

Technical Memorandum

Quality Information	
Project:	242-244 Beecroft Road, Epping (SSD 8784)
Project Number:	SCT_00045
Document Name:	Post Exhibition Responses to Traffic and Parking Addendum Memorandum
Date:	23 October 2019
Prepared:	Shawn Cen, Senior Consultant
Reviewed:	Jonathan Busch, Associate Director
Authorised:	Andy Yung, Associate Director

Background

242-244 Beecroft Road is a State Government owned site currently being used a staging area for the construction of the Sydney Metro Northwest. A permanent metro service facility is located to the north of the site, with the southern portion of the site primarily proposed for residential uses (with some non-residential uses at ground floor facing Beecroft Road and the proposed pedestrian through site link) – the subject of this development application.

A Concept Design for the site has been developed to test massing and urban form within planning controls, capacity and yield, ADG compliance for cross ventilation and daylight provisions, and typical floorplate efficiency. They have been tested to demonstrate a development model that maximises the development yield within setback and building separation controls, the ADG, and the height limit, and that is commercially realistic in this market.

The Concept SSDA sought consent for the development for a residential flat development comprising:

- Residential yield of approximately 432 dwellings (including a minimum of 5% affordable housing units)
- Maximum residential gross floor area (GFA) of around 37,700m²
- Car parking for approximately 364 spaces within the basement
- Loading, vehicular and pedestrian access arrangements.

The following changes have been made following the receipt of the SSDA submissions:

Pedestrian Through Site Link

- The pedestrian through site link has been redesigned as a wider public, green spine link that allows easy access from Beecroft Road to Ray Road.
- The Ray Road building has been shortened to accommodate this change.

Non Residential Uses

- The non-residential uses have been redistributed to sit adjacent to Beecroft Road and the new pedestrian through site link at Beecroft Road.
- A floor to ceiling height of 3.3m has been allowed for by lowering the ground level of the proposed development.

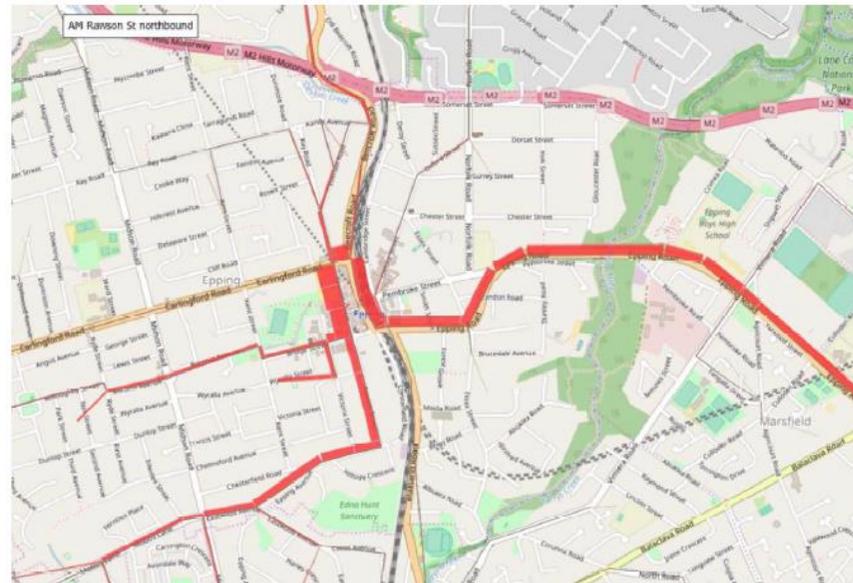
SCT Consulting prepared a Traffic Impact Assessment in June 2018 to support the exhibition of the State Significant Development Application. Comments were received from agencies and the public, with traffic and transport comments.

This memo is an addendum to the original report, modifying the traffic and parking content to respond to comments received during public exhibition under the category of Traffic, Transport and Parking as well as a number of other traffic related miscellaneous comments.

DPIE Schedule 1 and other post exhibition submissions:

Reference	Post-exhibition comments	Responses
5. (i)(a)	<p>Further information to substantiate the reported traffic distribution rates (12% outbound and 15% inbound) via Beecroft Road north of the site. The distributions appear to be low, considering the route provides access to the M2 Motorway.</p>	<p>The future traffic distribution was derived and summarised in the GTA report (Proposed Epping Town Centre Redevelopment, Rawson Street Epping, Traffic Study by GTA, reviewed by AECOM, November 2015) and referenced in the <i>Interim Traffic Modelling Report</i> (EMM, 2017). Hence the TIA has maintained the same traffic distribution for consistency purpose.</p> <p>The distribution is based on a select link analysis from the Sydney Strategic Travel Model (STM), which is owned and operated by Transport for NSW (https://www.transport.nsw.gov.au/data-and-research/forecasts-and-projections/travel). This strategic model is based on census data, household travel surveys, the public transport network and road network. The TfNSW website states that the model can be used to "...to determine potential usage levels of proposed new transport infrastructure or services" – i.e. the distribution of travel.</p> <p>This is illustrated by the morning peak hour "select link" (Rawson Street) traffic flow analysis diagram produced by the STM AM peak model, showing that majority of the traffic using Rawson Street in the northbound direction is heading east and crossing over the railway line at the Epping Bridge.</p>

Figure 1 Select link traffic flow diagram for Rawson Street morning peak traffic northbound

