

TECHNICAL NOTE

Reference: P0421t04v02

22 August 2019

Frasers Property Australia
Level 2, 1C Homebush Bay Drive
Rhodes NSW 2138

Revised Response to Submissions Ivanhoe Estate, Macquarie Park (SSD 8707)

Dear Chris,

I refer to our recent correspondence in regard to the issues raised in the Revised Response to Submissions (Revised RTS) received in relation to the Ivanhoe Estate Master Plan, Macquarie Park SSD 8707 (the Proposal), and specifically the submission from Ryde City Council (Council) - *Ivanhoe Estate Redevelopment Concept – Development Application SSD 8707 Revised Response to Submissions* (Council RRTS) dated 18 June 2019, which was prepared by Council following the exhibition of the Proposal.

Sections below provide a summary of each of the issues raised in the Council RRTS, and the Ason Group response to each issue. In preparing these responses, Ason Group has referenced the following documents of note:

- Ason Group, *Transport Management and Accessibility Plan Addendum, Ivanhoe Estate Redevelopment, Macquarie Park SSD 8707* dated 13/09/2018 (TMAP Addendum); and
- ARUP / Department of Planning and Environment, *Peer Review of Addendum Transport Report, Ivanhoe Estate*, dated 5/07/2019 (TMAP Addendum Peer Review).

Council RRTS: Issue 19

Variation to Visitor Parking and car share

The car parking rate as provided in the RDCP2014 is already at a reduced rate as part of the most recent revisions of the parking rate in Macquarie Park. The number of visitor parking required for the development is being varied by 50%. This in real terms means approximately over 150 visitor car parking spaces not being provided on the site. It is expected that additional parking is provided on the site in accordance with the DCP requirement.

The variation is likely to result in a significant parking undersupply that would impact on-street parking availability in the area and would also place pressure on Council to alter parking restrictions in the surrounding area or potentially implement a permit parking scheme. These ramifications are unacceptable.

Parking levels for visitor spaces and car share spaces are to be strictly complied to align with RDCP2014. City of Ryde does not support any variations to the visitor parking and car share spaces required for the development.

Ason Group Response to Issue 19

The significance and location of the Site requires an innovative and sustainable parking strategy that specifically responds to the Site's excellent level of accessibility; to future trends in mobility; and, of course, to the need for reduced vehicle trips. As such, a range of strategies aimed at promoting more sustainable travel has been adopted in the Proposal. Critically, these strategies were specifically supported in the independent TMAP Addendum Peer Review, which states:

The proponent has increased the amount of visitor parking provided on the site since the exhibited EIS, given that all residential visitor parking will now be provided in the basement of each building. This will allow for additional visitor parking to be provided on streets within the site. The adopted visitor parking rate is therefore considered to provide an appropriate balance between meeting the parking demands of visitors to the site as well as mitigating traffic impacts on the surrounding road network."

In summary, it remains our contention that the proposed level of parking on-site is both appropriate and sustainable.

Council RRTS: Issue 20

Variations to car share

It is also noted that the number of car share spaces is being varied by 50%. Given that the development proposed 3,500 residential units, a variation of this scale is likely to result in more pressure on existing car parking and street parking spaces. Council seeks that a condition be imposed to ensure that the car share spaces be provided in accordance with RDCP2014 and that these spaces are:

- Publicly accessible 24 hours a day seven days per week;*
- Located together in the most convenient locations;*
- Located near and with access from a public road and integrated with the streetscape through appropriate landscaping where the space is external;*
- Designated for use only by car share vehicles by signage;*
- Parking spaces for car share schemes located on private land are to be retained as common property by the Owners Corporation of the site.*

Ason Group Response to Issue 20

As clearly detailed in the TMAP Addendum, it is proposed that car share spaces be provided in accordance with RDCP2014 i.e. at a rate of 1 space per 50 spaces. This is also in line with the ARUP recommendation in the TMAP Addendum Peer Review.

Council RRTS: Issue 31a

Intersection Configuration along Road No. 1 and potential traffic flow conflicts

Council seeks that a condition be imposed requiring the applicant/developer to construct a roundabout at the intersection of Road No. 1 / Road No. 2 and Road No. 1 / Road No. 3. This must be incorporated as part of the appropriate stages of construction. Suitably prepared civil plans shall be submitted to and approved by City of Ryde prior to the determination of any detailed application relevant to the particular stage.

