

Reference: 15S1478000

28 April 2016

Mirvac Projects Pty Limited  
Level 26, 60 Margaret Street  
SYDNEY NSW 2000

Attention: Mr Dimitri Roussakis

Dear Dimitri

**RE: AUSTRALIAN TECHNOLOGY PARK, EVELEIGH  
RESPONSE TO ROADS AND MARITIME SERVICES CONSULTATION**

As requested, GTA Consultants has reviewed the RMS consultation response dated 14<sup>th</sup> April 2016 which was issued on Thursday 21<sup>st</sup> April.

This letter will act as an addendum to my letter dated 15<sup>th</sup> April 2016 which responded to issues raised by other consultees and it is likely to be the case there will be some repetition in both letters. I have responded to each of the points raised in the RMS Letter below:

1. **Roads and Maritime Services has previously acquired land for road along the Henderson Street frontage of the subject property, as shown by blue colour and grey colour on the attached Aerial — "X", "Y" & "Z". Therefore, all buildings and structures together with any improvements integral to the future use of the site are wholly within the freehold property (unlimited in height or depth), along the Henderson Street boundary.**

Noted.

2. **Traffic generation in the Traffic & Transport Impact Assessment (TTIA) has been based solely on the number of proposed car parking spaces and not on the proposed land uses and GFA of the new buildings. It is expected that the retail component, childcare centres and gymnasium may not be solely patronised by workers on-site but also by residents of the local area who may drive to the site. An assessment of the traffic by land use should be carried out to determine if this changes the traffic generation.**

In the case of the subject site, there are parking spaces currently being used by existing commercial office uses so this would clearly give a better indication of current traffic generation rates in this location rather than quoting state-wide generic traffic generation rates from the RMS Guide to Traffic Generating Developments as is common practice.

The calculation was based upon the number of trips recorded from these existing parking spaces (586AM/415PM) divided by the number of occupied car parking spaces (718AM/665PM) thereby giving 0.81 and 0.62 trips per occupied parking space respectively in the AM/PM peak. Consequently the traffic generation calculation is based upon full utilisation of all car parking spaces upon occupation of the site.

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The total traffic generation for the proposed commercial use, as stated in the Transport Impact Assessment, is estimated to be 336/257 as stated in the traffic report.

As this is based upon the current travel patterns, it would be hoped that the sustainable location of the development and the measures being proposed would result in car use significantly lower than existing.

The 2002 RMS Guide to Traffic Generating Development states that for Office and commercial, the evening peak hour vehicle trips is 2 per 100 m<sup>2</sup> gross floor area. However, this guide is now out of the date and is currently being updated.

TD13/04a has refined this general traffic generation rate to 1.6 vehicle trips per 100 m<sup>2</sup> gross floor area in the morning peak and 1.2 per 100 m<sup>2</sup> gross floor area in the evening peak hour.

However TD13/04a was based upon 10 surveys of existing office blocks of which 8 were conducted within the Sydney urban area and one each in Newcastle and Wollongong. The Sydney sites provided a range of locations with two inner ring sites, four middle ring sites and two outer ring sites although it is noted that most had some level of access to the rail network.

However, by issuing the summary results in TD13/04a, this allows a comparison of the subject site to the most comparable RMS data. Furthermore, GTA undertook the RMS Study on office blocks in 2010 and the summary table attached as Appendix A allows a comparison to be undertaken between these sites and the subject site.

An inspection of this table reveals that the only site with significant parking restrictions (i.e. a low parking space to employee ratio) which in turn results in a low modal split to car that was anywhere near that proposed at ATP was the North Sydney office block. The North Sydney Office Block had an onsite parking per employee of 0.13 compared to the other 9 sites were all between 0.32 and 0.97 (average 0.69). This resulted in a similar modal split to car of 13% to car on the North Sydney site compared to a 69% average on the other sites.

In my view, therefore the most comparable site for comparison with the ATP site would be the North Sydney office block which has a much lower trip generation rate 0.17/0.14 vehicle trips per 100 m<sup>2</sup> gross floor area in the morning /evening peak respectively.

