Craigieburn West Precinct Structure Plan

Existing Conditions Assessment

190690TIA001E-F

18 February 2020

onemile**grid**

ABN: 79 168 115 679

(03) 9939 8250
56 Down Street

COLLINGWOOD, VIC 3066
www.onemilegrid.com.au

DOCUMENT INFORMATION

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Prepared by	Stuart Valentine	**Reviewed by**	Ross Hill
Signature		**Signature**	

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1 INTRODUCTION

onemile**grid** has been requested by The Victorian Planning Authority (VPA) to undertake a Traffic and Transport Engineering review of the Craigieburn West Precinct Structure Plan (PSP) area.

This report provides an existing conditions assessment of the Craigieburn West PSP area. As part of this assessment the study area has been inspected with due consideration of the PSP area and surrounding precincts, traffic data has been sourced and relevant background reports have been reviewed.

2 BACKGROUND & CONTEXT

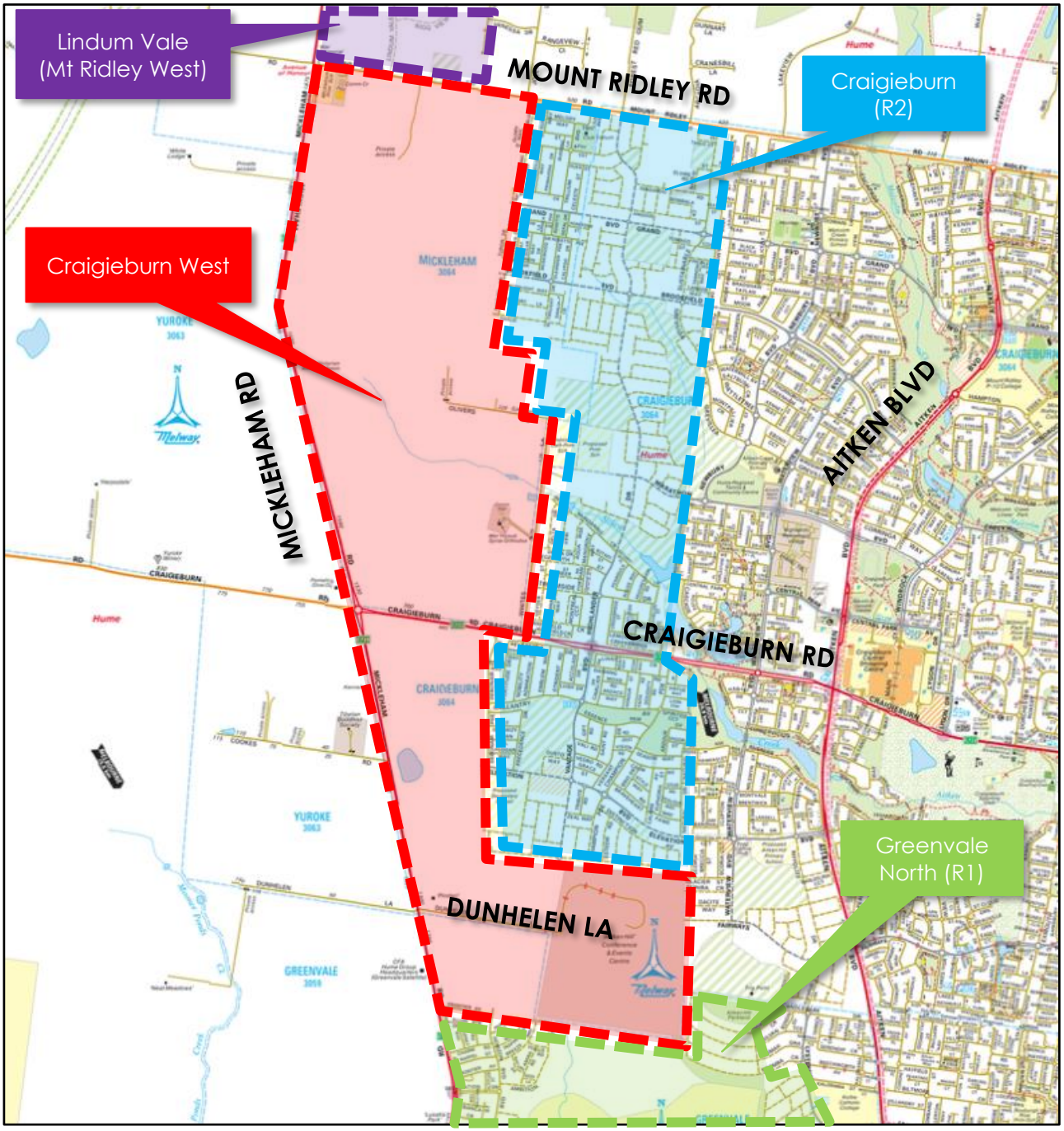
2.1 Adjacent PSP Areas

2.1.1 Context

The Craigieburn West PSP area is bordered by Mount Ridley Road to the north and Mickleham Road to the west. To the east and south the PSP area is bounded by properties, with no clearly defined road network boundaries. The PSP area is bisected by Craigieburn Road, which runs east – west through the PSP area.

In addition, several other PSP areas abut the Craigieburn West PSP, including Lindum Vale (Mt Ridley West) to the north, Craigieburn (R2) to the east and Greenvale North (R1) to the south, as shown in Figure 1.

Figure 1 Site Context



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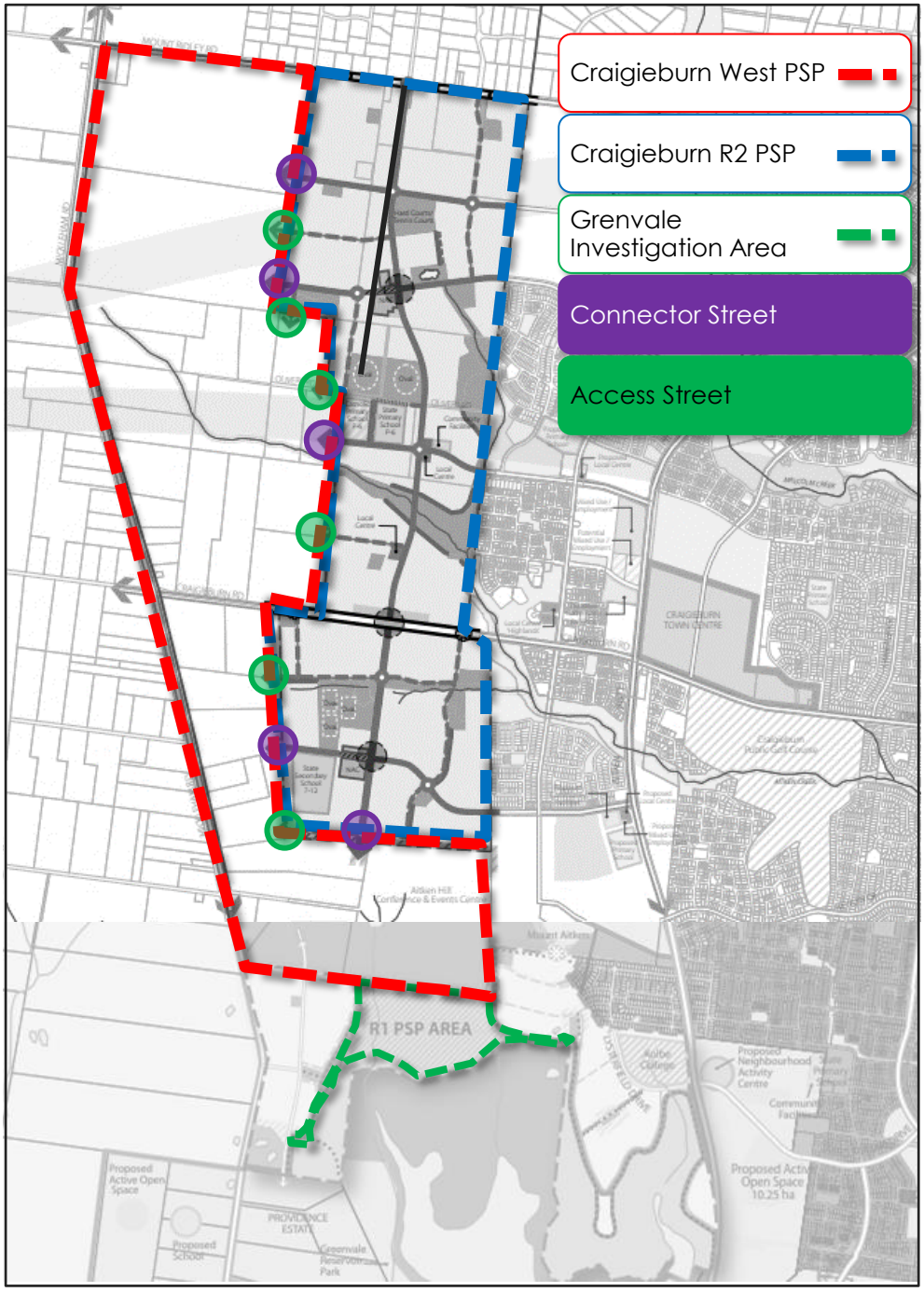
2.1.2 Craigieburn (R2)

The Craigieburn (R2) PSP area is situated to the immediate east of the Craigieburn West PSP area and comprises 455 ha of land. The Craigieburn (R2) PSP was completed in 2010 with the construction of large parts of the PSP either completed or underway.

Several road connections are envisaged between the Craigieburn (R2) PSP area and the future Craigieburn West PSP as outlined in Figure 2. The majority of these connections will facilitate east-west connectivity between the two PSP areas.