Ason Group Response to Issue 31a

Ason Group has request information from Council in regard to the justification for these roundabouts, but no information has been made available by Council as to their purpose. Notwithstanding, SIDRA analysis has been undertaken to examine the future operation of these intersections using the traffic volumes extracted from the Aimsun model. These volumes are shown in **Figure 1** and **Figure 2** below, noting that Road No. 1 is referred to as Main Street in these Aimsun outputs.

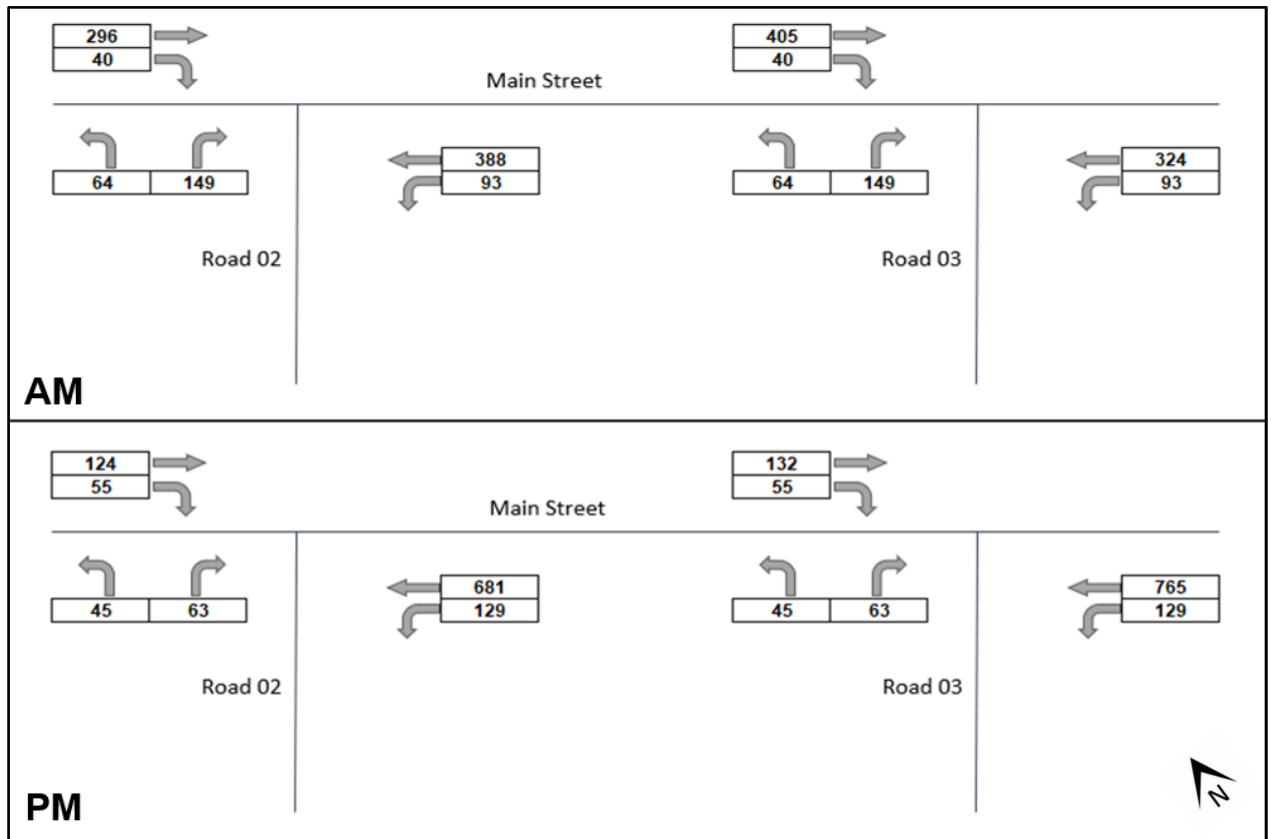


Figure 1: 2021 Traffic Volumes

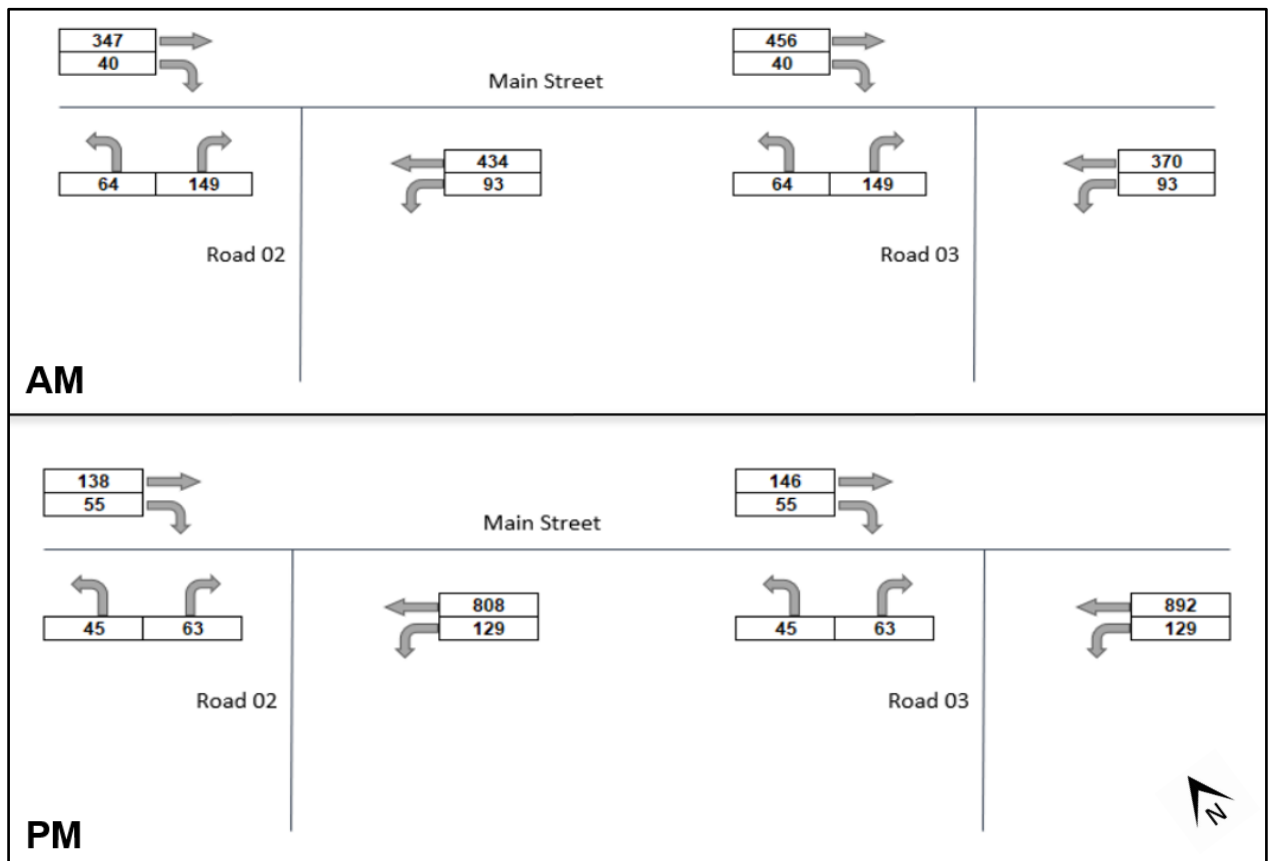


Figure 2: 2031 Traffic Volumes

With consideration of these traffic volumes, the SIDRA modelling results are provided in **Table 1**, noting that this analysis also includes the removal of the previously included left-in access from Epping Road, which is no longer proposed.

Table 1: SIDRA Results

Intersection	Peak	Criteria	2021	2031
Main St / Road 02	AM	Delay	1.9	2.0
		LoS	A	A
	PM	Delay	1.9	2.3
		LoS	A	A
Main St / Road 03	AM	Delay	1.9	2.1
		LoS	A	A
	PM	Delay	2.1	2.7
		LoS	A	B

These SIDRA results demonstrate that both the Main Street intersections will operate with very good levels of service under the future development scenarios (for both the 2021 and 2031 horizon years). As such, it is the conclusion of Ason Group that there is no reasonable justification for the provision of roundabouts at these intersections instead of the proposed priority control, particularly when [the provision of the roundabouts would results in the significant loss of social housing dwellings.

Council RRTS: Issue 31b

School Drop-off/Pick-up Facilities

Council seeks that a condition be imposed requiring an internal drop-off/pick-up zone within the school boundary to accommodate private vehicles and buses.

Ason Group Response to Issue 31b

School parking will be available directly adjacent to the School, with designated short stay parking provided to accommodate drop-off and pick-up demand during the school arrival and departure peaks respectively. Approximately 25 spaces will be available for school pick up / drop-off purposes.

The provision of this level of on-street parking is again endorsed in the TMAP Addendum Peer Review, which states:

It is accepted that providing an on-site drop off facility would compromise the proposed school. The addendum report notes that approximately 25 spaces will be available for school pick up / drop off purposes which is considered appropriate based on the likely mode share and school size.