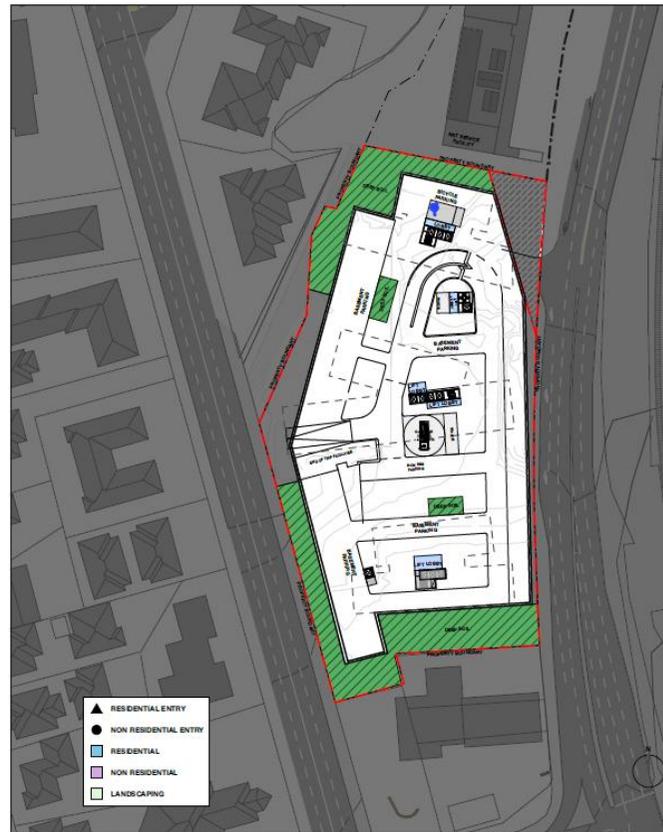


Source: Epping Town Centre Interim Traffic Modelling Report (EMM), 2017

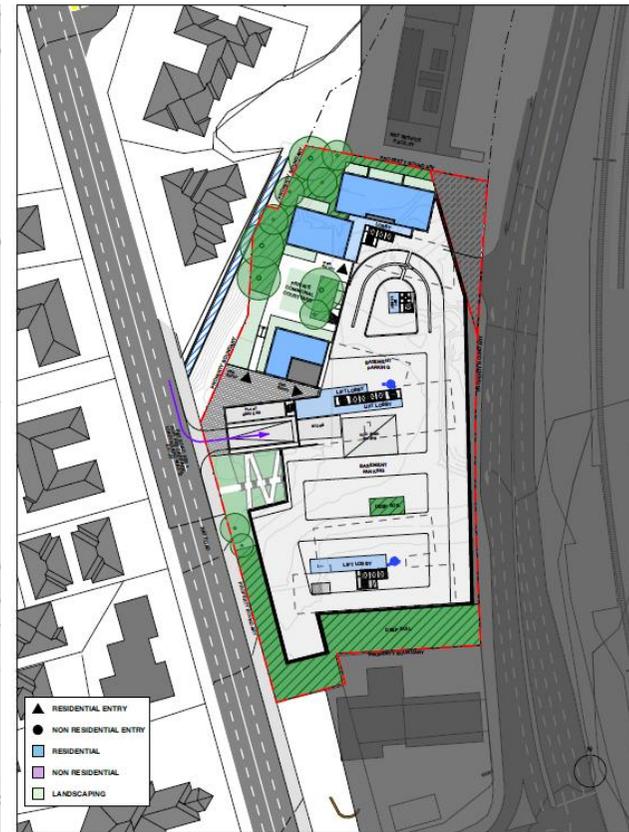
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		<p>Over 60 percent of the Epping Town Centre development traffic is estimated to travel to / from the east (Epping Road east and Blaxland Road east) via Epping Bridge. Traffic via Beecroft Road north is 12 percent outbound and 15 percent inbound during AM and PM peak.</p> <p>Figure 2 Distribution of future peak hourly residential traffic</p> <table border="1" data-bbox="725 384 1603 619"> <thead> <tr> <th>Traffic route</th> <th>Outbound am peak %</th> <th>Inbound pm peak %</th> </tr> </thead> <tbody> <tr> <td>Epping Road east</td> <td>42</td> <td>41</td> </tr> <tr> <td>Blaxland Road east</td> <td>25</td> <td>20</td> </tr> <tr> <td>Beecroft Road north</td> <td>12</td> <td>15</td> </tr> <tr> <td>Carlingford Road west</td> <td>11</td> <td>13</td> </tr> <tr> <td>Boronia Avenue west</td> <td>5</td> <td>5</td> </tr> <tr> <td>Ray Road north</td> <td>3</td> <td>3</td> </tr> <tr> <td>Chesterfield Road</td> <td>2</td> <td>3</td> </tr> </tbody> </table> <p>Source: Epping Town Centre Interim Traffic Modelling Report (EMM), 2017</p> <p>The strategic model outputs are considered an appropriate and evidence-based means of determining the distribution of traffic in the area.</p>	Traffic route	Outbound am peak %	Inbound pm peak %	Epping Road east	42	41	Blaxland Road east	25	20	Beecroft Road north	12	15	Carlingford Road west	11	13	Boronia Avenue west	5	5	Ray Road north	3	3	Chesterfield Road	2	3
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5. (i)(b)	Provide graphical representation of the required inbound and outbound traffic routes during peak periods having regard to existing peak and non-peak turning restrictions at intersections near the site.	<p>There are two peak hour turning restrictions at the nearby Carlingford Road /Rawson Street / Ray Road intersection, these restrictions apply during the hours of 6-10am and 3-7pm.</p> <p>Assuming the ratio of inbound to outbound trips in the AM peak to be 10%:90%, and PM peak to be 90%:10% and based on the trip distribution pattern as shown in Figure 2, the expected vehicular trip increase during the AM and PM peak hours on the surrounding road network as a result of the proposed development yield (i.e. 432 dwellings as issued by Bennett and Trimble on 8 October 2019) is minimal. The AM peak inbound and outbound trips are unaffected by the turning restrictions as the two car park accesses on Ray Road and Beecroft Road combined provide vehicular accesses in all directions. The PM peak inbound traffic (44 vehicles) via Ray Road are the only affected trips but can be alleviated via the Beecroft Road basement entrance, this detail is shown in Figure 3.</p>																								