Figure 2 Craigieburn (R2) Road Network Connections

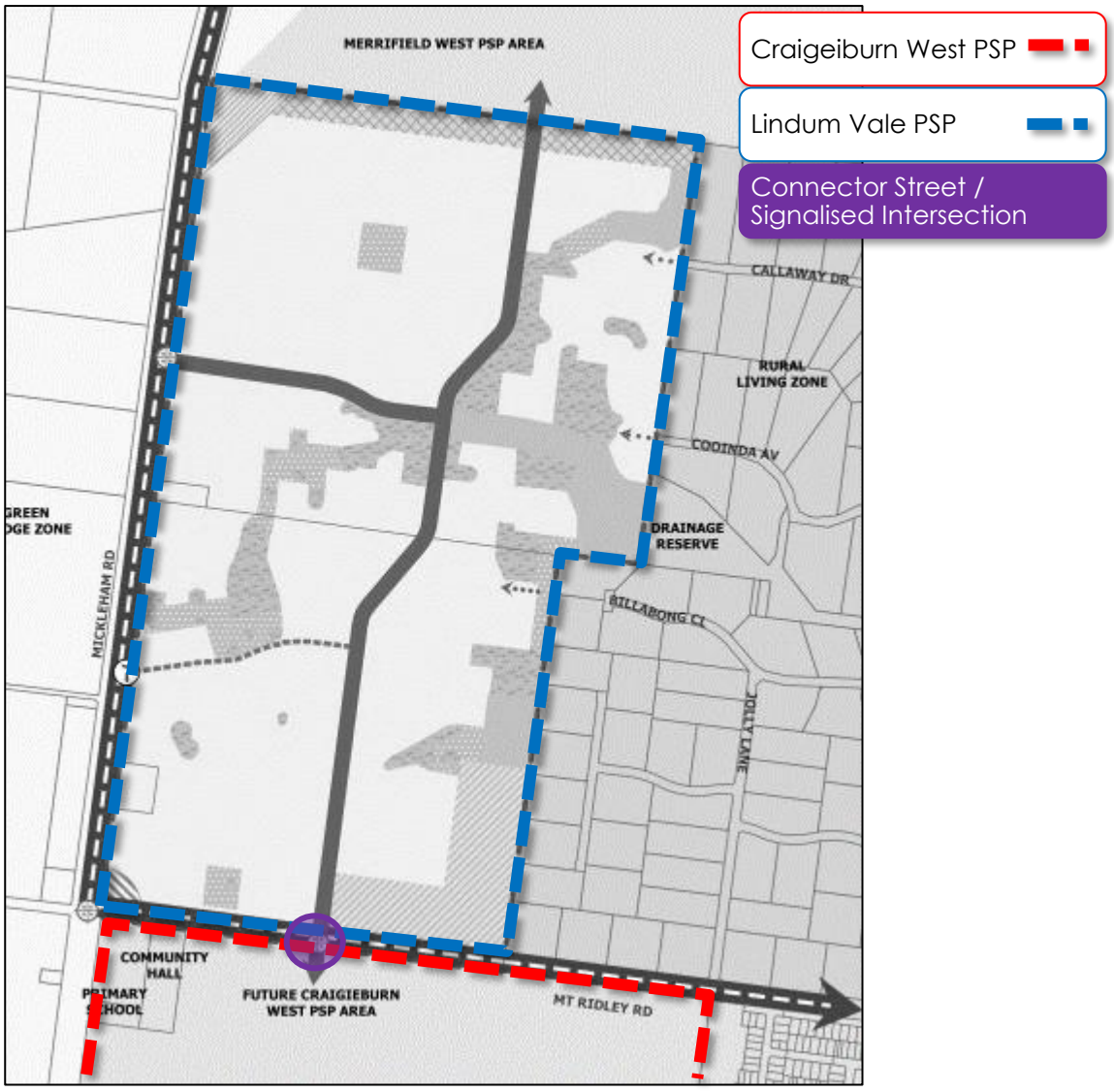


2.1.3 Lindum Vale (Mt Ridley West)

The Lindum Vale (Mt Ridley West) PSP area is situated to the immediate north of the Craigieburn West PSP area and comprises 144 ha of land. The Lindum Vale PSP was submitted for approval in July 2019. The PSP area is largely unoccupied. It is noted that aside from nature reserve areas no community infrastructure is proposed within the Lindum Vale PSP area.

A single road connection is envisaged between the Lindum Vale PSP area and the future Craigieburn West PSP as outlined in Figure 3. The connection and associated signalised intersection will facilitate north-south connectivity between the two PSP areas.

Figure 3 Lindum Vale (Mt Ridley West) Road Network Connections



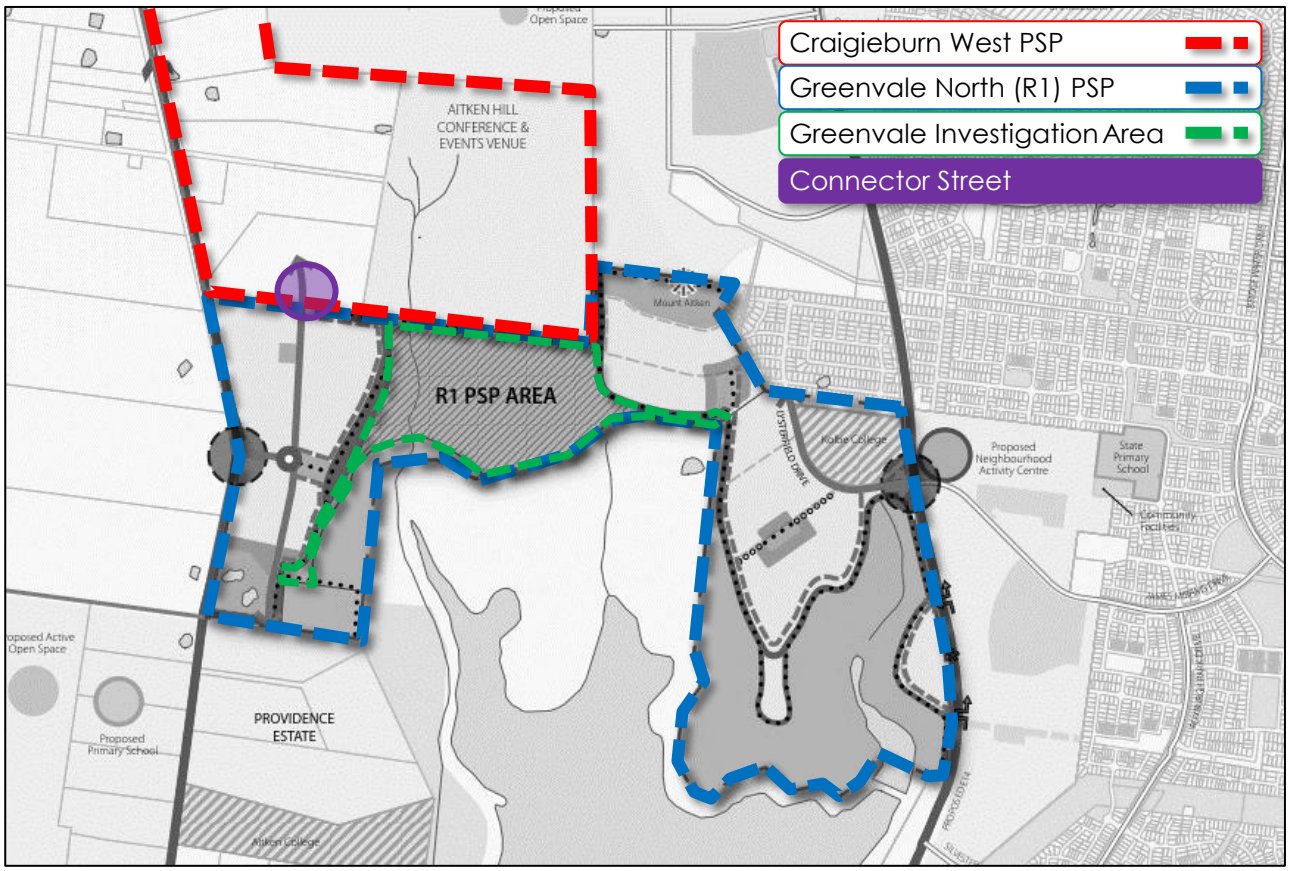
2.1.4 Greenvale North (R1)

The Greenvale North (R1) PSP area is situated to the immediate south of the Craigieburn West PSP area and comprises 238 ha of land. The Greenvale PSP was approved in January 2011 with the construction of large parts of the PSP either completed or underway. It is noted that the east and west sides of the Greenvale North PSP area are largely disconnected, with only the western portion of the PSP area to be directly connected to the Craigieburn West PSP area.

A single road connection is envisaged between the Greenvale North PSP area and the future Craigieburn West PSP as outlined in Figure 4. The connection will facilitate north-south connectivity between the two PSP areas.

Greenvale North (R1) PSP also includes an Investigation Area (IA) directly to the south of Craigieburn Road. This IA is subject to investigation as part of the Craigieburn West PSP and will likely include local road connections with the Craigieburn West PSP area.

Figure 4 Greenvale North (R1) Road Network Connections



2.2 Infrastructure Projects

2.2.1 Mickleham Road

Mickleham Road is planned as an ultimate six-lane arterial road which will be progressively upgraded as development in Melbourne's northern growth corridor proceeds.

