

Transport Engineering

REF: N183633

DATE: 20 July 2020

Hansen Yunken
75-85 O'Riordan Street
ALEXANDRIA NSW 2015

Attention: Hang Nghiem (Design Manager)

Dear Hang

RE: MEADOWBANK TAFE MULTI-TRADES AND DIGITAL TECHNOLOGY HUB – RESPONSE TO SUBMISSIONS

Background

An updated Transport and Accessibility Impact Assessment (TAIA) dated 1 May 2020 was prepared by GTA Consultants (GTA) on behalf of TAFE NSW (the Applicant). It accompanied a Response to Submissions (RtS) that was prepared following the exhibition of the Environmental Impact Statement (EIS) in support of the State Significant Development Application (SSD 10349) for the new multi-trades and digital technology hub on the TAFE NSW Meadowbank campus.

The proposal involves a six-storey building in the north-eastern corner of the Meadowbank TAFE campus. The building will include workshops, workspace and learning spaces, as well as a two-level basement car park. The existing staff car park further south of the proposed multi-trades and digital technology hub, adjacent to Block J, will also be upgraded to a multi-storey car park to increase the total off-street parking provision for the campus.

Subsequent to the response to submissions being lodged, the Department of Planning, Industry and Environment (DPIE) has requested additional information in relation to several traffic and transport aspects. This letter has been prepared to specifically provide a response to additional submissions in this regard. The relevant submissions from DPIE have been reproduced below together with detailed responses.

Response to Submissions

DPIE comment: An updated Travel Plan is required that includes a breakdown of the proposed mode share target for all modes (car, drop off, bus, train, ferry, motorcycle, cycle and walking) and that clarifies the timeframes for achieving the target mode share shifts.

GTA response: Table 1 below sets out the mode share targets for each mode of travel recorded to the Meadowbank TAFE campus for both staff and students. Some of the mode share targets relate external measures that rely on other stakeholder including Local and State Government Agencies to improve broader active travel links to the site – something that is currently being developed as part of the Meadowbank Education and Employment Precinct Master Plan. Notwithstanding, increasing the mode share for public transport and away from travel by car towards the targets is expected to be achieved in a 5-10 year period, noting that the staff and student forecasts are a 10-year horizon.

Table 1: Existing and targeted mode share

Mode	Existing mode share		Target mode share	
	Staff (per cent)	Students (per cent)	Staff (per cent)	Students (per cent)
Car	74	42	60	30
Kiss-and-ride	0	3	5	5
Bus	1	4	4	8
Train	19	41	24	45
Ferry	0	1	0	1
Motorcycle	2	1	2	1
Cycle	1	0	2	2
Walk	3	8	3	8
Total	100%	100%	100%	100%

DPIE comment: In the Transport and Accessibility Impact Assessment (TAIA), the Level of Service (LoS) noted in intersection performance Tables 9.7 and 9.8 are inconsistent with the LoS noted in tables 9.11 and 9.12. Confirm which is correct and provide an updated TAIA.

GTA response: GTA has reviewed intersection performance summary tables and corrected any inconsistencies, with updated tables provided in Attachment 1. There is no impact on the outcome and conclusions of the TAIA.

DPIE comment: Provide an assessment of the proposed conversion of the eight existing on-street car parking spaces on See Street to pick-up/drop-off bays. Including:

- *the need / demand for such a facility.*
- *why such a facility cannot be provided on-site within the TAFE Campus.*
- *consideration of the impact on availability of on-street car parking spaces and the potential increase of parking pressure on surrounding streets.*
- *the likely ongoing use of the former childcare centre See Street on-street (15min) pick-up/drop-off bays and whether they could be used for pick-up/drop-off purposes instead of further reducing on-street bays.*

GTA response: To clarify, it is proposed that the pick-up and drop-off area which is currently located adjacent to the childcare centre on See Street be relocated further north (closer to the pedestrian entrance to the new multi-trades and digital technology hub) and extended in length slightly to increase its capacity by around four vehicles. The existing 1/4P parking restrictions for this pick-up and drop-off area allow parents/ carers to park and walk in or collect their child from the childcare. Given the change in use (removal of child care centre and focus on TAFE staff and student drop-off activity), it is proposed that this restriction be changed to 'no parking' which allows for vehicles to stand for up to two minutes to pick-up and drop-off passengers.

