

South32 Illawarra Metallurgical Coal

**APPIN MINE VENTILATION AND
ACCESS PROJECT**

MENANGLE

TRAFFIC ASSESSMENT

ADDENDUM REPORT

Ref. 20087-R3
Assessment

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Crash Data between 1/1/2018 and 31/12/2020 Supplied by TfNSW

1.0 INTRODUCTION

South 32 Illawarra Metallurgical Coal (IMC) own and operate Appin Mine, which is located approximately 35km north west of Wollongong and 8km north west of Appin.

IMC is seeking to modify the existing Appin Mine approval to incorporate the construction and operation of infrastructure critical to the ongoing viability of the Mine referred to as the Appin Mine Ventilation and Access Project.

This addendum traffic report has been prepared for the Appin Mine Ventilation and Access Project on Menangle Road at Menangle.

A detailed Traffic Assessment Report dated 31 May 2021 has been prepared for the Project and submitted with the Modification Application for approval.

The Department of Planning, Industry and Environment has requested that an accident (road crash) study on the road network adjacent the Project site be undertaken.

This addendum report documents the results of the road crash study.

2.0 TRANSPORT DETAILS OF PROJECT

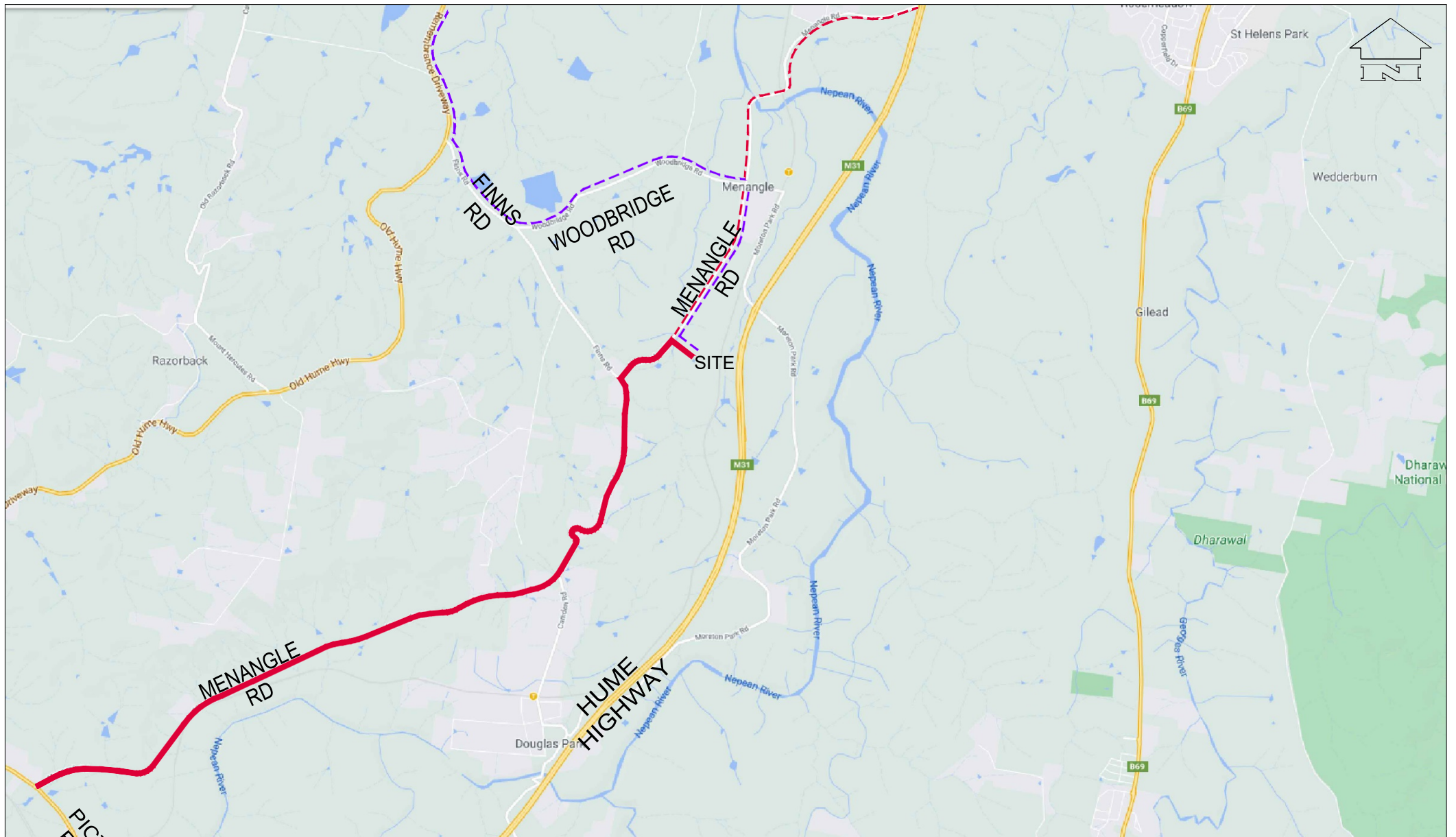
The Project involves the construction and operation of Ventilation Shafts 7 and 8, together with Mine access facilities and associated infrastructure, including car parking and access roads.

