Issue History

File Name	Prepared by	Reviewed	Issued by	Date	Issued to
P4655.001T Bankstown Central PP Peer Review	A. Lewis & D. Scutt	D. Scutt	J. Yang	1/09/2020	Wesley Folitarik at City of Canterbury Bankstown Council via email at Wesley.folitarik@cbcity.nsw.gov.au
P4655.002T Bankstown Central PP Peer Review	J. Hu & J. Yang	A. Ahmed	J. Yang	23/10/2020	Patrick Lebon at City of Canterbury Bankstown Council via email at Patrick.Lebon@cbcity.nsw.gov.au
P4655.003T Bankstown Central PP Peer Review	J. Yang	A. Ahmed	J. Yang	30/10/2020	Patrick Lebon at City of Canterbury Bankstown Council via email at Patrick.Lebon@cbcity.nsw.gov.au

Bankstown Central Planning Proposal

Traffic & Transport Peer Review Report

1. Background

Relevant background information is summarised below for context:

- On 20th December 2019, a planning proposal was lodged with the City of Canterbury Bankstown Council (Council) by Urbis Pty Ltd (Urbis) on behalf of Vicinity Centres PM Pty Ltd (the proponent) over the Bankstown Central Shopping Centre (subject site)
- The subject site is approximately 11.4ha in size and contains a 91,110m^2 shopping centre over multiple levels with both at-grade and multi-storey car parking facilities
- The planning proposal is for a mixed-use development with a variety of land uses including commercial, residential, student accommodation, serviced apartments, hotel, retail, and child care, with a total Gross Floor Area (GFA) of 395,415m^2
- In July 2020, GTA Consultants prepared a "Transport Impact Assessment" for the proposed development (referred to herein as the "traffic report")
- Council has engaged Bitzios Consulting to peer review the traffic and transport aspects of the planning proposal. The peer review will assess the assumptions, methodology and key recommendations outlined in the traffic report and provide Council advice on whether the study is adequate and can be used to inform strategic land use decisions and / or highlight any shortcomings and gaps.

Table 1.1 summarises the land use and yield changes outlined within the traffic report.

Table 1.1: Summary of Changes

Land Use	Current	Proposed	Increase
Retail	91,090m^2 GFA	106,773m^2 GFA	15,683m^2 GFA
Commercial	-	118,565m^2 GFA	118,565m^2 GFA
Residential	-	972 apartments	972 apartments
Hotel	-	656 rooms	656 rooms
Student Accommodation	-	1,597 units	1,597 units
Child Care	-	891m^2	891m^2

GFA = Gross Floor Area

Table 1.2 lists the documents reviewed as part of this report, noting that this engagement focuses on the traffic and transport aspects of the planning proposal (i.e. the traffic report).

Table 1.2: Reviewed Documents

ID	Title	Author	Date
1	Planning Proposal - Bankstown Central Shopping Centre, Bankstown	Urbis Pty Ltd	20 December 2019
2	Bankstown Central Shopping Centre Planning Proposal Transport Impact Assessment	GTA Consultants	17 July 2020
3	Bankstown Complete Streets Project Traffic Modelling Report	GTA Consultants	18 April 2019

2. Peer Review

2.1 Overview

This peer review has been structured based on the following traffic and transport items:

- Item 1: Walking and Cycling
- Item 2: Public Transport
- Item 3: Loading and Logistics
- Item 4: Car Parking
- Item 5: Traffic Generation and Traffic Impacts.

Key findings from the peer review are summarised below.

2.2 Item 1: Walking and Cycling

The traffic report states the following in relation to walking and cycling:

- The Bankstown Central Business District (CBD) benefits from a well-established urban pedestrian network, with all streets in the local area having sealed paths and lighting. However, some connections have reduced widths and low levels of amenity
- The Bankstown CBD currently lacks dedicated cycling infrastructure on the surrounding network, and cyclists are required to share the road space with vehicles
- The proposal includes additional pedestrian links including two (2) east-west connections and a new north-south connection through the Jacobs Street extension
- The proposal states that (min) 0.5 bicycle spaces per 100m2 of office will be provided.