Using the TD13/04a trip rate of 0.17/0.14 peak hour trips per 100m<sup>2</sup>, the total traffic of/ the 102,542m<sup>2</sup> of commercial/office would be would be 174/143 (AM/PM) which is significantly less than that calculated by the existing use and subsequently used in the assessment by GTA.

In relation to development traffic arising from the proposed retail use, it is expected that development traffic arising from these uses would be negligible as the type of retail proposed for this development is expected to only service the local area and as such would generate the vast majority of its customs from walk-in pedestrians.

Similarly, the proposed gym and childcare centre uses would predominantly be patronised by employees working at the proposed development or other existing developments nearby such as the Channel 7 building and local residents within the proximity of the site. Finally it should be noted that there is publicly accessible parking available on street within Central Avenue, Davy Street and within the existing Media City (Chanel 7 Building).

3. **The traffic generation detailed in the TTIA does not include other modes of travel. The expected number of workers/visitors arriving by train or bus has not been specified. This is considered crucial in determining whether the existing and proposed bus services and rail services can meet the additional demand. These figures, together with proposals for new pedestrian access points at Redfern Station and linkages to the proposed Waterloo Sydney Metro Station, need to be considered in any consultation with transport stakeholders.**

Based upon the information contained in the traffic report, it is noted that there are:

- 600 cycle parking spaces, then somewhere around 6% of the trips might be made by bicycle.
- the restriction of on-site parking spaces is likely to result in an increase in use of public transport which will increase from the existing 42% to somewhere in excess of 80% (N.B. 75% can be achieved elsewhere in Sydney CBD).
- Car use is likely to be around 7%.
- Car share initiatives are likely to increase from its current 2%.

Although the modal split will be more accurately estimated when the detailed measures contained in Workplace Travel Plan are finalised, the following table gives a current estimate of the modal split.

**Table 1 – Estimated Modal Split**

Mode	% Use
Car driver	6
Car Passenger (car share)	1
Public Transport	80
Walk	8
Cycle	5

“Sydney’s Rail Future” is a long term plan to increase the capacity of Sydney’s rail network through investment in new services and upgrading of existing infrastructure. Work has already commenced to improve reliability and increase services across the network. Significant technology investments and upgrades will see more reliable and more frequent services. Sydney will also have a second crossing under the Harbour linking to a new CBD line and new stations, which will use rapid transit services that will also eventually operate on the Bankstown line and to Hurstville on the Illawarra line. This plan will eventually enable Sydney Trains to carry another 90,000 to 100,000 people per hour in the peak. Sydney’s Rail Future is an integral part of the NSW Long Term Transport Master Plan.

Furthermore, documents such as the 2014 State Infrastructure Strategy Update reiterate the need to provide land use changes, such as transit orientated

development around existing rail stations to increase access to the public transport system coupled with the major public transport infrastructure improvements currently being planned.

Consequently, whilst bus use at the subject site is comparatively low compared to rail use, the capacity of trains will be significantly increased in future years to allow development to occur in Transit oriented locations encouraged by Government.

It is also worth noting that studies associated with the proposed Sydney Metro station at Waterloo identify that it will "take pressure off Redfern and Green Square Stations." Furthermore, TfNSW has announced that "following the decision for a preferred station at Waterloo, Transport for NSW will now look into improving public transport at The University of Sydney through significant upgrades to Redfern Station and improved pedestrian connectivity through Redfern and Darlington associated with the Central to Eveleigh Urban Transformation Program".

There will be additional train users generated by the development and this is of course in line with Government Policy to maximise public transport use and minimise private car use, the pedestrian routes through the site and on approach to the station have been one of the primary drivers in the development of the on-site layout. The likely pedestrian flows and the capacity of the infrastructure to absorb them is reviewed in the ARUP pedestrian modelling report. However, some initiatives such as the Redfern Station upgrade will take place in the near future (noting that there are easements on the site to accommodate future works to facilitate the improvements).

