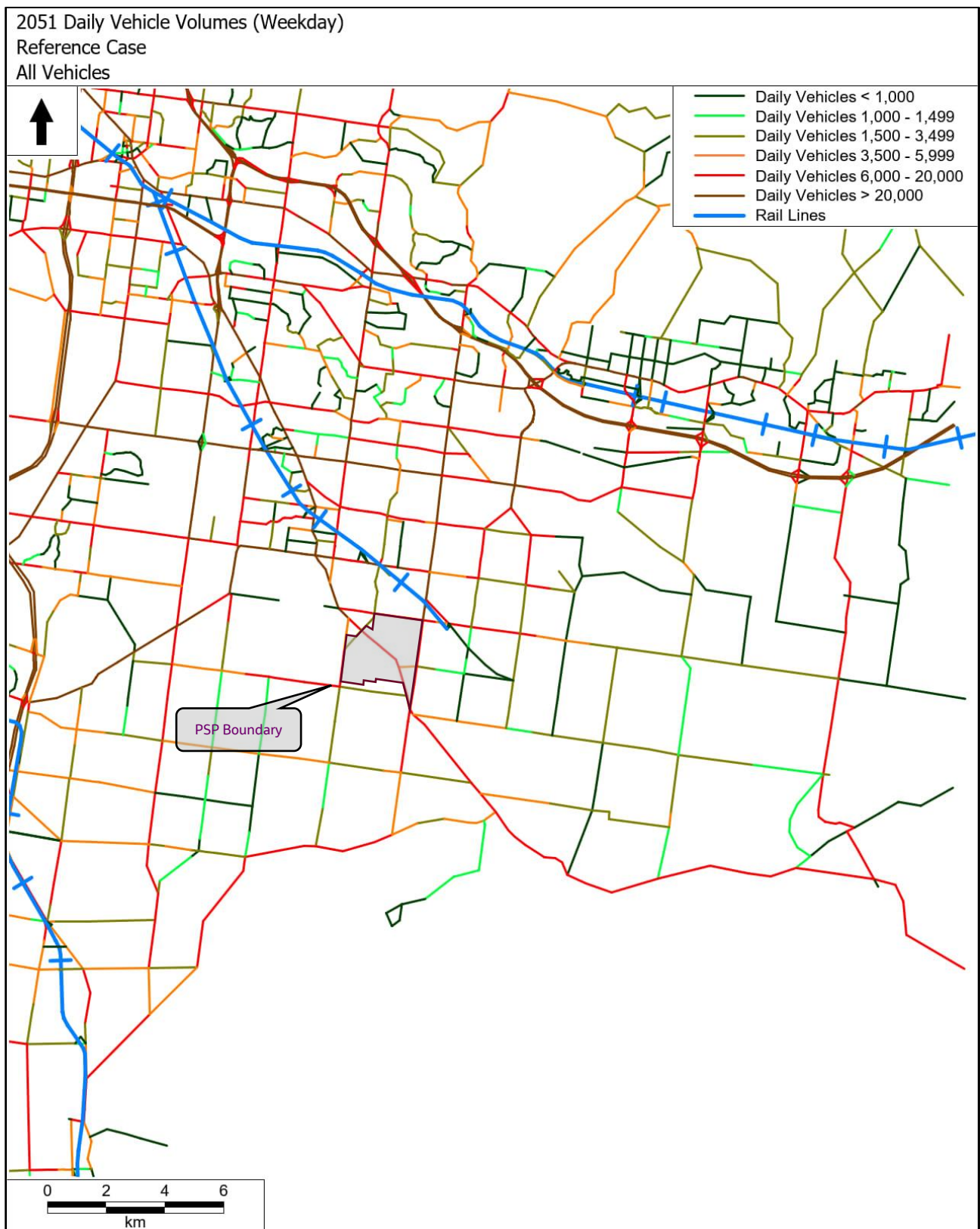


Figure 3-3: 2051 Reference Case, Daily Vehicle Volumes, South East Growth Corridor

