



Traffic Engineers and Transport Planners

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Dear Andrew,

## **Lindum Vale PSP – VPA Road Network Traffic Engineering Review**

Further to our discussions, we provide the following review of the road network proposed within the VPA Future Urban Structure for Lindum Vale.

### **Background**

Merrifield West PSP was approved prior to the preparation of the Lindum Vale PSP.

In relation to Lindum Vale, the Merrifield West PSP proposes a road network that includes a north-south boulevard connector that provides a connection between Donnybrook Road in the north and the northern boundary of Lindum Vale in the south. Due to the presence of the reservation for the future OMR, there is no connection from Merrifield West through to Mickleham Road.

A section of the boulevard connector has been constructed in the Annandale Estate from Donnybrook Road to its western boundary.

A planning permit for residential subdivision of 2090 Mickleham Road has issued, and as there is currently no road connection, the permit has allowed a temporary connection to Mickleham Road.

### **Lindum Vale Urban Structure Road Network**

The Lindum Vale Future Urban Structure Plan illustrates the construction of two primary roads within the precinct, comprising:

- A north-south boulevard connector providing a link between Donnybrook Road in the north (connecting through Merrifield West PSP) and Mt Ridley Road in the south. The boulevard connector essentially bisects the Lindum Vale PSP, being centrally positioned.

- An east-west boulevard connector providing a link between Mickleham Road and the proposed north-south boulevard connector. The east-west connector is illustrated in the northern part of the PSP.

The Street Network Plan of the draft PSP also identifies additional links to the existing low-density residential subdivision to the east as Local Access Roads extending from the north-south boulevard connector to Callaway Drive and Coinda Avenue.

Traffic signals are proposed at the intersections of Mt Ridley Road and the north-south boulevard connector, and of Mickleham Road and the east-west connector.

The boulevard connectors will have a cross section consistent with this road type approved within the Merrifield West PSP. The boulevard cross section is illustrated in Figure 1.

It is noted that the boulevard connector has a target volume range of 7,000 – 12,000 vehicles per day.

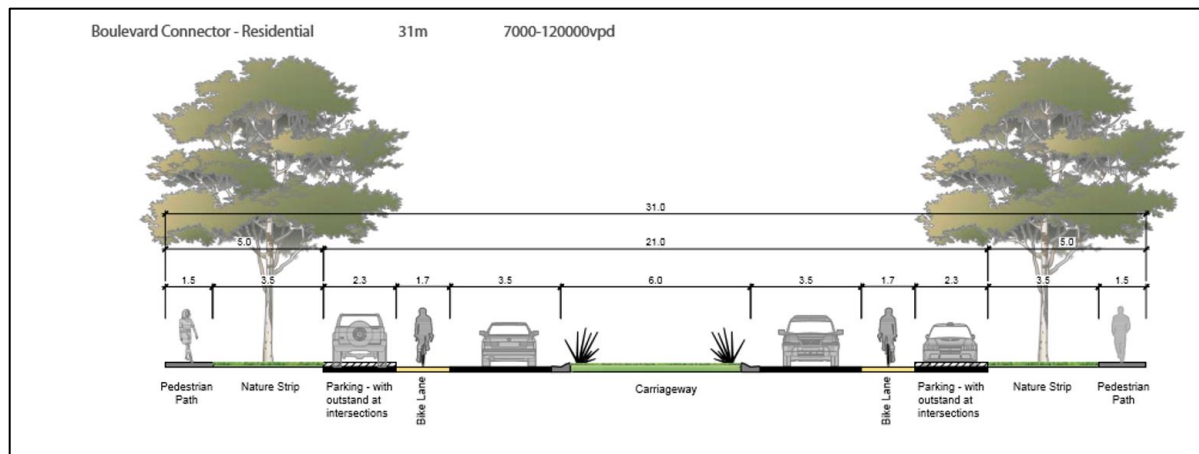


Figure 1: Boulevard Connector Cross-Section

## External Road Network

**Mickleham Road** is a declared arterial road under the management of VicRoads. Aligned generally north-south, Mickleham Road connects Donnybrook Road in the north with Melrose Drive in the south. In the vicinity of the site, Mickleham Road currently operates with an 8.6 metre wide carriageway providing for two-way traffic and is generally constructed with gravel shoulders on both the eastern and western sides.

