

09 June 2022

Paul Perkovic  
Legacy Property  
Level 45, 25 Martin Place  
Sydney NSW 2000

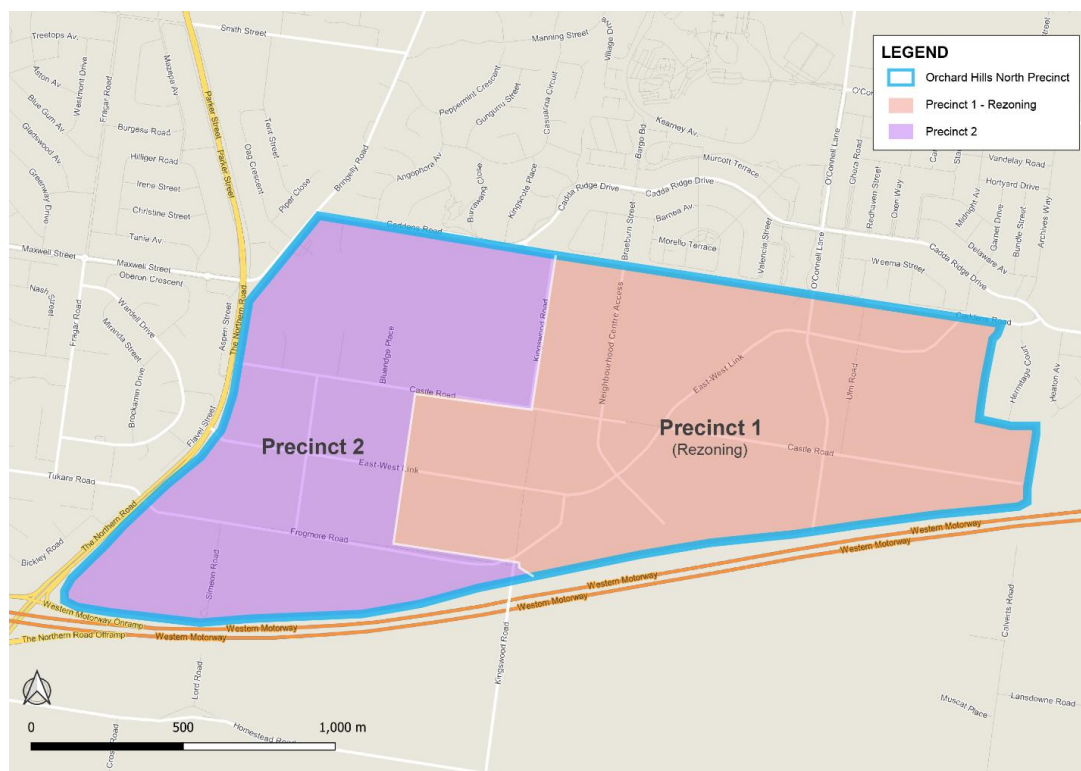
Dear Paul

**RE: Orchard Hills North Planning Proposal Suitability for Exhibition**

SCT Consulting has been working with Legacy Property, Transport for NSW, and Penrith City Council on the Orchard Hills North Planning Proposal.

The purpose of this letter is to summarise the Traffic Management and Accessibility Plan (TMAP) and apportionment findings relating to the proposed north-south and east-west corridors, particularly in the context of considering the development of the rezoning area (Precinct 1 – refer **Figure 1**) on a standalone basis. This letter doesn't contain any new information.

**Figure 1 Precincts 1 and 2 locations**



A strategic road network is planned, comprising:

- North-south corridor: Forms a connection between O'Connell Street and terminates at the M4 Motorway. This may be continued in the future, subject to further planning, investigations by others and funding decisions, to link Orchard Hills North via a bridge across the M4 Motorway and to the southern expansion area / Orchard Hills South
- East-west corridor: Connects a new signalised intersection at The Northern Road (mid-location intersection between M4 and Bringelly Road) with Caddens Road to the east, which generally follows an alignment in response to topography.

This road network was requested by Transport for NSW and Council in 2020.

## North-south and east-west road corridor requirements based on Council and TfNSW-endorsed traffic modelling

SCT Consulting prepared a modified model methodology report (Orchard Hills TMAP Methodology Report\_20200609\_V4.4.pdf), which documented Council and Transport for NSW's requests for this infrastructure (page 8). This model methodology report was endorsed by Council and Transport for NSW.

SCT Consulting prepared drafts of the TMAP (version 4.0 through to version 10.2) from June 2020 to April 2021. Transport for NSW undertook a peer review of the traffic modelling and all comments were closed out to the satisfaction of Transport for NSW.