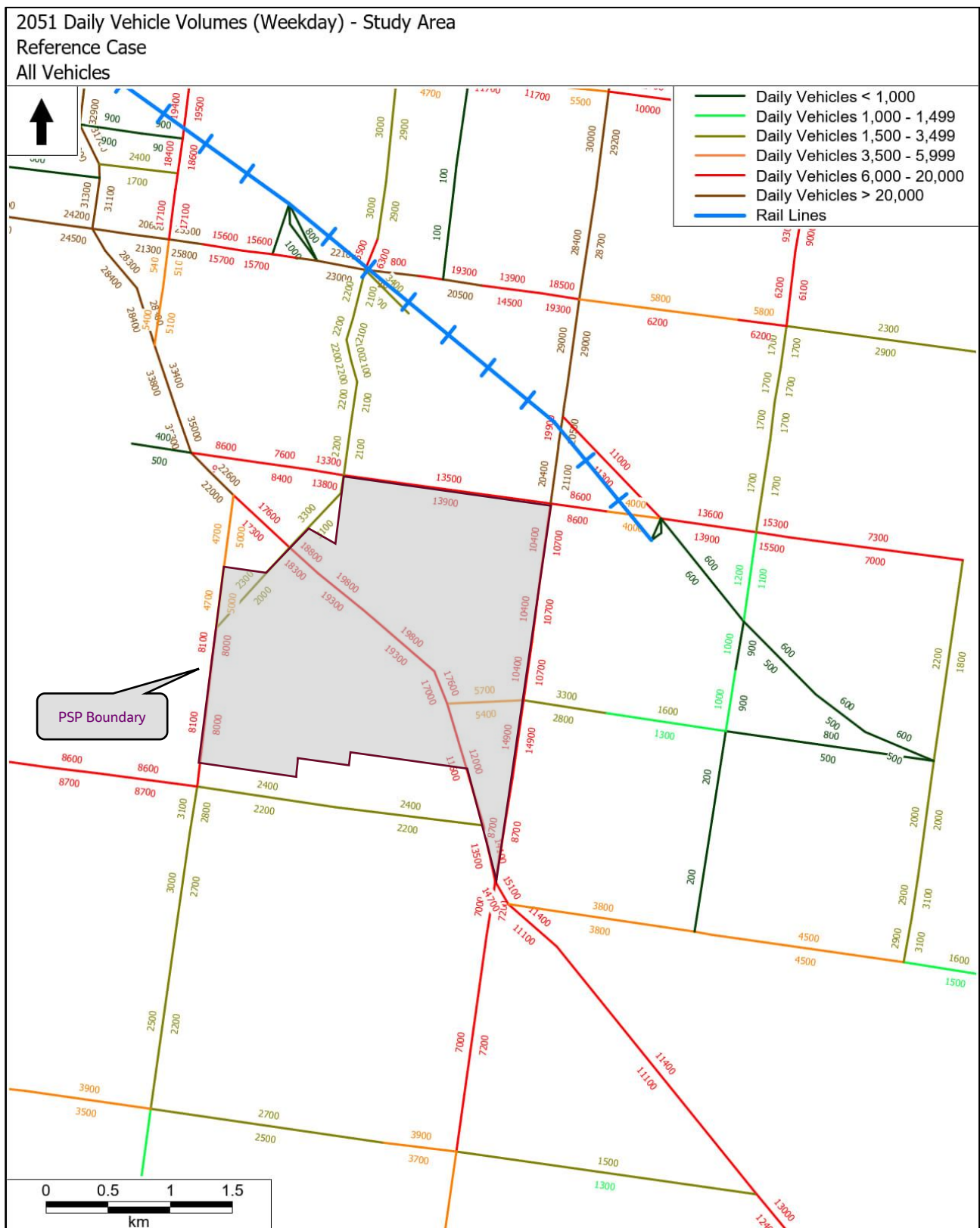


Figure 3-4: 2051 Reference Case, Daily Vehicle Volumes, Wider Study Area

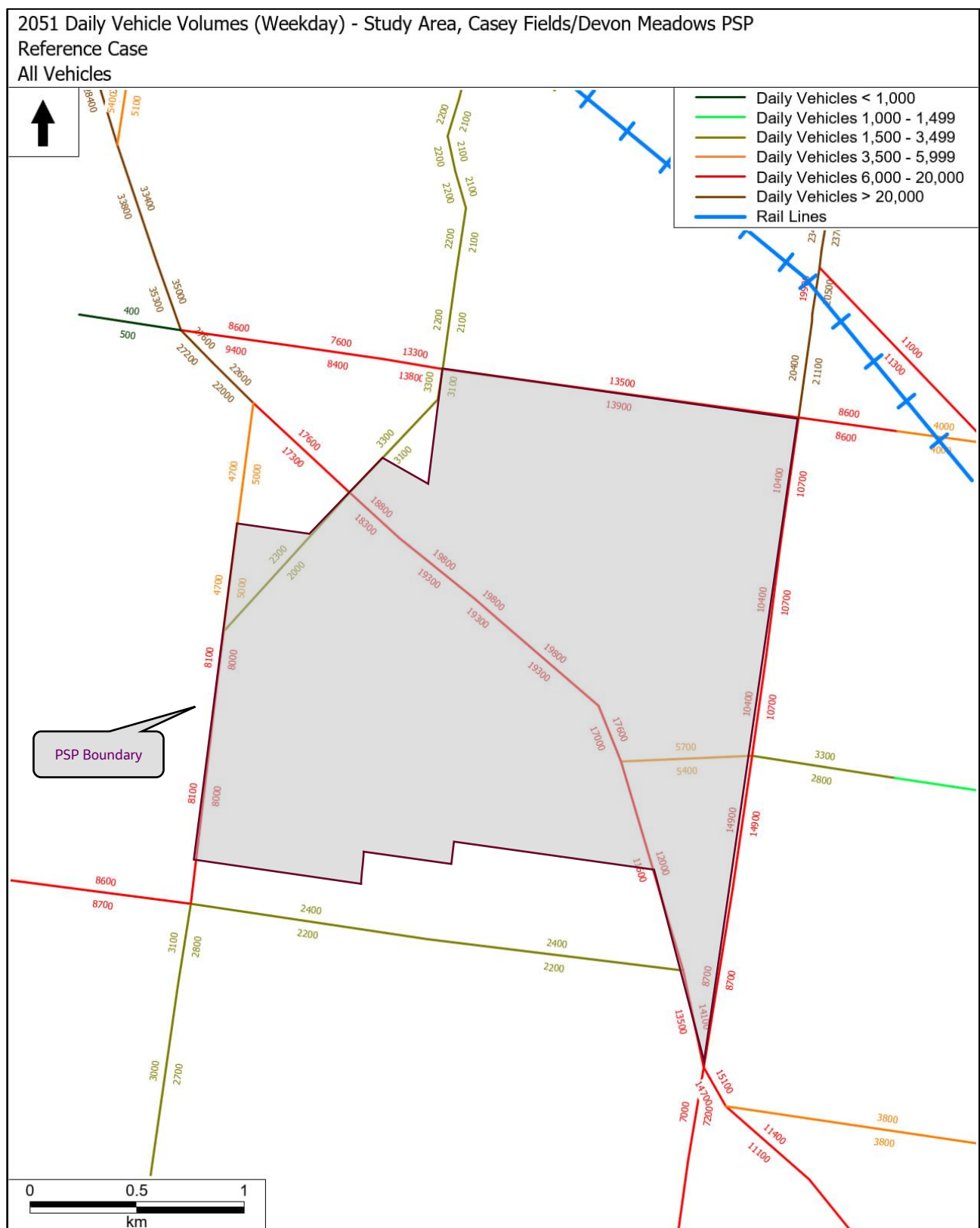


Figure 3-5: Reference Case, Daily Vehicle Volumes, Study Area



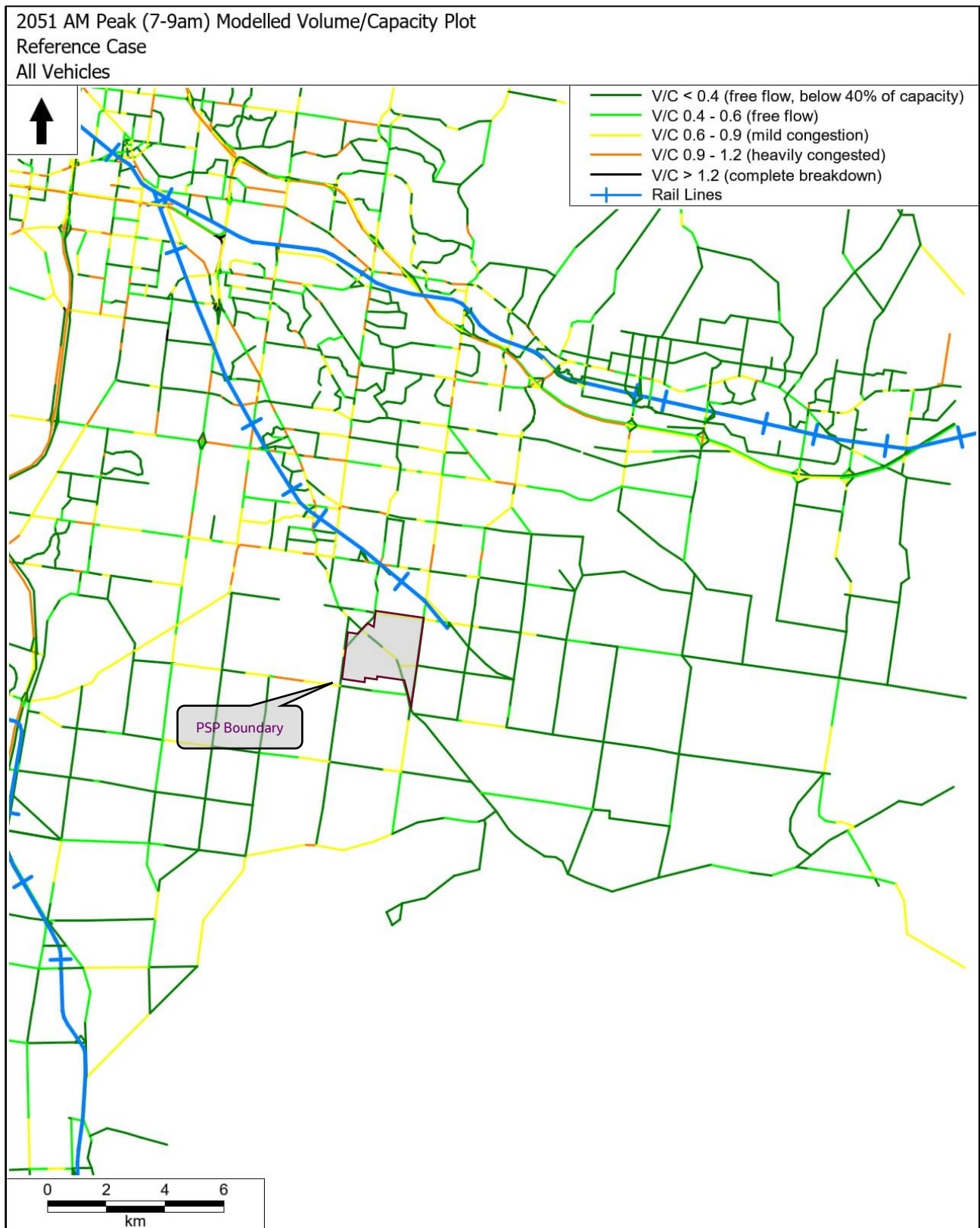


Figure 3-6: 2051 Reference Case, AM Peak Volume / Capacity Ratios, South East Growth Corridor

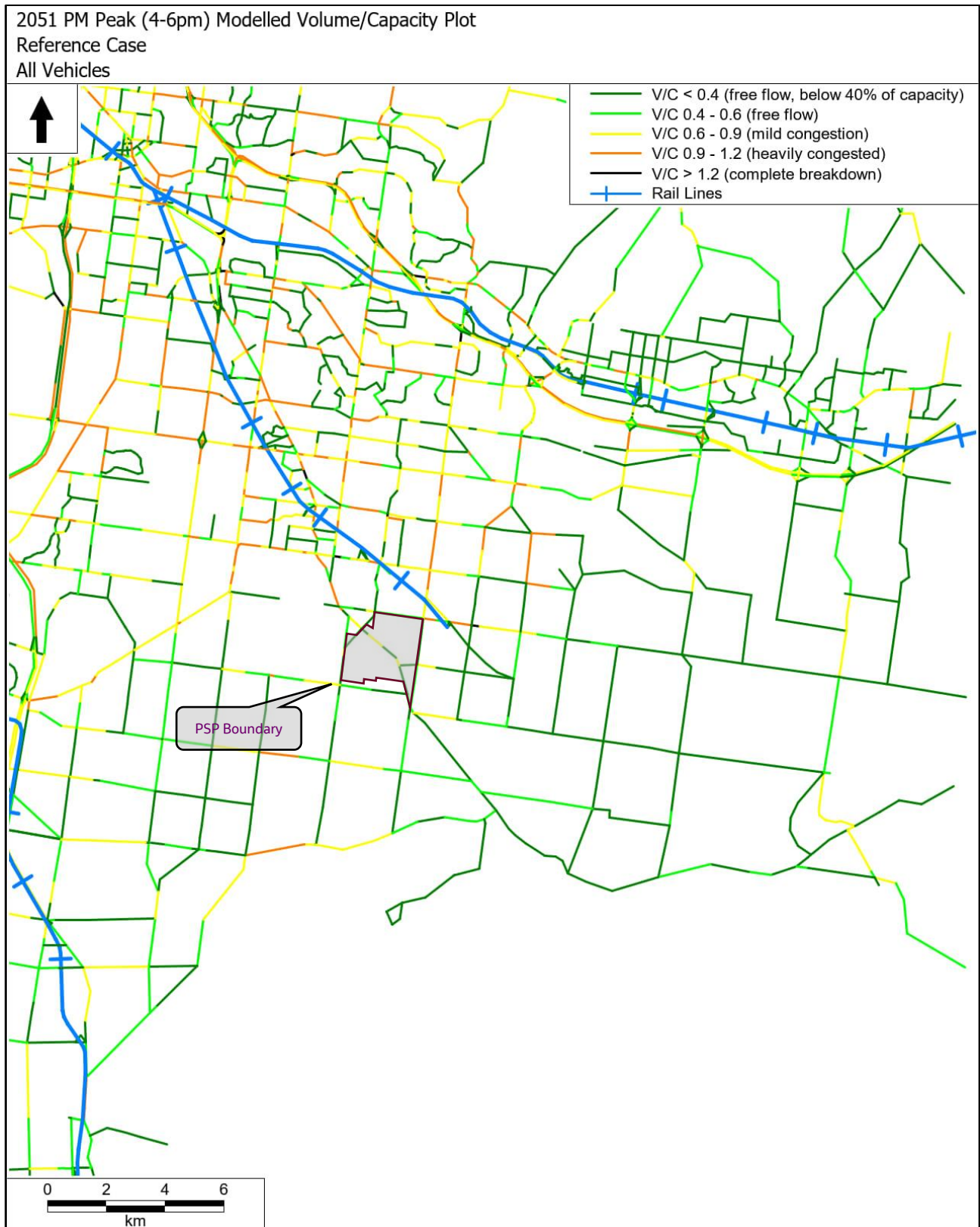


Figure 3-7: 2051 Reference Case, PM Peak Volume / Capacity Ratios, South East Growth Corridor

## 4. 2051 Project Case

This section describes the 2051 VITM Project Case which includes updated land use and transport networks for the Casey Fields South (Employment) and Devon Meadows PSP, as well as updated land use for the surrounding PSPs to reflect post gazettal development. These results can be compared back to the 2051 Reference Case described in Section 3.

### 4.1 Future Transport Network

The 2051 Reference Case transport network described in Section 3 has been updated to align with the proposed transport network within the Casey Fields South (Employment) and Devon Meadows PSP (shown in Figure 4-1) and also to reflect the planned ultimate arterial network proposed by VPA, as shown in Figure 4-2.

The updated VITM network is shown in **Appendix A**.

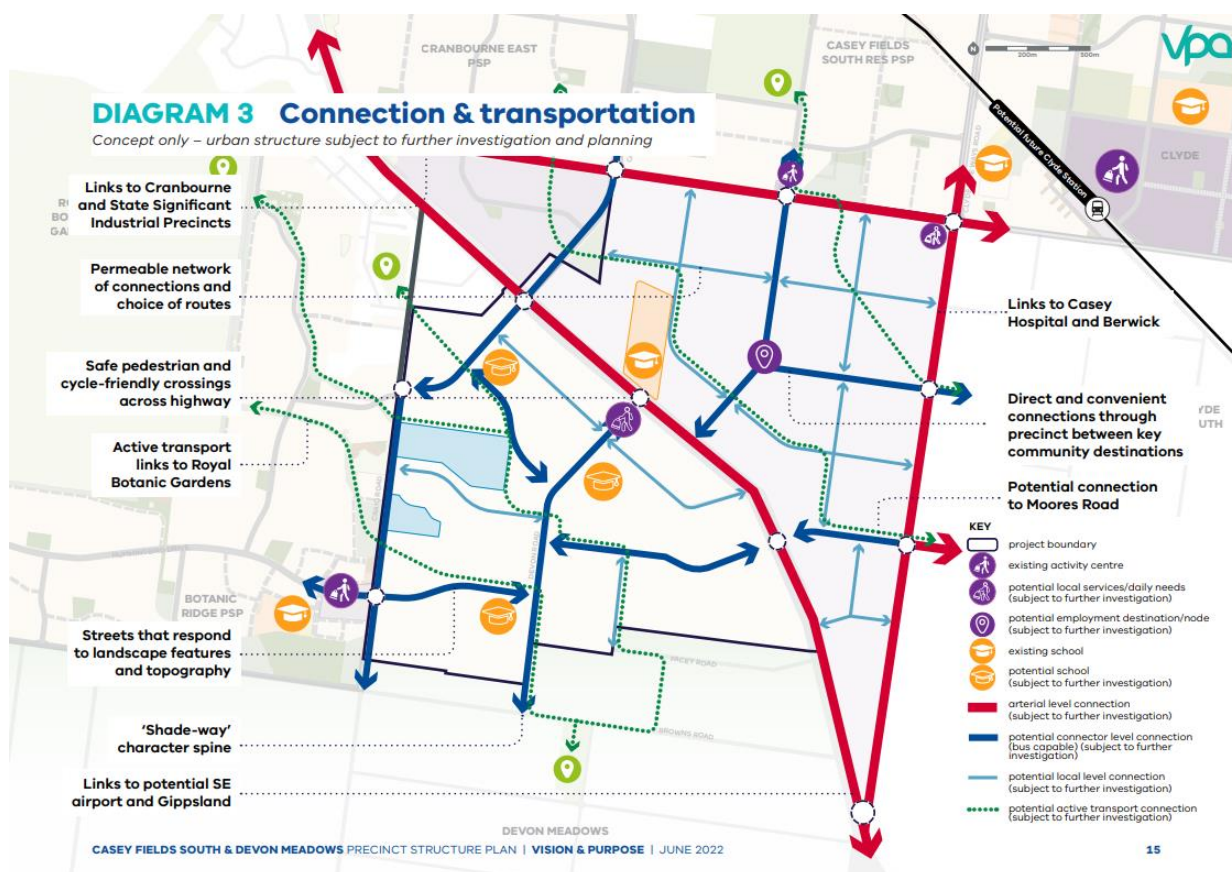


Figure 4-1: Casey Fields South (Employment) and Devon Meadows, proposed transport network