The traffic report concludes that the proposal: *"seeks to promote pedestrian and cycling modes to/from the CBD through the provision of public open space, improved pedestrian connections in all directions and the provision of bicycle parking consistent with other Sydney based developments. These improvements will encourage the use of sustainable modes of transport and discourage the reliance on private vehicles."*

Notwithstanding the above, further detailed investigations should be undertaken during future development application stages to confirm the following:

- Safe and compliant connectivity to the surrounding network
- Appropriate design of bicycle parking spaces in accordance with AS2890.3
- Appropriate End of Trip Facilities (i.e. lockers, showers, change rooms) that promote the continued use of active transport mode share.

Given that the Planning Proposal's intensification of use is dependent on a shift away from private vehicle trips, it is recommended that a Green Travel Plan (GTP) be prepared and submitted as part of the documentation. The GTP is considered to be a strong planning tool which can support the applicant's statements regarding the anticipated mode share. By implementing specific travel initiatives or measures as a part of the GTP, the proposal can organically encourage a shift towards more sustainable modes of travel.

2.3 Item 2: Public Transport

The traffic report states the following in relation to public transport:

- The site benefits from excellent access to and is well serviced by public transport including the Bankstown railway station (with 15 minute peak hour services to the Sydney CBD) and bus interchange (with 22 bus routes run by three operators)
- The future new metro line, interchange and pedestrian connections between the metro station and CBD will improve the accessibility of the CBD and public transport services

- The proposal seeks to improve the public transport servicing the subject site through the extension of Jacobs Street into a 'bus only transit street' which facilitates bus movements through the site and removing stops from the surrounding road network.

Whilst 'in-principle' support may have been provided by Transport for NSW (TfNSW) for the proposed changes to the bus network and associated staging, further stakeholder engagement will be required during future development application stages to ensure that the outcomes are consistent with the requirements of the subject site and TfNSW.

The following comments are noted in regard to the three Stages of the bus network modifications:

- Stage 1:
  - The creation of the 'through-site link' between The Mall and North Terrace would require a thorough review of manoeuvrability and priority control during design stage, particularly given its close proximity to the Jacob Street intersection. Eastbound buses on The Mall turning right into the 'through-site link' would likely have to give way to oncoming vehicles and pedestrian, which could result in delays and queues on this approach.
  - It is understood that buses currently stopping at the layover east of Jacobs Street would stop at on-street bus stops on Jacobs Street and The Mall during Stages 1 and 2. Increase in bus usage at these stops may lead to queues which could significantly impact the performance of the surrounding road network, as there are only single lanes in each direction.
- Stage 2:
  - The conversion of Fetherstone Street to two-way could result in a loss of pedestrian amenity on the northern end due to required adjustments to the intersection layout to accommodate two-way traffic. To ensure pedestrian safety is not compromised, there may be opportunity to convert the intersection to traffic signal control, with signalised pedestrian crossings.
  - Similarly, the adjustments at the intersection of Fetherstone Street and North Terrace would enable a refresh of the pedestrian crossing arrangements at this location. This would allow clearly marked foot crossings, which could assist with reinforcing pedestrian safety in the highly trafficked location.
  - The alterations at The Mall / The Appian Way to allow for westbound traffic would impact the existing pedestrian zebra crossings. The proposed design should retain measures to accommodate pedestrian safety and amenity at this location. It is noted that if Fetherstone Street is signalised, another set of traffic signals may not be supported at this location due to safety issues raised by close proximity.
- Stage 3:
  - The proposed traffic signals at Jacobs Street extension / North Terrace would be located around 60m west of the North Terrace / South Terrace railway underpass signals. This could compromise traffic safety due to the 'see through' effect (being able to see the traffic lights at a different set of signals). This could also result in a decrease of the road capacity in the area, and vehicles are liable to get caught between the signals.

More details are required regarding the changes in bus stop and layover capacity resulting from the Bankstown CBD Bus Network Modifications.

