Moorebank Precinct East - Stage 2 Proposal, Environmental Impact Statement, Part 4, Division 4.1, State Significant Development, December 2016

Narelle and Paul van den Bos make this plea to all professionals who will evaluate our submission:
Please be true to your profession.
You are trained as a professional and therefore have a professional duty and responsibility to to our society to make this a better world.

This frees you up from reporting the facts, and not hide behind the truth, but know your limitations of your knowledge.

Let the politicians do what we elect them to do.

Quote: "Ideally located near the M5, M7 and M31 – Hume Highway"

Moorebank Avenue has an accident rate that is over **20 times higher** than the RMS definition of a Black Spot [*reference page 69*]. All (100%) of the Moorebank Intermodal traffic will use this link.

The M5 Motorway between Heathcote Road and Hume Highway has an accident rate that is **40 times higher** than the RMS guideline. [*reference 013 Moorebank IMT Project_ Chapter 11_ Traffic, transport and access.pdf, Parsons Brinckerhoff 11-16*] About 75% (85% for MICL) of Moorebank Intermodal will use this section on the M5 Motorway. This statistic was derived before the M5 Widening. It is universally accepted that the M5 Widening will result in more traffic – hence more accidents.

The section of the Hume Highway, between Hoxton Park Rd and Orange Grove Road, [*ABC news*]is **Sydney's worst crash site.** About 25% (average of SIMTA and MICL) of the Intermodal traffic will use that section of the Hume Highway.

SIMTA EIS tabulated two fatal crashes. The NSW Government costs a fatal crash at about $6.5 million per fatality, and about $136,000 per injury crash.

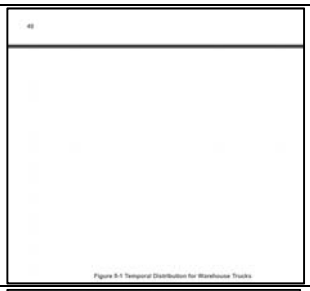
SIMTA EIS documents show that there has been a 20% increase in injuries, and a 20% increase in heavy vehicle crashes. [*ref SIMTA EIS August 2011, March 2015, Oct 2016 & Dec 2016*]. Despite changing the crash study boundary, the trend clearly shows an increasing rate of heavy vehicle crashes.

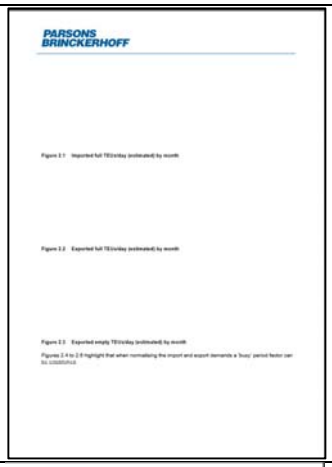
Quote: "While the Proposal's upgrades of Moorebank Avenue and the associated intersection works would improve Moorebank Avenue to current Road and Maritime Standards and improving overall road safety, the net impact of the Proposal's traffic would still result in an increase from 10.2 crashes per year to 12.1 crashes per year." [*Page 70*] This would **increase the new crash rate to 27 times higher** than the RMS guideline.

Quote: "With the Proposal, the crash rate on Cambridge Avenue is forecast to increase by approximately 0.3 crashes per year". [*Page 70*] When converted to crashes per km per year, this increase alone, is sufficient to make this section an RMS "black spot".

How many more times do we have to read that the Moorebank Intermodal site is ideally located close to the M5, M7 and M31 Hume Highway?

This Proposal is incomplete.

[Page 48] Figure 5-1 shows the temporal profile for the warehouse truck generation assumed for the Proposal.	
[Page 49] Figure 5-2 shows the hourly car generation profile for the Proposal with three shifts per day. The hourly data shows that the AM and PM peak hour for car movements will occur at 5-6 am and 9-10 pm with an inter-peak period occurring at 1-2 pm.	
[Page 50] Figure 5-3 shows the estimated truck (including semi-trailers, B-doubles and rigid trucks) distribution of the Proposal on roads and intersections in the study area road network in the AM peak.	
Page 51: Figure 5-4 shows the trip distribution for light vehicles in the AM peak. The majority of light vehicle traffic associated with the Proposal are forecast to travel to the Proposal site via Moorebank Avenue.	
[Page 73] Where is Figure 5-8 Proposed Pedestrian and Cyclist Connectivity?	
TRAFFIC GENERATION AND UNDERLYING ASSUMPTIONS (WSP | PARSONS BRINKERHOFF)	