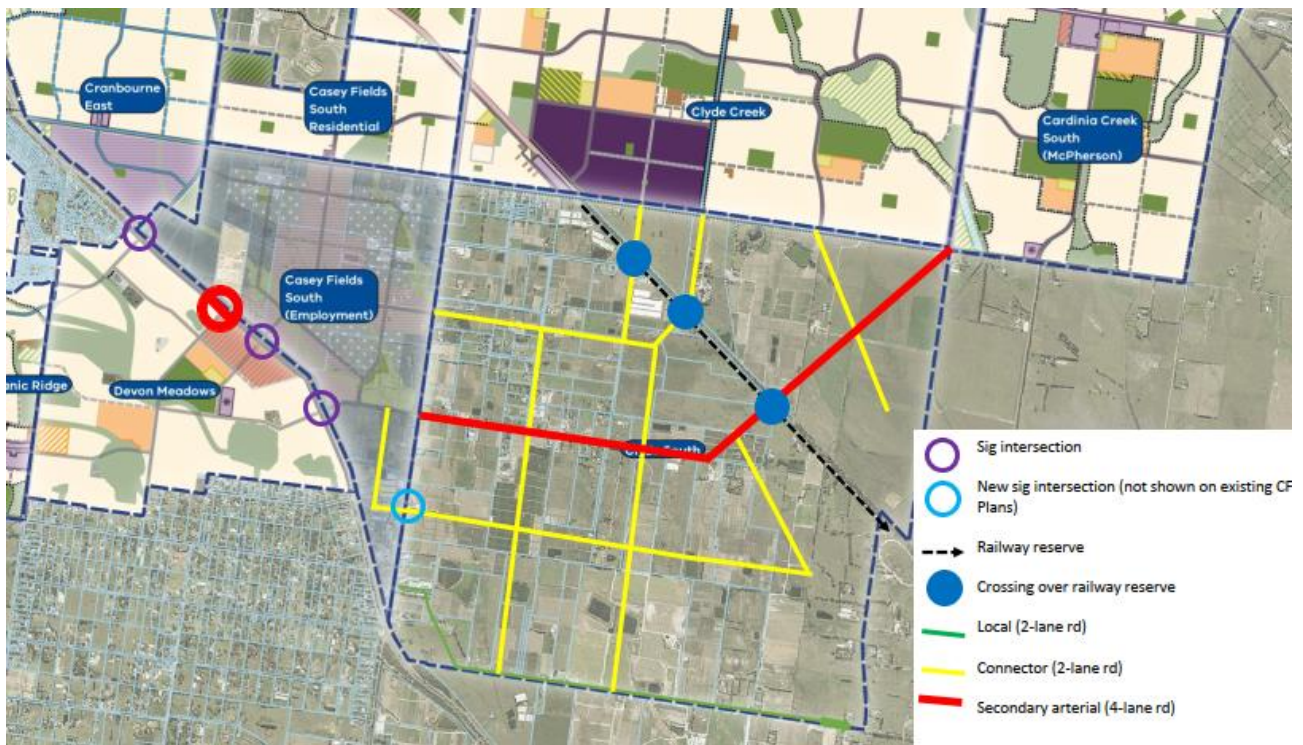


Figure 4-2: Proposed transport network for Clyde South PSP (Source: VPA)

Bus routes were updated to service the new PSP as seen in Figure 4-3, the key change was a bus route being re-directed through the PSP, along with updates to frequencies as shown in Table 4-1. The resulting service frequency to Cranbourne Station from the 'PSP Hub' (proposed activity centre) is 15 minutes throughout the day and 20 minutes in the evening. The service frequency to Clyde Station (via the light blue route) is 40 minutes throughout the day and 60 minutes in the evening.

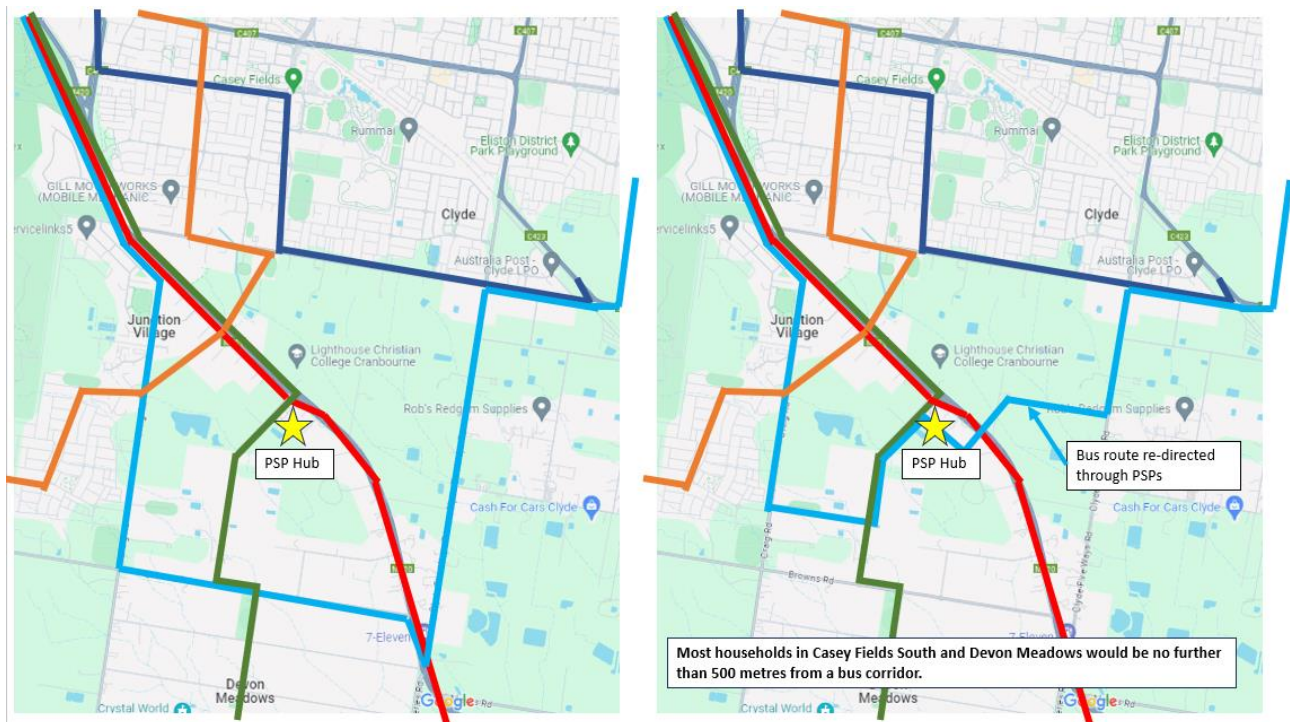


Figure 4-3 Bus route changes: VITM Future Bus Routes (Left), Project Case Bus Routes (Right).  
Note: the background shown is the current road network.



**Table 4-1: Bus network changes**

Route(s)	Colour on map	Frequency - VITM 2051 Reference Case Bus Routes	Frequency - 2051 Project Case Bus Routes
Cranbourne to Tooradin	Red	Every 80 minutes	Every 60 minutes
Cranbourne to Beaconsfield (via Clyde)	Light Blue	Every 180 minutes	Every 40 minutes (day) Every 60 minutes (evening)
Cranbourne to Cannons Creek	Green	Every 40 minutes (day) Every 60 minutes (evening)	Every 40 minutes (day) Every 60 minutes (evening)
Cranbourne to Clyde	Dark Blue	Every 20 minutes (day) Every 40 minutes (evening)	Every 20 minutes (day) Every 40 minutes (evening)
Cranbourne to Botanic Ridge	Orange	Every 20 minutes	Every 20 minutes

## 4.2 Future Land Use

Table 4-2 shows the demographic inputs used in the 2051 Project Case, these include all of the changes to the Casey Fields South (Employment) and Devon Meadows PSP and surrounding PSPs as agreed with VPA. Several of the key assumptions are listed after the table.

**Table 4-2: Project case demographics**

PSP	VITM Zone	2051 Reference Case				
		Pop	Emp	Primary	Secondary	Tertiary
Devon Meadows	2758	3,927	0	-	-	-
	1065	3,927	100	875	-	-
	5854	3,926	100	400	707	-
	5855	200	100	-	-	-
<b>Devon Meadows TOTAL</b>		<b>11,980</b>	<b>300</b>	<b>1,275</b>	<b>707</b>	<b>-</b>
Casey Fields South (Employment)	2374	-	2,275	-	-	-
	5856	-	2,275	-	-	-
	5857	-	2,275	600	415	-
	5858	-	2,275	-	-	-
<b>Casey Fields South (Employment) TOTAL</b>		<b>-</b>	<b>9,100</b>	<b>600</b>	<b>415</b>	<b>-</b>
Casey Fields South (Residential)	2073	4,526	130	0	-	-
<b>Casey Fields South (Residential) TOTAL</b>		<b>4,526</b>	<b>130</b>	<b>0</b>	<b>-</b>	<b>-</b>
Botanic Ridge	2076	9,433	464	1,119	613	-
	2303	3,488	472	-	-	-
<b>Botanic Ridge TOTAL</b>		<b>12,921</b>	<b>936</b>	<b>1,119</b>	<b>613</b>	<b>-</b>
Clyde South	2373*	4,385	401	-	-	-
	2753	9,229	161	125	-	-
	2757	8,404	528	108	0	-
	2756	6,545	137	228	0	-
	2755	7,679	344	114	873	-
	2754	4,648	95	0	0	-

		2051 Reference Case				
PSP	VITM Zone	Pop	Emp	Primary	Secondary	Tertiary
Clyde South TOTAL		40,890	1,667	574	873	-
Cranbourne East	2294	448	391	52	34	-
	2446	2,082	188	4	-	-
	2535	2,188	167	0	-	-
	2536	25	6	2	-	-
	2537	2,353	217	2	-	-
	925	2,049	277	36	46	-
	2538	373	52	-	-	-
	2068	2,836	206	4	2	-
	2445	1,824	108	78	235	-
	2310	1,489	381	769	1,161	-
	2534	170	43	23	-	-
	2309	808	84	12	-	-
	2065	2,134	648	11	20	-
	2284	1,705	95	4	-	-
Cranbourne East TOTAL		20,484	2,862	996	1,498	-
Clyde Creek	2760	9,778	488	800	0	-
	2761	9,876	3,148	553	313	-
	2763	4,729	297	3	4	-
	2764	11,045	1,772	870	1,419	-
	2765	10,503	1,144	751	-	-
	2373*	2,068	621	2,185	-	-
Clyde Creek TOTAL		47,999	7,471	5,162	1,736	-
Officer South Employment	2158	-	2,201	-	-	-
	2459	-	4,403	-	-	-
	2269	-	4,403	-	-	-
	2270	-	3,302	-	-	-
	2271	5,012	1,101	366	-	-
	2457	-	1,101	-	-	-
	2186	-	2,862	-	-	-
	891	-	2,642	-	-	-
Officer South Employment TOTAL		5,012	22,013	366	-	-
Croskell**	2060	1,162	2,613	-	-	-
	2318	436	2,286	-	-	-
	924	2,835	1,839	-	-	-
Croskell TOTAL		2,905	6,532	-	-	-
Overall TOTAL		144,649	50,390	10,091	5,843	-
Existing residential in 2758 / 1065	5853	492	209	-	-	-

\*Southern half of zone is in Clyde South, northern half in Clyde Creek

\*\*Croskell zone 924 contains part of the PSP + an already established area.