Upgrades to the public domain contemplated through Mirvac's proposal also increase and improves the connectivity of ATP and surrounding suburbs to Redfern station.

4. **The childcare facilities for both the Community Building and Building 1 will generate a need for short term visitor parking close to the facilities. The traffic generation of these childcare centres has not been separately assessed and it is not clear how this parking provision is to be managed.**

The proposed childcare centre uses would predominantly be patronised by employees working at the proposed development or other existing developments nearby such as the Channel 7 building and local residents within the proximity of the site.

With regard to traffic generation, and as stated above, the traffic estimates used in the modelling have probably overestimated the traffic generated by the office development (possibly by as much as 160 trips in the peak hour) and even in this scenario the intersection performed acceptably. Any traffic generated by a child care could therefore be accommodated by the local road network.

The current proposal provides new short term parking and drop-off opportunities along both Central Avenue and Davy Street within close proximity of the new and existing retail, gymnasium and child care uses. It is proposed as part of the design development there will be a full assessment of the proposed demand of short term parking and drop off points which will subsequently reflect the final allocation.

5. **Loading facilities or accessible parking has not been considered for the Community Building, however with the expected uses of the building, such facilities would be required.**

As the eventual use of the Community Building is not yet fully planned, it is difficult to be too prescriptive at this stage as the operational requirements are not yet fully known. However, both loading facilities and the necessary accessible parking requirements will be provided.

Similarly to the child care facility, there will be parking/loading opportunities along the street but these have not been fully assessed. Notwithstanding this, it is noted that the scale of this building doesn't require for a loading dock and on-street loading would be appropriate.

6. **Modelling and analysis of the additional intersections has previously been requested by Transport for NSW. These intersections must include Gibbons Street / Wyndham Street / Boundary Street; Wyndham Street & Henderson Road and Henderson Road & Botany Road. It is noted in the TIA that this will be provided "under separate cover". Roads and Maritime requests the soft copy of these modelling files and the opportunity to comment further on these results.**

These intersections were assessed as requested by TfNSW and the letter dated 1st February 2016 summarising these results is attached to this letter as Appendix B. This letter concludes "the analysis indicates the assessed intersections would continue to operate satisfactorily in the future following the completion of the proposed development. In the future, the assessed intersections would continue to have the same level of service as that found under existing traffic conditions albeit the average intersection delay would marginally increase.

I trust the above is clear but please feel free to contact me should you require anything further.

Yours sincerely

**GTA CONSULTANTS**



**Ken Hollyoak**  
**Director (NSW)**  
Encl.

## Appendix A

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All Sites Trip and Parking Generation Analysis Summary Table 2010