Reference	Post-exhibition comments	Responses
		<p>Figure 3 Proposed trip generation and distribution</p> <p>AM Peak – 82 trips (74 outbound & 8 inbound trips) PM Peak – 65 trips (7 outbound & 58 inbound trips)</p> <p>Note: No right turn to Ray Rd / Rawson St applies between 6-10am and 3-7pm (Buses excepted)</p> <p>Source: SCT Consulting, 2019</p>
<p>5. (i)(c)</p>	<p>Access to visitor and non-residential car spaces (with consideration of any traffic restrictions and reasonable way finding).</p>	<p>Vehicular accesses to the development are proposed at Ray Road and Beecroft Road. Both accesses are interconnected via the internal car park. The western access on Ray Road functions as a shared access for residential (visitors and non-visitors), non-residential and loading traffic. It directly ramps down to the basement level two as shown in Figure 4. The eastern access is a dedicated residential (visitors and residents) access at Beecroft Road as shown in Figure 5. It circulates down to the lower ground level and the two basement levels.</p> <p>Appropriate wayfinding signs are recommended internal to the car park to guide visitors to the dedicated visitor car parking spaces.</p>

Figure 4 Proposed basement plans



INDICATIVE BASEMENT LEVEL 2 FLOOR PLAN 1:1000



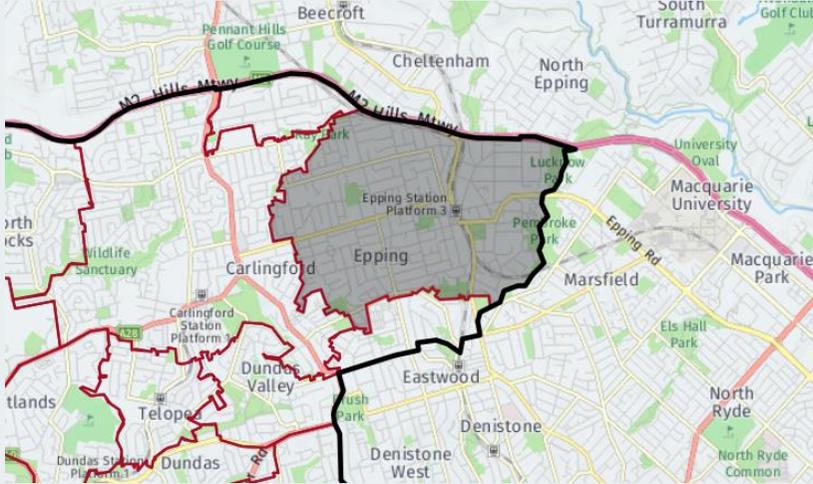
INDICATIVE RAY ROAD ENTRY/BASEMENT LEVEL 1 FLOOR PLAN 1:1000

Source: Bennett and Trimble, 2019

Reference	Post-exhibition comments	Responses
		<p data-bbox="734 240 1301 264">Figure 5 Proposed lower ground and ground floor plans</p>  <p data-bbox="734 1121 1088 1137">INDICATIVE LOWER GROUND FLOOR PLAN 1:1000</p> <p data-bbox="1420 1121 1850 1137">INDICATIVE GROUND FLOOR (BEECROFT ROAD) PLAN 1:1000</p> <p data-bbox="734 1153 1021 1169">Source: Bennett and Trimble, 2019</p>
<p data-bbox="163 1219 248 1243">5. (i)(d)</p>	<p data-bbox="315 1219 680 1326">Impact of the use of the deceleration lane from Beecroft Road to the Sydney Metro Epping Service Facility.</p>	<p data-bbox="734 1219 1995 1297">The proposed access to and from Beecroft Road will be a left in / left out priority intersection to minimise conflicts with traffic on a State arterial road. The concept and the design of proposed access at Beecroft Road has been developed in consultation with Roads and Maritime.</p> <p data-bbox="734 1310 1995 1361">The proposed left in movement on Beecroft Road will be provided via a deceleration lane of approximately 30m long, to allow entering traffic to slow down without interfering with through traffic on Beecroft Road. Speed controls or speed</p>