## 4.2.1 Demographic Assumptions

Population and employment values were provided by VPA as overall totals for each PSP, these were assigned to zones within PSPs as follows:

- Casey Fields South (Employment) and Devon Meadows: Based on a review of the Precinct Infrastructure Plan and the land use proposed within each travel zone. The totals were then overlaid with the same age, dependents and job type profile as zones in the surrounding LGA (from the 2051 VITM Reference Case)
- Surrounding PSPs
  - o Adjustments were made to Botanic Ridge, Clyde South, Cranbourne East and Clyde Creek by scaling the 2051 VITM Reference Case travel zones to match the overall PSP targets.
  - o Adjustments were made to Officer South Employment and Croskell based on Place Based Plans for each PSP and the overall PSP targets.
  - o Cardinia Creek South (McPherson and Part 2), Thompsons Road and Clyde North were reviewed, with no adjustments required.

The SGS Economics & Planning report "*Devon Meadows & Casey Fields South PSP Employment and Retail Needs Assessment, December 2022*" suggests that the build-up of jobs will take considerably longer than the construction of dwellings in the surrounding area, the projected growth is:

- 4,100 by 2061 and 9,100<sup>1</sup> in the longer term (potentially out to 2091)

In discussion with VPA, our recommendation was to model the ultimate employment figure. This provides the project with modelling results for the two extremes (Reference Case of only 317 jobs and the ultimate build out with 9,100 jobs). From this we can infer what would happen at a lower build out, noting that it is more reliable to interpolate between two figures than it is to extrapolate out to the ultimate build out from an interim figure.

Assumptions on the location and size of schools were based on the following information:

- A review of the report '*Community Infrastructure and Open Space Needs Assessment – Casey Fields and Devon Meadows Precincts, SGS, February 2023*'.
- Trying to achieve a ratio of enrolments per resident across each PSP in line with Victorian averages from the VITM 2051 Reference Case demographics, these are:
  - o 0.073 primary enrolments per resident
  - o 0.059 secondary enrolments per resident
- The Catholic Dioceses requested 3.5ha of land for the potential non-government primary school in Devon Meadows. Non-government schools tend to have a larger catchment than government schools, so the enrolments were based on the size and enrolments at the Lighthouse Christian College. This resulted in an estimate of 400 primary school enrolments.

## 4.3 Future Transport Network Performance

The performance of the 2051 Reference Case model is presented in this section, to assist with the review of the transport needs for the study area.

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<sup>1</sup> This excludes the 300 jobs in the Devon Meadows PSP

As expected, the Project Case (Figure 4-4) is showing higher traffic volumes in the study area and in the wider network compared to the Reference Case (Figure 3-3). Similar patterns are observed where high volumes are most apparent on the South Gippsland Highway and major arterials bordering the PSP. However, traffic volumes are seen to increase in comparable proportions across the entire local network.

In addition, volume to capacity ratios in the Project Case AM peak (Figure 4-7) are generally similar to the Reference Case (Figure 3-6). Whereas, the PM peak (Figure 4-8 compared to Figure 3-7) is showing more congested roads to the east of the Casey Fields South (Employment) and Devon Meadows PSP, in the Clyde South PSP.

Specific commentary on roads around the PSP is provided below, these roads are highlighted in Figure 4-6:

- Twyford Road is likely to be truncated and converted to a local road, meaning that traffic will be diverted through the Clyde Five Ways Road and Ballarto Road intersection. This doesn't impact the Casey Fields South (Employment) and Devon Meadows PSP.
- Traffic on Fisheries Road is relatively high, due to an observed movement from the Hastings region to (or through the study area) via Baxter-Tooradin Road. Fisheries Road is also classified as a secondary arterial and provides the best north-south connection through the study area.
- The southern connector between the Casey Fields South (Employment) and Devon Meadows PSP and Clyde South PSP is more utilised than the norther connector as it provides more centralised access to both PSPs. It also provides higher capacity for movements through the Clyde South PSP to Bells Road and the Monash Freeway.
- Browns Road is a popular east-west road, but its use is restricted by the poor connectivity beyond Western Port Highway and South Gippsland Highway.
- The road network shown for the Clyde South PSP will need to be reviewed as that PSP evolves. With more than 40,000 residents the network shown is unlikely to be sufficient. A revised network with potentially more disaggregated zones is recommended.

