

Our Ref: JH/11462/jj

Transport Planning

28 April, 2021

Traffic Studies

Parking Studies

Binah
Suite 7, Level 3
26 Castlereagh Street
LIVERPOOL NSW 2170

Attention: Aris Dimos
Email: adimos@binah.com.au

Dear Sir,

**RE: PROPOSED COMMERCIAL DEVELOPMENT,
431 MACQUARIE STREET, LIVERPOOL**

1. As requested, we are writing following the meeting with officers of council and TfNSW on 24 March regarding traffic generation for the above development. We have previously prepared a report¹ which was submitted with the development application and letters of 20 August 2020 and 16 February 2021 in relation to previous matters raised.
2. The council email of 5 February 2021 includes the following:

As per your request, Council's Traffic Branch considers that the trip generation rate of 0.33 vehicular trips per hour per car parking space, underestimates the trip generation by about four to five times relative to trips to be generated using the trip generation rates for commercial development in the former RMS Guide. Please note that Council's Traffic Branch is applying rates of 1.2 and 1.6 vehicular trips per hour per 100sqm of GFA for PM and AM peak period respectively. This is based on TDT/213/04a.
3. It should be noted that for CBD locations, such as Liverpool, it is appropriate to restrict parking provision in order to reduce traffic generation and encourage the use of public transport.
4. The proposed parking provision for this development has been restricted to one space per 138m², which will reduce traffic generation. However, applying a fixed traffic generation rate per 100m² of floor area (such as the rates of 1.2 and 1.6 vehicles per hour per 100m²) does not reflect the reduction in parking provision.

¹ Transport Report for Proposed Commercial Development, 431 Macquarie Street, Liverpool, March 2020.

5. This approach will estimate the same traffic generation regardless of the parking provision and whether parking has been restricted. It will significantly overestimate traffic generation when parking provision is restricted. It is therefore appropriate to estimate traffic generation based on parking provision.
6. At the meeting, the matter of traffic generation rates in the Technical Direction TDT 2013/04a was discussed. TDT 2013/04a includes the information in Table I for commercial buildings in the Sydney area which were surveyed to determine traffic generation rates.
7. Table I excludes the building surveyed in Sydney Olympic Park, as traffic generation for this building was not surveyed during the commuter peaks. Table I also excludes buildings surveyed in Newcastle and Wollongong, being outside the Sydney area.

Location	Size (m ²)	Parking spaces	Traffic generation during on-road peak	
			AM	PM
North Sydney	31,400	136	51	44
Chatswood	10,214	150	47	36
Hurstville	3,254	66	65	60
Macquarie Park	5,748	269	119	72
Parramatta	27,000	402	185	75
Liverpool	2,817	28	57	46
Norwest	1,200	83	30	10
Total	81,633	1,134	554	343

8. TDT 2013/04a includes an 'accessibility score' for each building. With the exception of the building in Norwest, all of the locations in Table I, including Liverpool, have an accessibility score of 0.9. Norwest has a lesser accessibility score of 0.6. TDT 2013/04a is therefore based on the Liverpool CBD having a similar level of accessibility to the other locations in Table I.
9. The average parking provision for all of the buildings in Table I is one space per 72m². This is almost twice the provision proposed in the proposed development at Liverpool, which has a proposed parking provision of one space per 138m².
10. The average traffic generations for all of the buildings in Table I are 0.49 and 0.3 vehicles per hour per parking space for the morning and afternoon respectively.
11. Regarding the proposed development, the largest comparable buildings in Table I have the characteristics shown in Table 2. The average parking provision for all of the buildings in Table 2 is one space per 100m². This is again considerably higher than the provision proposed in the subject development at Liverpool of one space per 138m².

Location	Size (m ²)	Parking spaces	Traffic generation during on-road peak	
			AM	PM
North Sydney	31,400	136	51	44
Chatswood	10,214	150	47	36
Parramatta	27,000	402	185	75
Total	68,614	688	283	155

12. The average traffic generations for the three buildings in Table 2 are 0.41 and 0.23 vehicles per hour per parking space for the morning and afternoon respectively. These rates are considered appropriate for estimating traffic generation for the proposed development because:
 - they are based on surveys of comparable buildings of a similar scale;
 - they are based on parking provision, reflecting restricted provision; and
 - the surveyed buildings have similar accessibility scores to that identified by TDT 2014/04a for the Liverpool CBD.

13. Based on the proposed parking provision for the development of 365 spaces, and on the rates of 0.41 and 0.23 vehicles per space, the development would generate some 150 and 85 vehicles per hour in the morning and afternoon respectively. Based on the higher rates of 0.49 and 0.3 vehicles per space, the development would generate some 180 and 110 vehicles per hour in the morning and afternoon respectively.

14. The traffic effects of these generations have been assessed using SIDRA. With this traffic, the intersection of Hume Highway with Macquarie Street and Hoxton Park Road would operate with average delays of less than 50 seconds per vehicle during peak periods. This represents level of service D, a satisfactory level of service for a busy intersection during peak periods.

15. By comparison, if traffic generation rates of 1.6 and 1.2 vehicles per hour per 100m² were used for the morning and afternoon peak hours respectively, traffic generation of the proposed development (50,384m²), traffic generation would be some 810 and 610 vehicles per hour two-way during weekday morning and afternoon peak hours respectively. For the proposed parking provision of 365 spaces, this represents traffic generation rates of 2.2 and 1.7 vehicles per hour per space. These rates are unrealistically high.

16. Traffic generations of 810 and 610 vehicles per hour two-way would result in the intersection of Hume Highway with Macquarie Street and Hoxton Park Road operating at level of service F during the morning peak hour, with average delays of greater than 70 seconds per vehicle.

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17. However, as discussed above, these generations of 810 and 610 vehicles per hour are considered unrealistically high. Parking provision for the proposed development is restricted to 365 spaces, which reduces the traffic generation to 150 to 180 and 85 to 110 vehicles per hour in the morning and afternoon respectively. As discussed above, the road network will be able to cater for these generations.
18. The Liverpool Contributions Plan 2018 – Liverpool City Centre identifies a series of road and infrastructure works to accommodate additional development in the Liverpool CBD. The works include access measures, bicycle facilities, bus priority measures and footpath widening. The proposed development will make appropriate contributions towards these works, in accordance with the plan.
19. It should be noted that the proposed development includes:
 - significant on-site bicycle parking;
 - showers and lockers for people cycling to and from the site;
 - pedestrian and cycle facilities along Short Street, Hume Highway and Macquarie Street; and
 - a new civic plaza which will form an important pedestrian connection in the Liverpool CBD public domain.
20. We trust the above provides the information you require. Finally, if you should have any queries, please do not hesitate to contact us.

Yours faithfully,
COLSTON BUDD ROGERS & KAFES PTY LTD



J Hollis
Director