

# **Pakenham East Precinct Structure Plan**

## **Cardinia Planning Scheme Amendment C234**

### **Traffic Engineering Evidence Statement to Planning Panels Victoria**

**Date of Statement:** 12 June 2018

**Date of Inspection:** 11 June 2018

**Prepared For the Proponent:** Lendlease

**Instructed By:** Niche Planning Studio

**Reference:** G25066A-01B

IN THE MATTER OF AMENDMENT C234 TO THE CARDINIA PLANNING SCHEME RELATING TO THE PAKENHAM  
EAST PRECINCT STRUCTURE PLAN

STATEMENT TO PLANNING PANELS VICTORIA BY JASON LEE WALSH, TRAFFIC ENGINEER

## **Traffic Engineering Assessment**

Pakenham East Precinct Structure Plan: Cardinia Planning Scheme Amendment C234

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## **Cardinia Planning Scheme Amendment C234**

## **Pakenham East Precinct Structure Plan**

**Our Reference: G25066A-01B**

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## **Traffic Engineering Assessment**

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# **1 Introduction**

I have been instructed by Niche Planning Studio on behalf of Lendlease to undertake a traffic engineering assessment, with particular regard to the proposed future road reservation width and cross-section of Dore Road, and the treatment of cross intersections within the Pakenham East Precinct Structure Plan.

In the course of preparing this statement, I inspected the subject site on 11 June 2018, reviewed development plans and background material, and undertook a traffic engineering assessment of relevant matters.

My qualifications and experience to undertake the following assessment are set out in Appendix A.

## 2 History of Amendment

Cardinia Planning Scheme Amendment C234 proposes to incorporate the Pakenham East Precinct Structure Plan (PSP). The Amendment rezones the majority of land to Urban Growth Zone Schedule 5 to facilitate the development of the land generally in accordance with the PSP and makes a number of other consequential changes to the Cardinia Planning Scheme to support the implementation of the PSP.

A Directions Hearing was held on 30 April 2018. Following the Directions Hearing, the Panel made a number of additional directions including to allow Lendlease to call an expert on transport and traffic as part of its submission to the hearing.

I have been instructed by Niche Planning Studio on behalf of Lendlease to undertake a traffic engineering assessment of the PSP with particular attention to the proposed future road reservation width and cross-section of Dore Road, and appropriate treatments of cross intersections.

### 3 Pakenham East Precinct Structure Plan & Lendlease Land

Cardinia Planning Scheme Amendment C234 proposes to incorporate the Pakenham East Precinct Structure Plan (PSP).

The PSP covers an area of approximately 630 hectares and is situated around 56km south east of Melbourne. Plan 3 within the PSP identifies the future urban structure.

Lendlease has an interest in land located on the north side of Princes Highway to the east side of Dore Road. Lendlease has prepared a concept subdivision layout for the entire land parcel east of Dore Road, which identifies a potential yield of approximately 1,470 allotments.

Lendlease's land in the context of the Pakenham East future urban structure is illustrated in Figure 1.