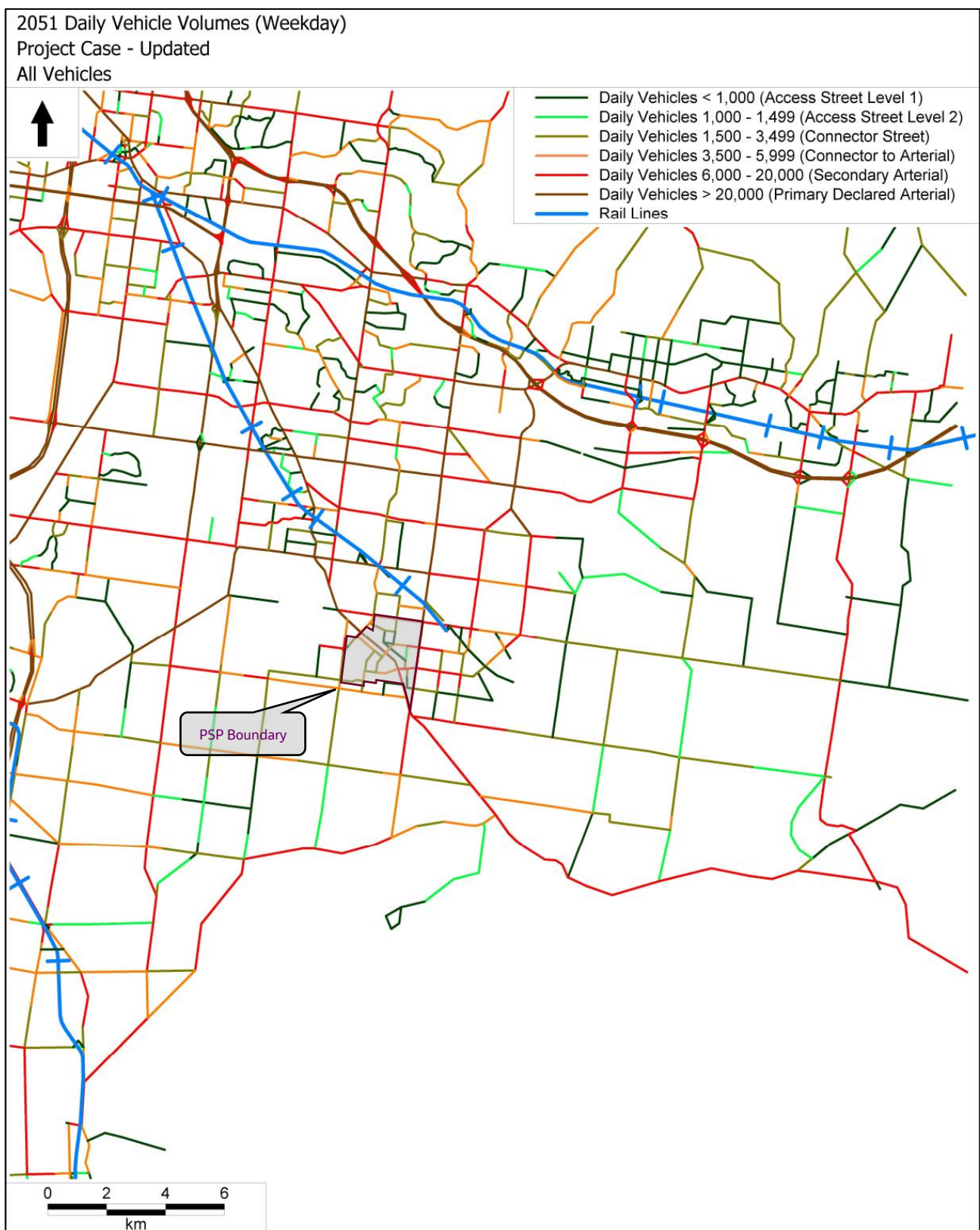


Figure 4-4: 2051 Project Case, Daily Vehicle Volumes, South East Growth Corridor



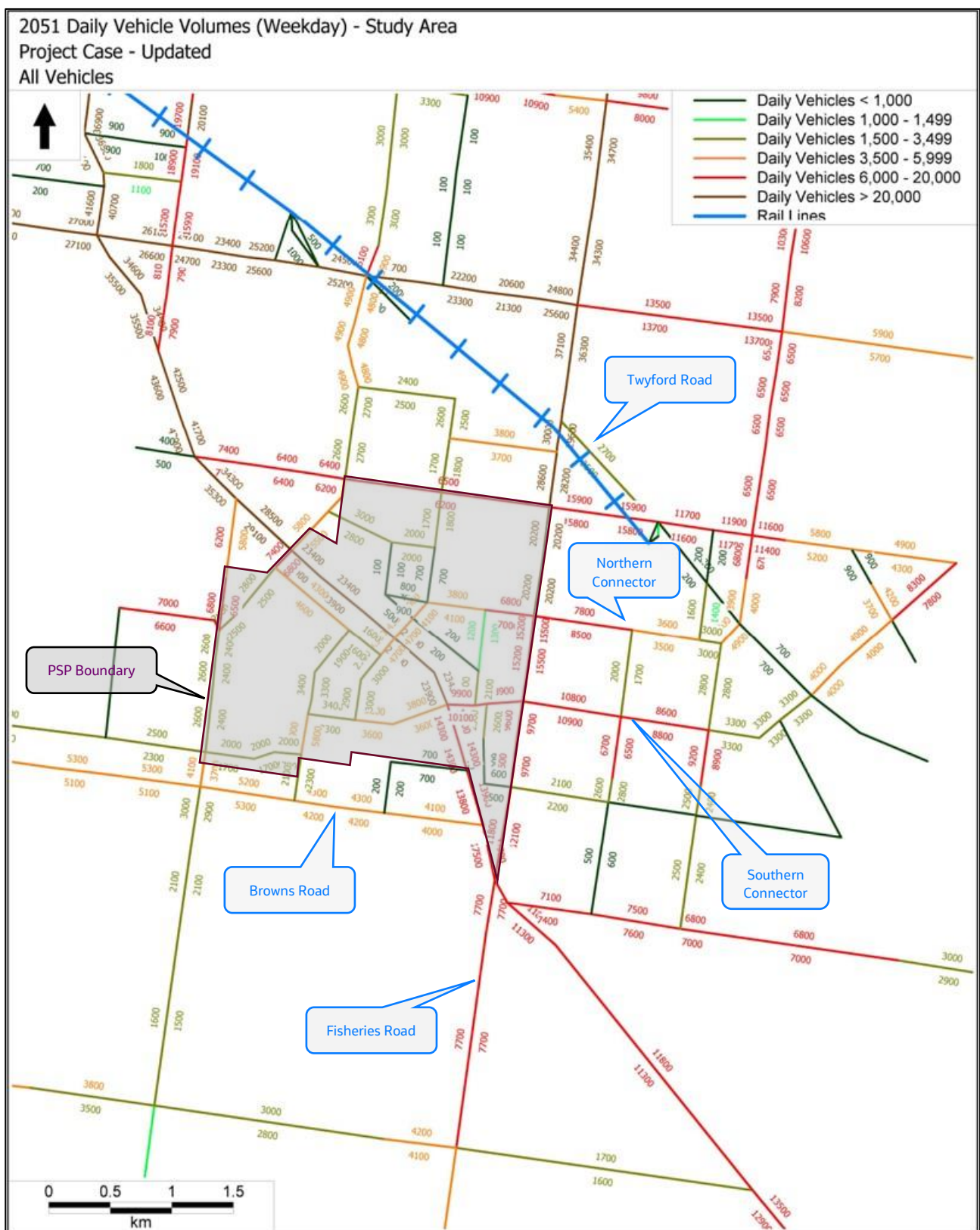


Figure 4-5: 2051 Project Case, Daily Vehicle Volumes, Wider Study Area

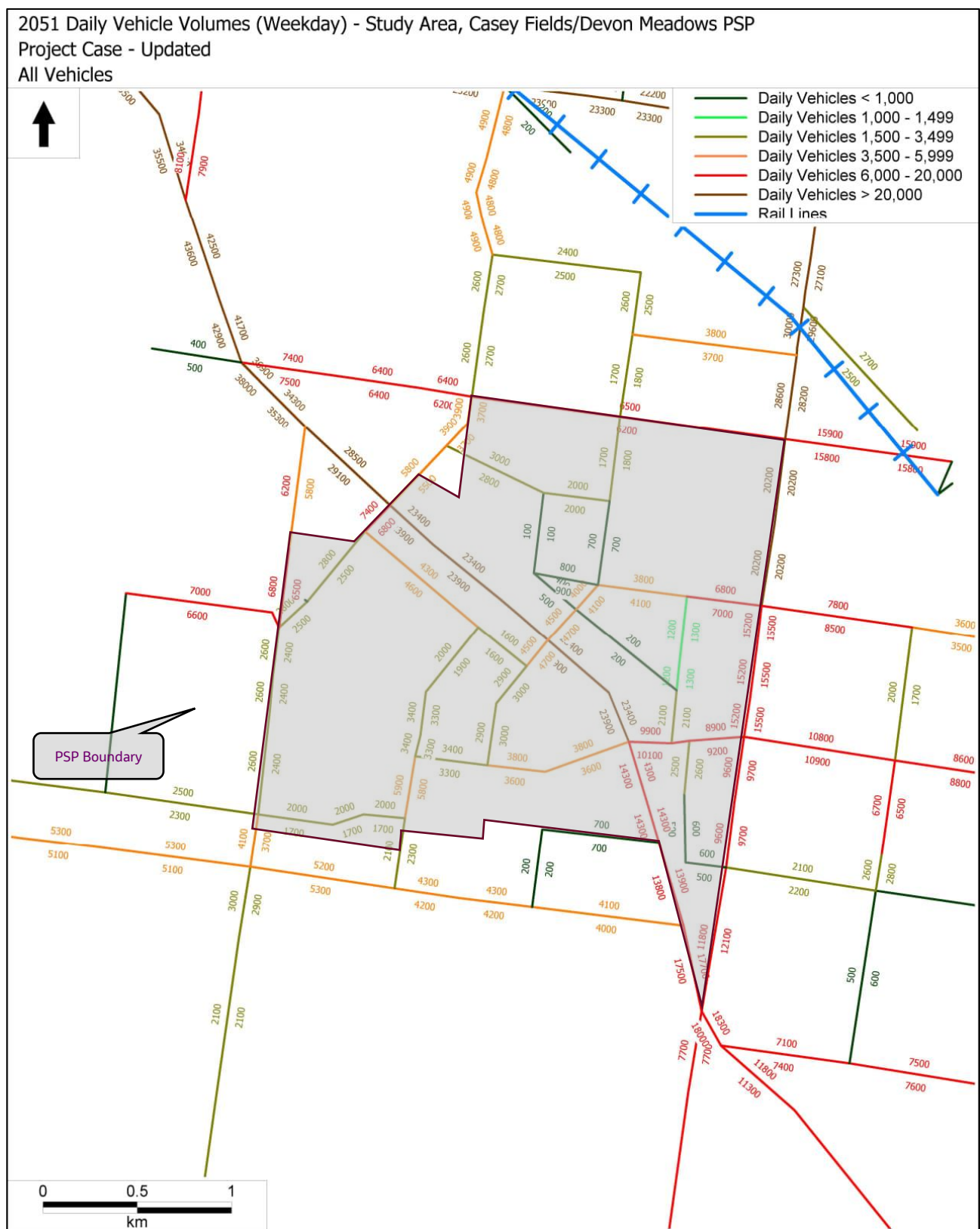


Figure 4-6: 2051 Project Case, Daily Vehicle Volumes, Study Area



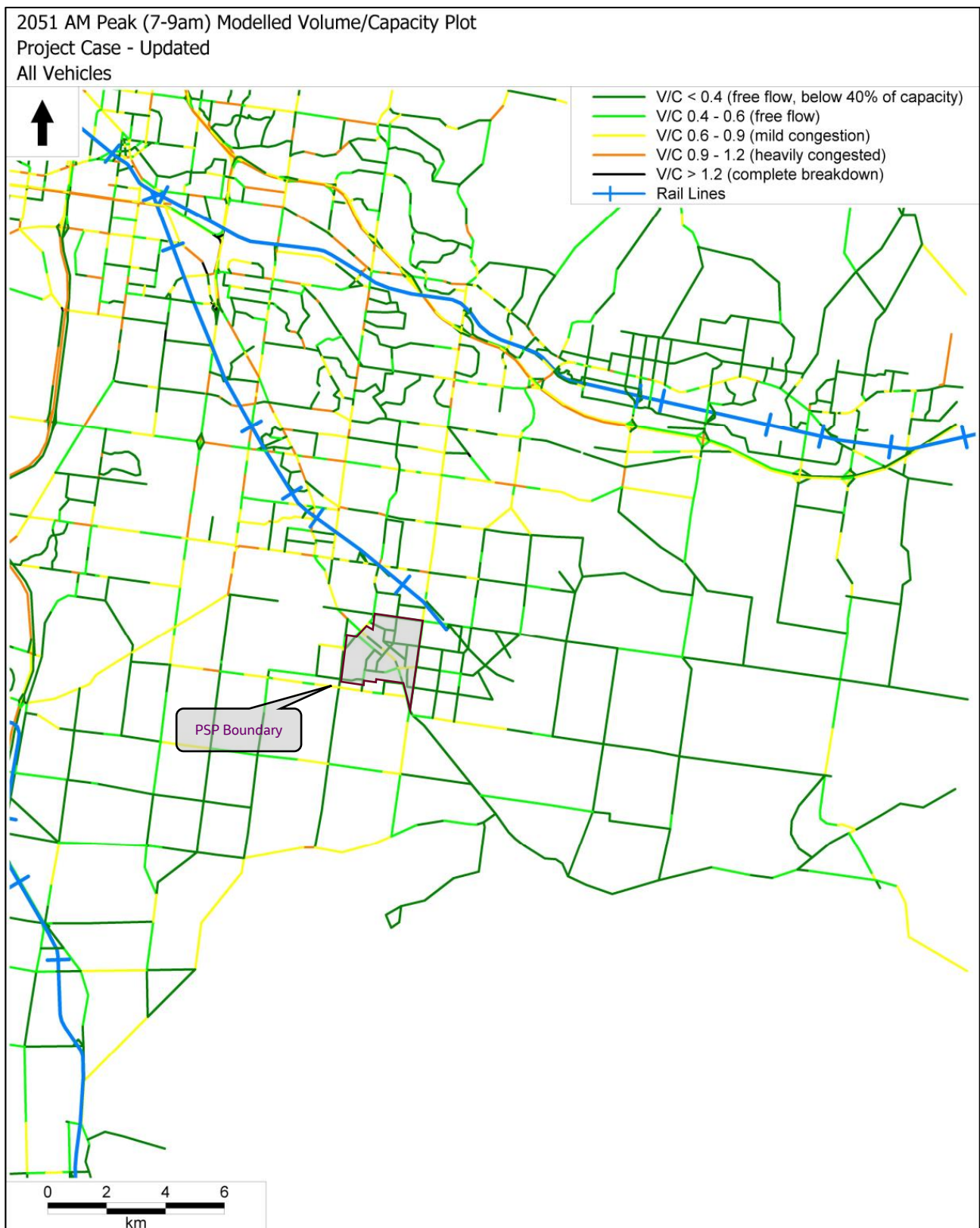


Figure 4-7: 2051 Project Case, AM Peak Volume / Capacity Ratios, South East Growth Corridor