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		<p>reductions could be investigated by Roads and Maritime along the deceleration lane to deter ESF-related vehicles entering the lane as well as to reduce vehicle speed and improve safety.</p> <p>Vehicles exiting from the development can only turn left onto Beecroft Road. They will have clear sightlines to oncoming vehicles on Beecroft Road travelling northbound or traffic entering the ESF, before safely merging right onto Beecroft Road traffic. Due to the small number of vehicles expected to turn left from the driveway access (less than 10 vehicles per hour during the peak), the potential conflicts with traffic entering the site or ESF as well as traffic on Beecroft Road is considered minimal.</p>																															
5. (i)(e)	Cumulative impacts from concurrent developments (approved and under construction) in the area with respect to traffic and transport issues, including on-street parking and construction traffic.	<p>The SSDA responds to the opportunity to create a transit-oriented centre by reducing the amount of car parking, reflecting the higher level of public transport services. The best approach to facilitate / influence reduced car use and to minimise the future traffic growth to the surrounding road network is to restrain parking provision (while offering attractive public transport alternative in this case Sydney Metro and its connecting bus network).</p> <p>This development would form part of the large housing growth target as proposed in Council's draft LSPS for the Epping Town Centre – refer to table below from Council's draft Housing Strategy, with minimal vehicular traffic impacts given its higher level of public transport services.</p> <p>The relatively high planning target for Epping Town Centre is assumed to be proposed by Council based on Epping's excellent access to the public transport network including the SMNW, hence any proposed development including this subject development that are within 800 m of the public transport network including the Epping Station should have minimal traffic impacts to the surrounding network, if parking provision is restrained.</p> <p>Table 7 Remaining capacity in growth precincts that have been rezoned 2036 (unless otherwise noted)</p> <table border="1"> <thead> <tr> <th rowspan="2">Precinct / growth area</th> <th colspan="3">Total dwelling capacity (2016 – 2036)</th> <th rowspan="2">Expected dwelling delivery (2016 – 2021) based on Council data</th> <th rowspan="2">Expected dwelling capacity (post 2021) based on average of scenarios or other</th> <th rowspan="2">Source / comment</th> </tr> <tr> <th>base minimum</th> <th>planning forecast</th> <th>maximum potential</th> </tr> </thead> <tbody> <tr> <td>Carlingford</td> <td>4,150</td> <td>4,465</td> <td>5,095</td> <td>1,140</td> <td>3,325</td> <td>GIS analysis/DA and PP City data</td> </tr> <tr> <td>Carter Street</td> <td>4,705</td> <td>5,842</td> <td>6,024</td> <td>1,670</td> <td>4,172</td> <td>GIS analysis/DA and PP City data</td> </tr> <tr> <td>Epping Town Centre</td> <td>8,222</td> <td>8,755</td> <td>10,000</td> <td>4,272</td> <td>4,483</td> <td>GIS analysis/DA and PP City data</td> </tr> </tbody> </table> <p>Source: City of Parramatta Council draft Housing Strategy, 2019</p> <p>For impacts to on-street parking, refer to responses provided for item 5. (ii).</p>	Precinct / growth area	Total dwelling capacity (2016 – 2036)			Expected dwelling delivery (2016 – 2021) based on Council data	Expected dwelling capacity (post 2021) based on average of scenarios or other	Source / comment	base minimum	planning forecast	maximum potential	Carlingford	4,150	4,465	5,095	1,140	3,325	GIS analysis/DA and PP City data	Carter Street	4,705	5,842	6,024	1,670	4,172	GIS analysis/DA and PP City data	Epping Town Centre	8,222	8,755	10,000	4,272	4,483	GIS analysis/DA and PP City data
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5. (i)(f)	Travel analysis to include Journey to Work travel zones to the west of the site (across Ray Road).	<p><u>Update of 2011 Journey to Work data for Travel Zones 1402, 1403, 1406 and 1407</u></p> <p>2011 Journey to work data from the Bureau of Transport Statistics was analysed to determine current travel behaviour of the existing residents of Epping and surrounding areas during peak periods. The site is located within Travel Zone 1402, but to get a better understanding of how people travel to and from a nearby, more developed residential area, Travel Zones 1403, 1406, and 1407 (which immediately surround the site) were also included in the analysis. The travel zones analysed for travel behaviour are shown in Figure 6.</p> <p>Figure 6 Travel zones analysed for the travel behaviour at the Site location</p>  <p>Source: SCT Consulting, 2019</p> <p>At the time of the journey to work (JTW) data being collected in 2011, approximately 2,850 lived in the four travel zones analysed. Out of these, 46 percent travel to work by car (of these, 3% are passengers), 34 percent travel by train, three percent walk only, and three percent of the local residents travel to work by bus. This demonstrates that residents in the area are less reliant on cars than an average Sydney suburb and would be more likely to use public transport or to work / cycle to work.</p> <p>The most common destinations residents travel to for work include Sydney Inner City (25%), Ryde (14%), Hornsby (13%), Parramatta (9%) and The Hills Shire and Willoughby (5%). A total of three percent of residents have no fixed place of work.</p> <p>At the time of the JTW data being collected, approximately 4,236 people worked in the four travel zones analysed. To get to work, approximately 64 percent of employees travelled to work by car (of these, 4% as passengers), while 15 percent arrived by train. Only four percent of employees arrived at the four travel zones on foot and two percent by bus.</p>