As part of the Project, a new Site Entrance intersection will be constructed on Menangle Road north of Finns Road. The intersection will include a left turn auxiliary lane and a right turn bay (CHR treatment) on Menangle Road for left and right turns into the Site. The intersection will be designed and constructed to Austroads Standards.

The major transport route to and from the site will be from the south along Menangle Road and Picton Road to the Hume Motorway, for both light and heavy vehicles. This is expected to account for 90% of all vehicles. Menangle Road, to and from the north, will be a minor transport route accounting for approximately 10% of all vehicles.

During construction, night time deliveries of concrete will be from Narellan and these vehicles will use Finns Road (from Remembrance Driveway) Woodbridge Road and Menangle Road to access the Site from the north.

The transport routes are shown in **Figure 1**.



- MAIN TRANSPORT ROUTE
- - - OCCASSIONAL / MINOR TRANSPORT ROUTE
- - - NIGHT TIME CONCRETE DELIVERY ROUTE

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FIGURE 1
 IMC VENT SHAFT
 MENANGLE
TRANSPORT ROUTES

3.0 CRASH DATA ANALYSIS

3.1 Crash Data

Road Crash Data for the 3 year period between 1 January 2018 and 31 December 2020 was obtained from TfNSW for the following roads which will form the transport routes during the construction and operation of the Project.

- Menangle Road between Nepean River at Menangle and Picton Road, Maldon;
- Finns Road between Remembrance Driveway and Menangle Road at Menangle;
- Woodbridge Road between Finns Road and Menangle Road at Menangle; and
- Picton Road between Menangle Road and the Hume Motorway.

The crash data includes crashes that were investigated by NSW Police and self reported crashes. Self reporting of crashes began in October 2014.

3.2 Crash Analysis

3.2.1 Menangle Road

Menangle Road between Nepean River and Finns Road

This section of Menangle Road is 4km long and includes Menangle Village and the semi rural areas immediately north and south of the Village.

There were a total of 8 crashes including 5 casualty crashes and 3 non casualty crashes, in this section of Menangle Road.

Three (3) of the crashes occurred on the bend at Nepean River, 1km north of Woodbridge Road which involved single northbound vehicles running off the road. Excessive speed was a factor in all of these crashes. One (1) of these crashes was a casualty crash.

Another casualty crash occurred on/near the same curve/bend (800 metres north of Woodbridge Road) and involved a head on crash where a northbound vehicle was on the wrong side of the road and collided with a southbound vehicle. The curve has advisory curve and speed signage, as well as CAMs (Chevron Alignment Markers).