Site	OB1	OB2	OB3	OB4	OB5	OB6	OB7	OB8	OB9	OB10	Average
Location	North Sydney	Chatswood	Sydney Olympic Park	Hurstville	Macquarie Park	Parramatta	Liverpool	Norwest	Newcastle	Wollongong	
Site Characteristics											
Address	Innovation Place, 100 Arthur St, North Sydney, NSW 2060	CSR, 9 Help Street, Chatswood, NSW, 2067	CBA, 2-4 Dawn Fraser Avenue, Sydney Olympic Park, NSW, 2127	33 McMahon Street, Hurstville NSW 2220	16 Giffnock Avenue, Macquarie Park NSW 2113	Sydney Water, 1 Smith St, Parramatta NSW 2150	13-15 Moore St, Liverpool NSW 2170	Argus Technologies, 10-12 Lexington Drive, Bella Vista NSW 2153	NIB Head Office, 22 Honeysuckle Drive, Newcastle NSW 2300	77 Market St, Wollongong NSW 2500	
Office Type	Multiple Tenants / Private Sector	Single Tenant / Public Sector	Single Tenant / Private Sector	Multiple Tenants / Private Sector	Multiple Tenants / Private Sector	Multiple Tenants / Private Sector	Multiple Tenants / Private Sector	Single Tenant/ Private Sector	Multiple Tenants / Private Sector	Single Tenant / Private Sector	
Year Constructed	2008	1990	2008	2003	2008	2009	2003	2004	2009	2009	
Primary Industry	Construction	Construction/Building	Banking/Finance	-	Energy	Service Provider / Water	Finance / Employment	Electrical Goods	Insurance / Engineering	Insurance	
Survey Date	8/12/2009	2/12/2009	25/11/2009	9/12/2009	10/02/2010	10/02/2010	3/12/2009	1/12/2009	4/02/2010	2/02/2010	
Survey Duration	7am-6:30am	7am-6:30am	7am-6:30am	7am-6:30am	7am-6:30am	7am-6:30am	7am-6:30am	7am-6:30am	7am-6:30am	7am-6:30am	
Accessibility Score	0.9	0.9	0.4	0.9	0.9	0.9	0.9	0.6	0.9	0.9	
Car Driver Mode Share	13%	42%	60%	78%	84%	32%	74%	97%	72%	78%	63%
Public Transport Mode Share	64%	43%	32%	2%	8%	52%	16%	3%	6%	3%	23%
GFA (m <sup>2</sup> )	31,400	10,214	34,131	3,254	5,748	27,000	2,817	1,200	12,182	12,921	14,087
Number of storeys	20	8	4	5	5	17	4	4	6	8	8
No. of employees on day of survey	1,129	347	2,053	85	240	1,225	88	32	490	300	599
Total No. Of Employees	1,136	397	2,400	95	240	1,400	99	34	490	380	667
Vehicle-based Trips											
Site AM Peak Hour	52	105	505	93	119	185	70	33	126	123	141
Trips per 100m <sup>2</sup>	0.17	1.03	1.48	2.86	2.07	0.69	2.49	2.75	1.03	0.95	1.55
Site PM Peak Hour	44	86	481	60	106	166	48	14	139	100	124
Trips per 100m <sup>2</sup>	0.14	0.84	1.41	1.84	1.84	0.61	1.70	1.17	1.14	0.77	1.15
Parking											
Total Parking Demand	148	166	1440	74	202	448	74	33	358	296	323.90
Total Parking Demand (Spaces per 100m <sup>2</sup> )	0.47	1.63	4.22	2.27	3.51	1.66	2.63	2.75	2.94	2.29	2.44
Total Parking Demand (1 space/m2 GFA)	213	61	24	44	28	60	38	36	34	44	41
On-site Parking per employee	0.13	0.42	0.60	0.78	0.84	0.32	0.75	0.97	0.73	0.78	41

## Appendix B

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1 February 2016

Mirvac Projects Pty Limited  
Level 26, 60 Margaret Street  
SYDNEY NSW 2000

**Attention: Mr Joseph Scuderi**

Dear Joseph

**RE: AUSTRALIAN TECHNOLOGU PARK, EVELEIGH  
ADDITIONAL TRAFFIC ANALYSIS**

As requested, GTA Consultants has conducted additional traffic analysis for a State Significant Development Application at the above site. This letter documents the analysis results for the consent authority further consideration.

## Background

In December 2015, GTA Consultants prepared a traffic assessment report to accompany a State Significant Development (SSD) Application in relation to a proposed commercial development at the Australian Technology Park site at Eveleigh.

The traffic assessment examined the traffic effects due to the proposed development at a number of nearby intersections. This involves the capacity analysis of the nearby intersections for existing and future traffic conditions.

Prior to the lodgement of the SSD application, a meeting was held with the representatives from Transport for NSW (TfNSW). In the meeting, TfNSW requested for additional intersection analysis to be conducted at the following intersections:

- Henderson Road-Wyndham Street
- Henderson Road-Botany Road
- Boundary Street-Wyndham Street, and
- Boundary Street-Botany Road.

## Traffic Surveys

Peak hour intersection turning movement counts were originally conducted in October 2015. Following the meeting with TfNSW, intersection turning movement counts were also conducted for the additional four intersections in December 2015.