The current version of the TMAP version 10.2 modelled Precinct 1 in isolation as well as the delivery of Precincts 1 and 2. The TMAP identified the staging of infrastructure including the north-south and east-west links that were required to meet the agreed performance benchmarks. TMAP 10.2 was endorsed by Transport for NSW and Council.

**Table 1 Summary of requirements for each strategic road corridor based on TMAP 10.2 traffic modelling**

	Precinct 1	Precinct 2
<b>North-south corridor</b>	<ul style="list-style-type: none"> <li>Extension of O'Connell Ln into Precinct 1</li> <li>2 lanes between EW road to O'Connell St northbound</li> <li>2 lanes between Cadda Ridge Dr to Great Western Hwy southbound</li> <li>Extension of the NS road, south of the EW road to the M4 is <u>not</u> required.</li> </ul>	<ul style="list-style-type: none"> <li>2 lanes between O'Connell St to Great Western Hwy northbound</li> <li>2 lanes southbound between Cadda Ridge Dr to the EW Rd southbound</li> <li>Extension of the NS road, south of the EW road to the M4 is <u>not</u> required .</li> </ul>
<b>East-west corridor</b>	<ul style="list-style-type: none"> <li>Extension of Caddens Rd to the intersection of Kingswood Rd / Frogmore Rd</li> <li>2 lanes between Cadda Ridge Dr to the NS Rd westbound</li> </ul>	<ul style="list-style-type: none"> <li>Extension from Kingswood Rd / Frogmore Rd to The Northern Rd</li> <li>2 lanes between Gipps Street to Cadda Ridge Dr westbound</li> <li>2 lanes between NS Rd to Frogmore Rd westbound and eastbound</li> <li>2 lanes between Cadda Ridge Dr and Gipps St eastbound</li> </ul>

Source: SCT Consulting

For the avoidance of doubt:

- The TMAP version 10.2 included traffic modelling of Precinct 1 only, with the infrastructure laid out in the above table which met performance requirements (TMAPv10.2 page 111)
- Based on Council's endorsed traffic modelling, Precinct 1 does not require an east-west link from Kingswood Road / Frogmore Road to The Northern Road (TMAPv10.2 page 110)
- Precinct 2 will trigger the requirement for the extension of the east-west link to The Northern Road (TMAPv10.2 page 111)
- There is no need to upgrade Frogmore Rd / The Northern Rd or Castle Rd / The Northern Rd intersections for Precinct 1 (TMAPv10.2 page 78 and 79)
- The north-south and east-west corridors do not need to universally be two lanes in each direction based on traffic performance (TMAPv10.2 page 99)
- The north-south corridor only needs to be three lanes wide north of O'Connell Lane (TMAPv10.2 page 99)
- There is no need for an extension of the north-south link to Orchard Hills South (TMAPv10.2 page 111)
- Council and Transport for NSW are welcome to seek wider infrastructure layouts than were identified in Table 1, however, the landowners should not fund this as it is not required for traffic performance purposes.

In conclusion, following extensive consultation and modelling, TMAP version 10.2 has been endorsed by Council, and accordingly the above infrastructure configuration is considered suitable to take to exhibition.

**Attachment A** provides a more detailed explanation of the above.

Yours sincerely

**Jonathan Busch**

Associate Director

[jonathan.busch@sctconsulting.com.au](mailto:jonathan.busch@sctconsulting.com.au)