Reference	Post-exhibition comments	Responses
		<p>The most common origins employees arrived from included Hornsby (23%), Parramatta (12%), The Hills Shire (11%), Ryde (9%) and Blacktown (7%). Other origins included Ku-ring-gai and Warringah.</p> <p><u>2016 Journey to Work data</u></p> <p>2016 JTW data from the Australian Bureau of Statistics was supplemented to enhance the analysis of the travel behaviour of the existing residents of Epping during peak periods. The site is located within the study area of Epping in the City of Parramatta that encompasses the suburb of Epping and a section of the small part of the suburb of Cheltenham. The study area analysed for travel behaviour is shown in Figure 7. The 2016 data is not available for smaller areas such as the Travel Zones.</p> <p>Figure 7 Study area analysed for the method of travel to work at the site location</p>  <p>Source: SCT Consulting, 2019</p> <p>At the time of the journey to work (JTW) data being collected in 2016, approximately 11,212 lived in the study area. Similar to 2011 census data, 47 percent travel to work by car (of these, 3% are passengers), 34 percent travel by train, three percent of the local residents travel to work by bus, and two percent walk only. This demonstrates that residents in the area are less reliant on cars than an average Sydney suburb and would be more likely to use public transport or to work.</p> <p>Travel method for people travelling to work in Epping was not available in 2016 census data.</p> <p>JTW origin and destination data were only available by City of Parramatta local government area. The most common destinations residents travel to for work included Parramatta (27%), Sydney Inner City (18%), Ryde (9%), Cumberland (5%), and Blacktown and The Hills Shire (4%). Another four percent of residents had no fixed place of work. The most common origins employees arrived from included Parramatta (21%), Blacktown (13%), Cumberland (9%), The Hills Shire (7%), and Penrith (6%). Other origins were all fragmented below five percent.</p>

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5. (i)(g)	Clarify discrepancies in public transport trip generation. The reported total of 171 daily trips appears incorrect as 88 trips are expected to be generated in the AM peak and 70 trips are expected in the PM peak, leaving only 13 trips outside peak periods. The daily metro / train trips appear incorrect as 128 trips are reported daily, whereas the AM and PM peak hour trips reported equal 142 trips alone.	<p>Based on the latest scheme issued by Bennett and Trimble on 16 October 2019, Table 1 provides a summary of the number of additional train and bus trips that are likely to be generated by the proposed development. At full development, this accounts for 68 trips in the AM peak, 22 trips in the PM peak and a total of 164 daily trips. Given the proposed development's dominant residential uses, the majority of the trips are expected to be made during the peak hours, with the remaining spread out across the rest of the day.</p> <p>Table 1: Public transport net trip generation for the site, by mode</p> <table border="1"> <thead> <tr> <th rowspan="2">Public Transport</th> <th colspan="2">AM Peak¹ (1 hour between 6-10AM)</th> <th colspan="2">PM Peak² (1 hour between 3-7PM)</th> <th rowspan="2">Daily³ (24-hour)</th> </tr> <tr> <th>Inbound</th> <th>Outbound</th> <th>Inbound</th> <th>Outbound</th> </tr> </thead> <tbody> <tr> <td>Train / Metro</td> <td>2</td> <td>60</td> <td>15</td> <td>5</td> <td>123</td> </tr> <tr> <td>Bus</td> <td>0</td> <td>6</td> <td>2</td> <td>0</td> <td>41</td> </tr> <tr> <td>Total public transport</td> <td colspan="2">68</td> <td colspan="2">22</td> <td>164</td> </tr> </tbody> </table> <p>Source: SCT Consulting; 2019</p>	Public Transport	AM Peak ¹ (1 hour between 6-10AM)		PM Peak ² (1 hour between 3-7PM)		Daily ³ (24-hour)	Inbound	Outbound	Inbound	Outbound	Train / Metro	2	60	15	5	123	Bus	0	6	2	0	41	Total public transport	68		22		164
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5.(ii)	Provide an assessment of the surrounding on-street car parking conditions and what impacts the proposal may have on on-street parking.	<p>The surrounding streets (Ray Road, Edensor Street and Rosen Street) are of residential in nature and do not currently have timed-restrictions parking control. Hence most of the on-street parking are full given its proximity to the Epping Town Centre and the Station.</p> <p>It is common in urban areas that on-street short-term parking is required to support the activities undertaken by commuters, local employees and visitors. Hence as the development of the Epping Town Centre evolves and activities intensifies, Council can change the unrestricted on-street parking on the surrounding street network to short-term paid parking to manage the increased demand of on-street parking requirements.</p> <p>The proposed development suggested off-street parking provision that is in consistent with Council's DCP with appropriate allowance of parking spaces for residents and visitors. Hence the likelihood for overspill parking onto surrounding street network is negligible. There could be demand for on-street parking by the residents / visitors after peak hours when the on-street parking demand is low and parking on-street negates the need to access the building car park, hence the off-peak demand for on-street parking should have minimal impacts to the surrounding street network.</p> <p>For the non-residential component, the proposed development also suggested off-street parking provision that is in consistent with Council's DCP with appropriate allowance of parking spaces for employees and visitors. Hence the likelihood for overspill parking onto surrounding street network is negligible. Despite the off-street supply, there could be</p>																												