The peak hour intersection turning movement flows for all intersections are shown in Figure 1 and Figure 2 for the existing and future traffic conditions respectively.

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Figure 1: Existing Condition Peak Hour Intersection Turning Movement Volumes

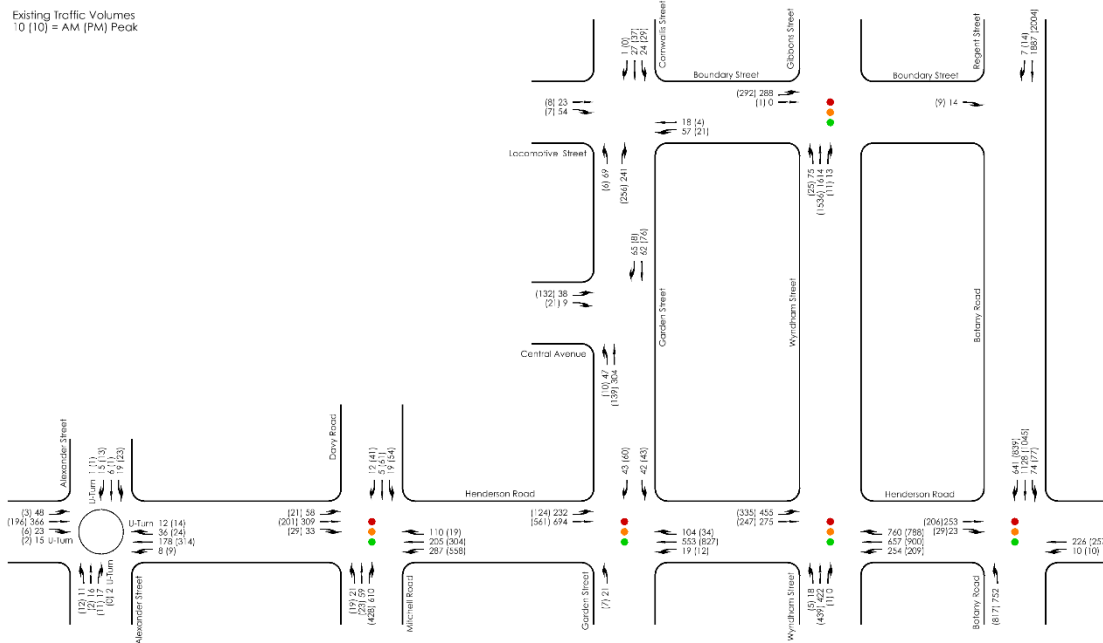
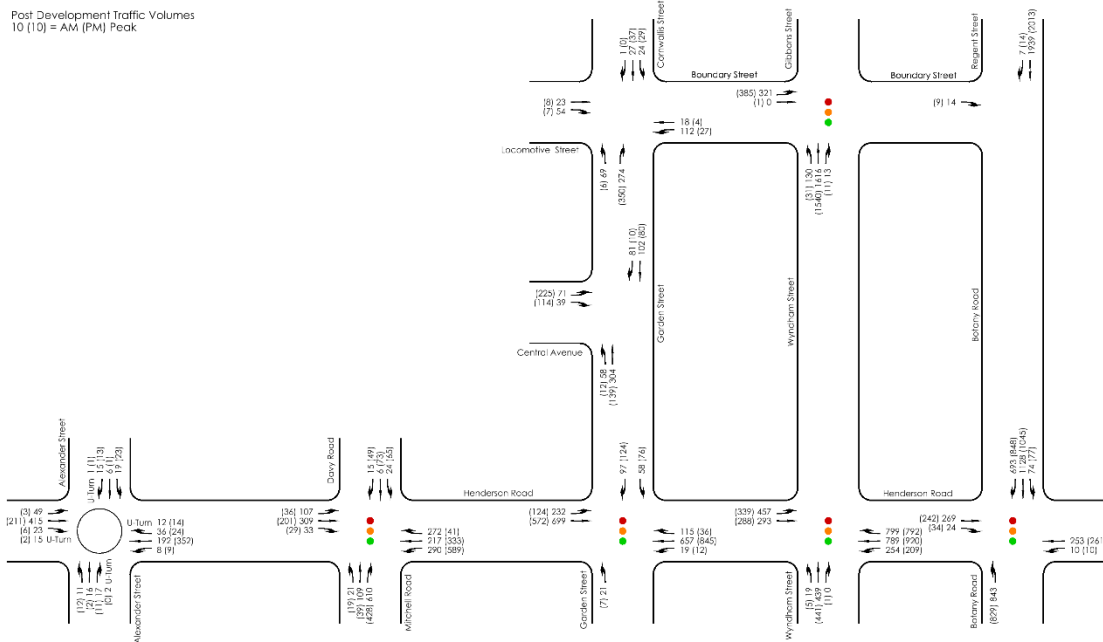