There were 2 crashes at the intersection of Menangle Road/Woodbridge Road/Station Street. These were cross traffic (right angle) crashes, one of which was a casualty crash and the other a non casualty crash. Both crashes involved eastbound vehicles in Woodbridge Road and southbound vehicles in Menangle Road. Woodbridge Road is subject to stop sign control and sight distance at the intersection is considered satisfactory. The non casualty crash involved a truck travelling southbound in Menangle Road.

There was 1 rear end casualty crash involving 2 southbound vehicles which occurred 800 metres north of Finns Road.

There was also 1 casualty crash involving a single northbound vehicle hitting an object on the road at the Finns Road intersection.

Menangle Road between Finns Road and Picton Road

This section of Menangle Road is approximately 10km long and passes the village of Douglas Park which is accessed from Camden Road. The adjoining development in this section of Menangle Road is predominantly semi rural.

There were a total of 14 crashes including 13 casualty crashes and 1 non casualty crash in this section of Menangle Road.

The majority of these crashes involved single vehicles either running off the road and or losing control on straight sections and curves/bends at different locations. These crashes accounted for 9 crashes all of which were casualty crashes. Four (4) of these casualty crashes involved motorbikes. Most of these crashes (7) occurred south of Camden Road.

Two (2) crashes involved a vehicle/motorbike hitting animals on the road, 1 of which was a casualty crash.

There was one head on casualty crash on a curve/bend involving a northbound motorbike on the incorrect side of the road, 180 metres south of Finns Road.

There was also 1 rear end crash, 1km north of Picton Road which was a casualty crash.

There was 1 right angle crash at the intersection of Menangle Road/Picton Road which was a casualty crash.

None of these crashes involved heavy trucks.

Excessive speed or fatigue was a factor in 4 of the crashes.

The crashes occurred over the full 10km length of Menangle Road.

Summary

Sixty one percent (61%) of the crashes were police investigated and 39% were self reported.

A summary of the total crashes that occurred in Menangle Road between Nepean River and Picton Road, is as follows;

- 65% were single vehicle crashes and 35% involved multi vehicles;
- 26% of crashes involved motorbikes;
- 65% of crashes occurred on weekdays, with 35% occurring on weekends;
- 48% of crashes occurred in daylight conditions with 9% at dusk and 43% in darkness/night;
- 87% of crashes occurred in dry conditions and 13% in wet conditions; and
- 26% of crashes involved excessive speed and 9% of crashes involved fatigue.

The analysis of the crash data for Menangle Road indicates:

- There is a relatively high proportion of single vehicle crashes including motor bikes;
- Excessive or inappropriate speed has been a factor in a number of these crashes;
- The crashes have occurred at different locations along the full length of Menangle Road;
- The majority of the crashes are non intersection type crashes; and
- There is no specific location and/or treatable pattern that could be treated by a specific engineering remedial measure.

3.3 Finns Road between Remembrance Driveway and Menangle Road

Finns Road is approximately 3.7km long between Remembrance Driveway and Menangle Road. The adjacent development is semi rural. The northern section between Remembrance Driveway and Woodbridge Road (which forms part of the night time concrete delivery truck route) is 1.5km long.

There was a total of 5 crashes in Finns Road including 4 casualty crashes and 1 non casualty crash.

Three (3) of the crashes occurred at the Finns Road/Woodbridge Road intersection, 2 of which were casualty crashes. Two (2) of the crashes involved unknown vehicles, with 1 resulting in a minor injury. The third crash involved a southbound vehicle in Finns Road and a westbound vehicle in Woodbridge Road. There does not appear to be a treatable pattern to these crashes.

The other 2 crashes in Finns Road involved a run off the road crash, north of Menangle Road, which was a casualty crash and a rear end casualty crash involving a southbound truck and car waiting to turn right into a property. This crash occurred south of Woodbridge Road.

A casualty crash also occurred at the intersection of Menangle Road/Finns Road but the details of this crash are provided in the statistics for Menangle Road.

Summary

Including the intersection crash at Menangle/Finns Road, 50% of the crashes were police investigated and 50% were self reported.