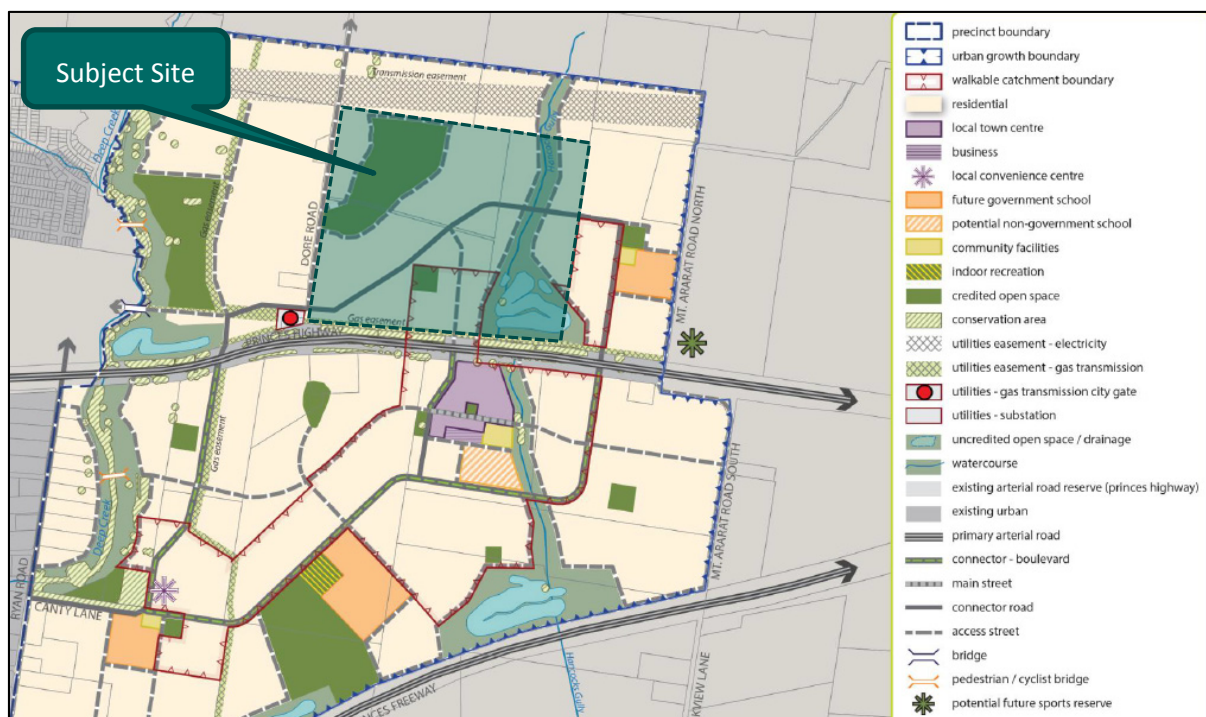


Figure 1: Locality Plan

## 4 Dore Road

### 4.1 Existing Conditions

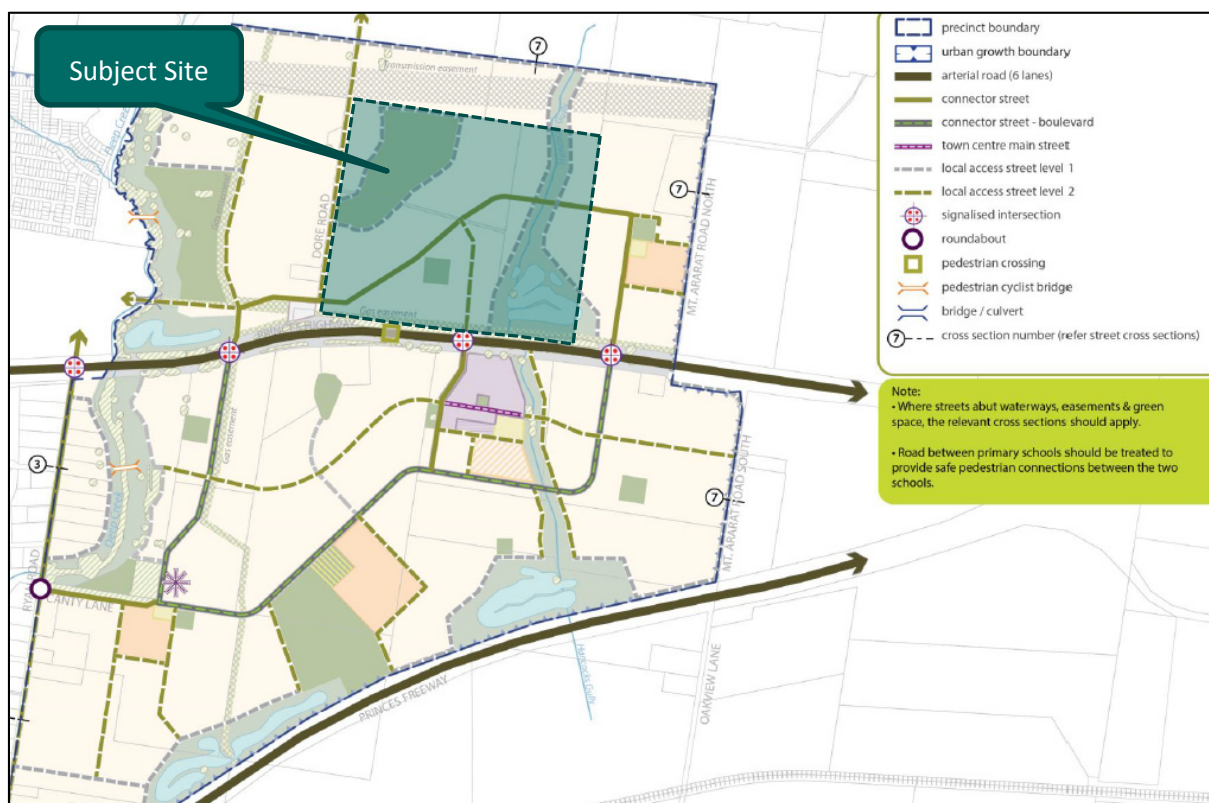
**Dore Road** is a local council road. It generally has a north-south alignment connecting Princes Highway in the south to Bessie Creek Road in the north. Dore Road has a rural cross section that provides for a sealed road for approximately 200 metres from Princes Highway, before reverting to an unsealed road, with grass / gravel verges.