2.2.2 Craigieburn Road Duplication

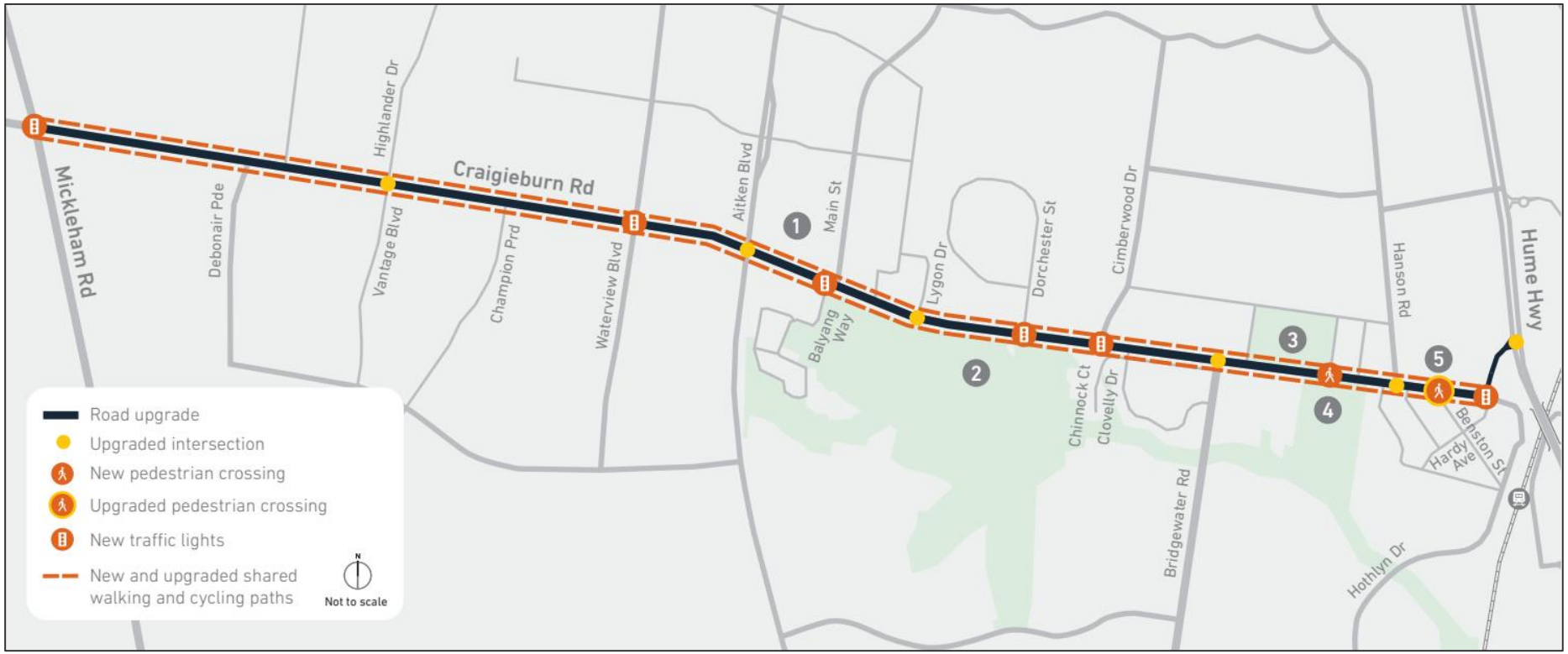
As part of the Northern Roads Upgrade project being undertaken by Major Road Projects Victoria, Craigieburn Road will be duplicated in each direction between Mickleham Road and the Hume Highway, with works expected to commence mid-to-late 2020.

The works will also include the following upgrades along the corridor, including to:

- Install traffic lights to replace the roundabouts at Mickleham Road, Waterview Boulevard and the Hume Highway;
- Install new traffic lights at Balyang Way, Dorchester Street and Cimberwood Drive;
- Upgrade the intersections at Vantage Boulevard, Aitken Boulevard, Lygon Drive, Bridgewater Road, Hanson Road and the Hume Highway on-ramp;
- Install a new pedestrian crossing with traffic lights near Craigieburn Sports Stadium and upgrade the pedestrian crossing at Craigieburn Plaza;
- Build a shared walking and cycling path; and
- Install safety barriers along the road.

A map of the proposed works is provided in Figure 5.

Figure 5 Craigieburn Road Upgrades



Reproduced from https://roadprojects.vic.gov.au/projects/northern-roads-upgrade/craigieburn-road

3 EXISTING CONDITIONS

3.1 Area Context

The Craigieburn West PSP area is currently utilised for predominantly farming uses, with a number of large non-farming single dwelling residential properties also located within the PSP area.

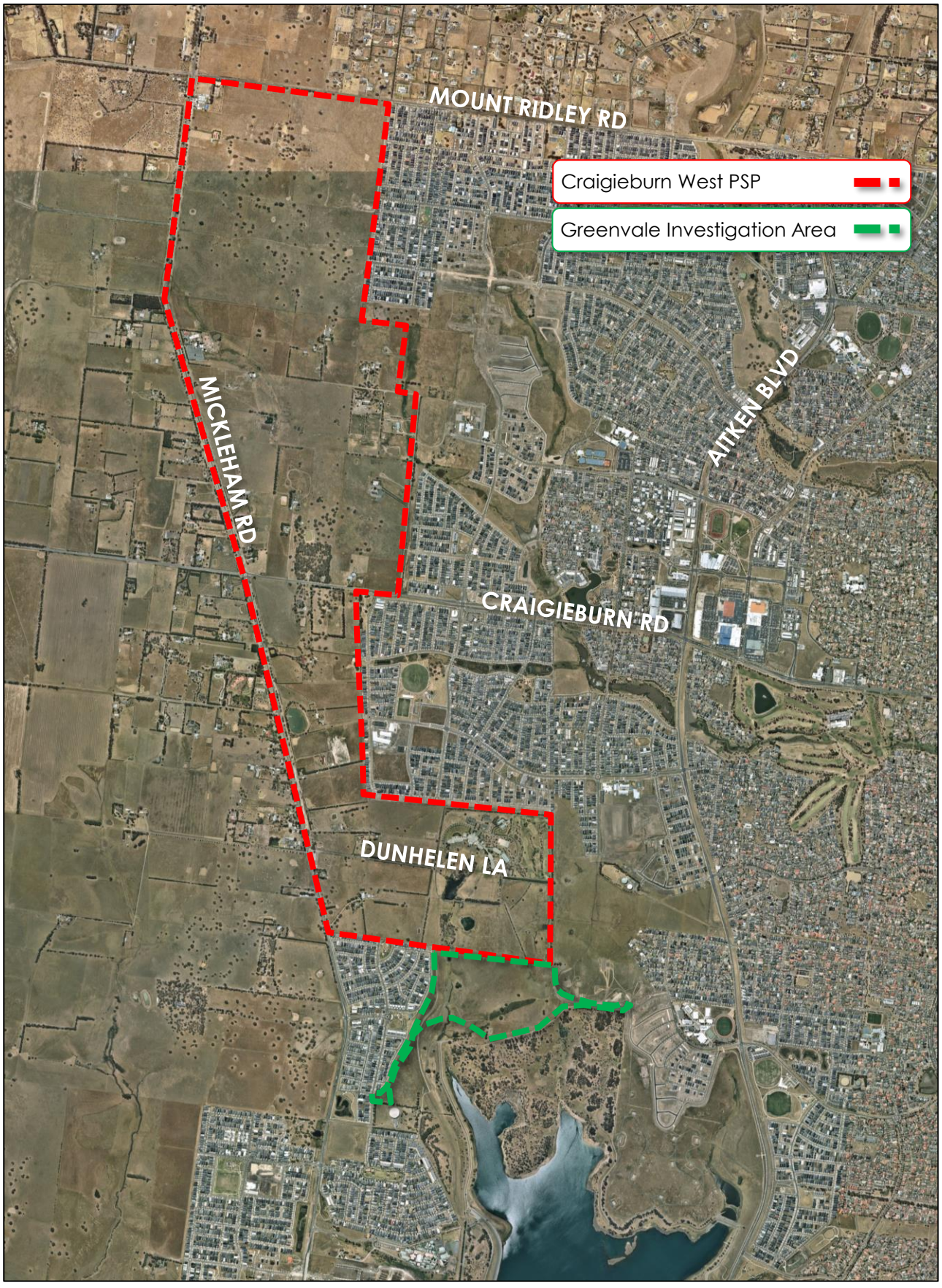
In addition to residential uses, the PSP area also includes:

- Mickleham Primary School (Corner of Mickleham Road/Mount Ridley Road);
- Aitken Hill Conference Centre (Located at the end of Dunhelen Lane);
- A Buddhist Temple – Daham Niketanaya (Located on Mickleham Road); and
- Mor Yacoub Syrian Orthodox Church (Located on Whites Lane).

Land to the west of Mickleham Road is outside of the urban growth boundary.

An aerial view of the Craigieburn West PSP area is provided in Figure 6.