A summary of the crash data for Finns Road is provided below;

- 33% were single vehicle crashes and 67% involved multi vehicles;
- 83% of crashes occurred on weekdays, with 17% occurring on weekends;
- 83% of crashes occurred in daylight conditions and 17% in darkness/night;
- 83% of crashes occurred in dry conditions and 17% in wet conditions; and
- 17% of crashes involved fatigue.

The 2 non intersection crashes have occurred at different locations in Finns Road.

While there were 3 crashes at Finns Road/Woodbridge Road intersection, as noted above there appears to be no treatable pattern to these crashes.

3.4 Woodbridge Road between Finns Road and Menangle Road

Woodbridge Road between Finns Road and Menangle Road is approximately 3.1km long. The adjacent development is semi rural.

There were 2 crashes in Woodbridge Road, both of which were casualty crashes.

There were also 2 crashes at the intersection of Woodbridge Road/Menangle Road/Station Street and the details of those crashes are included in the crash statistics for Menangle Road.

The 2 midblock crashes were run off the road crashes on separate curves/bends in Woodbridge Road involving westbound vehicles. Both occurred at night.

One crash occurred 500 metres east of Menangle Road and the other crash 1,100 metres east of Menangle Road. Speed was a factor in the latter crash.

Summary

All of the crashes in Woodbridge Road (i.e. 100%) were police investigated.

In summary, the crash data for Woodbridge Road is as follows;

- 100% were single vehicle crashes;
- 50% of crashes occurred on a weekday, with 50% occurring on weekends;
- 100% of crashes occurred in darkness/night;
- 100% of crashes occurred in dry conditions; and
- 50% of crashes involved excessive speed.

As noted above the 2 mid block crashes occurred at different locations and speed was a factor in one of these crashes.

3.5 Picton Road between Menangle Road and Hume Motorway

The section of Picton Road between Menangle Road and Hume Motorway is approximately 4.8km long. The adjacent development is rural.

There was a total of 11 crashes in this section of Picton Road including 9 casualty crashes and 2 non casualty crashes.

Four (4) of the crashes occurred at the two signalised Hume Motorway Interchange Intersections, 3 of which were casualty crashes. These crashes were right/through, right angle and rear end crashes.

There were 2 other rear end crashes both of which were casualty crashes which occurred 100 metres east of Hume Motorway and 15 metres west of Wilton Park Road.

There were 2 head on crashes 20 metres and 300 metres respectively east/south of Menangle Road, 1 of which was a casualty crash.

There was 1 run off the road crash involving a motorbike which was a casualty crash that occurred on a bend/curve 365 metres east/south of Menangle Road.

Other crashes included;

- U-turn crash 500 metres north/west of Hume Motorway which was a casualty crash; and
- A vehicle being struck by an object crash, which involved north and southbound vehicles including a truck in Picton Road which occurred 100 metres south/east of Wilton Park Road. This was a casualty crash.

Heavy trucks were involved in 3 of total crashes.

Summary

Fifty eight percent (58%) of the crashes in Picton Road were police investigated and 42% were self reported.