Dore Road has a reservation of approximately 20 metres, and currently provides access to farming and green wedged zoned land.

Cardinia Shire Council collected traffic volumes in May 2017. The counts recorded a daily two-way volume of 450 vehicles, inclusive of 8% commercial vehicles (36 vehicles).

### 4.2 Future Conditions

Plan 7 in the PSP identifies the future road network plan, as illustrated in Figure 2.



**Figure 2: Road Network Plan**

The road network plan identifies the retention of Dore Road and nominates it as an access street level 2. The identified cross section for an access street level 2 is included within the PSP, as shown in Figure 3.

The cross-section includes 2 x 3.0 metre wide traffic lanes plus 2.3 metre wide parking lanes on both sides, and a 4.7 metre verge on each side.

## Traffic Engineering Assessment

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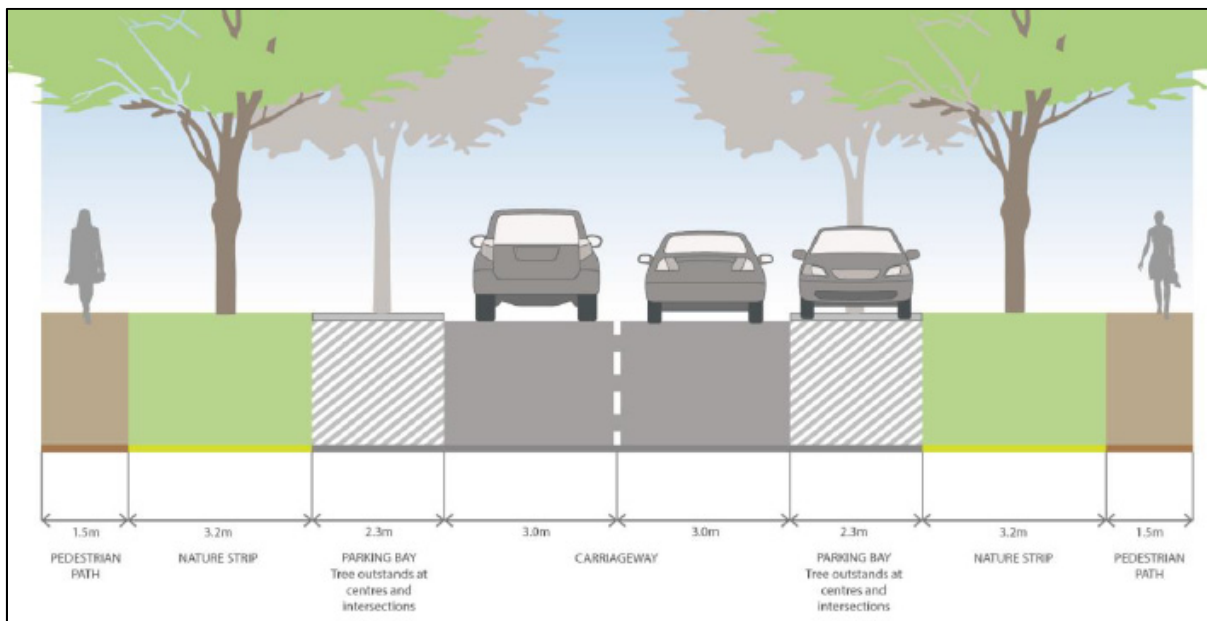