Page 92 – not numbered		
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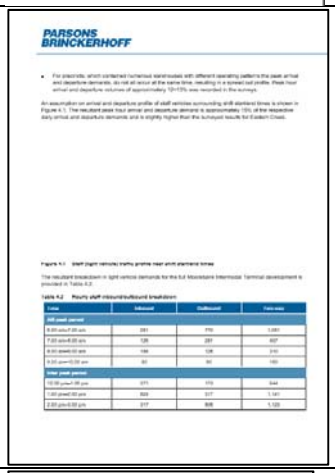
Page 99 – not numbered		
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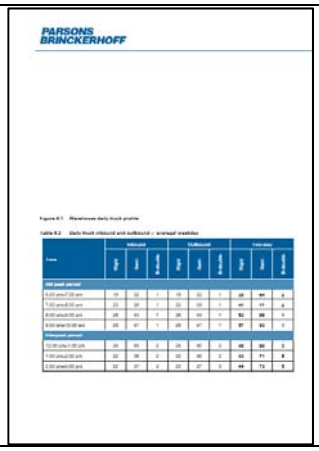
Page 106 – not numbered	

Where are the modelled results for the wider network?

Examination of the access to the M5, M7 and M31 Hume Highway

Issue

[*SIMTA EIS March 2011, Moorebank Intermodal Terminal Facility (MITF)—Traffic and Transport, page 50, Section 3.3.3 Exiting Network Operation Issues*], quote: "**any further increase on demand from both future background and SIMTA traffic at these intersctions should be investigated thoroughly".** The figure highlighted the M-5 Weaving Section.

Thus far, seven years later, this has yet to be accomplished.

Modelling

SIMTA used the Paramics software to model this.
SIMTA's first battle was to load all the base trips into the model, but found that the network was so congested that in the PM model some 757 vehicles could not enter the base network.

SIMTA tried "ramp-metering", (signals on the M5 off ramps to control the traffic weaving onto the M5 Motorway) it that was unsuccessful on many grounds.

HCM 2000, HCM 2010, RTA weaving algorithm

SIMTA and MICL used the US Highway Capacity Manual (HCM) 2000 to model the weaving movement. Both showed that there was no real weaving issue on the M5 Bridge over the Georges River.

A simple review from those results showed that the SIMTA and MICL results have an implied speed on the M5 Bridge of about 100 km/hr. This contrasts starkly, with SIMTA's own survey results of the speed. SIMTA documented that the surveyed speed was between 50km/hr - 60km/hr.

It has been universally acknowledged that the HCM 2000 calculations produces inappropriate results for weaving on Freeways and Motorways. The RTA developed its own algorithms for these calculations. In the meantime, the US Government collaborated with many universities to develop HCM 2010. Around 2005, academics produced papers about the new methodology, and software companies started to implement the new algorithms.

Now, six years after releasing the first EIS, and consultants are using the HCM 2010, or HCM 2015, SIMTA has not yet released any weaving calculation.

How is this weaving going to be resolved?

The community is anxiously awaiting how the Proponents, in conjunction the NSW Government, is going to resolve the traffic weaving on the M-5 Motorway.

The challenge is that this movement has to be achieved without causing too many more accidents. [see above: the crash rate is 40 higher than the RMS guideline for a "black spot". Remember, those statistics were generated before the M-5 widening, which is widely expected to generate more traffic on the M-5].

Network upgrade costs

[*Page 75*] Quote:" The study found that the broader road network in the study area needs to be upgraded to provide increased capacity to cater for the forecast increases in traffic volumes which will result from the general growth in background traffic and cumulative development. An area wide network improvement strategy is needed to ensure the desired functionality of the network of motorways, arterials, collector and local roads in the study area is achieved and provide safe and efficient traffic dispersal."

In addition, the community is anxiously waiting for the costs of network upgrades that are identified in the report.