Figure 6 Aerial Imagery Site Context- Aerial Dated 13 October 2019



Copyright Nearmap

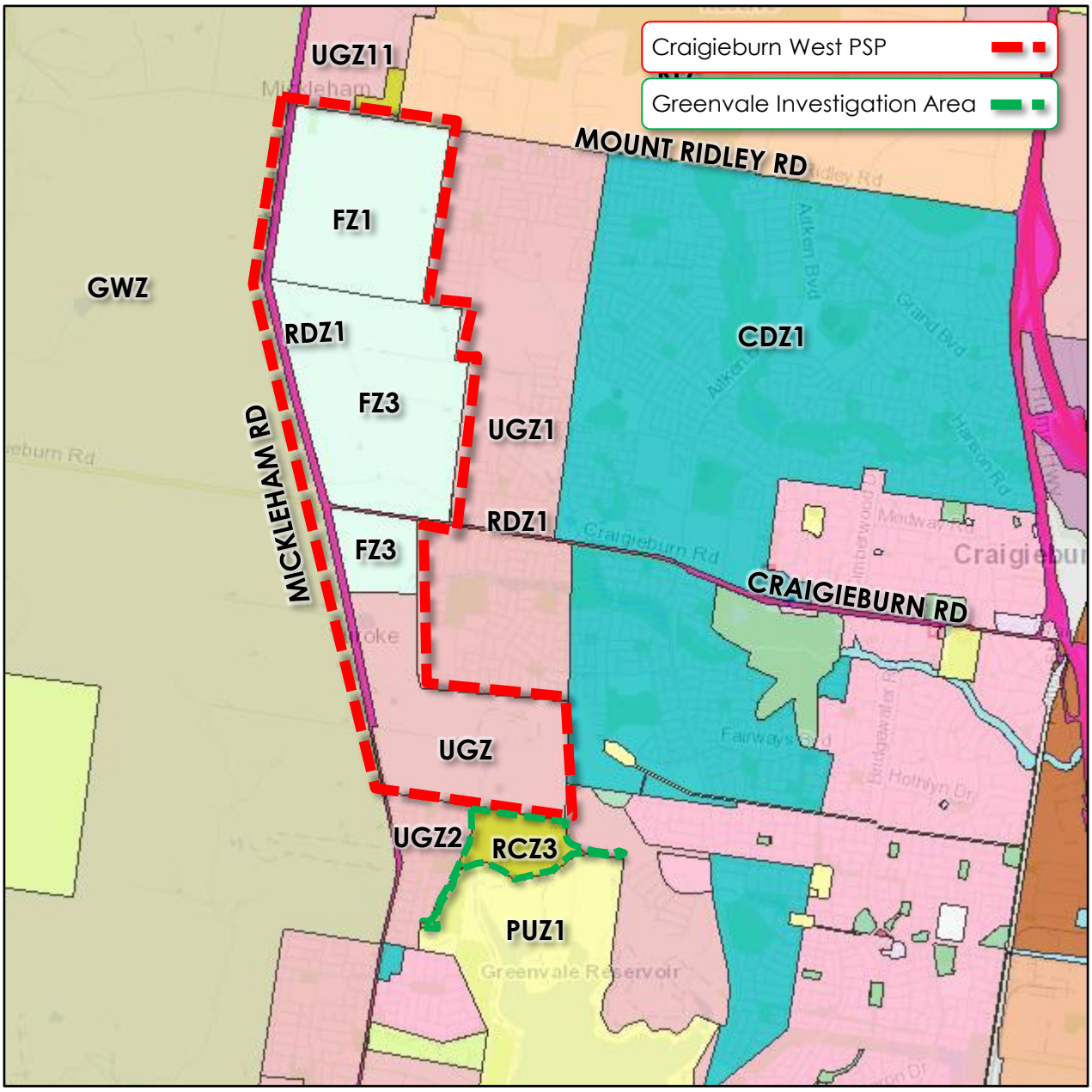
3.2 Planning Zones and Overlays

It is shown in Figure 7 that land within the PSP area is generally zoned Farming Zone (FZ) or Urban Growth Zone (UGZ), with a small portion of Mount Ridley Road zoned Rural Living Zone (RLZ).

Additionally, Mickleham Road and Craigieburn Road are both zoned Road Zone Category 1 (RDZ1).

The Greenvale Investigation Area is zoned Rural Conservation Zone.

Figure 7 Planning Scheme Zones



3.3 Road Network

The existing road network within the Craigieburn West PSP area includes roads of different classifications, including:

- Arterial roads, which are designed to carry higher traffic volumes and longer distance through-traffic, where the movement of people and goods is prioritised;
- Connector streets, which are designed to connect neighbourhoods and link local streets to the arterial road network; and
- Access streets, which are to serve as local property access.

A summary of the cross-section and operating characteristic of each road within the PSP area is presented in Table 1 below, with figures depicting the typical cross-sections provided in Appendix A.

Table 1 Existing Road Network Characteristics

Road Name	Between	Classification	Alignment	Cross-Section	Carriageway	Footpath Provision	Bicycle Facilities	Car Parking	Speed Limit
Craigieburn Road	Mickleham Rd & Debonair Pde	Arterial	E-W	Two-way / Two-lane	7 metres	N	Partial provision of on-road bike lanes	None	60 km/h
Mickleham Road	Mt Ridley Rd & Craigieburn Rd	Arterial	N-S	Two-way / Two-lane	8 metres	N	None	None	80 km/h (60 km/h school times)
Mickleham Road	Craigieburn Rd & Dunhelen Ln	Arterial	N-S	Two-way / Two-lane	8 metres	N	None	None	80 km/h
Mount Ridley Road	Mickleham Rd & Jolly Ln	Collector Road	E-W	Two-way / Two-lane	7.5 metres	N	None	None	60 km/h
Debonair Parade	Craigieburn Rd & Gallantry Ave	Access Street	N-S	Two-way / Two-lane	6 metres	Y	Shared path on western side of road	Indented and marked kerbside	50 km/h
Grand Boulevard	Nebula Cres & Highlander Dr	Collector Road	E-W	Two-way / Two-lane	9 metres	Y	None	Indented and marked kerbside	50 km/h
Vantage Boulevard	Craigieburn Rd & Gallantry Ave	Collector Road	N-S	Two-way / Two-lane	7.5 metres	Y	On-road bike lanes	Indented and marked kerbside	50 km/h
Dunhelen Lane	Mickleham Rd & Aitken Hill	Access Street	E-W	Two-way / Two-lane	7 metres	N	None	None	50 km/h

3.4 Intersections

There are several existing intersections within and abutting the study area. A description of each of these intersections is provided in Table 2.

Table 2 Study Area Existing Intersections

Intersection	*Type*	*Restricted Movements*
Craigieburn Road / Mickleham Road	Roundabout	None
Craigieburn Road / Debonair Parade	Unsignalised T-intersection	Right out (south to east)
Craigieburn Road / Whites Lane	Unsignalised T-intersection	None
Mickleham Road / Dunhelen Lane	Unsignalised X-intersection	None
Mickleham Road / Mt Ridley Road	Unsignalised X-intersection	None

3.5 Traffic Volumes

In order to benchmark existing traffic conditions, and to provide a basis for assessing existing and future road network operations, traffic surveys have been carried out in the study area.

The traffic volume surveys were undertaken by Trans Traffic Survey on behalf of **one**mile**grid** as outlined in Table 3 and Figure 8.

Table 3 Survey Summary

Survey Type	*Location*	*Times*
Peak Hour Intersection Count	Mickleham Road / Mt Ridley Road	Tuesday 12/11/2019 6:00 am – 9:30 am & 2:30 pm – 7:00 pm
	Vantage Boulevard / Craigieburn Road	
	Waterview Boulevard / Craigieburn Road	
	Mickleham Road / Craigieburn Road	
	Craigieburn Road / Debonair Parade	
	Gallantry Avenue / Vantage Boulevard	
	Elevation Boulevard / Vantage Boulevard	
Pneumatic Tube Count	Mickleham Road – North of Mt Ridley Road	12/11/2019 – 19/11/2019
	Mickleham Road – South of Mt Ridley Rd, North of Craigieburn Rd	
	Mt Ridley Road – East of Mickleham Road	
	Craigieburn Road – East of Mickleham Road	
	Mickleham Road – South of Craigieburn Rd, North of Dunhelen Ln	
	Debonair Parade – South of Craigieburn Road	
	Grand Boulevard – East of Highlander Drive	
	Vantage Boulevard – South of Craigieburn Road	
	Dunhelen Lane – East of Mickleham Road	

Figure 8 Survey Locations

3.5.1 Intersection Counts

The results of intersection counts are shown in Figure 9 and Figure 10. The combined road network peak hours have been displayed, with the AM Peak hour being 8:00am – 9:00am and the PM Peak hour being 3:30pm – 4:30pm.

Figure 9 Existing Traffic Volumes – AM Peak Hour (8:00am – 9:00am)