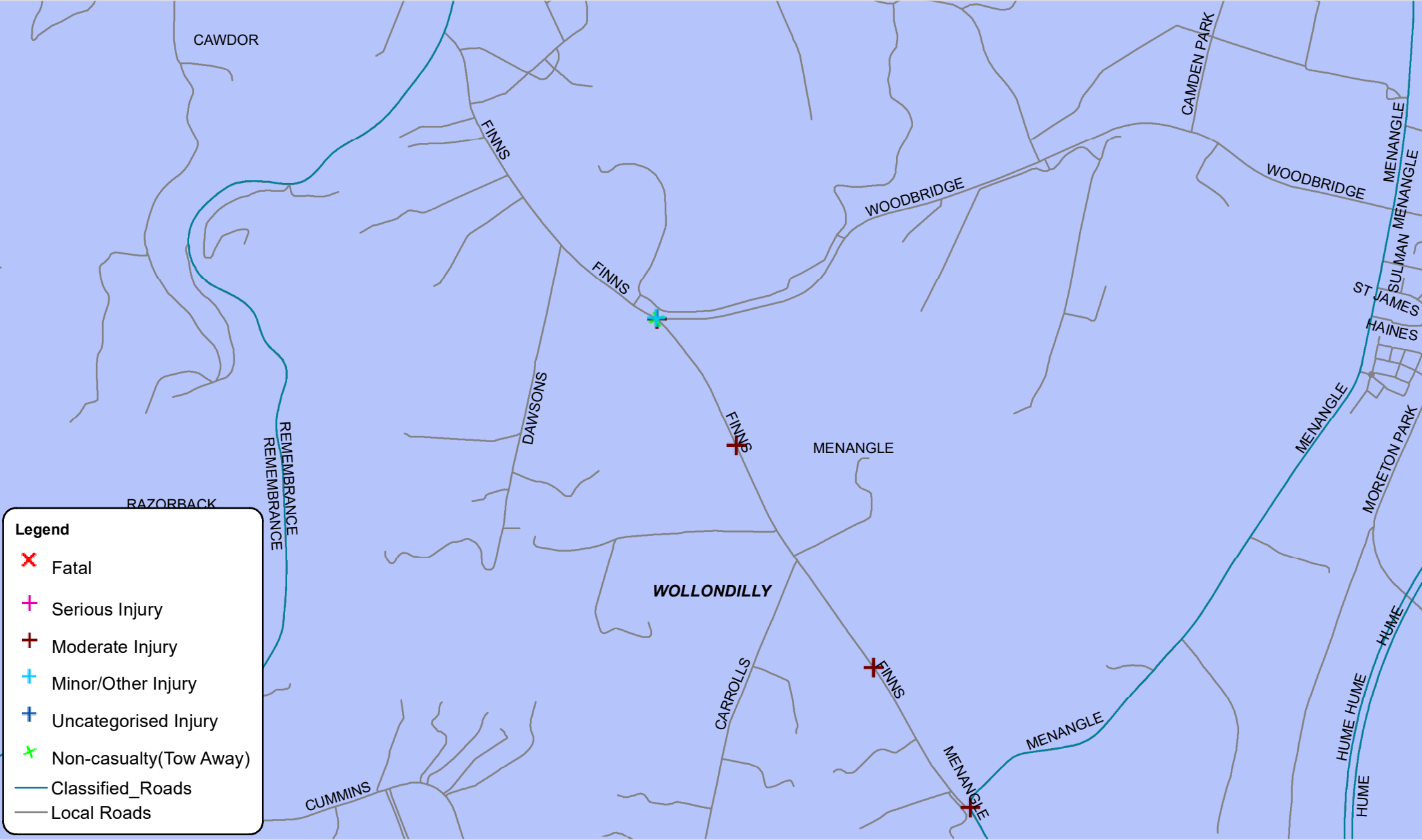
A summary of the crash data for Picton Road is provided below;

- 8% were single vehicle crashes and 92% involved multi vehicles;
- 67% of crashes occurred on weekdays, with 33% occurring on weekends;
- 58% of crashes occurred in daylight conditions and 25% in darkness/night, with 17% at dusk/dawn;
- 92% of crashes occurred in dry conditions and 8% in wet conditions; and
- 25% of crashes involved excessive speed;
- 8% of crashes involved motorbikes.

The 11 crashes were spread over the full 4.8km length of Picton Road. Whilst there was 4 crashes at the Hume Motorway/Picton Road Interchange Intersections there was no pattern to these crashes. An examination of the crash types and locational spread of the mid block crashes indicates that there is no treatable pattern that could be addressed by a specific engineering remedial measure.

