Transport for NSW

Mr Brett Woodhams
Acting Principal Coordinator, Forward Planning
The Hills Shire Council
PO Box 7064
BAULKHAM HILLS NSW 2153

PLANNING PROPOSAL CASTLE HILL NORTH PRECINCT

Dear Mr Woodhams

Thank you for your letter regarding the above planning proposal. This is the combined response of Transport for NSW and Roads and Maritime Services, collectively TfNSW.

The submitted materials have been reviewed including the Draft Contributions Plan, Draft Development Control Plan and the Draft Public Domain Plan. It is suggested that the following key issues be considered prior to finalising the Planning Proposal:

- A Traffic Impact Assessment supported by appropriate traffic modelling and containing a draft schedule of regional transport infrastructure improvements should be developed and submitted to Transport for New South Wales for consideration;
- The proposal to re-align Old Northern Road is not supported unless it can be demonstrated to improve peak and weekend congestion;
- Ensure that a suitable infrastructure funding mechanism is implemented to support identified infrastructure items linked to development uplift; and
- Most of the precinct is in excess of 400m from the Castle Hill Station and some of it is greater than 800m from the station. As a result, local bus services within the precinct may be able to help increase public transport accessibility. Council should consider identifying local roads in consultation with TfNSW capable of supporting local bus services.

The above and other matters are detailed at **Attachment A**.

Thank you again for providing TfNSW the opportunity to comment on this proposal. If any clarification is required please contact Mr Tim Dewey, Senior Transport Planner at [redacted]

Yours sincerely

26/3/2018

Mark Ozinga
Principal Manager
Land Use Planning and Development

Transport for NSW (TfNSW)
241 O'Riordan Street Mascot NSW 2020
T 02 8202 2200 | **W** transport.nsw.gov.au | ABN 18 804 239 602

Attachment A

Castle Hill North Traffic Impact Assessment

Modelling

TfNSW has developed the Sydney Metro North West Corridor mesoscopic traffic modelling tool that covers the Castle Hill CBD and the Planning Proposal area. This model has been provided to Council. Council may (if they choose to) use this model in the preparation of the TMAP or prepare their own traffic model in consultation with Transport cluster.

Transport Management and Accessibility Plan

A supporting Transport Management and Accessibility Plan (TMAP) should be developed by Council. The TMAP should be supported by appropriate traffic modelling that may also identify regional traffic infrastructure improvements and other transport initiatives required to support the anticipated development, which could then be used as a basis for further discussion for funding opportunities from developers in the Castle Hill North Precinct. The TMAP should confirm the extent, scale, feasibility, costings and timing of the mitigation measures needed from the proposal and any associated cumulative impacts from known developments / proposed uplift on regional transport infrastructure, including but not limited to the following:

- Pennant Street
- McMullen Avenue
- Old Northern Road
- Key intersections within the precinct which may have an impact on the operation of State or regional roads.

Further detail relating to the preparation of the Transport Management and Accessibility Plan is included at the end of this attachment.

Re-alignment of Old Northern Road

The proposal to re-align the Old Northern Road / McMullen Avenue / Brisbane Road as a four way signalised intersection is not supported without appropriate modelling to demonstrate that acceptable performance can be achieved. It is likely that this proposal would negatively impact weekday and weekend peak hour performance of the state Road network surrounding the Castle Hill CBD. If this cannot be demonstrated, this item should be removed from the Draft Contributions Plan No. 17 – Castle Hill North Precinct.

Infrastructure Funding

Once the TMAP is completed it is likely that new or upgraded State Road infrastructure items will be identified. A funding mechanism may need to be considered for this infrastructure depending on the nexus with development in the subject precinct. This funding mechanism should be in place prior to the Environmental Planning Instrument for Castle Hill North being made.