It is envisaged that the kerbside restrictions where the existing childcare pick-up and drop-off area is would be changed to allow for kerbside parking. It recommended that

a 2P parking restriction is implemented in this regard, with exemptions for residents, consistent with the eastern side of See Street. This would reduce the immediate on-street parking supply available to TAFE staff and students and encourage a mode shift towards sustainable modes of transport. An indicative plan of the kerbside restrictions along the See Street frontage of the multi-trades and digital technology hub is shown in Figure 1. Meadowbank TAFE currently does not have a formal pick-up and drop-off area for the campus. As can be appreciated, educational facilities including schools, universities and TAFE facilities often experience a level of pick-up and drop-off activity, which has the ability to reduce parking demand if planned appropriately. This is also evident for the Meadowbank TAFE campus from the existing mode share surveys for students.

The increase in capacity for the pick-up and drop-off area from four spaces for the existing childcare to eight spaces for the multi-trades and digital technology hub seeks to encourage pick-up and drop-off activity which is currently relatively low due to the lack of facilities at Meadowbank TAFE. By encouraging staff and students to be picked-up and/ or dropped-off instead of driving, this in itself increases car occupancy, reduces car parking demand associated with the TAFE and also will likely reduce the number of vehicles on the surrounding road network as many staff and students would be travelling in vehicles that may have been already on the road network anyway.

It is recognised that on-street parking in the area is in high demand throughout the day. However, the loss of four on-street spaces in the context of the total available on-street parking supply in the area is considered minor. Further to this, while the pick-up and drop-off area is proposed to be located adjacent to the multi-trades and digital technology hub, it will accommodate activity associated with the whole TAFE Campus. It will also move some of the pick-up and drop-off activity currently occurring informally outside residential driveways and near Meadowbank Station to a formal location. As part of the travel plan, a lower private vehicle mode share is also being targeted which will result in a lower parking demand, therefore likely offsetting the loss of four on-street parking spaces.

On-site pick-up and drop-off areas are not ideal as they increase the concentration of traffic around vehicles accesses to the site, increase the number of conflict points with vehicles and pedestrians, reduce the efficiency of the pick-up and drop-off activity and are less desirable to use as they result in a slower and longer detour for the driver. Further to this, the TAFE has limited area on the campus to provide such a facility on-site, with both development sites for the multi-trades and digital technology hub and the new multi-storey car park being largely built out to the boundaries of the site.

Figure 1: Indicative plan of kerbside restrictions along See Street frontage of the multi-trades and digital technology hub



DPIE comment: Confirm whether construction vehicle loading/unloading will occur:

- on-site or within an on-street works zone for the Car Park?
- only within the on-street works zone for the Hub Building?

GTA response: It is anticipated that construction vehicle loading/ unloading will occur on-site during the early stages of construction, however given the limited available area on the multi-storey car park site, it is anticipated that an on-street works zone would be required to accommodate the delivery of materials for the main construction works.

The multi-trades and digital technology hub site has the option of accommodating deliveries on-site in the location of the proposed access road along the northern boundary of the site. As such, it is not envisaged a works zone would be required for this site.

DPIE comment: Confirm whether the Hub and Car Park buildings would be constructed in stages or at the same time.

GTA comment: It is planned for both buildings to be constructed at the same time. A detailed Construction Traffic and Pedestrian Management Plan will be prepared prior to construction and will seek to minimise the cumulative traffic impact of construction of both sites at the same time as much as possible (e.g. coordination of concrete pours) with consideration also to the neighbouring MEEPSP construction site.