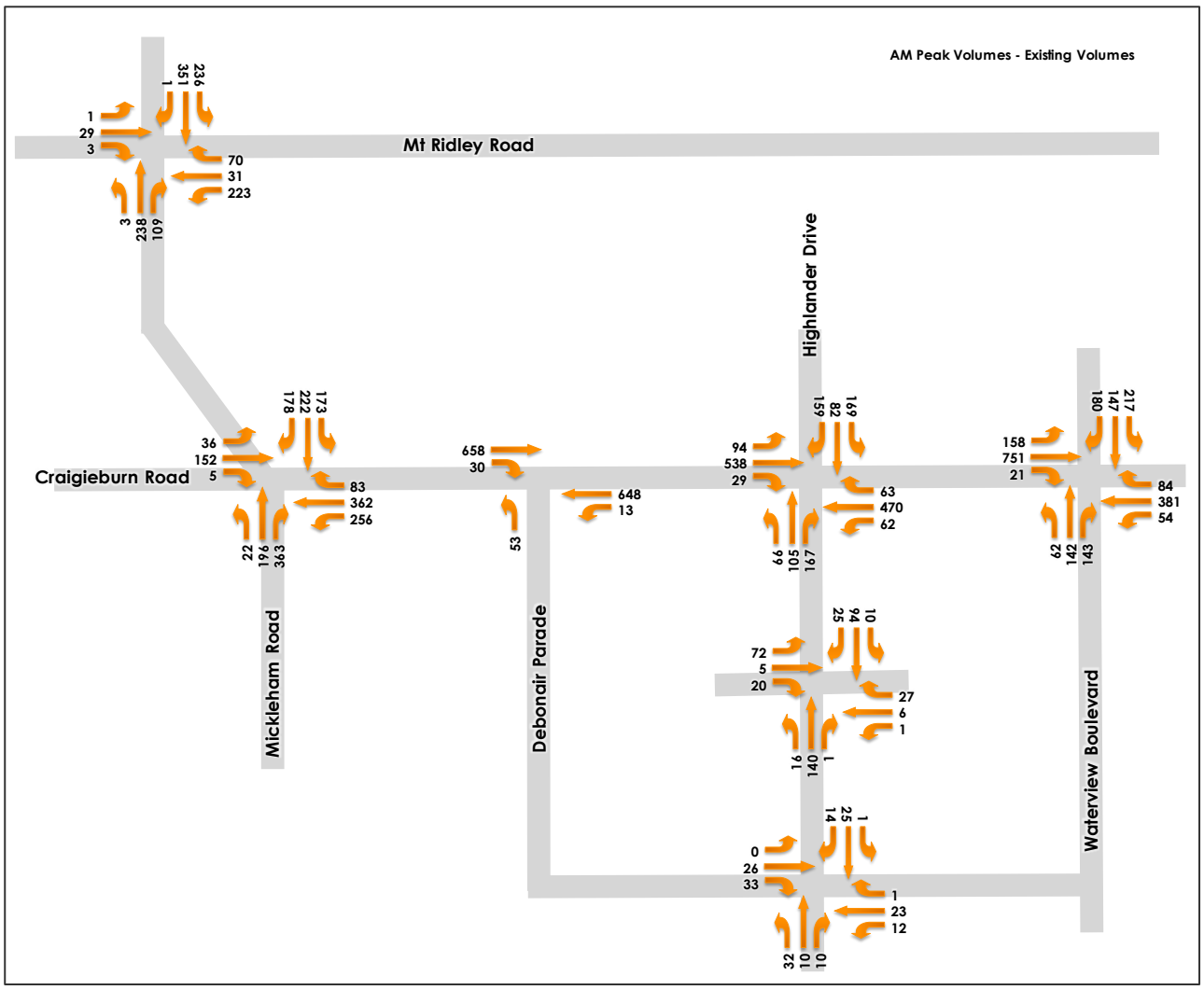
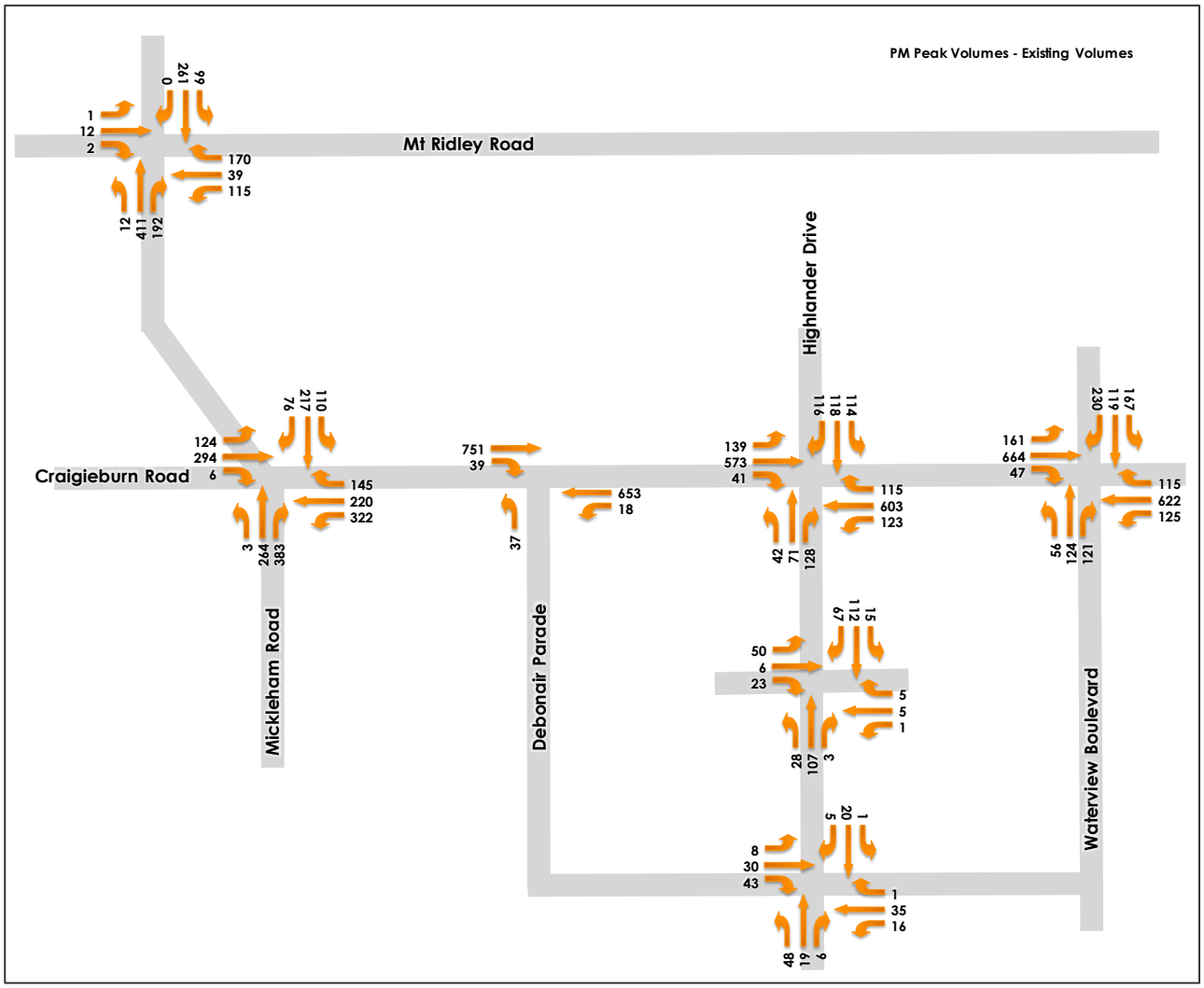


Figure 10 Existing Traffic Volumes – PM Peak Hour (3:30pm – 4:30pm)



The Waterview Boulevard / Craigieburn Road intersection was included to provide insight into north-south traffic movements along a connector street crossing an arterial road (Craigieburn Road). At this intersection the following distributions were observed in relation to north-south through movements:

- AM peak hour:
  - North approach (southbound traffic) – 27% of approaching traffic travels through the intersection from north to south; and
  - South approach (northbound traffic) – 41% of approaching traffic travels through the intersection from south to north.
- PM peak hour:
  - North approach (southbound traffic) – 23% of approaching traffic travels through the intersection from north to south; and
  - South approach (northbound traffic) – 41% of approaching traffic travels through the intersection from south to north.

The proportion of approaching traffic travelling through the intersection on Waterview Boulevard was therefore relatively consistent during the AM and PM peak hours. It is noted that the section of Waterview Boulevard to the north of Craigieburn Road has the feel of a higher order road than the section to the south of Craigieburn Road, with the section to the north comprising a divided carriageway, with two traffic lanes in either direction.

Additionally, a greater number of land uses are accessed from Waterview Boulevard to the north of Craigieburn Road than to the south, including aged care facilities, community / sporting facilities, and a primary school. As such it is considered that these distributions are typical of a connector street, which is intended to facilitate access to local land uses.

The surveys also identified a relatively high number of movements at the Mickleham Road / Craigieburn Road intersection travelling to and from the west. Although Craigieburn Road to the west of Mickleham Road operates as a lower order road than the section to the east, the survey results show a high level of utilisation of this section of road. It is likely that this section of Craigieburn Road is being used as a connection through to Oaklands Road / Konagaderra Road, to access Melbourne Airport, Sunbury, and Lancefield.

3.5.2 Tube Counts

The results of the tube count surveys are provided in Table 4, with further results provided in Appendix B.

Table 4 Traffic Volume and Speed Surveys

Road	*Direction*	*Traffic Volume (vpd)*	*85th Percentile Speed (km/h)*
Mickleham Road – North of Mount Ridley Road	Two-Way	11,410	81
Mickleham Road – South of Mount Ridley Road, North of Craigieburn Road	Two-Way	12,167	87
Mount Ridley Road – East of Mickleham Road	Two-Way	7,948	
Craigieburn Road – East of Mickleham Road	Two-Way	19,301	78
Mickleham Road – South of Craigieburn Road, North of Dunhelen Lane	Two-Way	17,732	78
Debonair Parade – South of Craigieburn Road	Two-Way	1,534	54
Grand Boulevard – East of Highlander Drive	Two-Way	2,876	47
Vantage Boulevard – South of Craigieburn Road	Two-Way	5,321	60
Dunhelen Lane – East of Mickleham Road	Two-Way	182	58

A visual representation of the average two-way daily and peak hour volumes is provided in Figure 11, Figure 12, and Figure 13.

Figure 11 Weekday Daily Two-Way Volumes

Figure 12 AM Peak Hour Two-Way Volumes

Figure 13 PM Peak Hour Two-Way Volumes

3.6 Intersection Operation

To assess the operation of the existing intersections the traffic volumes have been input into SIDRA Intersection, a traffic modelling software package.

The SIDRA Intersection software package has been developed to provide information on the capacity of an intersection with regard to a number of parameters. Those parameters considered relevant are, Degree of Saturation (DoS), 95th Percentile Queue, and Average Delay as described in Table 5.

Table 5 SIDRA Intersection Parameters

<table>
<tr><th>Parameter</th><th>Description</th></tr>
<tr><td>Degree of Saturation (DoS)</td><td>The DoS represents the ratio of the traffic volume making a particular movement compared to the maximum capacity for that particular movement. As a general rule, the value of the DoS has a corresponding rating depending on the ratio as shown below.
<table>
<tr><th>Degree of Saturation</th><th>Rating</th></tr>
<tr><td>Up to 0.60</td><td>Excellent</td></tr>
<tr><td>0.61 – 0.70</td><td>Very Good</td></tr>
<tr><td>0.71 – 0.80</td><td>Good</td></tr>
<tr><td>0.81 – 0.90</td><td>Fair</td></tr>
<tr><td>0.91 – 1.00</td><td>Poor</td></tr>
<tr><td>Above 1.00</td><td>Very Poor</td></tr>
</table>
It is noted that whilst the range of 0.91 – 1.00 is rated as ‘poor’, it is acceptable for critical movements at an intersection to be operating within this range during high peak periods, reflecting actual conditions in a significant number of suburban signalised intersections.</td></tr>
<tr><td>Average Delay (seconds)</td><td>Average delay is the time delay that can be expected for all vehicles undertaking a particular movement in seconds.</td></tr>
<tr><td>95th Percentile (95%ile) Queue</td><td>95%ile queue represents the maximum queue length in metres that can be expected in 95% of observed queue lengths in the peak hour</td></tr>
</table>

The operation of each intersection under existing conditions is provided in Table 6.