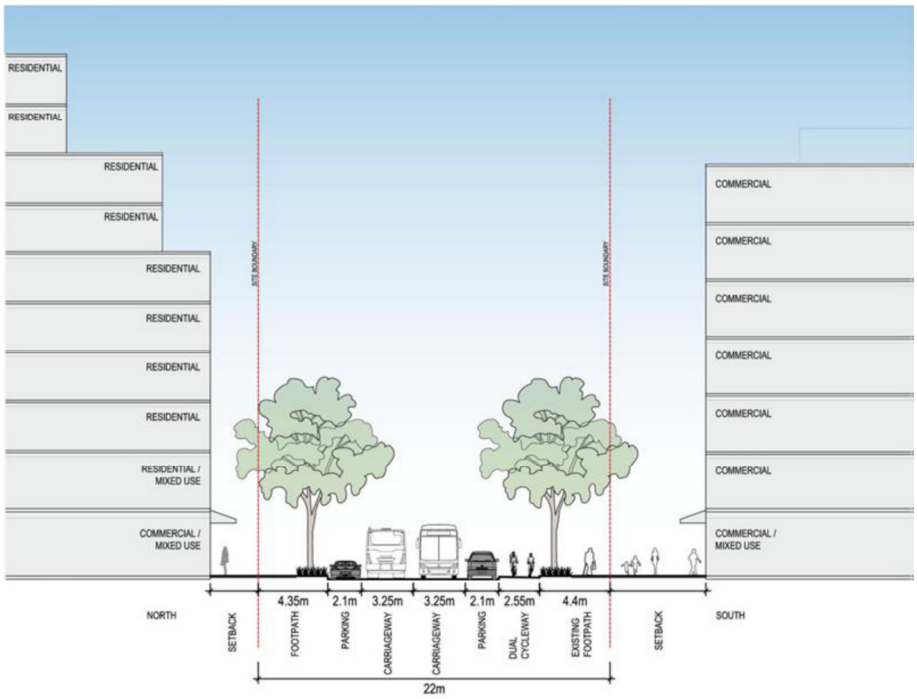
Bus Access

Bus Access within Castle Hill North Precinct

Most of the precinct is in excess of 400m from the station and some of it is greater than 800m from the station suggesting that there may be a need for regular 'local' bus services within the precinct. With Council's assistance it may be possible to run buses through the precinct if the upgrades to Castle St and Carramar Rd were designed with 3.5 metre travel lanes and sufficient width in the kerbside lane to allow cars to park without obstructing bus movements. The services would likely be 'local' and not 'suburban' or 'rapid' services as defined in *Sydney's Bus Future'.*

Castle Street and Old Castle Hill Road

The proposed strip acquisition to achieve a widening of Castle Street and Old Castle Hill Road is supported. The proposed allocation of the widened road space (see diagram below) is requested to be re-allocated so as to achieve one lane 3.5m wide to support efficient movement of bus services as recommended in documents including *Austroads Guidelines* and *State Transit Infrastructure Guide*. It is unlikely that a bus stop can be provided on a parking lane that is 2.1 metres wide without obstructing traffic flow in the adjoining carriageway and this may also require re-allocation of the parking lane to at least 2.5 to 3.0 metres to the meet the recommended lane width in *State Transit Infrastructure Guide*.



State Transit Infrastructure Guide (pg 10)

5.2 Lane widths

Kerb lane

The kerb lane is generally used in two configurations;

As a parking lane — minimum of 3.0 m wide to cater for bus stops and allow the bus to move out of the through traffic lane.

As a traffic lane — minimum of 3.5 m to allow buses to use the lane without passing over drainage structures.

Where the kerb side lane operates as both parking and travel lane, a width of 3.5m must be provided

Travel lanes

The minimum desirable lane width for bus routes is 3.2m. A minimum lane width of 3.5m is to be provided on one-way or one-lane sections of road. Additional width may be required on curved sections of road.

Austroads guide to road design – geometric design pg 77

4.9.2 Bus Lanes

'Bus travel lanes' on bus routes should be wide enough to provide a high level of safety and comfort for the driver and bus passengers. As buses are 2.5 m wide (bus body) and generally travel in the left lane of roads, the desirable width of kerbside lanes on bus routes is desirably larger than that for general traffic lanes. Modern buses often have fairly large side mirrors that extend well beyond the body of the vehicle, up to 0.3 m each side. Lane widths must account for these protuberances, particularly where buses run in adjacent lanes in opposing directions, or objects are located immediately behind kerbs. A guide to preferred lane widths and desirable minimum lane widths is provided in Table 4.21.

Table 4.21: Widths of bus travel lanes on new roads

Lane characteristics	Preferred width (m)	Desirable minimum width (m)
Kerb lanes – 60 km/h (1)	≥ 4.5	3.7
Kerb lanes – 80 km/h (2)	≥ 4.5	4.3
Kerb lanes at bus stops (3)	≥ 5.7	5.5
Kerb lane + parking (4)	≥ 7.8	6.7
Other bus travel lanes (5)	≥ 3.5	3.5

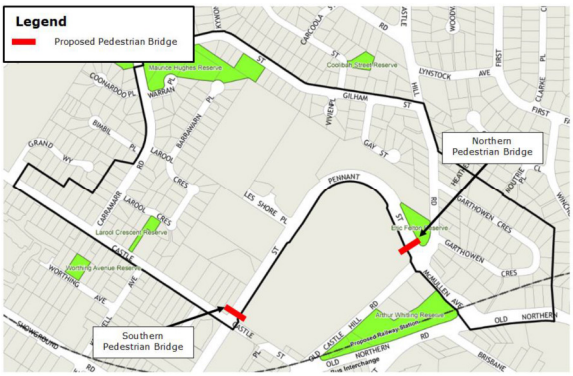
Notes:

1. A 4.5 m lane width provides an acceptable wide kerbside lane that can be used jointly by buses and cyclists whilst a 3.7 m width only provides additional clearance for buses to road furniture and vegetation.
2. A 4.5 m lane width is the desirable width for shared use by cyclists and general traffic, whilst 4.3 m is the minimum.
3. A width of 5.7 m provides for cars to pass a bus that is stopped within the lane. Where an indented bus bay is provided, the width is measured from the rear of the bay.
4. A lane width of 7.8 m provides for a 3.5 m general traffic lane and a 4.3 m wide bicycle / car parking lane.
5. A 3.5 m lane is the normal standard width for general traffic lanes.