DPIE comment: Clarify fees charged for staff and students and respond to the concern raised in public submission that students should be exempt from parking fees to reduce pressure on (free) on-street parking.

GTA comment: Students are currently charged \$4 per day if they are members of the Students Association and \$8 per day if they are not members, while staff are charged \$25 per year to park on-site at Meadowbank TAFE.

Fees are charged for on-site car parking to discourage driving to TAFE and encourage other modes of travel including public transport and active travel. That said, as detailed in Section 3.6 of the TAlA, parking demand surveys indicate the on-site car parks are fully occupied by 9am on weekdays and therefore removing on-site parking fees would not result in a reduced on-street parking demand. Rather, this could actually cause more people to drive and therefore result in a higher on-street parking demand once the on-site car parks reach capacity.

I trust the above provides the necessary information. Should you have any questions or require any further information, please do not hesitate to contact me on (02) 8448 1800.

Yours sincerely

GTA CONSULTANTS



Brett Maynard
Director

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Attachment 1 - Updated SIDRA Modelling Results

ATTACHMENT 1

Updated SIDRA Modelling Results

Table 2: Intersection performance for future base scenario – 2022 AM

Intersection	Control	Degree of Saturation	Average delay (seconds)	Average queue (metres)	Level of Service
Macpherson Street/ Mellor Street	Priority	0.04	5	0	A
Macpherson Street/ See Street	Priority	0.05	5	0	A
Macpherson Street/ Bowden Street	Priority	0.26	15	2	B
Bowden Street/ Squire Street	Roundabout	0.14	9	2	A
Constitution Road/ Bowden Street	Signals	0.73	18	56	B
Victoria Road/ Bowden Street	Signals	1.27	47	358	D
Victoria Road/ Hermitage Road	Signals	1.21	51	478	D
Bowden Street/Stone Street	Priority	0.07	12	1	A
Constitution Road/ Belmore Street	Signals	0.76	18	63	B
Church Street/ Morrison Road	Signals	1.12	21	164	B
Banks Street/ Bay Drive/ Railway Road	Roundabout	0.11	11	2	A
See Street/ Angas Street	Priority	0.05	6	1	A

Table 3: Intersection performance for future base scenario – 2022 PM

Intersection	Control	Degree of Saturation	Average delay (seconds)	Average queue (metres)	Level of Service
Macpherson Street/ Mellor Street	Priority	0.04	5	0	A
Macpherson Street/ See Street	Priority	0.03	6	0	A
Macpherson Street/ Bowden Street	Priority	0.26	12	2	A
Bowden Street/ Squire Street	Roundabout	0.13	10	2	A
Constitution Road/ Bowden Street	Signals	0.76	22	52	B
Victoria Road/ Bowden Street	Signals	0.83	23	231	B
Victoria Road/ Hermitage Road	Signals	1.26	44	467	D
Bowden Street/Stone Street	Priority	0.05	10	1	A
Constitution Road/ Belmore Street	Signals	0.90	29	66	C
Church Street/ Morrison Road	Signals	0.98	17	153	B
Banks Street/ Bay Drive/ Railway Road	Roundabout	0.19	11	3	A
See Street/ Angas Street	Priority	0.03	6	1	A

Table 4: Intersection performance for future base scenario – 2032 AM

Intersection	Control	Degree of Saturation	Average delay (seconds)	Average queue (metres)	Level of Service
Macpherson Street/ Mellor Street	Priority	0.04	5	0	A
Macpherson Street/ See Street	Priority	0.05	5	0	A
Macpherson Street/ Bowden Street	Priority	0.31	19	2	B
Bowden Street/ Squire Street	Roundabout	0.92	12	18	A
Constitution Road/ Bowden Street	Signals	0.83	26	107	B
Victoria Road/ Bowden Street	Signals	1.45	70	367	E
Victoria Road/ Hermitage Road	Signals	1.50	78	554	F
Bowden Street/Stone Street	Priority	0.08	13	1	A
Constitution Road/ Belmore Street	Signals	0.85	19	81	B
Church Street/ Morrison Road	Signals	1.24	26	215	B
Banks Street/ Bay Drive/ Railway Road	Roundabout	0.12	11	2	A
See Street/ Angas Street	Priority	0.05	6	1	A