2.4 Item 3: Loading and Logistics

The traffic report outlines the following in relation to loading and logistics:

- The site is currently serviced by a basement level loading dock which includes:
  - 10 loading bays suitable for vehicles up to a length of 14.6m
  - 10 loading bays suitable for smaller commercial sized vehicles (i.e. 8.8m and below).
- The loading dock is separated from existing / proposed pedestrian and cycling links
- The proposal seeks to adopts a strategy that optimises and manage the existing servicing provisions rather than provide new or additional loading facilities / capacity

Whilst the traffic report sets out a servicing strategy that appears to be appropriate, further detail will be required during the subsequent application stages including, but not limited to:

- The capacity for the existing loading dock to accommodate the servicing demands for the development, both in terms of quantify and size of service vehicles
- The appropriateness of the existing loading dock to safely and efficiently service the entire development, noting the distance between loading dock and new buildings
- A detailed Servicing Management Plan to formally document the servicing arrangements to ensure that queuing or services vehicles, on-street loading does not occur, and safe vehicles movements are undertaken within the existing servicing area.

The Traffic Report notes that the redevelopment of periphery sites will likely include separate underground loading docks designed specifically for the mixed use land uses proposed in those areas. More details are required regarding the proposed locations of the loading docks accesses, in particular for the 'Target site'. Additional heavy vehicle movements may have significant impacts on the road network surrounding the site, as it currently serves a high volume of buses and pedestrian traffic. Delivery trucks may cause friction and delays in the traffic as they look for gaps in the traffic to turn into the loading dock. If accesses are proposed on The Appian Way to the 'Target site', delivery vehicles would be required to detour through Fetherstone Street and The Mall to access the southbound-only road.

Furthermore, it is observed that 'Shared zones' are proposed on Fetherstone Street and The Appian Way as a part of the bus network modification. To ensure that pedestrian safety is not compromised, it is recommended not to have high volumes of heavy vehicles using those roads to access any loading dock entrances.

2.5 Item 4: Car Parking

The traffic report outlines the following in relation to car parking:

- Bankstown Central currently accommodates 3,283 car parking spaces
- Car parking at Bankstown Centre is uncontrolled (i.e. no limits or payment required), and provided in a mixture of at-grade, multideck and basement car parks
- Car parking occupancy surveys from March 2019 recorded a peak demand of:
  - **Thursday Peak:** 3,188 spaces or 97% capacity at a rate of 3.9 spaces / 100m^2
  - **Saturday Peak:** 3,086 spaces or 94% capacity at a rate of 3.8 spaces / 100m^2.
- GTA claim that a portion of the surveyed demand were all day rail commuters
- GTA note that in 2019, Council approved a DA which permitted the introduction of controlled parking (i.e. paid) at Bankstown Centre
- GTA claim that the introduction of paid parking will reduce demands at the subject site by 20% on weekdays and 10% on weekends, by supressing commuter demands. This assertion is supported by a case study at Castle Towers Shopping Centre
- Based on the assumed reduction in parking demands triggered by the introduction of paid parking, GTA nominate the following revised Bankstown Central parking rates:
  - **Thursday Peak:** 2,558 spaces or 78% at a rate of 3.1 spaces per 100m^2

- **Saturday Peak:** 2,777 spaces or 85% at a rate of 3.4 spaces per 100m^2.

- GTA recommend car parking rates for the various proposed uses.

Table 2.1 summarises our review of the nominated parking rates.

Table 2.1: Nominated Parking Rate

Land Use	Proposed	Source	DCP Requirement	Appropriate
Retail	3.0-3.5 spaces / 100m^2 GFA	Modified parking survey data for Bankstown Central	A parking survey should be carried out by the applicant, to assess the appropriate level of parking for developments greater than 4,000m^2 in gross floor area	Yes, however further detail justification is recommended in relation to the commuter demand reductions
Commercial	0 to 0.5 spaces / 100m^2 GFA	Approved parking rates for commercial developments in other LGAs	1 space per 40m^2 of half the GFA of the premises; and a planning agreement is considered on the remaining 50% of parking requirements for the purpose of public parking.	A relaxation of DCP rates is considered appropriate given the site context and recently approved rates in other LGAs. However, further justification is required to justify the minimum rate (no parking)
Residential	0 to 1 space / apartment	Adaptation of RMS Guide to Traffic Generating Development	A minimum of 1 car space and a maximum of 3 car spaces per dwelling; and 1 visitor car space per 5 dwellings.	Yes, however it is recommended that the RMS GTGD per bedroom rates are adopted (i.e. 0.4, 0.7, and 1.2 spaces per 1, 2 and 3+ bedroom dwelling) instead of a blanket per apartment rate
Hotel	0 to 0.2 spaces / room	n/a	1 car space per unit; and 1 car space per 2 employees.	No, further detailed justification is required to support the reduced rate
Student Accommodation	0.1 spaces / apartment	n/a	n/a	No, further detailed justification is required to support the proposed rate
Child Care	No parking	n/a	1 car space per 4 children + 2 additional car spaces for the exclusive use of any associated dwelling.	No, further detailed justification is required to support the reduced rate (no parking).