Active Transport

Northern and Southern Pedestrian Bridges

The Southern and Northern Pedestrian bridges over Pennant Street are supported in principle. These bridges will need to be designed and constructed in accordance with relevant Roads and Maritime Pedestrian Bridge Design Standards, ensure that there is a minimum clearance of 5.5m from the road pavement to the underside of the structure, preferably be designed to provide ramps for the mobility impaired (if / where sufficient land is available), ensure that they do not obstruct vision to nearby traffic signals, be integrated into adjoining developments and ensure that the bridge support structures are located sufficiently clear of any proposed future road reserve requirements which would be identified as part of the TMAP.



Link between Larool Crescent and Les Shore Place

It is appreciated that the link between Larool Crescent and Les Shore Place is primarily intended as an overland flow path. However, given the scale of works (detention pits and pipes) the opportunity should also be taken to integrate these works with the additional works required to deliver a safe pedestrian connection between these two streets to reduce the walking distance to the Castle Hill Interchange.

Pennant Street Fencing

To direct pedestrians towards safe crossing locations, consideration could be given to pedestrian fencing along Pennant Street broadly for the entire length of the Castle Towers development.

Further liaison will need to be undertaken between Council and Roads and Maritime to resolve the details.

CycleWay Network

The principle of the proposed cycleway network of connecting to shopping hubs and the regional cycleway network is supported. It is suggested that connection to Castle Hill Station is included as one of the principles on page 21 as well as a commitment to develop the cycleway network in accordance with Austroads Guidelines.

Pedestrain Paving Treatment

The use of *Paving Treatment 1* on the higher capacity footpaths approaching Castle Hill Metro Station as shown on Page 13 of the Draft Public Domain Plan integrates well with the Metro development and is supported.

Parking

The letter of the DPE Chief Planner to THSC General Manager agreeing the approach to a number of issues including car parking rates is noted. The agreed rate of a minimum one space per apartment plus one visitor space per five apartments is also noted.

Streetscape Areas

Pennant Street is a State Road and is also proposed as an "*Urban Active Edge"* in the DCP. It can be advised that any new vegetation proposed along Pennant Street would need to be chosen such that, at maturity, the plants will not overhang the traffic lanes which require a minimum envelope clearance of 5.4 metres above the roadway.

Castle Hill North Precinct Plan – Traffic Management and Access Plan Requirements

Details relating to the suggested modelling methodology approach, model extents, key assumptions need to be agreed to between Council, TfNSW, and Roads and Maritime. Key issues are detailed below:

1. Should Council choose to utilise TfNSW's Mesoscopic model for the Sydney Metro North West Corridor, this will require Council to take a "cordon cut" of this model and then recalibrate / validate the model for current conditions. Council could email TPA@transport.nsw.gov.au to request further detail.

2. The modelling will need to be conducted in accordance with the RMS Traffic Modelling Guidelines and consider the RMS Technical Direction for Operational Modelling Reporting Structure – TTD2017/001.

3. To ensure that the cumulative traffic impacts of the draft Precinct Plan are properly considered, the traffic modelling results for 2036 AM and PM peaks must also take into account the additional traffic generated from the Castle Towers Stage 3 expansion, the Sydney Metro - North West (Castle Hill Station) kiss and ride trips, the Pennant Street Target Site and the proposed additional dwelling yield associated with the adjacent Castle Hill (South) Precinct. Furthermore, the traffic modelling must also take into account any likely known traffic infrastructure improvements which would be delivered by both the Castle Towers Stage 3 expansion and the Sydney Metro - North West.

4. Therefore, Council must ensure and clearly demonstrate to TfNSW's and Roads and Maritime's satisfaction that the traffic modelling takes the cumulative traffic impacts of these developments / proposals into account.

5. Once the traffic modelling is completed, detailed traffic modelling files and results must be provided to Roads and Maritime for review and comment.

6. The results must provide intersection Level of Service, Average Delay, 95% queues for left turn, through movement and right turn movements on all approaches at all key intersections, and phasing details at all key signalised intersections.

7. Pending the review of the detailed traffic modelling results mentioned above, Roads and Maritime will review and provide further comment / "in-principle" agreement to the road infrastructure improvements needed to accommodate the additional traffic impacts generated by this precinct.

8. The additional pedestrian and vehicular traffic generated from this precinct must not unduly impact bus travel times along the adjacent State road network.

9. The TMAP, planning proposal and infrastructure plan must clearly address:

    - Pedestrian and cycle desire lines/needs;
    - Bus routes / movements / priority and servicing;
    - Road hierarchy / structure plan / functionality;
    - Intersection and mid-block predicted performance and associated upgrades;
    - Future corridor needs / additional road reservation requirements, and
    - Scope of mitigation measures and suitable funding mechanism