Figure 3: Local Access Street Level 2 Cross-Section (20m)

### 4.3 Council Position

Ali Abdou has prepared an evidence statement, dated 25 May 2018, on behalf of Council. The Statement at Section 5.6 and 5.7 recommends that Dore Road is nominated as a collector road and the reservation is increased to a width of 25 metres.

This recommendation is on the basis that Dore Road will experience a level of commercial vehicle traffic associated with the farming zone to the north.



## 5 Traffic Considerations

### 5.1 Traffic Generation Rates

I have reviewed the Traffic Impact Assessment report prepared by Traffix Works which adopted the following traffic generation rates:

- Standard Residential Lots – 9 vehicle trips per day.
- Medium Density Lots – 5 vehicle trips per day.

Although the above daily traffic generation rates are conservative in my opinion, for the purposes of my assessment of future traffic along Dore Road I will adopt the above daily traffic generation rates.

### 5.2 Traffic Distribution

I expect that the majority of trips to / from the PSP will be to the south to access Princes Highway. Access to Princes Highway is provided via proposed signals to the west of Dore Road, and to the east of Dore Road. That is Dore Road does not directly connect to Princes Highway.

Therefore, as there is limited attraction to the north, traffic volumes on Dore Road will diminish as one travels to the north.

The land to the west of Dore Road is most likely to use the nominated access street that runs parallel to the gas easement when going to / from Princes Highway. This appears to be the most convenient route. In this regard, I only expect in the order of 15% of lots to the west of Dore Road would utilise Dore Road.

There are an estimated 679 lots (based on the Beveridge Williams plan), west of Dore Road.

For the land east of Dore Road, I have included an extract from the Lendlease concept plan, shown at Figure 4, which highlights the lots that are expected to generate traffic along Dore Road. A total of 194 lots are highlighted within the Lendlease Land.

### 5.3 Dore Road Traffic Volumes

Based on the adopted traffic generation, the following traffic volumes are predicted at the southern end of Dore Road:

- East of Dore Road (194 allotments) = 1,746 vehicles per day
- West of Dore Road (102 allotments) = 918 vehicles per day
- **TOTAL = 2,808 vehicles per day**

Council recorded a 2017 daily traffic volume of 450 vehicles for Dore Road.

It is therefore projected that at the completion of the PSP, Dore Road at its southern end will experience a daily traffic volume in the order 3,100 vehicles. This volume will diminish as one travels to / from the north.

Commercial vehicle volumes will remain around 40 vehicles per day.

## Traffic Engineering Assessment

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Figure 4: Lots Predicted to Generate Traffic Along Dore Road

### 5.4 Dore Road Cross-Section

Dore Road has an existing 20 metre wide road reservation.

