Project Notes

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Project	Hornsby Junction Remodelling and Commuter Car Park		

Introduction

This Technical Note has been prepared following design modifications to the multi storey car park presented in the Hornsby Junction Remodelling and Commuter Car Park Traffic and Transport Assessment (Jacobs, January 2016). The modified layout is shown below in Figure 1.

Figure 1 : Modified multi storey car park layout

This Technical Note assesses the environmental impacts of the changes to the car park design and should be read in conjunction with the original Traffic and Transport Assessment report.

Car Park Modifications

The revised car park has been designed to provide an above ground multi storey car park, rather than the previous excavated proposal. This car park would provide approximately 230 additional parking spaces, the same number as the original proposal. An entry only point would be provided to the south of the car park via George Street (using the existing commuter car park entrance) and a new single lane exit point would be provided onto George Street, in the vicinity of the Linda Street intersection.

The revised car park would no longer require the reconfiguration of the George Street / Burdett Street intersection.

Construction traffic impact

The construction worker numbers, working hours, haulage routes and site access, via the existing commuter car park access off George Street, would remain unchanged.

The daily construction truck movements to the site would slightly reduce from the original multi storey car park as the car park would now be above ground rather than excavated to street level, resulting in less spoil being removed from the site. It is estimated that the maximum construction vehicle movements (in and out of the construction site) would be:

- 28 truck movements a day (distributed evenly across an eight hour work day)
- 20 light vehicle movements a day (with a worst case scenario of 10 movements in the AM peak hour)

This equates to a maximum of 14 vehicle movements in the AM peak hour (seven vehicles arriving and seven vehicles departing the construction site).

Table 1 presents the existing traffic volumes during the AM peak hour (7:00 am to 8:00 am) at key intersections along the assumed haulage routes and the anticipated construction vehicles.

Table 1 : Modified car park construction vehicle impacts – AM peak hour

Intersection	Existing traffic volumes*	Existing Level of Service (LoS)	Maximum estimated construction traffic volumes	Percentage increase
Pacific Highway / George Street	2,652	LoS B	14	0.53%
George Street / Burdett Street	2,034	LoS A	14	0.69%
George Street / Bridge Road / Railway Parade	1,924	LoS D	14	0.73%
Bridge Road / Pacific Highway	2,094	LoS B	14	0.67%

*Hornsby West Side Traffic Study, Bitzios Consulting, May 2013

Source: Traffic and Access Report, Arup 15 January 2016

It can be seen from Table 1 that the AM peak hour construction vehicles would remain the same as the original multi storey car park, with construction vehicles being less than 1% of the total existing

traffic at each of the assessed intersections. Therefore the impact on the surrounding intersections would remain the same as the original assessment and be unlikely to have a material impact on the local road network.

It should be noted that as the existing commuter car park would be closed for the majority of construction and the commuter car parking spaces relocated elsewhere, to a location still to be determined by Transport for NSW, this would result in a redistribution of traffic on the local road network. Therefore, once the temporary commuter car parking has been confirmed, the above is subject to change.

Operational traffic impact

As part of the TAP: Commuter Car Parks Project, a Traffic and Access Report (Arup, 15 January 2016) was produced to identify the likely key operational impacts of the modified car park on the existing traffic and transport network.

The Traffic and Access Report uses the same trip generation methodology as the original assessment to calculate the AM and PM peak hour arrivals and departures to the car park.

The change of the proposed car park entrance and exit locations via George Street would likely result in a redistribution of traffic from the previous assessment.

Figure 2 identifies the anticipated traffic distribution of the modified car park.

Figure 2 : Traffic distribution *(Source: Traffic and Access Report, Arup 15 January 2016)*

AM peak hour existing traffic volumes were compared with development traffic at intersections in the vicinity of the site to assess the impact of the modified car park on intersection performance, shown in Table 2.

Table 2 : Modified car park traffic compared with existing traffic volumes

Intersection	Peak hour	2013 traffic volumes*	Development traffic volumes	Development percentage of 2013 volumes
Pacific Highway / George Street	AM	2652	31	1.2%
	PM	3331	22	0.7%
Bridge Street / George Street	AM	1924	8	0.5%
	PM	2246	14	0.6%
Jersey Street / Bridge Road	AM	1868	16	0.9%
	PM	2212	19	0.9%
Pacific Highway / Bridge Road	AM	2094	11	0.5%
	PM	2385	11	0.5%

*Hornsby West Side Traffic Study, Bitzios Consulting, May 2013

Source: Traffic and Access Report, Arup 15 January 2016

As the majority of intersections have development traffic less than 1 per cent of the base traffic, it is anticipated that there would be negligible impacts to the operation of intersections in the vicinity of the car park during the network peak AM and PM hours.

The only intersection that would experience additional traffic greater than 1 per cent is the Pacific Highway / George Street intersection and this would only occur during the AM peak hour. Even during this period, additional vehicles would only be 1.2 per cent of the base traffic, which is also considered to have a negligible impact on the operation of the intersection.

It should be noted that only a one hour network AM and PM peak have been assessed. The majority of development traffic is anticipated to arrive before the network AM peak hour, however it is not considered to result in a significant impact on the operation of the above intersections as it is outside the network peak, when the base traffic would be lower.

Summary and conclusion

The construction of the modified car park would generate less daily truck movements as a result of less excavation works required at the site. Construction staff numbers and haulage routes are anticipated to remain the same and therefore the impact of the construction traffic on the AM peak hour network in the vicinity of the site would remain unchanged from the car park originally assessed.

The modified car park would facilitate the same number of car parking spaces as the previously assessed car park, however the entrance would be from the existing George Street car park entrance and exit would be via a new exit point to the north of the car park onto George Street. It is anticipated that the impact of the modified car park design would continue to have a minimal impact on the operation of intersections in the vicinity of the site.