0481 818 776 | (02) 9060 7222

Suite 1 Level 10, 99 Mount Street, North Sydney 2060

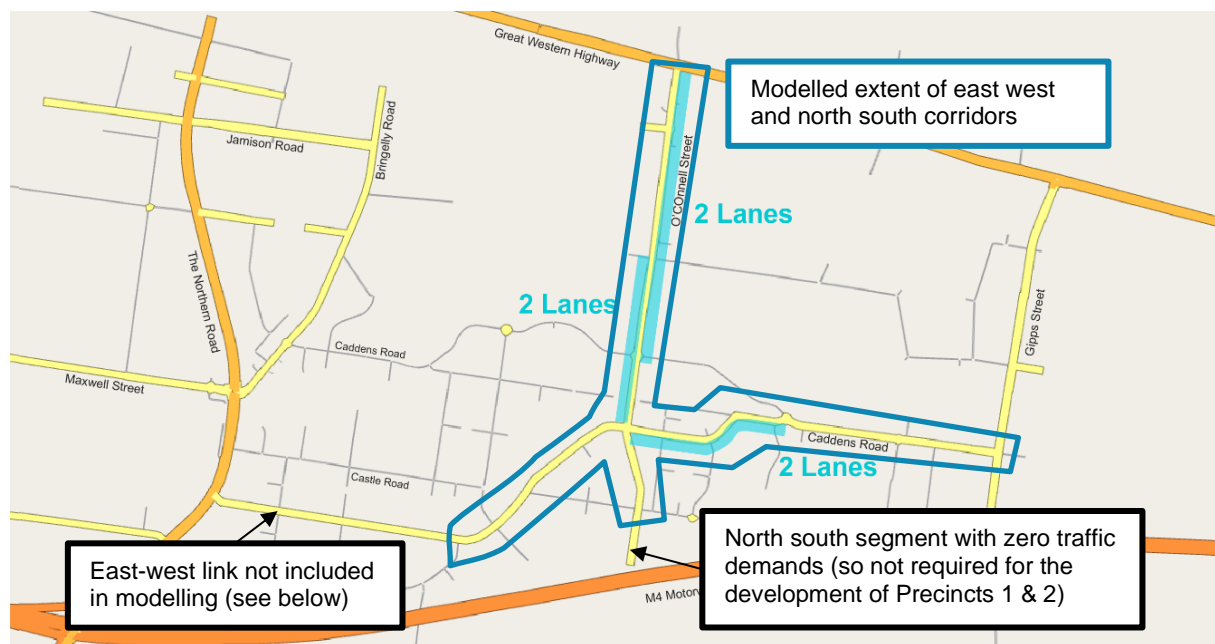
## Attachment A Detailed analysis

### Need for a north-south corridor

Traffic modelling of the Planning Proposal area (Precinct 1) shows that a combination of background and planning proposal growth results in a need to widen O'Connell Street to two lanes (**Figure 2** below) and provide intersection upgrades (Table 5-16 of the TMAP).

The apportionment of this part of the network was identified as 53% background growth, 20% Precinct 1 and 27% Precinct 2.<sup>i</sup> Delivery of Precinct 1 would require some widening of the north-south corridor but not full delivery of a four-lane cross-section.

**Figure 2 Two-lane sections based on midblock analysis – Precinct 1<sup>ii</sup>**



Precinct 1 does not require an extension of this corridor beyond the intersection with the east-west corridor as evidenced by the traffic modelling. From a functional perspective, the road supports the area contained within the Great Western Highway – The Northern Road – Gipps Street – M4 Motorway precinct. This extension is not required for local traffic.

To service Precinct 1, the corridor only needs to be one general traffic lane in each direction and does not need to cross the M4 Motorway. There is no need for a four-lane corridor to service Precinct 1, except between Cadda Ridge Drive and O'Connell Street.

### Need for an east-west corridor

Traffic modelling of the Planning Proposal area (Precinct 1) showed that a strategic east-west connection was not warranted because of Precinct 1.

The traffic modelling did not have the east-west link connected beyond the intersection of Kingswood Road / Frogmore Road. The connection joins into Frogmore Road which connects onto The Northern Road. Screenshots of the traffic model are provided in **Figure 3** (Precinct 1) and **Figure 4** (Precinct 1 and 2) to show the extent of road corridors assumed in the model.