Clause 56 of the Planning Scheme identifies that an access street level 2 has a target volume range of 2,000 – 3,000 vehicles a day.

The projected traffic volume at the southern end of Dore Road is slightly above the target range, however at the mid point and to the north the volume would fall well within the target range. In this regard, I am comfortable that an access street level 2 is the correct designation for the street.

Furthermore, the level of commercial vehicle volume at around 40 vehicles per day, in my view does not necessitate a need for the carriageway to be widened beyond the proposed 6 metres shown in the PSP.

I say this because, 5.5 - 6 metres is a relatively standard rural road pavement where commercial vehicles and cars interact, and additionally there are parking lanes proposed where I only expect parking to be intermittently used given that each dwelling will be provided with on-site car parking.

Notwithstanding my view, if the Panel was concerned that 2 x 3 metre traffic lanes is not sufficient for the projected traffic volume and width, an alternative cross section could be provided within the existing 20 metre reservation.

The alternative cross section would adopt the carriageway width for the PSP Collector Road being 11.2 metres comprising a 3.5 metre traffic lane and 2.1 metre parking lane in each direction. The remaining 8.8 metres would provide for a 4.4 metre verge on each side, which is sufficient to accommodate a 1.5 metre footpath and 2.9 metre nature strip.

## **Traffic Engineering Assessment**

### **Pakenham East Precinct Structure Plan: Cardinia Planning Scheme Amendment C234**

The primary difference between the alternative cross section and the PSP connector street cross section is the absence of a two-way off-road bicycle path. Dore Road is not nominated as a bicycle route within the PSP, and in my view there will not be a high attraction for bicycle movements along this road, particularly considering the farming and green wedge zoning to the north of the PSP.

My firm has prepared a plan illustrating the alternative cross section, attached as Appendix B.

Based on the above, I am of the opinion that the existing 20 metre road reserve width of Dore Road does not need to be widened and that the PSP nominated access street level 2 cross section is appropriate. However, an alternative cross-section, as attached at Appendix B, could be provided to appease Council's witness' concern in relation to commercial vehicle volumes.

## 6 Other Matters

In reviewing the Expert Witness Statement by Ali Abdou of Traffic Works, I note that it states at Section 5.9 that *to enhance safety at intersections, all cross intersections need to be controlled by either traffic signals or a roundabout.*

I am of the view that this is overly onerous, and the treatment of cross intersections should be considered on a case by case basis at the future planning permit stage, and therefore don't need to be referenced in the Pakenham East PSP. For example, where there is little or no cross traffic expected from the minor of legs of an intersection I do not think it is necessary to treat the intersection with a roundabout or traffic signals.

## Traffic Engineering Assessment

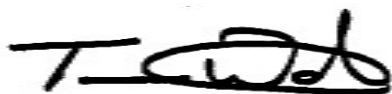
Pakenham East Precinct Structure Plan: Cardinia Planning Scheme Amendment C234

# 7 Conclusions

Having undertaken a traffic engineering assessment of Cardinia Planning Scheme Amendment C234 pertaining to the Pakenham East Precinct Structure Plan with particular attention to the proposed future road reservation width and cross-section of Dore Road, I am of the opinion that:

- a) The nominated PSP cross section for Dore Road as an Access Street Level 2 is appropriate, and it does not need to be converted to a collector road.
- b) Notwithstanding my view, an alternative cross section could be imposed that retains the existing 20 metre reservation, but adopts the collector road carriageway to appease Council's witness' concern. The alternative cross section is illustrated in Appendix B.
- c) Cross intersections should be treated on a case by case basis, and it is not necessary for every cross intersection to be treated with a roundabout or traffic signals.

I have made all the inquiries that I believe are desirable and appropriate and there are no matters of significance I regard as relevant, which to the best of my knowledge, have been withheld from the Panel.