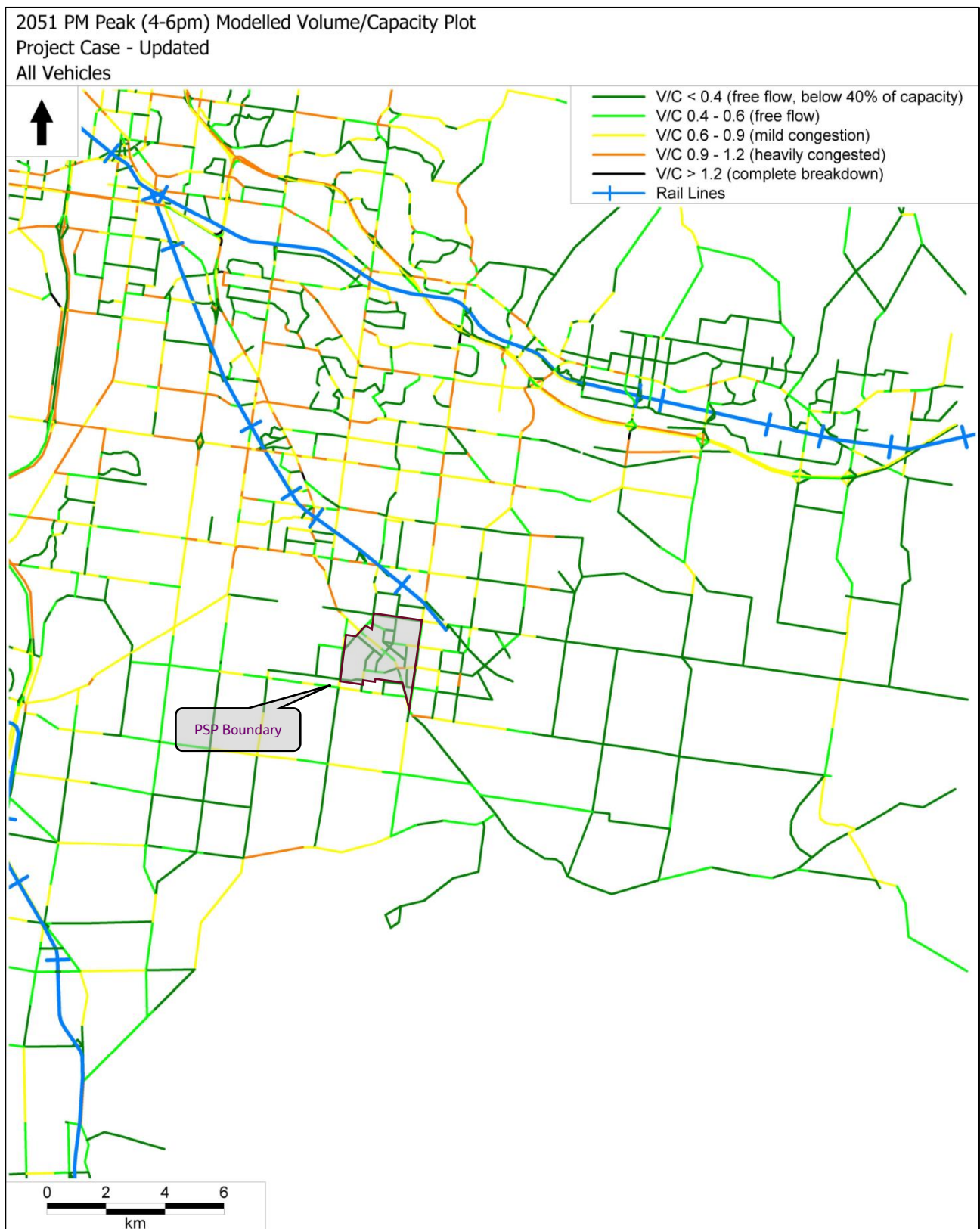


Figure 4-8: 2051 Project Case, PM Peak Volume / Capacity Ratios, South East Growth Corridor

### 4.3.1 Arterial Roads

As shown in Figure 4-9 to Figure 4-13, a range of select link plots have been used to show where trips using each link are starting and ending. This helps to understand the role that each road plays in the wider network, based on these plots the function of each road is as follows:

- Browns Road: caters for fairly local east-west movements (10,000 vehicles per day)
- Fisheries Road: provides a connection from the Clyde region to the Hastings region (15,000 vehicles per day)
- Bells Road: primarily connects Clyde Creek and Casey South PSPs with the Monash Freeway, Thompsons Road and the Berwick region (55,000 vehicles per day)
- South Gippsland Highway: caters for both long distance routes across south-east Melbourne as well as providing access to the Casey Fields South (Employment) and Devon Meadows PSP and surrounding PSPs (85,000 vehicles per day)
- Berwick-Cranbourne Road: connects the South East Growth Corridor with more established areas closer to the Monash Freeway such as Berwick, Narre Warren and Cranbourne (69,000 vehicles per day)

The AM peak and Daily volumes on each of the links is provided in Table 4-3 for further context.

**Table 4-3: Select Link volumes (2051 Project Case)**

Location	Direction	2051 Daily Volumes (vpd <sup>1</sup> )	2051 AM Peak Volumes (vph <sup>2</sup> )
<b>Browns Road</b> (between Craigs Road and Smiths Lane)	Eastbound	5,300	400
	Westbound	5,100	600
<b>Fisheries Road</b> (between South Gippsland Highway and North Road)	Northbound	7,700	600
	Southbound	7,700	700
<b>Bells Road</b> (south of Thompsons Road)	Northbound	29,400	2,500
	Southbound	26,300	1,400
<b>South Gippsland Highway</b> (between Ballarto Road and Cameron Street)	North-Westbound	42,900	3,200
	South-Eastbound	41,700	1,800
<b>Berwick-Cranbourne Road / Clyde Five Ways Road</b> (between Patterson Road and Heather Grove)	Northbound	34,400	2,600
	Southbound	34,300	2,300

Notes:

<sup>1</sup> = vehicles per day

<sup>2</sup> = vehicles per hour

Note that Bells Road is a key link for the emerging PSPs, but it does not serve a wider role in the arterial network such as trips from Pakenham to the Western Port Highway. Berwick-Cranbourne Road / Clyde-Five Ways Road / Fisheries Road provides a better connect for such a route, however there is not significant demand for such as movement. Linking Bells Road with Browns Road does not appear to cater for any particular priority movement.