Table 6 SIDRA Intersection Results

Intersection	Peak	Approach	DoS	Avg. Delay (sec)	Queue (m)
Mickleham Rd / Mount Ridley Rd*	AM	Mickleham Rd – South	0.15	0	0
		Mt Ridley Rd – East	0.37	19	13
		Mickleham Rd – North	0.32	2	0
		Mt Ridley Rd - West	0.41	25	1
	PM	Mickleham Rd – South	0.23	2	0
		Mt Ridley Rd – East	0.76	29	27
		Mickleham Rd – North	0.21	2	0
		Mt Ridley Rd - West	0.40	22	1
Vantage Blvd / Craigieburn Rd	AM	Vantage Blvd - South	0.59	27	37
		Craigieburn Rd – East	0.56	22	49
		Highlander Dr – North	0.56	22	35
		Craigieburn Rd – West	0.64	22	58
	PM	Vantage Blvd - South	0.64	29	30
		Craigieburn Rd – East	0.63	22	62
		Highlander Dr – North	0.65	25	28
		Craigieburn Rd – West	0.60	20	58
Waterview Blvd / Craigieburn Rd	AM	Waterview Blvd - South	0.32	9	11
		Craigieburn Rd – East	0.27	7	12
		Waterview Blvd - North	0.43	10	18
		Craigieburn Rd - West	0.48	7	23
	PM	Waterview Blvd - South	0.34	10	13
		Craigieburn Rd – East	0.47	7	23
		Waterview Blvd - North	0.44	10	19
		Craigieburn Rd - West	0.45	7	21
Mickleham Rd / Craigieburn Rd	AM	Mickleham Rd - South	0.81	26	91
		Craigieburn Rd – East	0.84	16	67
		Mickleham Rd – North	0.72	13	65
		Craigieburn Rd - West	0.17	7	9
	PM	Mickleham Rd - South	0.80	17	89
		Craigieburn Rd – East	0.32	7	16
		Mickleham Rd – North	0.63	15	48
		Craigieburn Rd - West	0.57	13	36
Craigieburn Rd / Debonair Pde	AM	Debonair Pde – South	0.10	11	3
		Craigieburn Rd – East	0.36	0	0
		Craigieburn Rd - West	0.37	1	1
	PM	Debonair Pde – South	0.08	10	2
		Craigieburn Rd – East	0.35	0	0
		Craigieburn Rd - West	0.44	1	2
Gallantry Ave / Vantage Blvd	AM	Vantage Blvd – South	0.13	5	5
		Gallantry Ave – East	0.03	8	1
		Vantage Blvd – North	0.10	6	4
		Gallantry Ave - West	0.09	6	3
	PM	Vantage Blvd – South	0.11	5	4
		Gallantry Ave – East	0.01	8	0
		Vantage Blvd – North	0.16	6	7
		Gallantry Ave - West	0.06	6	2
	AM	Vantage Blvd – South	0.10	12	5

Intersection	Peak	Approach	DoS	Avg. Delay (sec)	Queue (m)
Elevation Blvd / Vantage Blvd		Elevation Blvd – East	0.11	12	4
		Vantage Blvd – North	0.04	9	2
		Elevation Blvd – West	0.11	14	4
	PM	Vantage Blvd – South	0.17	12	8
		Elevation Blvd – East	0.09	11	4
		Vantage Blvd – North	0.02	9	1
		Elevation Blvd – West	0.18	13	7

**Modelled with staged right turns from east and west approaches to reflect observed driver behaviour.*

As illustrated above, the majority of intersections are currently operating at either an 'excellent' or 'good' rating, with minimal queues and delays at all intersections. The intersection of Craigieburn Road/Mickleham Road is currently operating under a 'Fair' rating with the intersection of Mickleham Road/Mt Ridley Road assessed to be operating under a 'good' rating.

3.7 Mid-Block Capacity

The VPA PSP Guideline – *PSP Note – Our Roads: Connecting People* (August 2011) has been utilised in determining appropriate road classifications and threshold volumes of existing roads. The road types and their indicative configurations outlined in the documents are summarised in Table 7.

Table 7 Our Roads: Connecting People – Road Characteristics

Element	Access Street 1	Access Street 2	Connector Street	Secondary Arterial	Arterial
Traffic Volume	Up to 2,000 vpd	2000-3000 vpd	3000-7000 vpd	12,000 – 40,000	>30,000
Target Operating Speed	30 km/h	40 km/h	50 km/h	60 - 70 km/h	70-80 km/h
Carriageway Width	7.3 m	6 m	7 m	2 x 3.5 m lanes each way	2 x 10.5 m (6 lane), 2 x 7.0 m (4 lane)
Parking Within Street	Unmarked	2.3 m marked both sides	2.3 m marked both sides	2.3 m marked both sides	None
Verge Width	4.5 / 4.2 m	4.7 m min each side	5 m min each side	5.25 m min each side	5 m min
Footpath Provision	2 x 1.5m	2 x 1.5 m	2 x 1.5 m	2 x 1.5 m	2 x 1.5 m min
Cycle Path/Lane Provision	None	Optional	2 x 1.7 m	2 x 1.7 m	2 x 2.0 m

Comparing the tube count volumes outlined in 3.5.2 and the threshold volume outlined above, it can be seen that all roads within the Craigieburn West PSP area apart from Mount Ridley Road are currently operating below their indicative threshold volumes, with Mount Ridley Road only marginally exceeding desirable volumes for a collector type road.

3.8 Crash History

Crash history information for existing roads within the study area was obtained through VicRoads CrashStats (the Victorian accident statistics and mapping program) for the period 2013 – 2018 inclusive.

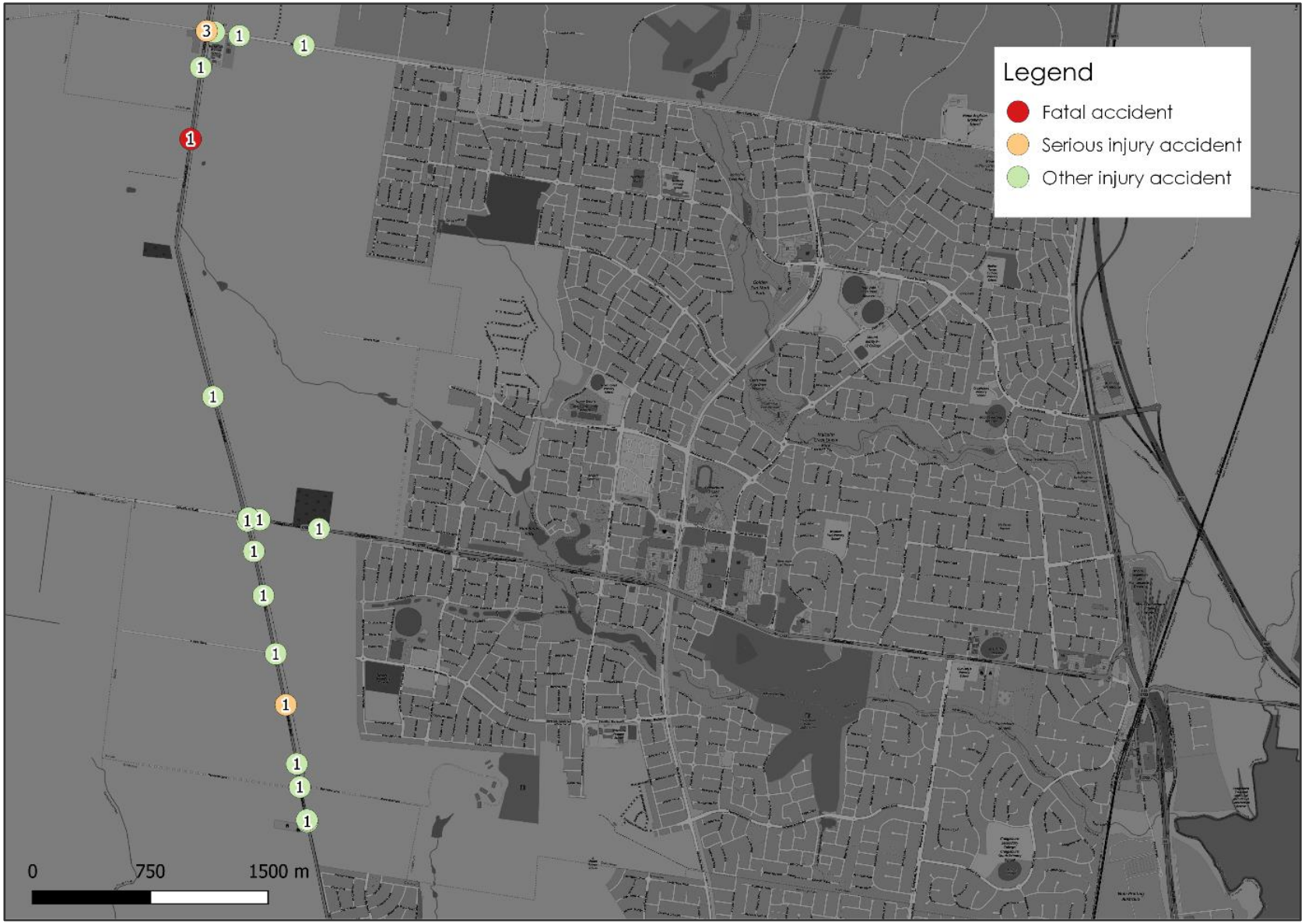
A summary of the crash history is provided in Table 8, with Figure 14 illustrating the location of the crashes recorded in the study area.

One fatal accident and four accidents resulting in serious injury were recorded. Two crashes involved cyclists, and one crash involved a pedestrian. The accidents along Mickleham Road are generally consistent with accidents for a rural style road.

Table 8 Crash Statistics

Road	*Severity*	*No. Accidents*
Mount Ridley Rd	Fatal	0
	Serious Injury	0
	Other Injury	3
	Total	***3***
Mt Ridley Rd/Mickleham Rd Intersection	Fatal	0
	Serious Injury	1
	Other Injury	2
	Total	***3***
Mickleham Rd (North of Craigieburn Rd)	Fatal	1
	Serious Injury	0
	Other Injury	2
	Total	***3***
Mickleham Rd / Craigieburn Rd Intersection	Fatal	0
	Serious Injury	0
	Other Injury	5
	Total	***5***
Craigieburn Rd	Fatal	0
	Serious Injury	0
	Other Injury	2
	Total	***2***
Mickleham Rd (South of Craigieburn Rd)	Fatal	0
	Serious Injury	1
	Other Injury	7
	Total	***8***
Overall	Fatal	1
	Serious Injury	2
	Other Injury	21
	Total	**24**

Figure 14 Recorded Crashes



3.9 Public Transport

The full public transport provision in the vicinity of the Craigieburn West PSP is shown in Figure 15 and detailed in Table 9.