Based on the above, the traffic report estimates that 4,774 spaces would be required to service the development, which is an increase of 1,491 spaces on the current provision. These are broken down in Table 2.2.

Table 2.2: Car Parking Provision

Land Use	Pre-development Parking Spaces	Post-development Parking Spaces	Change in Parking Spaces
Retail	3,283	3,469	+186
Commercial	-	593	+593
Residential	-	486	+486
Hotel	-	66	+66
Student Accommodation	-	160	+160
Total	**3,283**	**4,774**	**+1,491**

In summary, the traffic report sets out recommended parking rates for the proposal. Whilst the intent to adopt reduce parking rates is sound and can be supported in-principle, further detailed justification will be required during subsequent applications to ensure adequate parking is provided for the various land uses. This should consider all land uses, temporal parking demands, and the cross-utilisation of parking spaces.

Key points from Table 2.1 are reiterated below:

- Further justification is recommended in relation to the commuter demand reductions from the Bankstown Centre car parking survey (and subsequent parking rates)
- Further justification is recommended in relation to the significantly reduced commercial parking rates, particularly the minimum rate (nil) which does not seem appropriate
- Further justification is recommended to support the parking rates for hotel land, student accommodation, and child care land uses, particularly the child care (nil)
    - For hotels: the DCP has nominated a rate of 1 parking space per unit for hotel uses. In our experience, other Local Council DCPs typically allow for a reduced rate to be applied where the proposed development is located in close proximity to the town centre or a public transportation hub, which this development satisfies. The reduction can be around 50% of the ordinary rate, which would entail 0.5 hotel parking spaces / unit. However, there are select case study sites in Parramatta which have been allowed a rate of 0.2 hotel parking spaces / unit, plus spaces for employees. For these reasons, we would advise that a parking rate between **0.2 – 0.5 hotel parking spaces / unit** should be acceptable.
    - For student accommodation: it is acknowledged that student accommodation does not generate the greatest parking demand. The DCP does not differentiate between typical residential accommodation and that for students. Given the expected lower car ownership amongst tertiary students, a reduction in the standard residential parking rate (assuming one-bedroom, 0.4 parking spaces / unit) is acceptable. However, the proposed rate of 0.1 parking spaces / unit is considered to be a significant reduction which should be justified via evidence-based means; this will ensure that any parking impacts due to potential overflow parking have been taken into account. For consideration, we reference the City of Monash Student Accommodation Car Parking Study (July 2009), which recommended a parking rate of **0.3 parking spaces / bed** when within close proximity to tertiary education facilities and/or public transportation.
    - For child care: While it is acknowledged that it is likely that childcare centre patronage will be for parents working in Bankstown Central, the provision of zero parking spaces for the childcare centre is not supported. Parking at childcare centre facilitates the pick-up and drop-off of young children in a safe and isolated environment, while ensuring operational efficiency during the busy before and after work peak periods. An area should be provided with sufficient parking capacity to accommodate these movements independent of other car parking modules, to ensure that queues do not affect general traffic movements. Furthermore, excepting cases where visitors live very close to the site, in our experience, childcare centres patrons are less likely to use active or public modes of travel. For these reasons, the **unreduced rates from the DCP** are recommended to be adopted for the childcare centre.
- It is recommended that the RMS GTGD per bedroom rates are adopted for the residential land uses instead of a blanket per apartment rate.

2.6 Item 5: Traffic Generation

The traffic report notes the following in relation to traffic generation:

- Traffic generation is based on 'per space' basis in lieu of the typical 'per GFA'
- This has been adopted to reflect the Travel Demand Management approach to minimise traffic generation and encourage alternative modes of transport
- The proposed development will have a negligible and acceptable impact on the operation and safety of the surrounding road network.