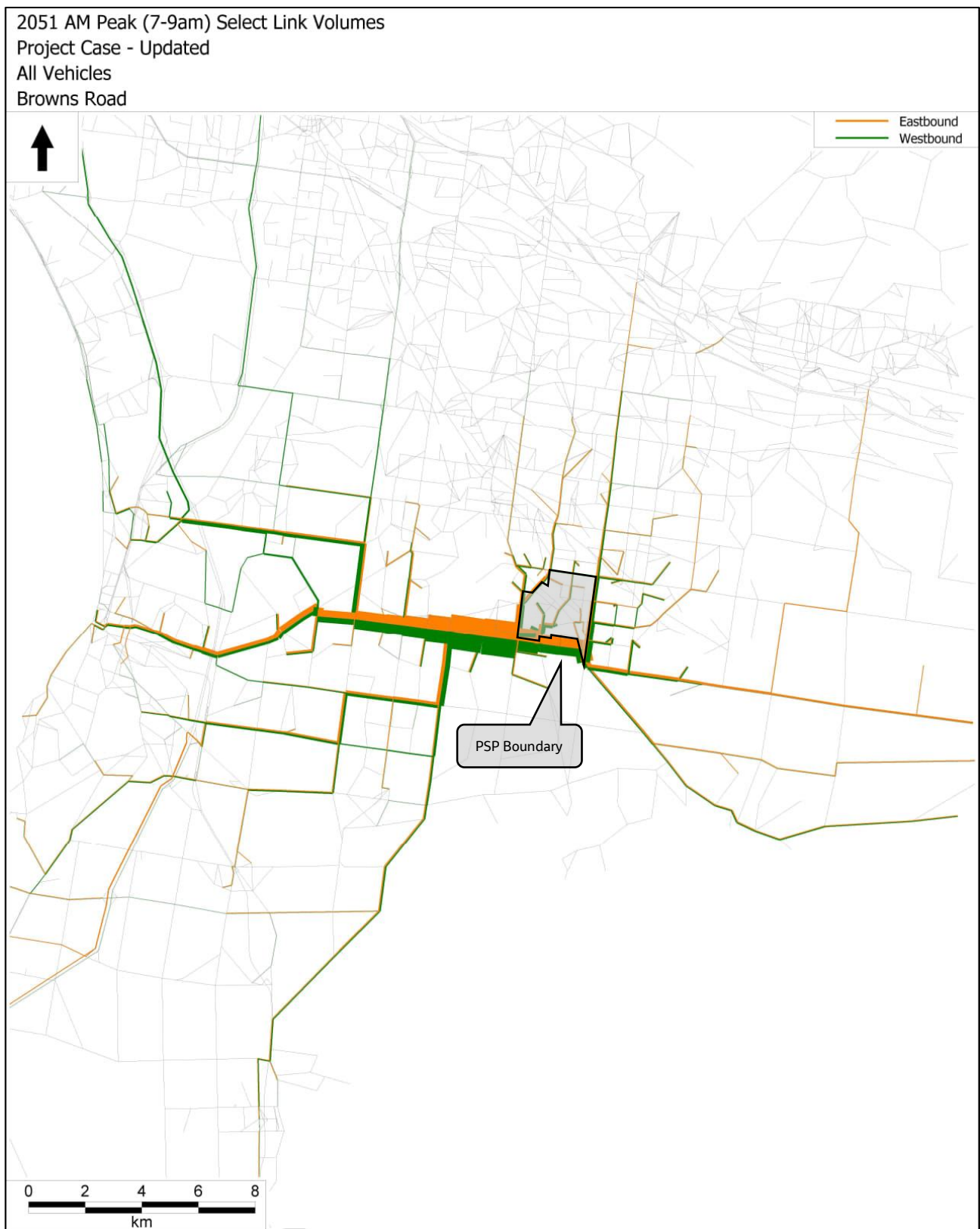


Figure 4-9: Project Case, Browns Road AM Select Link Volumes, All Vehicles

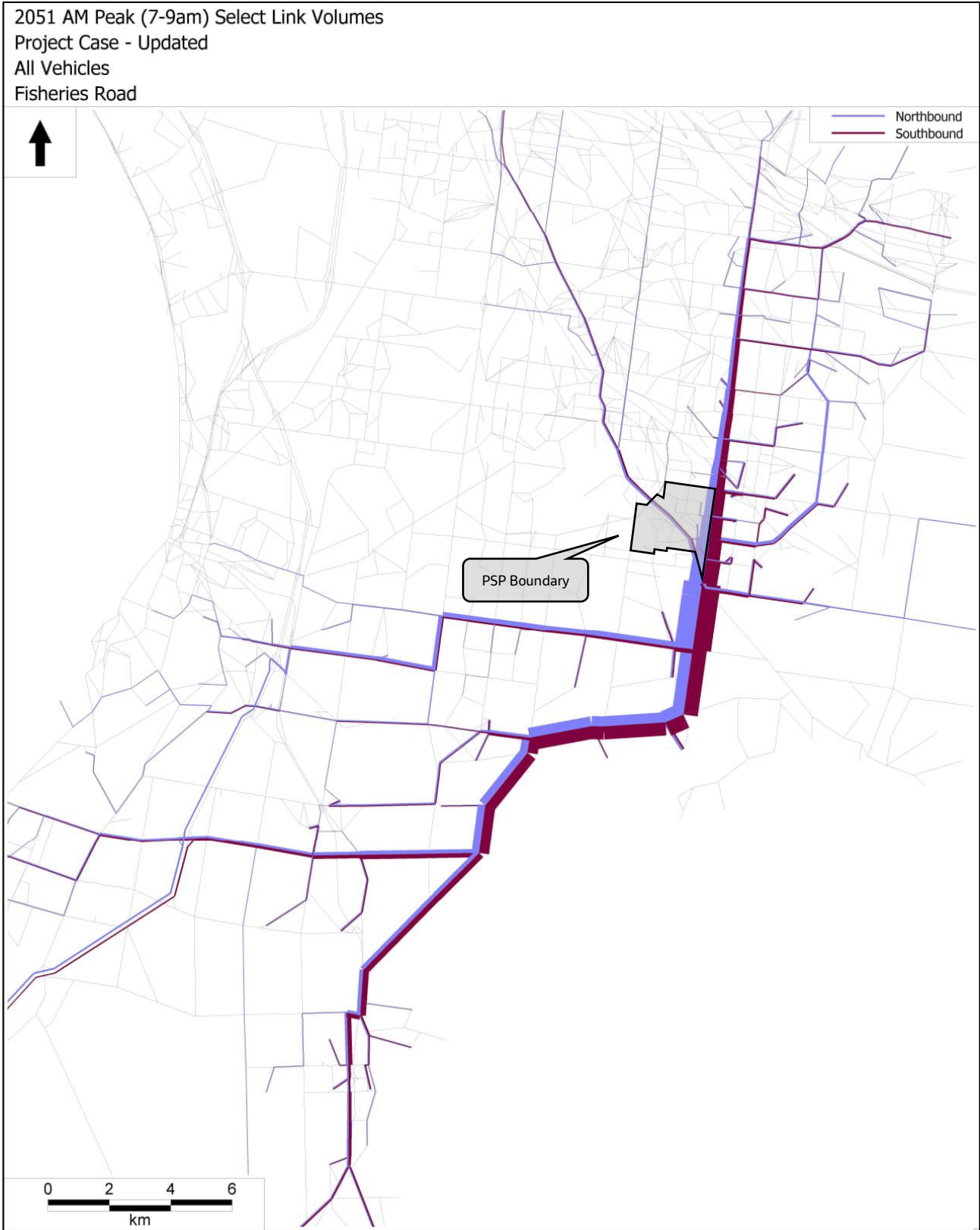


Figure 4-10: Project Case, Fisheries Road AM Select Link Volumes, All Vehicles

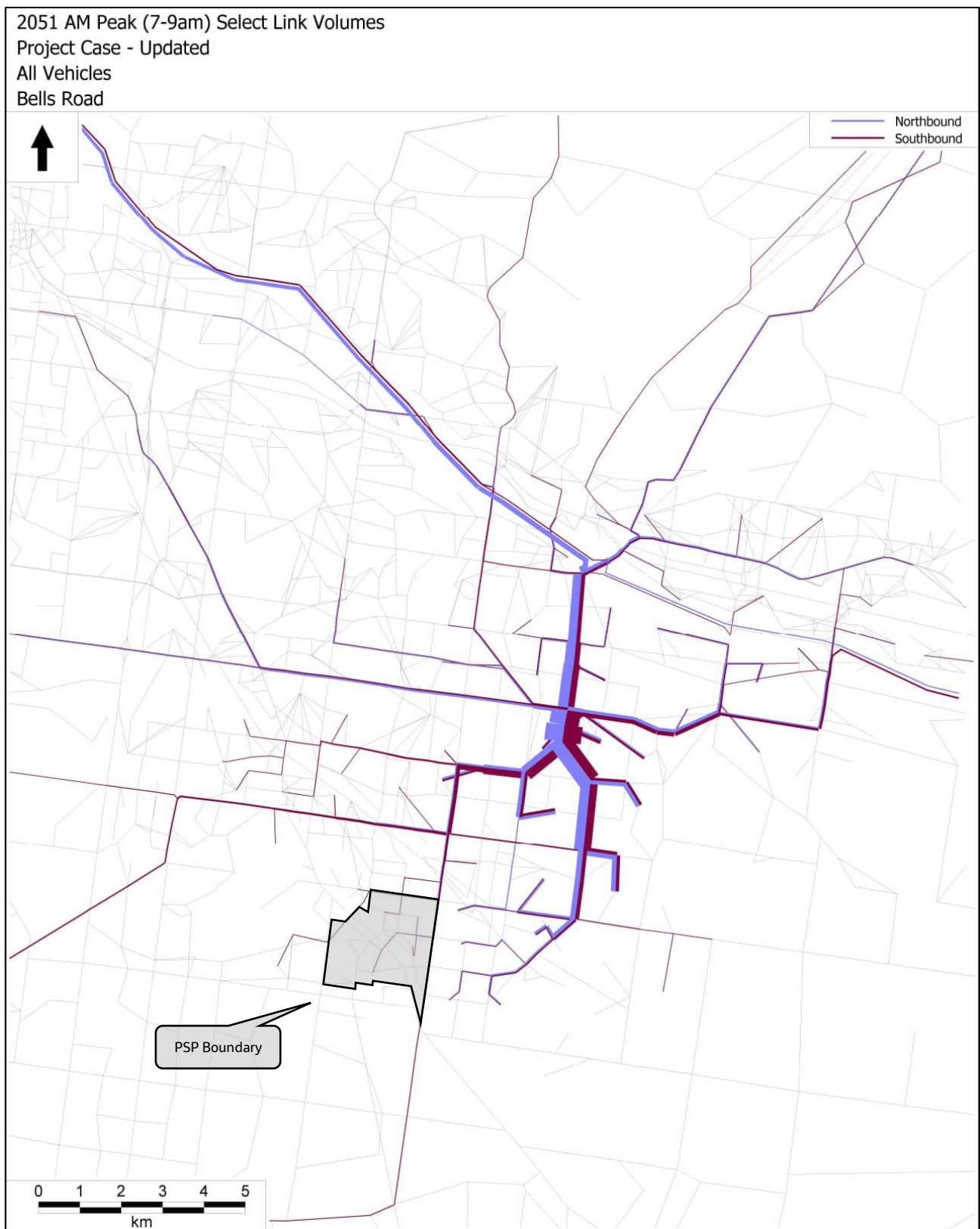


Figure 4-11: Project Case, Bells Road AM Select Link Volumes, All Vehicles

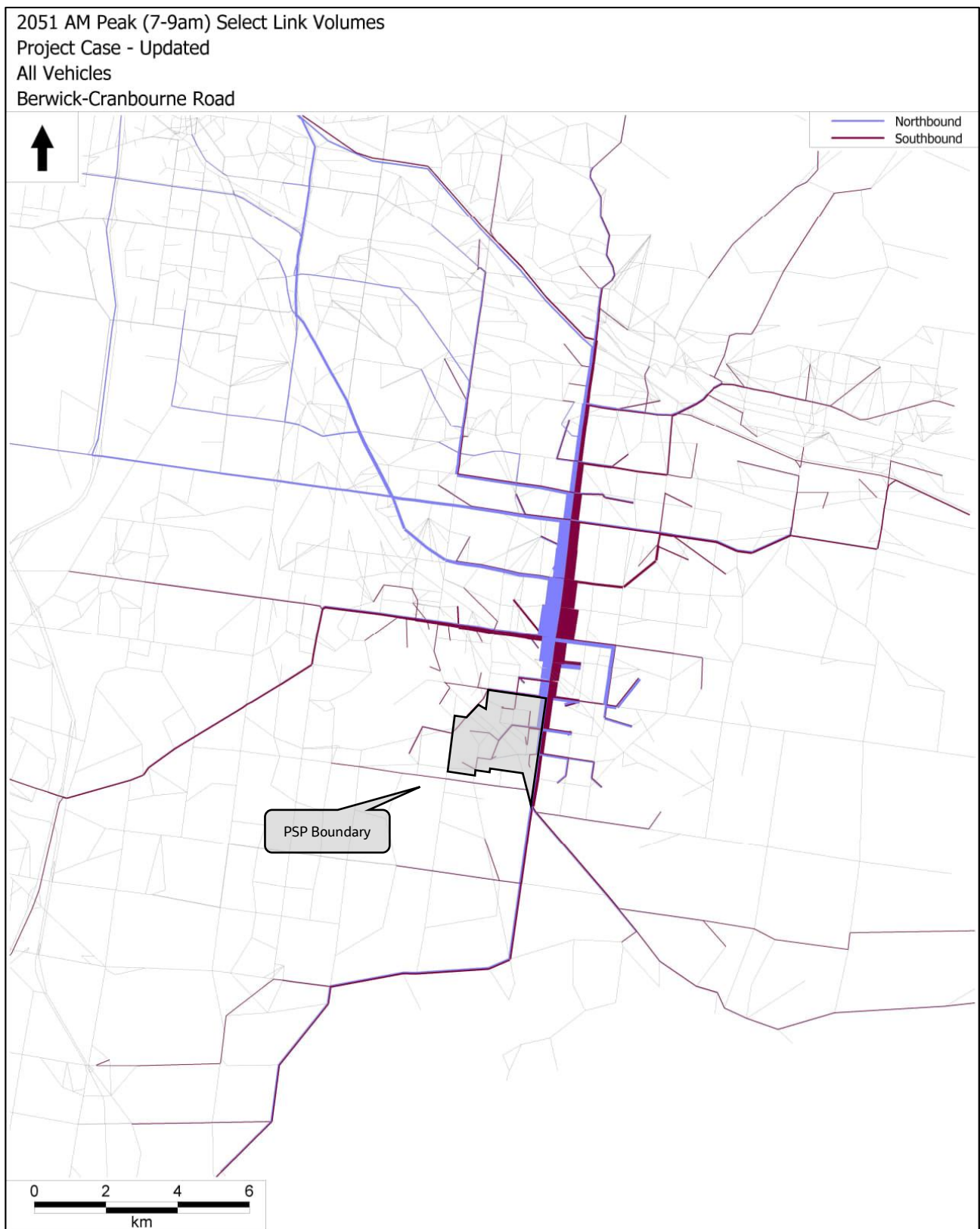


Figure 4-12: Project Case, Berwick-Cranbourne Road AM Select Link Volumes, All Vehicles