Figure 3 Aimsun mesoscopic model screenshot for Precinct 1 layout

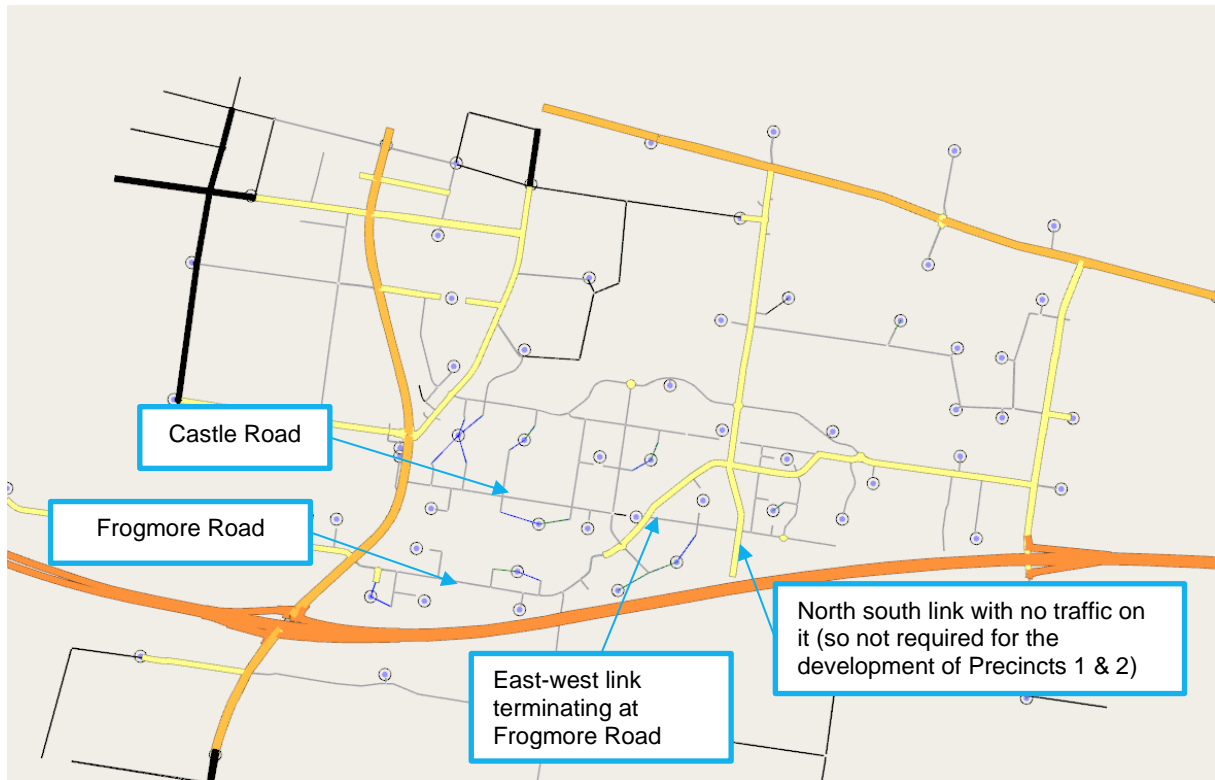
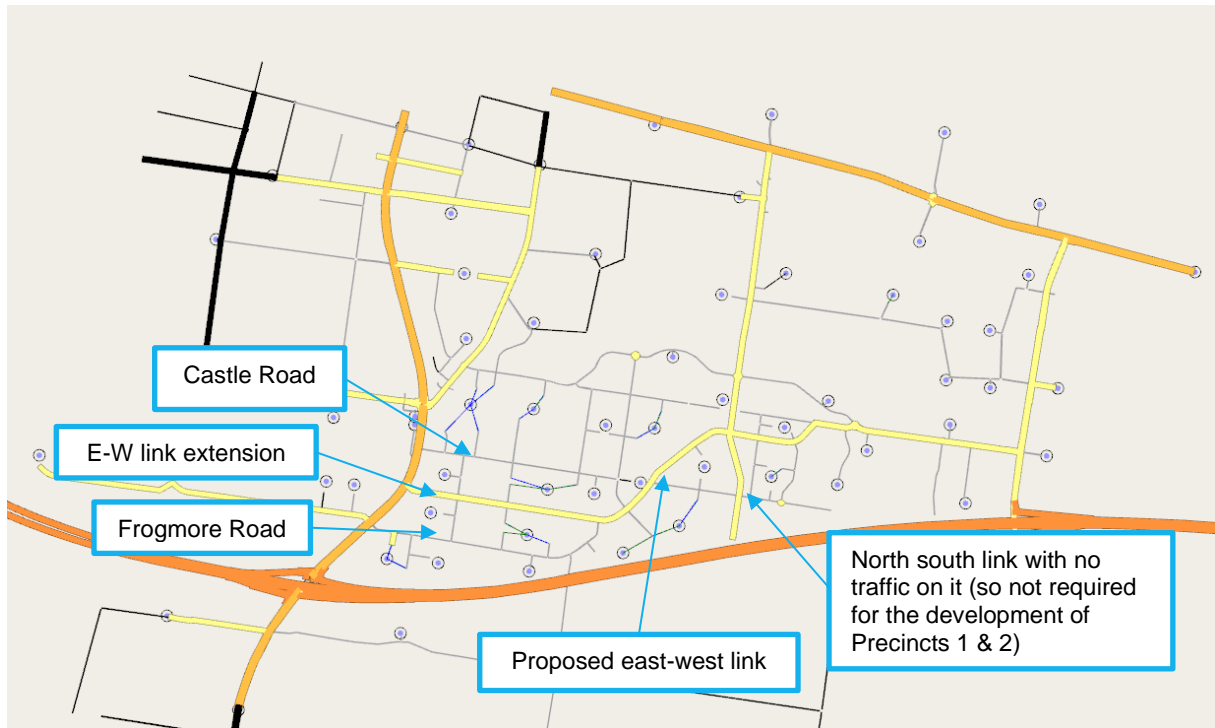
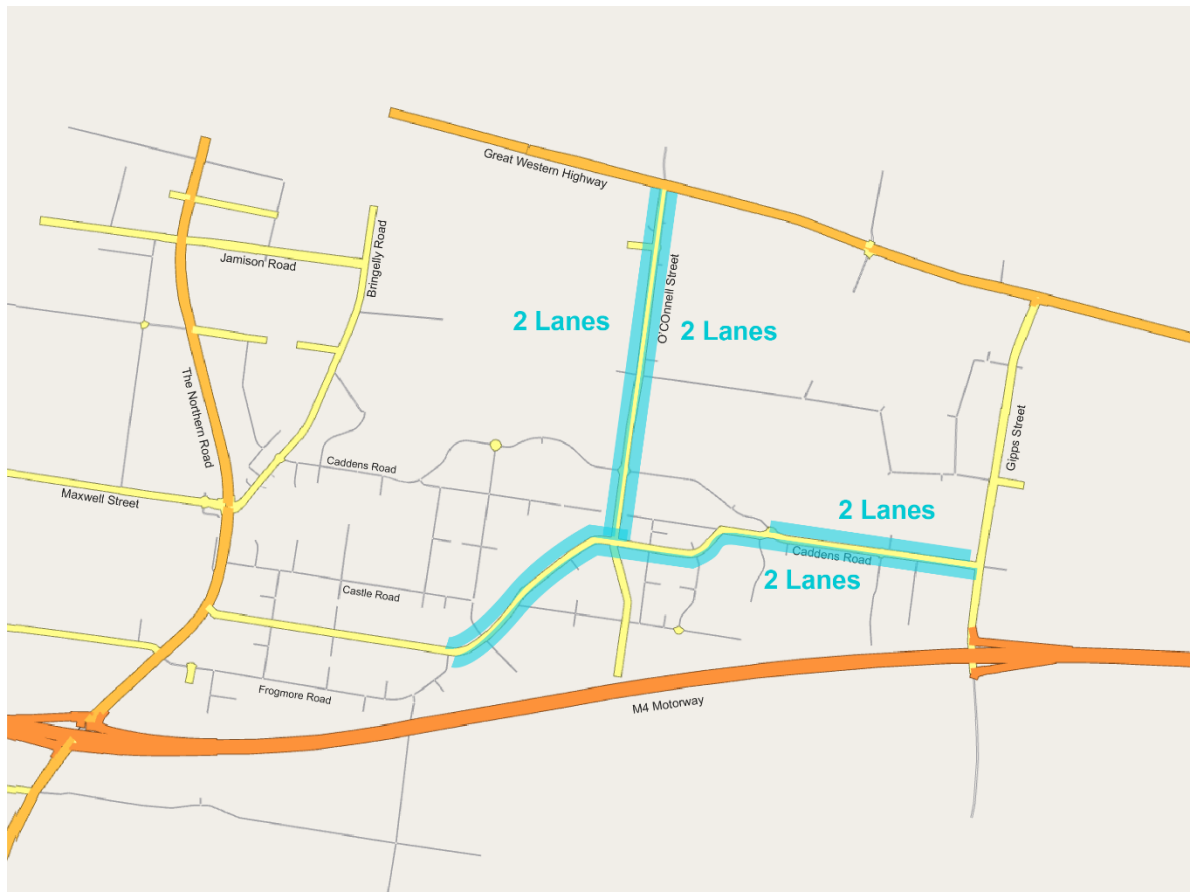


Figure 4 Aimsun mesoscopic model screenshot for Precinct 1 + Precinct 2 layout



The transport impact assessment allowed for the partial delivery of an east-west road within Precinct 1 that tied into the existing street network to the west, but this didn't need to be a full two-lane corridor in each direction (refer to **Figure 2**). Road upgrades were identified that could accommodate the traffic without the need for a new connection to The Northern Road. When Precinct 2 is delivered, the east-west road would then require an extension to The Northern Road. Hence it is not necessary to provide the full east-west link as part of Precinct 1.

**Figure 5 Precinct 1 and 2 dual-lane requirements**



<sup>i</sup> Apportionment Technical Memorandum version 4.1, page 8

<sup>ii</sup> TMAP version 10.2, page 99