Table 2.3 summarises our review of the nominated traffic generation rates.

Table 2.3: Adopted Traffic Generation Rates

Land Use	Trips per space			Source	Appropriate
	AM Peak	PM Peak	Saturday		
Retail	None Identified			-	Justification Required
Commercial	0.40	0.35	0.0375	Not Identified	Equates to 0.2 trips / 100m^2 compared to typical RMS rates of 1.2 trips / 100m^2. Whilst it is acknowledged that reduced parking is proposed, this rate seems low. Further justification required
Residential	0.15	0.12	0.135		Yes, however the source of this rate should be referenced
Hotel	0.25	1.00	1.00		Yes, however the source of this rate should be referenced
Student Accommodation	0.15	0.15	0.15		Yes, however the source of this rate should be referenced
Child Care	None Identified			-	Justification Required

The traffic report states that the proposal will increase peak hour traffic demands by:

- **AM Peak Hour:** +351 trips
- **PM Peak Hour:** +356 trips
- **Weekend Peak Hour:** +178 trips.

Key points to note are summarised below:

- The increase of retail GFA (15,683m2) as outlined within the traffic report has not been included within the traffic generation estimates for the proposed expansion
- Whilst it is acknowledged that the proposal includes reduced parking rates, the estimated additional traffic demands equates to a peak hour trip rate of 0.24 trips per additional space (1,491 spaces), which seems low. Further justification is required
- The child care trip generation rate has not been provided, and detailed justification has not been provided detailing the reasoning behind the exclusion
- The trip generation rates for student accommodation, residential and hotel are generally appropriate, however the source of these rates should be referenced.

In summary, the traffic report sets out recommended trip rates for the proposal. Whilst it is acknowledged that adopting reduced parking rates would result in reduced trip rates, further detailed justification will be required during subsequent applications to ensure potential road network impacts are adequately considered and mitigated (if required).

2.7 Item 6: Traffic Impacts

The traffic report notes the following in relation to traffic impacts:

- GTA prepared an AIMSUN traffic model for 'Complete Streets'
- The Complete Street model was used to test the potential impacts of the added development traffic demands on road network surrounding Bankstown Central
- The modelling was conducted using a 2036 design scenario which incorporated the Complete Streets recommendations in addition to the additional development traffic
- Broad network statistics for the PM peak scenario have been reported to demonstrate negligible impacts. The broad network statistics (which are aggregated across the entire modelled area for all trips within the model) include total travelled distance, total travel time, average speed, average delay, and vehicles waiting to enter
- The report concludes '*the additional traffic generated by the indicative development yield is unlikely to have a notable impact on the operation of the road network'*
- The report also concludes that *'there are also opportunities for Vicinity Centres, Council and / or TfNSW to improve the operation of the network. These Opportunities will be investigated in future Development Applications or the like'*.

Key points to note are summarised below:

- The traffic report only outlines the PM peak hour results (i.e. no comment is made on the performance of the AM and Weekend scenarios). Whilst it is acknowledged that the PM peak is typically the busiest, for a development of this scale, at minimum the AM scenario should also be analysed. The difference in traffic directionality (incoming in the morning and outgoing in the afternoon for commercial, vice versa for residential) should result in an appreciable difference between the scenarios
- Whilst the traffic report considers broad network impacts, further detailed intersection based analysis will be required during the subsequent application stage to ensure potential road network impacts are adequately considered and mitigated (if required)
- Whilst the Complete Street model includes infrastructure upgrades, and the traffic report notes that there are opportunities to improve the operation of the network, the timing and responsibility of these potential upgrades have not been investigated. This will need to be undertaken during the subsequent application stage
- The 'Vehicles Waiting to Enter Network' statistic is shown to be around 1,000 vehicles at the end of the PM scenario, with ~75% associated with Bankstown Central. Whilst it is acknowledged that this number may be improved via future intersection upgrades or peak spreading, it should be stated that the release of this volume of vehicles into the network may have consequential downstream effects on the road network. These impacts are being masked behind the 'Vehicles Waiting to Enter Network' statistic
- The traffic report compares the intersection Level of Service (LoS) pre- and post-development across the study area via two figure extracts from AIMSUN software with colour-coded intersection nodes. These figures do not provide a clear understanding of the traffic impacts at each of the intersections, particularly in light of the fact that AIMSUN-calculated intersection delays can misrepresent actual performance due to limitations caused by short sections on approach to an intersection node. Furthermore, these figures are unclear on the adopted LoS thresholds. For these reasons, it is advised that a table of key intersections and their average delay and associated LoS will enable a more quantitative and effective analysis of the traffic impacts.