APPENDIX 1

Crash Data Maps





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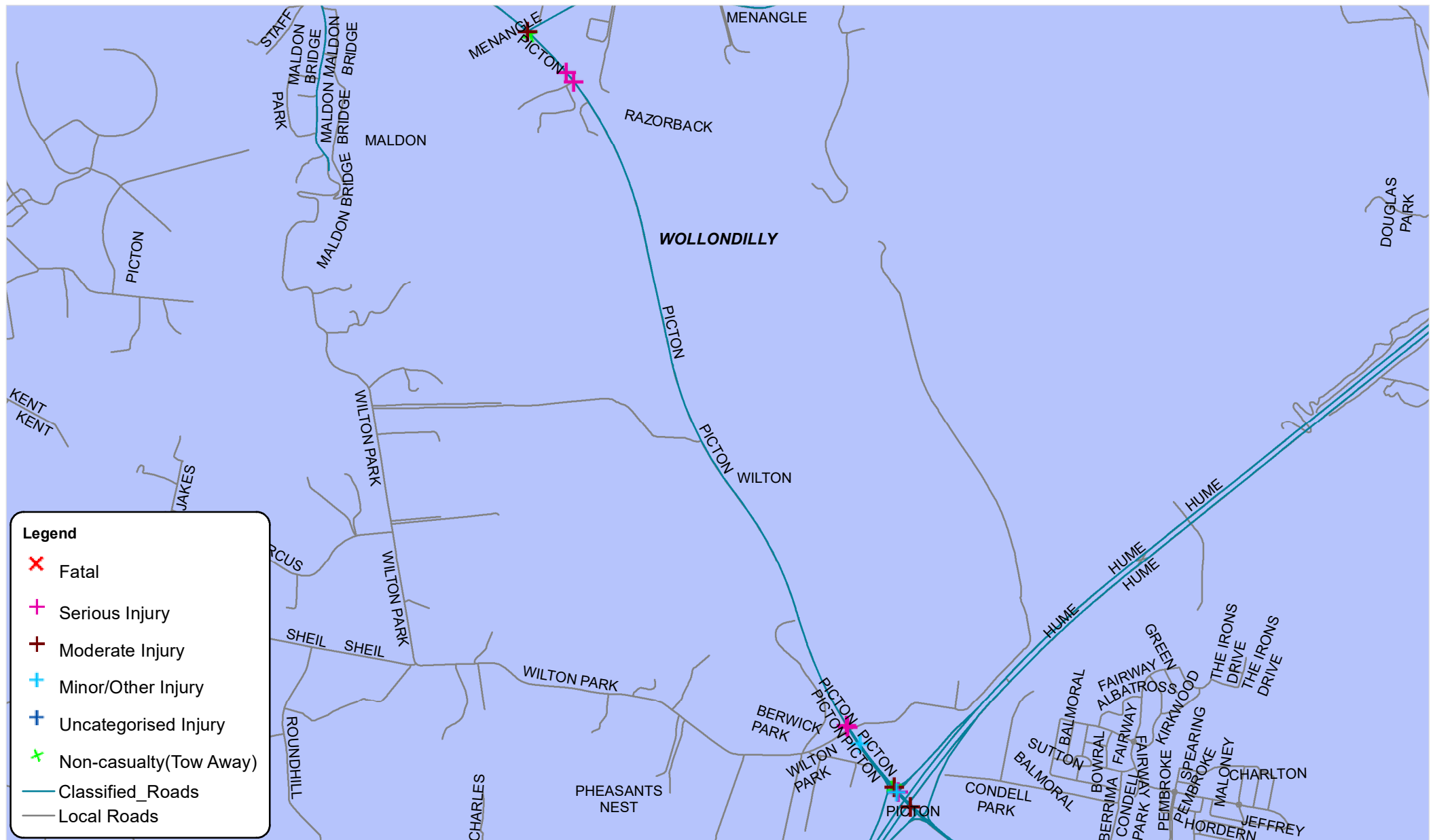


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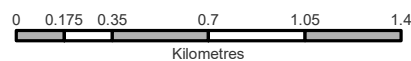


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