Council RRTS: Issue 31d

Lyonpark Road/Main Road No. 1 Intersection Treatment

The applicant shall construct, as a minimum, a roundabout at the intersection of Road No. 1 and Lyonpark Road. Suitably prepared civil plans shall be submitted to and approved by City of Ryde prior to the release of any bonds associated with the civil infrastructure. Council seeks that the Concept Plan be amended to indicate this roundabout at the location and a condition be imposed requiring details to be submitted as part of any subsequent development application for approval by Council.

Ason Group Response to Issue 31d

The TMAP Addendum Peer Review's response to the TfNSW question regarding the suitability of a priority controlled intersection at Main Street / Lyonpark Road was that *"traffic modelling has confirmed that the proposed layout is suitable"*.

Notwithstanding, further intersection modelling has been undertaken to assess the capacity of the Main Street / Lyonpark Road intersection during the AM and PM peak periods for the 2021 scenario. The existing priority controlled intersection performed acceptably in the 2021 scenario; however, the preferred layout option shown in **Figure 3** below also incorporates a 70m dedicated right turn bay into Main Street, and has a separate southbound through lane.

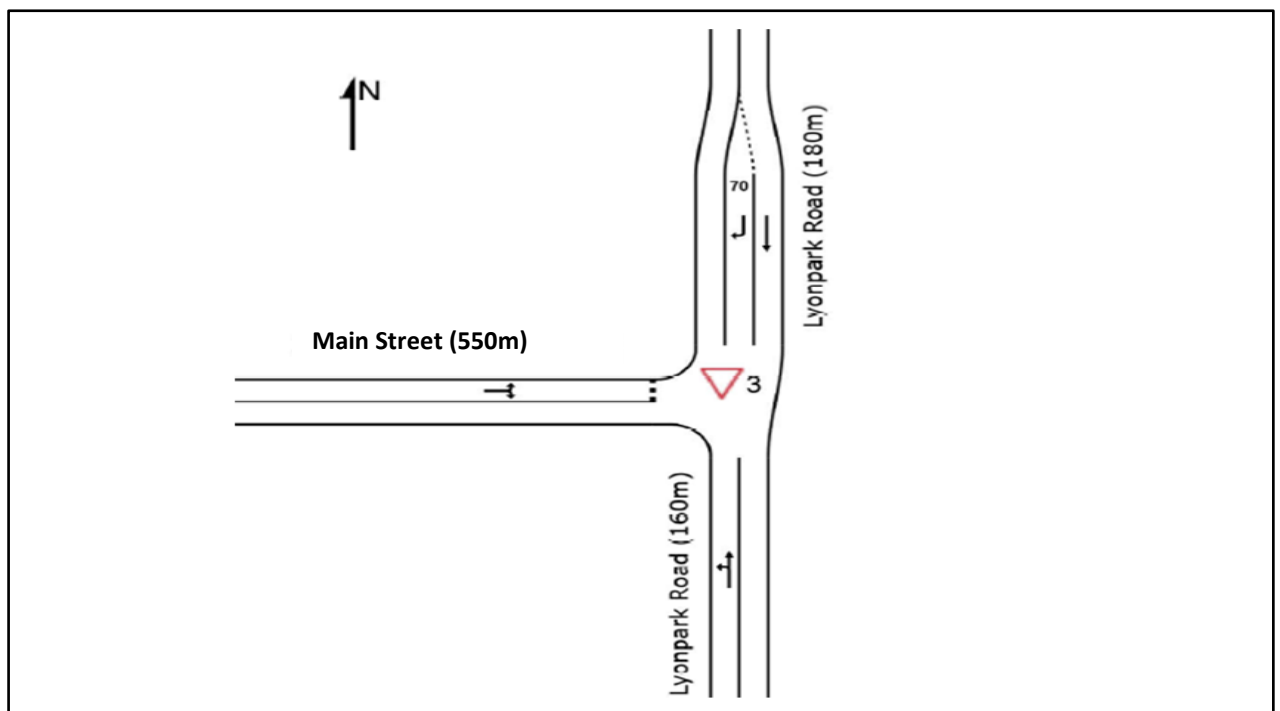


Figure 3: Main Street / Lyonpark Road SIDRA Intersection Layout

The results shown in **Table 4** below demonstrate that the intersection continues to operate with a good level of service further to the Proposal.

Table 2: Main Street / Lyonpark Road SIDRA Results

Peak Period	Criteria	2021	
		Base	Base + Dev + Upgrades
AM	LoS	A	A
	Delay (s)	7	12
PM	LoS	A	A
	Delay (s)	6	13

Crash data from the NSW Centre for Road Safety has also been reviewed for the past five years, and shows there have been no crashes in the vicinity of the proposed intersection, nor anywhere along Lyonpark Road from Epping Road to Byfield Street. This is not surprising given the intersection provides good sight distance; delineation; road geometry; and traffic volumes and speeds that are not considered to be high risk.