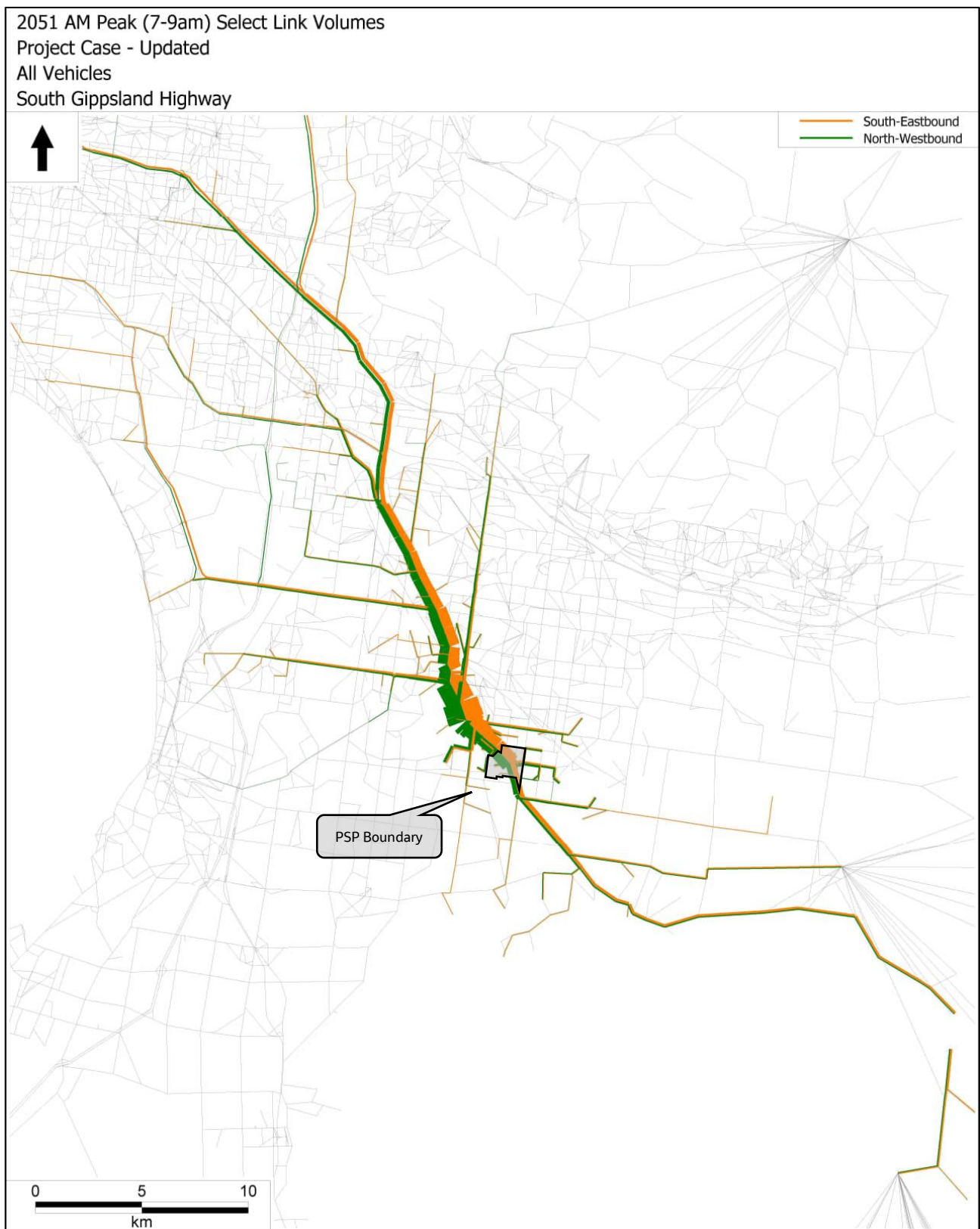
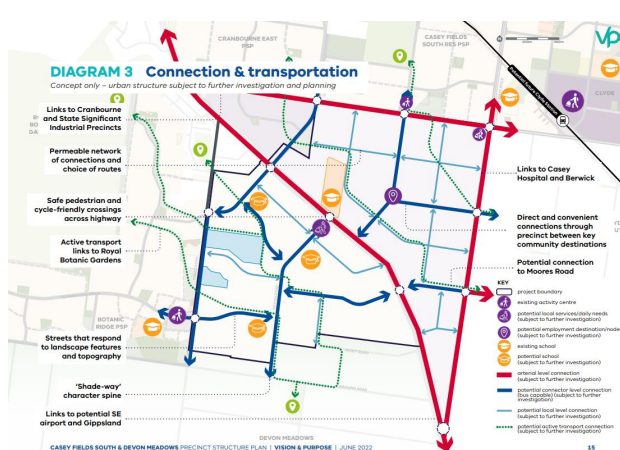


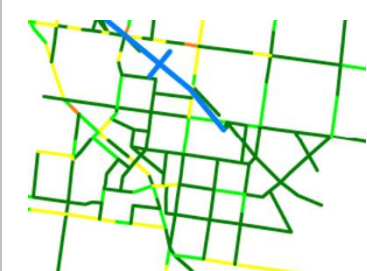




Figure 4-13: Project Case, South Gippsland Highway AM Select Link Volumes, All Vehicles

## 5. Summary Findings

The strategic transport modelling assessment shows that traffic volumes noticeably increase in the Project Case as compared to the Reference Case across the entire local network surrounded by the PSP. The Project Case takes into account an overall increase of 15,000 residents, 38,300 jobs and 2,700 school enrolments across all PSPs in the study area, when compared to the Reference Case. The main comparative observations are detailed in Table 5-1.

Table 5-1 Summary of observed changes between 2051 Reference Case and 2051 Project Case

<p><b>Proposed Road Network</b></p>  <p>DIAGRAM 3 Connection &amp; transportation Concept only - urban structure subject to further investigation and planning</p> <p>Links to Cranbourne and State Significant Industrial Precincts</p> <p>Permeable network of connections and choice of routes</p> <p>Safe pedestrian and cycle-friendly crossings across highway</p> <p>Active transport links to Royal Botanic Gardens</p> <p>Streets that respond to landscape features and topography</p> <p>'Shade-way' character spine</p> <p>Links to potential SE airport and Gippsland</p> <p>Links to Casey Hospital and Berwick</p> <p>Potential connection to Moares Road</p> <p>KEY</p> <ul style="list-style-type: none"><li>project boundary</li><li>existing activity centre</li><li>potential local service/daily needs (subject to further investigation)</li><li>potential employment destination/centre (subject to further investigation)</li><li>existing school</li><li>potential school (subject to further investigation)</li><li>potential local level connection (subject to further investigation)</li><li>potential connector level connection (subject to further investigation)</li><li>potential regional level connection (subject to further investigation)</li><li>potential urban transport connection (subject to further investigation)</li></ul> <p>CASEY FIELDS SOUTH &amp; DEVON HEADWAYS PRECINCT STRUCTURE PLAN   VISION &amp; PURPOSE   JUNE 2022</p>	<p><b>Project Case Volumes</b></p>  <p>The South Gippsland Highway, Clyde-Five Ways and some connector level roads are approaching capacity. The road network in the Clyde South PSP may require an alternate layout and hierarchy.</p>
<p><b>AM V/C Ratios – Reference Case</b></p>  <p>V/C ratios show mild congestion on the South Gippsland Highway and surrounding arterial roads, however, capacity has not been exceeded.</p>	<p><b>AM V/C Ratios – Project Case</b></p>  <p>The expanded road network accommodates the increased traffic volumes, with the network operating within capacity.</p>
<p><b>PM V/C Ratios – Reference Case</b></p>  <p>V/C ratios show patches of increased congestion on Ballarto Road and the South Gippsland Highway, compared to the AM peak.</p>	<p><b>PM V/C Ratios – Project Case</b></p>  <p>Congestion is higher than the AM peak. Capacity is nearing capacity on some road sections in the Clyde South PSP. There is some relief to Ballarto Road with additional east-west roads compared to the Reference Case.</p>

A comparison of the proposed road network and modelled Project Case volumes demonstrates that most of the proposed road classifications will be appropriate for the expected traffic volumes in the Casey Fields

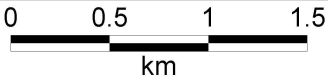
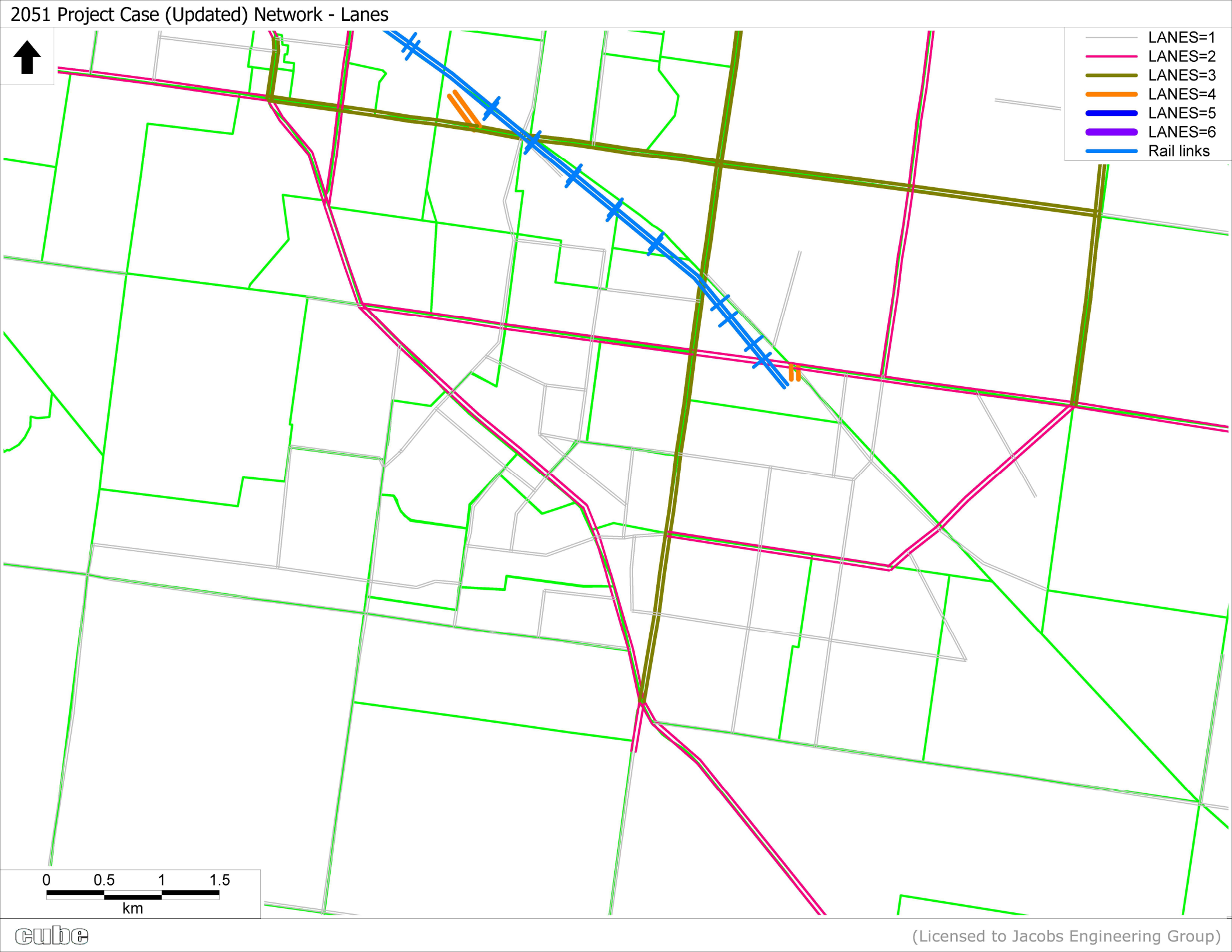
South (Employment) and Devon Meadows PSP. This can be confirmed in the next phase of the project, the Integrated Transport Assessment. The suitability of bus routes and the connections to rail stations and services should also be considered.

It is noted that several of the proposed roads in the Clyde South PSP are approaching capacity, this road network will need to be reviewed as that PSP evolves. With more than 40,000 residents the network shown may not be sufficient. Testing of alternate road layouts, with potentially more disaggregated zones, is recommended.

**Appendix A. 2051 Project Case Transport Network**



- LANES=1
- LANES=2
- LANES=3
- LANES=4
- LANES=5
- LANES=6
- Rail links





2051 Project Case (Updated) Network - Road Classes



- Centroid connectors
- Local road links
- Secondary road links
- Primary road links
- Freeway road links
- Rural road links
- Highway road links
- Rail links
- PNR access