Mickleham Road is currently set within a 60.0 metre road reserve, and is planned to ultimately operate as a six (6) lane divided carriageway.

The **Outer Metropolitan Ring Road (OMR)** is a proposed high speed link to connect Melbourne’s outer western and northern suburbs. In the context of Lindum Vale, it will connect the Calder Freeway in Sunbury to the Hume Freeway in Beveridge.

The nearest OMR interchange to Lindum Vale is proposed at Donnybrook Road to the north.

**Donnybrook Road** and **Mt Ridley Road** are east-west arterial roads to the north and south of Lindum Vale.

**Aitken Boulevard** is a planned north south arterial road, situated to the east of Lindum Vale. It will ultimately provide a connection between the Western Ring Road in Gowanbrae in the south to Gunns Gully Road in Mickleham to the north.

## Traffic Considerations

In the planning of road networks, a well advanced theory is a 'one mile grid'. That is, arterial roads are arranged in a grid at one mile / 1.6 kilometre centres. Sub-arterials / connectors are then placed mid block at approximately 800 metre centres.

### North-South Boulevard Connector

In the context of Lindum Vale, the north-south arterials of Mickleham Road and the planned Aitken Boulevard are approximately 3 kilometres apart at Donnybrook Road, and even further at Mt Ridley Road. The large separation is in part due to the Mount Ridley Nature Conservation Reserve, however the separation between arterials remains significant.

In this regard, we expect that the north-south boulevard connector will service a role greater than its nomination, and its function, in the absence of an alternative north-south arterial, will likely attract more than just local traffic. Specifically, residents within Merrifield West and Mickleham will utilise the north-south boulevard connector.

The existing low-density residential land to the east are also likely to utilise the north-south connector to access the Merrifield West services and Mickleham Road via the contemplated local access road connections.

This theory is supported by review of the Cardno draft traffic report (August 2014) for Lindum Vale prepared for the VPA. The report builds on modelling for the Merrifield West PSP and predicts that the boulevard connector will have a daily volume of some 11,000 vehicles at its southern end, increasing in volume beyond 12,000 vehicles towards Donnybrook Road, presumably due to the OMR interchange at Donnybrook Road.

The daily volume of 11,000 is at the upper end of the target range for a boulevard connector, with volumes increasing as one travels to the north.

### East-West Connector Street

Donnybrook Road and Mt Ridley Road, the east-west arterials in the area, are approximately 3.2 kilometres apart, which in normal circumstances would suggest that there is a need for another east-west arterial.

The proposed east-west boulevard connector will service this role, albeit more as an extension of the north-south boulevard connector, as the connectivity through to the east is limited by the Mount Ridley Conservation Reserve.

More broadly the combination of the north-south boulevard connector and east-west boulevard connector will unlock the road network for Merrifield West. Without these roads, Merrifield West will have a disconnected network as motorists will not be able to travel to /from the south west, without having first to travel to the north to Donnybrook Road.



It will also serve as a link for the existing low-density residential land to the east to take access to Mickleham Road.

To this end, it is important that the Lindum Vale north-south and east-west boulevard connectors are delivered in a timely manner to improve accessibility to Merrifield West and for residents of Merrifield West.

Based on the above, and that the boulevard connectors will serve a broader function than simply servicing the Lindum Vale PSP, we are of the view that these roads are deserving of inclusion as ICP items, whether that be as a standard or supplementary item.

Given that the cross section for the boulevard connectors has essentially been established by approval of and construction of part of the boulevard connector in Merrifield West, we do not believe it is necessary for an arterial cross section to be provided.

We trust this is assessment is of assistance. Should you require any further information please do not

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TRAFFIX GROUP PTY LTD

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