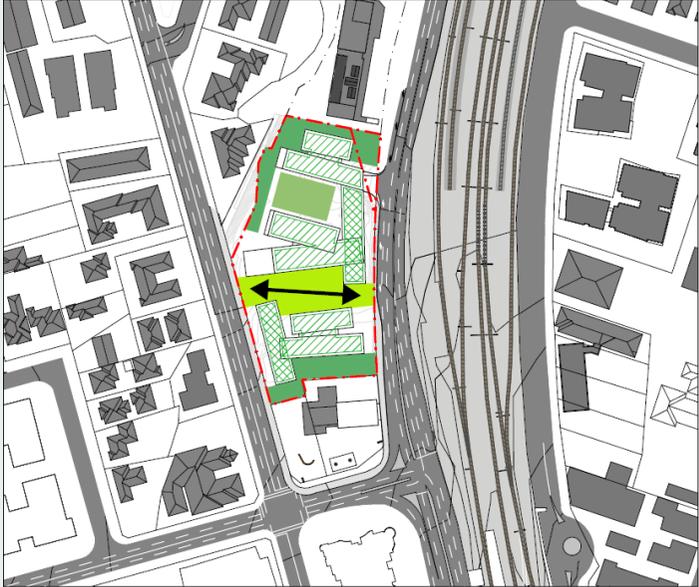
¹ Based on JTW Data 2016

² Based on JTW Data 2016

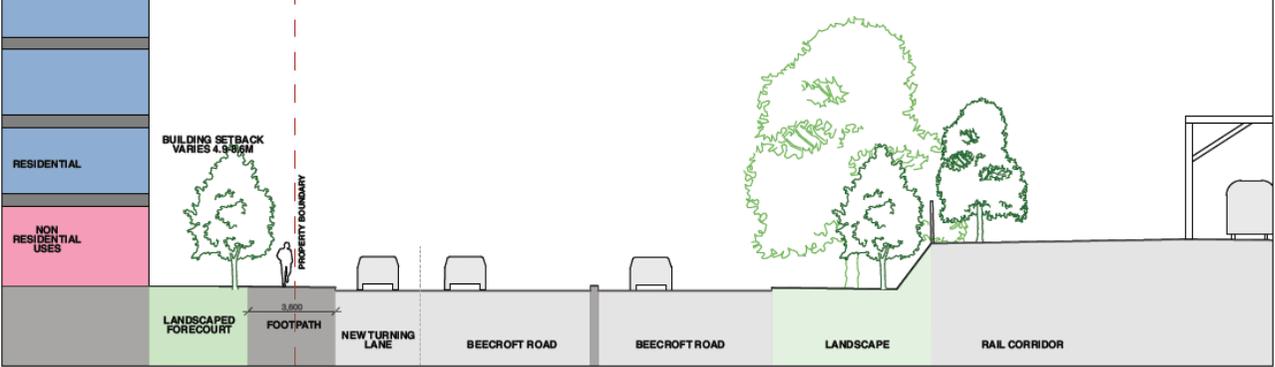
³ Based on HTS Data 2016

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		<p>demand for on-street parking by visitors during the business hours. However, due to the small component of non-residential land use supply, the demand for on-street parking should also be minimal.</p> <p>Demand for kerb-space in and around the Epping town centre will increase independent of this development application. Local government has a range of tools (price and supply) to address kerbside use if required.</p>
5. (iii)	Provide construction related traffic and transport impacts (e.g. trip generation, distribution, routes, management, access and pedestrian/cyclist impacts) and discussion of mitigation measures	<p>Due to the preliminary nature of the development concept, the construction task has not been fully defined. Further engineering design work is required before this could be completed. A construction traffic management plan will be prepared in the development application stage in accordance with the Traffic control at work sites manual (Roads and Maritime, 2010).</p> <p>Construction haulage routes would likely have to be limited to access via Beecroft Road, to minimise impacts to pedestrians and bus operations on Ray Road.</p>
5. (iv)	Detail consultation outcomes and advice from RMS and Council on the proposed vehicular access arrangements and potential for an east-west local link road	<p>In late 2018 a commitment to place the Epping project on hold was made to the City of Parramatta Council until workshops could be held to better understand the traffic congestion drivers in the Epping Town Centre. The workshops aimed to facilitate further discussion around the rationale and options for a link road through the Epping site. City of Parramatta Council, RMS, Sydney Metro and Landcom participated in two workshops (9 April 2019 and 11 July 2019). Following the workshops, City of Parramatta Council maintained the view that an east-west (E-W) vehicular link road through the Epping development will contribute to the resolution of traffic congestion on Carlingford Road, Beecroft Road and Rawson Street. Council further believe this link will change traffic impacts to such an extent that it will help create the Epping Town Centre as a more pedestrian friendly civic heart.</p> <p>However, the project team has determined through a number of investigations and studies that there is no public sustainable benefit to a through road. For example, a 2018 Council traffic study report (EMM) indicated that the proposed vehicular link would potentially attract traffic from other local routes further to the west of the site which would then create additional traffic movements travelling on a north-south route through the Carlingford Road/Beecroft Road intersection, thereby increasing the average peak hour traffic delays and congestion at that intersection in 2026. Council further assumed that all of the Council proposed road network upgrades will be completed by 2036 (including works on state government roads). The E-W road is one of 23 proposed ETC road network upgrades that include both local and arterial roads with no allocated funding determined. Even if the assumed works are completed, this will only result in stabilising the existing traffic in the long term and does not account for growth.</p> <p>Council also advised that the purpose of the E-W link was to provide relief to the surrounding road network by transferring northbound residents travelling from Rawson Street towards Ray Road, onto Beecroft Road. Landcom advised Council to undertake an Origin Destination Survey to further understand this behaviour. An additional review and analysis on Council's traffic study by <i>Complete Streets PTY LTD</i> confirms little or no traffic benefit is provided by the E-W link road, and that any minimal benefit will be immediately absorbed by the existing latent demand. <i>Complete Streets</i> also found that should the model underestimate traffic demand and any peak hour relief, this will be immediately absorbed by the future demand.</p> <p>Road safety concerns were also raised in relation to the E-W link as there is the potential for queuing back onto Beecroft Rd if traffic is queued at the Ray Rd end. Vehicles would also need to give way to oncoming traffic when exiting the E-W link road onto Ray Road. A roundabout was proposed by Council to alleviate this concern but this was not a practicable approach given the existing road constraints and traffic on the E-W Road will still be giving way to traffic on Ray Road.</p>