JASON LEE WALSH  
DIRECTOR  
TRAFFIX GROUP  
12 JUNE 2018

# Appendix A

## Qualifications

## **Traffic Engineering Assessment**

Pakenham East Precinct Structure Plan: Cardinia Planning Scheme Amendment C234

### **Name**

Jason Lee Walsh - Director, Traffix Group Pty Ltd

### **Address**

Suite 8, 431 Burke Road

GLEN IRIS

VICTORIA 3146

### **Qualifications**

My educational qualifications and membership of professional associations are as follows:-

- Bachelor of Civil Engineering, Monash University
- Bachelor of Science, Monash University
- Member, Victorian Planning & Environmental Law Association

### **Experience**

I have approximately 20 years experience in Traffic Engineering including,

- 1995-2000 at Turnbull Fenner (now Traffix Group), including short term placements at the cities of Bayside and Whittlesea,
- 2000-2011 at Grogan Richards Pty Ltd (now Cardno),
- 2011-present at Traffix Group.

### **Areas of Expertise**

- Car parking and Traffic.
- Traffic advice and assessment of land uses and development proposals to planning authorities, government agencies, corporations and developers (including major residential, retail, food and drink, commercial, industrial, institutional and mixed use projects).
- Preparation and presentation of evidence before VCAT and Panels.

### **Expertise to Prepare this Assessment**

My experience and expertise over the past 20 years, including involvement with varied forms of developments, qualifies me to comment on the traffic implications of the proposed development.

### **Instructions**

I have been instructed by Niche Planning Studio on behalf of Lendlease to undertake a traffic engineering assessment of Cardinia Planning Scheme Amendment C234 pertaining to the Pakenham East Precinct Structure Plan with particular attention to the proposed future road reservation width and cross-section of Dore Road.

## **Traffic Engineering Assessment**

### **Pakenham East Precinct Structure Plan: Cardinia Planning Scheme Amendment C234**

#### **Facts, Matters and Assumptions Relied Upon**

- Panel Directions.
- Concept Plan prepared by Lendlease, dated 21 May 2018.
- Indicative Development Plan – Option 1 prepared by Beveridge Williams, dated 24 October 2017.
- Exhibited material included Draft Pakenham East Precinct Structure Plan prepared by Victoria Planning Authority (VPA).
- Expert Witness Statement by Ali Abdou of Traffix Works, dated 25 May 2018.
- Traffic Impact Assessment Report by Traffix Works, dated 18 May 2018.
- Victoria Planning Authority (VPA), formerly the Growth Areas Authority's (GAA), Engineering Design and Construction Manual for Subdivision in Growth Areas (April 2011).
- Transport Conclave Meeting Minutes (May 29 2018) prepared by Jacobs.
- Submissions.
- Cardinia Shire Planning Scheme.
- Site inspection.
- Relevant experience.

#### **Documents Taken into Account**

See above.

#### **Identity of Persons Undertaking Work**

Jason Walsh as per the evidence statement.

Brent Chisholm (Senior Traffic Engineer, Traffix Group) assisted with preparation of the evidence report.

#### **Summary of Opinions**


See Conclusions section of the evidence statement.



# Appendix B

## Dore Road Proposed Cross Section



ISSUE	ISSUE DESCRIPTION	ISSUE DATE	GENERAL NOTES	DESIGNED S O'KEEFE 06 JUN 2018	 <b>TraffixGroup</b> <i>Traffic Engineers and Transport Planners</i> Suite 8/431 Burke Road TEL : (03) 9822-2888 GLEN IRIS VICTORIA 3146 FAX: (03) 9822-7444 <a href="http://www.traffixgroup.com.au">www.traffixgroup.com.au</a>	DORE ROAD PROPOSED CROSS SECTION CARDINIA SHIRE COUNCIL (PAKENHAM EAST PSP)		
				CHECKED / APPROVED N WOOLCOCK 06 JUN 2018				
				FILE NAME G25066 - A-01.dgn		NOT TO SCALE	SHEET No.	DWG No. G25066-A-01