Table 5: Intersection performance for future base scenario – 2032 PM

Intersection	Control	Degree of Saturation	Average delay (seconds)	Average queue (metres)	Level of Service
Macpherson Street/ Mellor Street	Priority	0.04	5	0	A
Macpherson Street/ See Street	Priority	0.03	6	0	A
Macpherson Street/ Bowden Street	Priority	0.27	13	2	A
Bowden Street/ Squire Street	Roundabout	0.14	10	2	A
Constitution Road/ Bowden Street	Signals	0.83	27	72	B
Victoria Road/ Bowden Street	Signals	0.99	36	335	C
Victoria Road/ Hermitage Road	Signals	2.00	92	550	F
Bowden Street/ Stone Street	Priority	0.05	11	1	A
Constitution Road/ Belmore Street	Signals	1.01	42	109	C
Church Street/ Morrison Road	Signals	1.08	20	153	B
Banks Street/ Bay Drive/ Railway Road	Roundabout	0.20	12	4	A
See Street/ Angas Street	Priority	0.03	6.00	1.00	A

* Average back of queue calculation has been restricted to the available queue storage space

Table 6: Intersection performance for future with development scenario - 2022 AM

Intersection	Control	Degree of Saturation	Average delay (seconds)	Average queue (metres)	Level of Service
Macpherson Street/ Mellor Street	Priority	0.04	6	1	A
Macpherson Street/ See Street	Priority	0.05	6	1	A
Macpherson Street/ Bowden Street	Priority	0.34	18	2	B
Bowden Street/ Squire Street	Roundabout	0.26	9	2	A
Constitution Road/ Bowden Street	Signals	0.63	17	52	B
Victoria Road/ Bowden Street	Signals	1.30	54	383	D
Victoria Road/ Hermitage Road	Signals	1.21	68	595	E
Bowden Street/Stone Street	Priority	0.07	12	1	A
Constitution Road/ Belmore Street	Signals	0.76	17	63	B
Church Street/ Morrison Road	Signals	1.12	21	164	B
Banks Street/ Bay Drive/ Railway Road	Roundabout	0.11	11	2	A
See Street/ Angas Street	Priority	0.05	6	1	A

Table 7: Intersection performance for future with development scenario - 2022 PM

Intersection	Control	Degree of Saturation	Average delay (seconds)	Average queue (metres)	Level of Service
Macpherson Street/ Mellor Street	Priority	0.05	6	1	A
Macpherson Street/ See Street	Priority	0.05	6	0	A
Macpherson Street/ Bowden Street	Priority	0.40	14	4	A
Bowden Street/ Squire Street	Roundabout	0.13	10	2	A
Constitution Road/ Bowden Street	Signals	0.76	22	52	B
Victoria Road/ Bowden Street	Signals	1.02	27	250	B
Victoria Road/ Hermitage Road	Signals	1.21	53	499	D
Bowden Street/Stone Street	Priority	0.05	10	1	A
Constitution Road/ Belmore Street	Signals	0.90	29	66	C
Church Street/ Morrison Road	Signals	0.98	17	153	B
Banks Street/ Bay Drive/ Railway Road	Roundabout	0.19	11	3	A
See Street/ Angas Street	Priority	0.03	6	1	A