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		<p>It should be noted that the E-W road was previously proposed by Council to Transport for NSW (TfNSW) in 2013, the purpose then, was to alleviate traffic delays on Rawson Street as a flow on effect from the bank up of traffic on Carlingford Road. The suggested E-W link road was two-way with traffic signals on Beecroft Road. TfNSW did not regard this E-W road as a solution to the congestion and the E-W Road was found to substantially reduce the ability to deliver a transit orientated development within close walking distance from Epping Station, encouraging less dependence on private vehicles.</p> <p>Another Council suggestion was to allow for additional building height in return for loss of floorspace due to the inclusion of a through road. This would have required a planning proposal to amend the permissible height controls. This approach was viewed as unfavourable as the site controls were changed only five years ago.</p> <p>A number of other options were proposed during the workshops but were considered by Council as either not servicing the ETC, theoretical or underutilised.</p> <p>As discussed with Council, to create the Epping Town Centre as a civic heart, more place making activities will induce people to stay and linger longer. This will encourage behavioural change to consider different travel times and mode shift, similarly, reducing traffic speeds and vehicular capacity will allow for greater social and economic benefits.</p> <p>The significant investment in the Sydney Metro Northwest rail provides a unique opportunity for the Council to deliver place-based outcome without increasing local traffic or having to invest in road space such as the Council proposed E-W Road through the Epping development site.</p> <p>All parties mutually agreed that there was little improvement on the level of service due to the natural growth and Epping is predominately used as a by-pass by commuters so the E-W link road would provide no sustainable benefit to local residents. Landcom agrees with Council response that there needs to be careful consideration on infrastructure upgrade spending.</p> <p>The outcome of the workshops resulted in a memo being prepared by Landcom consultant, <i>Complete Streets</i> which was presented to Councillors. RMS had hope that was a solution that everyone was content with.</p> <p>The project team has considered the provision for an E-W vehicular road but concludes no public, sustainable benefit. A pedestrian E-W link that will provide a green spine offering some open space, safe walking access has been redesigned within the concept scheme and offers positive place outcomes, in line with Council's goals for their community. The proposed green pedestrian and cycle link (refer to Figure 8) will encourage walking and bicycle riding around the site and through the Epping Town Centre in keeping with the overall vision for the Epping Town Centre.</p>

Reference	Post-exhibition comments	Responses
		<p data-bbox="734 248 1126 272">Figure 8 Proposed E-W pedestrian link</p>  <p data-bbox="734 890 1021 911">Source: Bennett and Trimble, 2019</p>
	<p data-bbox="320 962 701 1233">The proposed car parking rates are in accordance with RMS guidelines which are higher than the recently updated Hornsby DCP. Although SSD applications do not have to consider the DCP, it is considered pertinent in this case to adhere to the recent policy changes to assist with reducing traffic impact of future development within the ETC.</p>	<p data-bbox="734 962 1998 1066">Given the development is within 400m walking distance to Epping Station and the Epping Town Centre, it is agreed that parking provision for the proposed development should be minimised to leverage off these opportunities and to reduce the future residents' reliance on private vehicle use such that the development will not add to the congestion currently experienced on the surrounding road network.</p> <p data-bbox="734 1078 1975 1182">The latest design scheme demonstrates that the lowest parking rates have been applied for the residential part of the development based on proposed dwelling types. They are generally consistent with the parking rates in the latest Hornsby DCP (amended in May 2019) and RMS Guide to Traffic Generating Developments for Metropolitan Regional (CBD) Centres. A summary of the parking rates for residential applicable to the site is summarised in Table 2.</p> <p data-bbox="734 1195 1998 1299">The original concept scheme recommended that visitor parking rates should be provided at maximum 1 space per 10 units, as suggested by a number of relevant planning documents including the Parramatta DCP 2011, Section 4.1 – Epping Town Centre. However, we acknowledged that higher visitor parking rates, i.e. 1 space per 7 units was required from the Council.</p> <p data-bbox="734 1311 2009 1394">Hence to comply to Council's requirements, the proposal will now provide a minimum of 62 visitor parking spaces (based on 1 space per 7 units for 432 dwellings) and 270 resident parking spaces (which still comply with Hornsby amended DCP's maximum rates, with Council's intent to minimise residential parking provision).</p>