Figure 15 Public Transport Provision

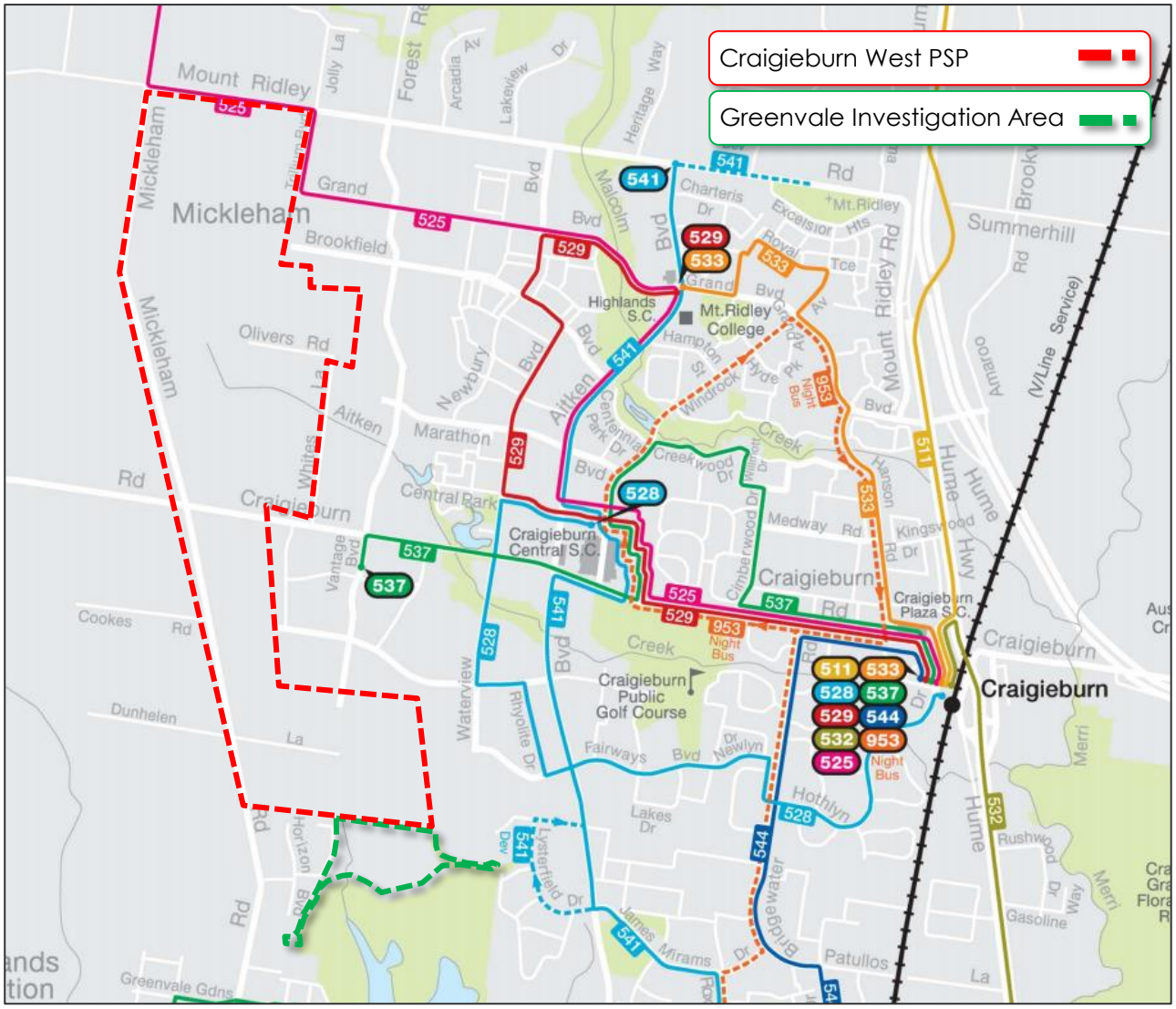


Table 9 Public Transport Provision

Mode	Route No	Route Description	Nearest Station/Stop
Train	-	Craigieburn Line (Metro)	Craigieburn Station
	-	Seymour – Melbourne (V/Line)	
Bus	511	Craigieburn Station - Mandalay Circuit	Craigieburn Station
	525	Craigieburn Station to Donnybrook Station	Mt Ridley Road
	528	Craigieburn Station - Craigieburn Central SC	Waterview Road / Craigieburn Road
	529	Craigieburn - Craigieburn North via Craigieburn Central SC	Waterview Road
	532	Craigieburn - Broadmeadows via Upfield Station	Craigieburn Station
	533	Craigieburn Station - Craigieburn North via Hanson Rd	Grand Boulevard / Aitken Boulevard
	537	Craigieburn Station - Craigieburn West via Craigieburn Central SC	Vantage Boulevard / Craigieburn Road
	544	Craigieburn - Roxburgh Park	Bridgewater Road / Craigieburn Road
	953	Night Bus - Broadmeadows - Meadow Heights - Roxburgh Park - Craigieburn	Craigieburn Central Shopping Centre

As highlighted above, no public transport services currently operate within the Craigieburn West PSP, other than Route 525 which services Mt Ridley Road along the norther boundary of the PSP. More broadly public transport in the area is primarily serviced by buses, with the focal point of public transport being Craigieburn Train Station.

3.10 Pedestrian Network

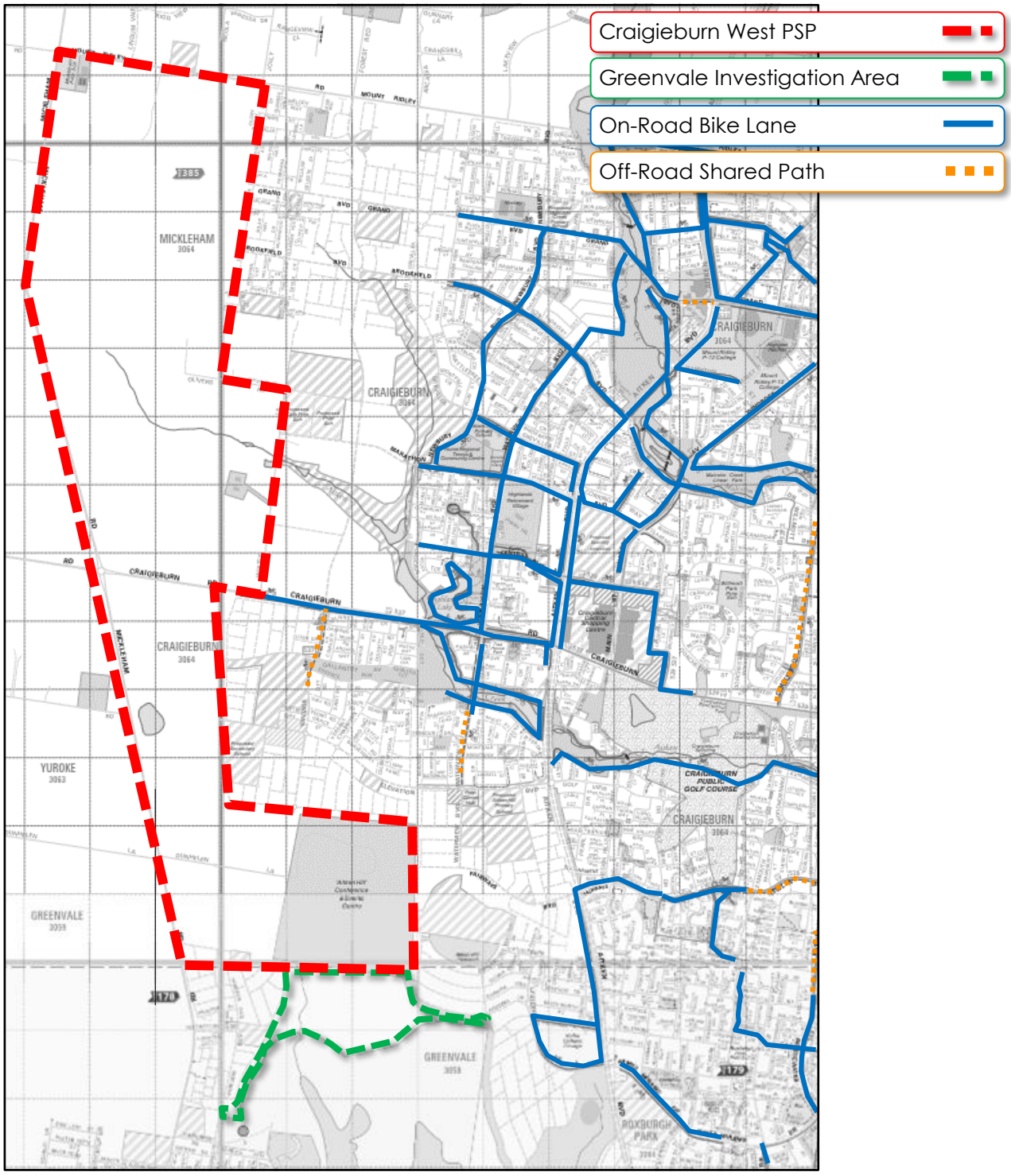
Roads adjacent to the east of the study area are generally provided with pedestrian paths on both sides of the road.

Within the Craigieburn West PSP area limited pedestrian provision is provided, with none of the roads within the study area currently provided with pedestrian paths.