Table 8: Intersection performance for future with development scenario - 2032 AM

Intersection	Control	Degree of Saturation	Average delay (seconds)	Average queue (metres)	Level of Service
Macpherson Street/ Mellor Street	Priority	0.04	6	1	A
Macpherson Street/ See Street	Priority	0.06	7	1	A
Macpherson Street/ Bowden Street	Priority	0.54	28	4	B
Bowden Street/ Squire Street	Roundabout	0.97	19	30	B
Constitution Road/ Bowden Street	Signals	0.84	28	116	B
Victoria Road/ Bowden Street	Signals	1.56	87	401	F
Victoria Road/ Hermitage Road	Signals	2.36	128	723	F
Bowden Street/Stone Street	Priority	0.08	13	1	A
Constitution Road/ Belmore Street	Signals	0.85	19	81	B
Church Street/ Morrison Road	Signals	1.25	26	217	B
Banks Street/ Bay Drive/ Railway Road	Roundabout	0.12	11	2	A
See Street/ Angas Street	Priority	0.05	6	1	A

Table 9: Intersection performance for future with development scenario - 2032 PM

Intersection	Control	Degree of Saturation	Average delay (seconds)	Average queue (metres)	Level of Service
Macpherson Street/ Mellor Street	Priority	0.05	6	1	A
Macpherson Street/ See Street	Priority	0.06	7	1	A
Macpherson Street/ Bowden Street	Priority	0.59	20	7	B
Bowden Street/ Squire Street	Roundabout	0.14	11	2	A
Constitution Road/ Bowden Street	Signals	0.84	28	73	B
Victoria Road/ Bowden Street	Signals	1.13	38	314	C
Victoria Road/ Hermitage Road	Signals	1.84	120	550	F
Bowden Street/Stone Street	Priority	0.05	12	1	A
Constitution Road/ Belmore Street	Signals	1.01	43	112	D
Church Street/ Morrison Road	Signals	1.09	20	153	B
Banks Street/ Bay Drive/ Railway Road	Roundabout	0.21	12	4	A
See Street/ Angas Street	Priority	0.03	6	1	A

Table 10: Intersection performance level of service summary - AM

Intersection	Control	Future Base	Future with Development	Future Base	Future with Development
		2022	2022	2032	2032
Macpherson Street/ Mellor Street	Priority	A	A	A	A
Macpherson Street/ See Street	Priority	A	A	A	A
Macpherson Street/ Bowden Street	Priority	B	B	B	B
Bowden Street/ Squire Street	Roundabout	A	A	A	B
Constitution Road/ Bowden Street	Signals	B	B	B	B
Victoria Road/ Bowden Street	Signals	D	D	E	F
Victoria Road/ Hermitage Road	Signals	D	E	F	F
Bowden Street/Stone Street	Priority	A	A	A	A
Constitution Road/ Belmore Street	Signals	B	B	B	B
Church Street/ Morrison Road	Signals	B	B	B	B
Banks Street/ Bay Drive/ Railway Road	Roundabout	A	A	A	A
See Street/ Angas Street	Priority	A	A	A	A

Table 11: Intersection performance level of service summary - PM

Intersection	Control	Future Base	Future with Development	Future Base	Future with Development
		2022	2022	2032	2032
Macpherson Street/ Mellor Street	Priority	A	A	A	A
Macpherson Street/ See Street	Priority	A	A	A	A
Macpherson Street/ Bowden Street	Priority	A	A	A	B
Bowden Street/ Squire Street	Roundabout	A	A	A	A
Constitution Road/ Bowden Street	Signals	B	B	B	B
Victoria Road/ Bowden Street	Signals	B	B	C	C
Victoria Road/ Hermitage Road	Signals	D	D	F	F
Bowden Street/Stone Street	Priority	A	A	A	A
Constitution Road/ Belmore Street	Signals	C	C	C	D
Church Street/ Morrison Road	Signals	B	B	B	B
Banks Street/ Bay Drive/ Railway Road	Roundabout	A	A	A	A
See Street/ Angas Street	Priority	A	A	A	A