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		<p>Table 2: Residential car parking requirements for residential developments</p> <table border="1"> <thead> <tr> <th rowspan="2">Dwelling type</th> <th rowspan="2">Proposed no. of units</th> <th colspan="6">Number of parking spaces required</th> <th rowspan="2">Proposed parking rates in the latest scheme</th> </tr> <tr> <th>Epping Town Centre UAP Structure Plan (maximum rates)</th> <th>Hornsby DCP 2013 – Epping Town Centre Core (minimum rates)</th> <th>Parramatta DCP 2011 (minimum rates)</th> <th>Parramatta DCP 2011, Section 4.1 – Epping Town Centre (maximum rates)</th> <th>RMS Guide to Traffic Generating Developments (minimum rates)</th> <th>Hornsby DCP (amended on 31 May 2019) (maximum rates)</th> </tr> </thead> <tbody> <tr> <td>Studio</td> <td>47</td> <td>0</td> <td>0.5</td> <td>0</td> <td>0.5</td> <td>0.4</td> <td>0.4</td> <td>0.4 (max)</td> </tr> <tr> <td>1 Bed</td> <td>104</td> <td>1</td> <td>0.75</td> <td>1</td> <td>0.75</td> <td>0.4</td> <td>0.4</td> <td>0.4 (max)</td> </tr> <tr> <td>2 Bed</td> <td>221</td> <td>1</td> <td>1</td> <td>1</td> <td>1</td> <td>0.7</td> <td>0.7</td> <td>0.7 (max)</td> </tr> <tr> <td>3+ bed</td> <td>60</td> <td>1</td> <td>1.5</td> <td>1.2</td> <td>1.5</td> <td>1.2</td> <td>1.2</td> <td>1.2 (max)</td> </tr> <tr> <td>Visitor spaces</td> <td>432</td> <td>0.1</td> <td>0.1</td> <td>0.25</td> <td>0.1</td> <td>0.143</td> <td>0.143</td> <td>0.143 (min)</td> </tr> <tr> <td>Total</td> <td>432</td> <td>428</td> <td>456</td> <td>505</td> <td>456</td> <td>349</td> <td>349</td> <td>332</td> </tr> </tbody> </table> <p>Source: SCT Consulting; 2019</p>	Dwelling type	Proposed no. of units	Number of parking spaces required						Proposed parking rates in the latest scheme	Epping Town Centre UAP Structure Plan (maximum rates)	Hornsby DCP 2013 – Epping Town Centre Core (minimum rates)	Parramatta DCP 2011 (minimum rates)	Parramatta DCP 2011, Section 4.1 – Epping Town Centre (maximum rates)	RMS Guide to Traffic Generating Developments (minimum rates)	Hornsby DCP (amended on 31 May 2019) (maximum rates)	Studio	47	0	0.5	0	0.5	0.4	0.4	0.4 (max)	1 Bed	104	1	0.75	1	0.75	0.4	0.4	0.4 (max)	2 Bed	221	1	1	1	1	0.7	0.7	0.7 (max)	3+ bed	60	1	1.5	1.2	1.5	1.2	1.2	1.2 (max)	Visitor spaces	432	0.1	0.1	0.25	0.1	0.143	0.143	0.143 (min)	Total	432	428	456	505	456	349	349	332
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	Provide maximum 297 residential parking, minimum 64 visitor parking spaces, off-street parking for the non-residential component, adequate bicycle/motorcycle and car share parking spaces.	<p>See response above.</p> <p>The latest scheme also includes three car share parking spaces, 14 motorcycle spaces and 476 bicycle spaces based on the rates defined in the Parramatta DCP. Those provisions are considered sufficient for this development.</p>																																																																					
	Green travel plan to be provided.	<p>At this concept SSDA stage, there is no means to enforce the delivery of Green Travel Plan actions. It is recommended that subsequent development applications be given the requirement to develop green travel plans to realise the benefits of access to Sydney Metro North West.</p> <p>Travel Demand Management measures and initiatives (Section 3.3 of the original TIA report, June 2018) were proposed that highlights initiatives of green travel for future residents and employees. These principles should guide the development as the design evolves and provides a framework for the preparation of a Green Travel Plan for future DAs, achieving Council's goal of ensuring sustainable travel behaviours. One of the green travel initiatives to be delivered by this development is captured within the reduced car parking rates.</p>																																																																					

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	<p>The slip lane on Beecroft Road to allow safe access to the Beecroft Road carpark entry will narrow the footpath.</p>	<p>As shown in Figure Error! Reference source not found.9 (cross-section at the slip lane), the latest scheme will see the dedication of the property land (approximately 122m²) along Beecroft Road for the allowance of a slip lane. A 3.5m footpath width will be retained on the Beecroft Road frontage (see hatched section).</p> <p>Figure 9 Cross section at slip road on Beecroft Road</p>  <p>STREET SECTION A - BEECROFT ROAD</p> <p>Source: Bennett and Trimble, 2019</p>

Conclusion

This report responds to comments raised in exhibition, including changes to the scheme to respond to the concerns of the community.

In summary, the following modifications are proposed to address the comments from the SSDA exhibition:

- A pedestrian east-west link instead of a vehicular east-west link between Beecroft Road and Ray Road (through the development site), actively encourages pedestrian and cyclists through the site, and will generally encourage more active movement (walking and bicycle riding) around the Epping Town Centre in keeping with the overall vision for the Epping Town Centre.
- Revised parking provision that complies with Council's requirements based on Hornsby amended DCP's maximum rates for resident parking and minimum visitor parking rates, with Council's intent to minimise residential parking provision.