Figure 2: Future Condition Peak Hour Intersection Turning Movement Volumes



## Intersection Analysis Results

Consistent with the traffic analysis contained in the SSD application, the intersection analysis was conducted using SIDRA Intersection, a computer based modelling package.

RMS uses level of service to determine how efficient a given intersection is operating under prevailing traffic conditions. The level of service is directly related to delays that would be experienced by traffic travelling through an intersection.

Level of service (LoS) ranges from LoS A to LoS F. LoS A indicates good intersection performance. LoS D indicates the intersection is operating within capacity and is the long term desirable level of service. LoS E and LoS F indicate the intersection is operating at overcapacity and some form of intersection upgrade would be required to accommodate the additional development traffic.

The analysis results are presented in Table 1. For completeness, Table 1 includes the results from the original analysis.

**Table 1: Existing Condition Intersection Modelling Results**

Intersection	Type	Morning Peak Period		Evening Peak Period	
		Delay (sec)	LoS	Delay (sec)	LoS
Garden St-Henderson Rd	Signal	14	A	15	B
Mitchell Rd-Henderson Rd	Signal	41	C	41	C
Alexander St-Henderson Rd	Roundabout	12	A	10	A
Garden St-Central Ave	Give way	8	A	7	A
Garden St-Locomotive St	Stop	11	A	10	A
Henderson Rd/Wyndham St	Signal	43	D	43	D
Raglan St/Botany Rd	Signal	33	C	45	D
Boundary St/Wyndham St	Signal	14	A	15	B
Regent St/Boundary St	Priority	33	C	34	C

The analysis indicates the intersections assessed have satisfactory intersection performance under existing traffic conditions. The intersections are currently operating with acceptable level of service i.e. not worse than LoS D in either peak period.

The analysis results for future conditions are presented in Table 2.

**Table 2: Future Condition Intersection Modelling Results**

Intersection	Type	Morning Peak Period		Evening Peak Period	
		Delay (sec)	LoS	Delay (sec)	LoS
Garden St-Henderson Rd	Signal	15	B	17	B
Mitchell Rd-Henderson Rd	Signal	47	D	43	D
Alexander St-Henderson Rd	Roundabout	12	A	10	A
Garden St-Central Ave	Give way	8	A	7	A
Garden St-Locomotive St	Stop	11	A	10	A
Henderson Rd/Wyndham St	Signal	46	D	44	D
Raglan St/Botany Rd	Signal	36	C	49	D
Boundary St/Wyndham St	Signal	16	B	26	B
Regent St/Boundary St	Priority	35	C	35	C

The analysis indicates the assessed intersections would continue to operate satisfactorily in the future following the completion of the proposed development. In the future, the assessed intersections would continue to have the same level of service as that found under existing traffic conditions albeit the average intersection delay would marginally increased.

## Conclusion

From the analysis above, it is concluded that the nearby assessed intersections would continue to operate satisfactorily in the future following the completion of the proposed development.

Yours sincerely

**GTA CONSULTANTS**

**Michael Lee**  
Associate