Finally, it is noted that the proposed intersection upgrades would necessarily provide full compliance with the appropriate guidelines and standards.

Council RRTA Issue 31e

Lyonpark Road / Epping Road Intersection

Council is concerned with this approach [intersection treatment] and seeks that this matter be reconsidered by the applicant.

Ason Group Response to Issue 31e

A proposal for the signalisation of the Lyonpark Road / Epping Road intersection was pursued by the proponents, being in line City of Ryde Integrated Transport Strategy 2016 and consultation with Council. Further to that consultation, MU Group were engaged to provide conceptual signal layout plans suitable for assessment; however, the full signalisation (all movements) was not considered appropriate by the key authorities due to the delays that would result to the through movements in Epping Road.

Subsequently, a hybrid solution was assessed, which provided for northbound right turn movements (from the east) and the resulting signalisation of the eastbound left turn movement from Lyonpark Road. However, this proposal was similarly not progressed due to the forecast resulting delays and queues during the PM peak on Lyonpark Road. In this regard, the modelling demonstrated queues in excess of 450m and a resulting Level of Service F. Therefore, the intersection is proposed to remain priority controlled which produces a Level of Service A under the 2021 Base Case model.

Council RRTS: Issue 31e

Traffic Modelling

The traffic generation is considered underestimated/discounted, which is expected to have a noticeable impact on the level of service of intersections immediately providing access to the development. Council's concerns raised in the previous submission have not been addressed. Council is of the view that the Transport Management and Accessibility Plan (TMAP) must be updated to reflect the impact of 800 vehicle trips during the AM peak hour.

Ason Group Response to Issue 31e

The detailed review of the traffic modelling by the key authorities—including RMS, TfNSW and (the then) DP&E—each considered that the trip rates used in the model were appropriate. This was also the conclusion of the TMAP Addendum Peer Review, comments from which are summarised in **Table 3** below.

Table 3: TMAP Addendum Peer Review Traffic Generation Assessment Summary

Recommendation (Arup, May 2018)	Response (Arup, June 2019)	Arup Final Assessment
The car mode share of 8% (2% car driver and 6% car passenger) for the high school is considered low and should be reviewed against schools in locations with similar characteristics to that of Ivanhoe Estate.	The updated assessment has considered an increased car mode share of 14%, in line with Arup's initial recommendation.	No further assessment required.
The traffic generation numbers should be reviewed to take into account the fact that car drops off for schools generate two individual trips – one on arrival and one on departure.	The updated assessment has considered both pick up and drop offs, in line with Arup's initial recommendation	No further assessment required.
The trip rate for the affordable housing dwellings should be adjusted to match that of the market dwellings.	The trip rate for affordable dwellings has been updated to match that for market dwellings, in line with Arup's initial Recommendation.	No further assessment required.

Council RRTS: Issue 31g

Internal Road Assessment

Council is of the view that the Transport Management and Accessibility Plan (TMAP) must be updated to assess the implications of the level of traffic on the amenity and road user safety within the proposed internal road network.

Ason Group Response to Issue 31g

The SIDRA results detailed in response to Council RRTS Issue 31a (above) demonstrate that both intersections on Main Street will operate with acceptable levels of service under the future development scenarios for both the 2021 and 2031 horizon years. For clarity, this analysis also assumes the removal of the previously included left-in access from Epping Road.

With consideration of this analysis, there appears to be little justification or the provision of these roundabout, particularly when the result would be a loss of social housing dwellings.

With regard to road user safety, Ason Group recommends that a reasonable Condition of Consent be imposed that would require road safety audits through all phases of development to eliminate any disagreement and with the intention of identifying road safety deficiencies and areas of risk.

Council RRTS: Issue 31m

Road Safety Audits

Council seeks that a condition be imposed requiring road safety audits of all new traffic facilities including intersections and traffic devices to be undertaken by a qualified road safety auditor by the applicant. The road safety audit must be undertaken for all project phases such as pre-construction, construction and post- construction.

Ason Group Response to Issue 31m

Ason Group agrees that a reasonable Condition of Consent would require road safety audits through all phases of development.

Finally, we trust the above information provides clarification and a greater appreciation of the issues identified in the RRTS. As always, please do not hesitate to contact the undersigned should you require any further information.

Yours sincerely,



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