In summary, the traffic report includes high level network based modelling which appears to demonstrate that the planning proposal (with reduced car parking rates) would have manageable impacts on the surrounding road network. Nevertheless, further justification is required for the adopted parking rates (refer Section 2.5), and further detailed intersection based analysis is required to ensure road network impacts are adequately considered and suitable mitigation measures are identified to offset development impacts.

3. Summary

Key findings from this peer review report are summarised below:

- **Item 1 - Walking and Cycling:** The proposal seeks encourage the use of sustainable modes of transport and discourage the reliance on private vehicles. Whilst this is supported and encouraged given the site context, further detailed investigations should be undertaken during the future development application stages to confirm safe and compliant connectivity to the surrounding network, and adequate internal provisions (i.e. bicycle parking, end of trip facilities etc.). A GTP is recommended to be prepared, as it will be a strong planning tool to create a strategy for more sustainable travel options.
- **Item 2 - Public Transport:** The proposal seeks to improve public transport and land use integration via the creation of a new 'bus only transit street' through the subject site as an extension to Jacobs Street. Whilst this is a significant departure from the new bus station envisaged by Complete Streets, it is understood there has been extensive consultation with and 'in-principle' support provided by TfNSW regarding the 'bus only transit street' concept. Nevertheless, further stakeholder engagement will be required during future development application stages to ensure that the outcomes are consistent with the requirements of the subject site and TfNSW. The proposed Staged upgrade for this transit street is anticipated to have implications for pedestrian safety and amenity which should be addressed.
- **Item 3 – Loading and Logistics:** The proposal seeks to adopt a strategy that optimises and manages the existing servicing provisions rather than provide new or additional loading facilities / capacity. Whilst the strategy appears to be appropriate, a Servicing Management Plan will need to be prepared during subsequent application stages to confirm the capacity of the existing loading dock to accommodate increased servicing demands generated by the proposed development, and the appropriateness of the existing loading dock to safely and efficiently service the entire development. Further clarity is required on the proposed accesses to the separate loading docks, particularly for the 'Target site'. The implications and impacts of heavy vehicle routing and turning movements must be considered.
- **Item 4 – Car Parking:** The proposal seeks to adopt reduced car parking rates to maximise travel by sustainable transport modes and minimise travel by private motor vehicles. Whilst the intent is sound and can be supported in-principle, further detailed justification will be required during subsequent applications to ensure adequate parking is provided for the various uses. This should consider all land uses, temporal parking demands, and the cross-utilisation of parking spaces
- **Item 5 – Traffic Generation:** The traffic report sets out recommended trip rates for the proposal. Whilst it is acknowledged that adopting reduced parking rates would result in reduced trip rates, further justification will be required during subsequent applications to ensure road network impacts are adequately considered and mitigated (if required)
- **Item 6 – Traffic Impacts:** The traffic report includes high level network based modelling which appears to demonstrate that the planning proposal (with reduced car parking rates) would have manageable impacts on the surrounding road network. To ensure that the planning proposal has undertaken a full assessment of the expected traffic impacts, further justification is required for the adopted parking rates, insofar as where they have significant influences on generated trip volumes, and further intersection analysis is required to ensure that the ultimate road network impacts have been adequately considered across all scenarios.

It is noted that the proposal is in the CBD and adjacent to high quality public transport services, and that the applicant will seek to encourage travel modes other than private vehicles. However, the proposal is a significant redevelopment of the site and has the potential to generate significant traffic demands onto the surrounding road network.

Furthermore, the traffic report includes departures from standard practice such as reduced parking rates, and reduced trip generation rates.

Nevertheless, we are generally satisfied that the development would likely have manageable road network impacts on the surrounding road network, and that the level of detail required to investigate specific mitigation measures to offset development impacts can and should be undertaken during subsequent application stages.