3.11 Bicycle Network

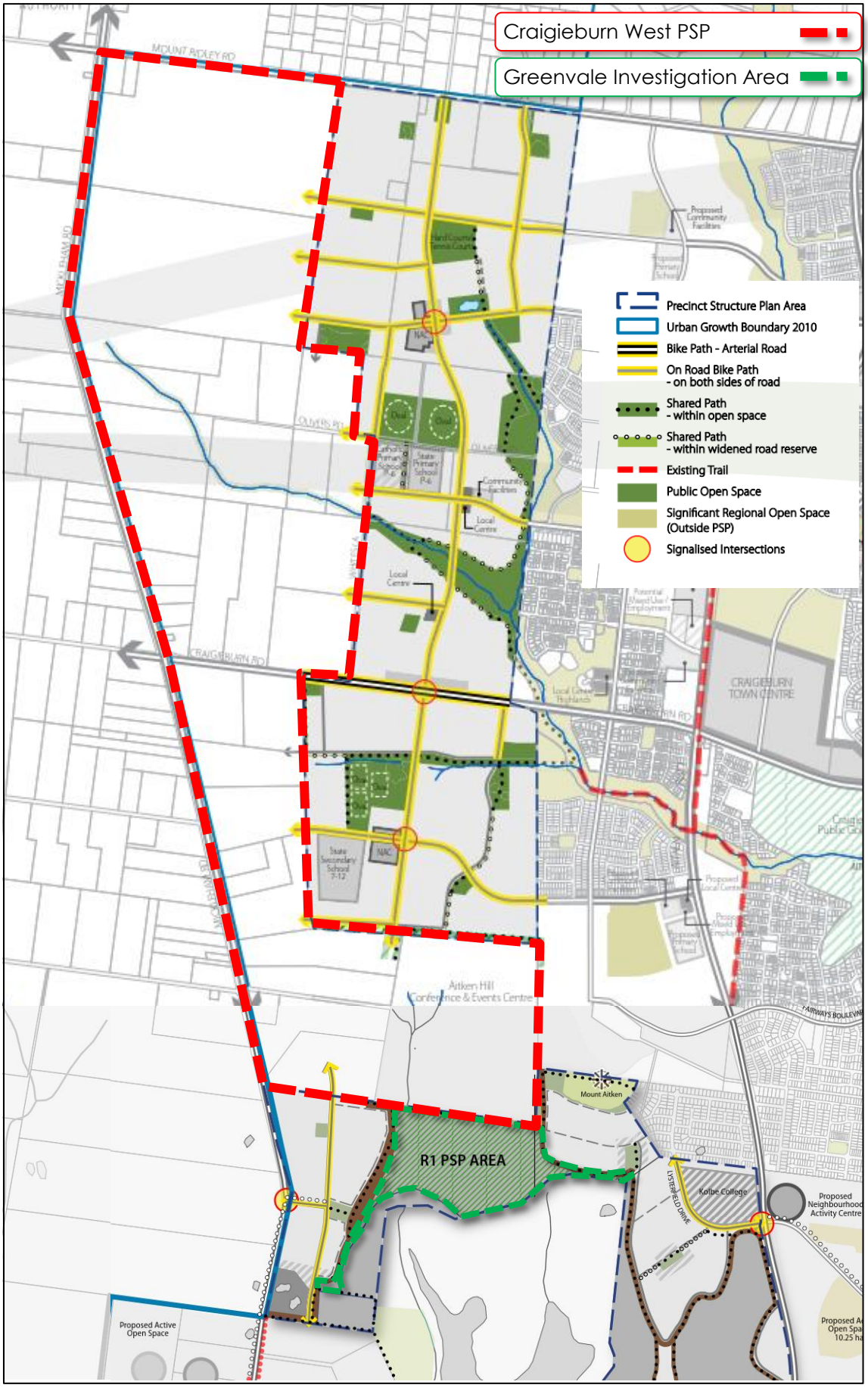
Details of the existing on-road and off-road bicycle network in the vicinity of the Craigieburn West PSP area are shown in Figure 16. It is noted that the base figure was produced in 2014, and additional bicycle connections have been constructed in new development to the east of the study area. Figure 17 has been reproduced from the Craigieburn R2 PSP to show the extents of the bicycle network currently under construction at the eastern boundary of the site.

Figure 16 Bicycle Network



Base Map Source: Hume City Council

Figure 17 Craigieburn R2 PSP Bicycle Network



4 SUMMARY

The Craigieburn West PSP area abuts the Lindum Vale (Mt Ridley West) PSP to the north, Craigieburn (R2) PSP to the east, and Greenvale North (R1) PSP to the south. The Lindum Vale PSP includes a north-south connector street that will interface with the Craigieburn West PSP at a signalised intersection on Mt Ridley Road. The Craigieburn (R2) PSP includes a number of east-west access streets and connector streets that will lead into the eastern boundary of the Craigieburn West PSP. The Greenvale North (R1) PSP includes a north-south connector street that will link into the southern boundary of the Craigieburn West PSP.

Future infrastructure projects in the surrounding area include the duplication of Craigieburn Road between Mickleham Road and Hume Highway. Works are expected to commence mid-to-late 2020.

Traffic volume surveys were undertaken at intersections on Tuesday 12 November 2019, and at mid-block locations from 12 November 2019 to 19 November 2019. A SIDRA analysis confirmed that each intersection surveyed is currently operating within capacity, with most intersections operating under either 'excellent' or 'good' conditions. The Craigieburn Road / Mickleham Road intersection is currently operating under a 'Fair' rating with the intersection of Mickleham Road / Mt Ridley Road assessed to be operating under a 'good' rating. The mid-block capacity assessment identified that most roads are within the threshold volumes for their respective classification, with the exception of Mt Ridley Road which marginally exceeds the desired maximum daily volume for a collector road.

In terms of traffic distributions, the Waterview Boulevard / Craigieburn Road intersection was included to provide insight into north-south traffic movements along a connector street crossing an arterial road (Craigieburn Road). It is considered that traffic volumes at this location are consistent with those expected for a collector road, which is intended to distribute traffic from the arterial road network to local land uses.

Another notable observation from the traffic surveys is the proportion of vehicles at the Craigieburn Road / Mickleham Road intersection that approach and depart to/from the west. The data indicates that this section of Craigieburn Road is used as a connection through to Melbourne Airport, Sunbury, and Lancefield.

The accident history within the Craigieburn West PSP area over the most recent 5-year period for which data is available (2013 to 2018) identifies a total of 24 casualty accidents. This includes 1 fatal accident, 2 accidents resulting in serious injury, and 21 accidents resulting in other injuries.

Appendix A Existing Road Network Photos

Figure 18 Craigieburn Road

Figure 19 Mickleham Road – Craigieburn Road to Mt Ridley Road

Figure 20 Mickleham Road – Craigieburn Road to Dunhelen Lane

Figure 21 Mt Ridley Road

Figure 22 Debonair Parade

Figure 23 Vantage Boulevard

Figure 24 Dunhelen Lane

Appendix B Traffic Volume & Speed Surveys

Table 10 Traffic Volume and Speed Surveys

Road	Time Period	Direction	Traffic Volume (vpd)	Average Speed (km/h)	85th Percentile Speed (km/h)
Mickleham Road – North of Mount Ridley Road	Weekday Average	Combined	11,410	73	81
		Northbound	5,678	73	80
		Southbound	5,732	73	82
	7 Day Average	Combined	10,982	73	81
		Northbound	5,467	73	80
		Southbound	5,515	73	82
Mickleham Road – South of Mount Ridley Road, North of Craigieburn Road	Weekday Average	Combined	12,167	79	87
		Northbound	5,830	79	86
		Southbound	6,337	79	89
	7 Day Average	Combined	11,602	78	87
		Northbound	5,552	79	86
		Southbound	6,050	78	89
Mount Ridley Road – East of Mickleham Road	Weekday Average	**Combined**	**7,948**	**67**	**77**
		Westbound	4,400	65	75
		Eastbound	3,548	70	79
	7 Day Average	**Combined**	**7,503**	**67**	**77**
		Westbound	4,161	65	75
		Eastbound	3,342	69	79
Craigieburn Road – East of Mickleham Road	Weekday Average	Combined	19,301	70	78
		Westbound	9,834	67	76
		Eastbound	9,467	74	81
	7 Day Average	Combined	18,479	70	78
		Westbound	9,313	68	76
		Eastbound	9,166	73	81
Mickleham Road – South of Craigieburn Road, North of Dunhelen Lane	Weekday Average	Combined	17,732	70	78
		Northbound	8,625	67	75
		Southbound	9,107	73	82
	7 Day Average	Combined	17,930	70	79
		Northbound	8,786	69	76
		Southbound	9,144	72	82
Debonair Parade – South of Craigieburn Road	Weekday Average	Combined	1,534	47	54
		Northbound	652	47	55
		Southbound	882	46	53
	7 Day Average	Combined	1,461	47	54
		Northbound	618	47	55
		Southbound	843	46	53
Grand Boulevard – East of Highlander Drive	Weekday Average	Combined	2,876	35	47
		Westbound	1,355	36	46
		Eastbound	1,521	34	47
	7 Day Average	Combined	2,756	35	47
		Westbound	1,303	36	47
		Eastbound	1,453	34	47
		Combined	5,321	52	60

Road	Time Period	Direction	Traffic Volume (vpd)	Average Speed (km/h)	85th Percentile Speed (km/h)
Vantage Boulevard – South of Craigieburn Road	Weekday Average	Northbound	2,970	52	60
		Southbound	2,351	52	59
	7 Day Average	Combined	5,031	52	60
		Northbound	2,804	52	60
		Southbound	2,227	52	59
Dunhelen Lane – East of Mickleham Road	Weekday Average	Combined	182	52	58
		Westbound	94	50	56
		Eastbound	88	54	60
	7 Day Average	Combined	150	51	57
		Westbound	79	49	54
		Eastbound	71	53	59

Bold *denotes that two-way volumes are in excess of indicative threshold daily volumes based on the current road classification*