RMS model

The current model developed by the NSW Government and used by the proponent, uses the "yellow box" feature. A "yellow box" is a mathematical feature that effective stops vehicles from entering an intersection, unless there is a big enough gap. These "yellow boxes" are typically used in special circumstance, for example, special provisions for pedestrians to cross the road, or at intersections that have the "do not queue across the intersection signs". In more complex situations, where vehicles could block an intersection which would result in other traffic being blocked as well. If that were the case, blocking an intersection stops that other traffic flow, and this effect would spread through the network. In those cases, the "yellow box" is also implemented.

The SIMTA EIS reports that some of those "yellow box" intersections are placed in the middle of suburbia, away from the main roads. Why? This gives the impression that in those locations, the network is poorly coded network, or the travel demand has been badly manufactured, or there are some software issues.

In any case, if the model has to implement such special measure is some normal suburban environments, it does not breed great confidence. How does the model deal with the more complex calculations of the weaving and merging on the M-5?

Modelling

On behalf of our community, we have undertaken preliminary modelling of some of the possible options to resolve the Moorebank Intermodal traffic issue. This sub group guiding us, consists of local residents who have worked in the logistics and transport field, and operate local companies which move "boxes". The committee is keen to examine the modelled results undertaken by the Proponent and NSW Government.

In summary

- Be honest to yourself and your profession, when you have to respond to these comments
- Consider the health and safety of local residents
- Why is the Proponent not providing "information"?

Kind regards
Narelle and Paul van den Bos

PS
Below are more details of the short comings of this report.

Mr Owers is leaving himself wide open for criticism.
Mr Yong has a very unconventional approach to traffic engineering.

This next section is depressing.

One of the foundational pillars for the Moorebank Intermodal is its strategic location – it would to utilise existing and future metropolitan, State and National rail freight and road networks, including the SSFT and the M5 and M7 Motorways.

Why is the traffic reports covering the Cambridge Avenue?
Is there a shift away from the M5 to Cambridge Avenue? Why is there a shift away from accessing the M-5? If there is a reason, for this shift of think – please spell it out.

As far as our community is concerned, this new thinking goes against more than eight years of constant indoctrination by the Federal Government and State Government of both sides of politics. The community has been assured, on several occasions, that this Cambridge Avenue option will never be considered.

Another foundational pillar for the Moorebank Intermodal is that it will result in "taking 2,700 trucks off the M5 between Port Botany and Moorebank", and will result in reducing traffic congestion, accidents pollution etc.

Quote: "Assist with alleviating freight-related congestion between Port Botany and Moorebank, particularly along the M-5 Motorway"

To this very day, SIMTA has not been willing, or able to supply the community with traffic counts showing that there are 2,700 truck (in 2010) travelling on the M-5 between Port Botany and Moorebank.

For the record, neither has Moorebank Project Office, MICL or NSW Government willing or able to provide a copy of those traffic counts. We even approached PAC for assistance in acquiring a copy of these traffic counts.

If these trucks are not travelling on the M-5 between Port Botany and Moorebank, there can be no mode-shift from truck-to-rail. It also follows that there can be no benefits from decongestion, reduction of pollution and noise on the M-5 nor a reduction of accidents on the M-5.

The EIS claims that since the warehousing will be on-site, that it will reduce the truck trips.

This raises two groups of questions.

Group 1

Almost 45% of Port Botany's containers are destined for Wetherill Park. Moorebank is simply another link in the supply chain.

ARTIC, 2015-2024 Sydney Metropolitan Freight Strategy, October 2013, on page 16, makes a startling statement regarding the economics of such an activity. Firsts Things First, The State Infrastructure Strategy 2012-2015, page 124, also made a recommendation regard this activity. These are commercial decision outside our comments.

The fact remains: these containers will be transhipped from Moorebank to Wetherill Park, via the M5 and M7. Effectively, these truck movements start from Moorebank rather than from Port Botany. Both SIMTA and MICL have made estimates of these truck movements, and they hover around 45% of all the Intermodal truck movements.

Why is it so important for Mr Owers to disguise this fact that these Wetherill Park trucks start from Moorebank, rather than from Port Botany?

Group 2

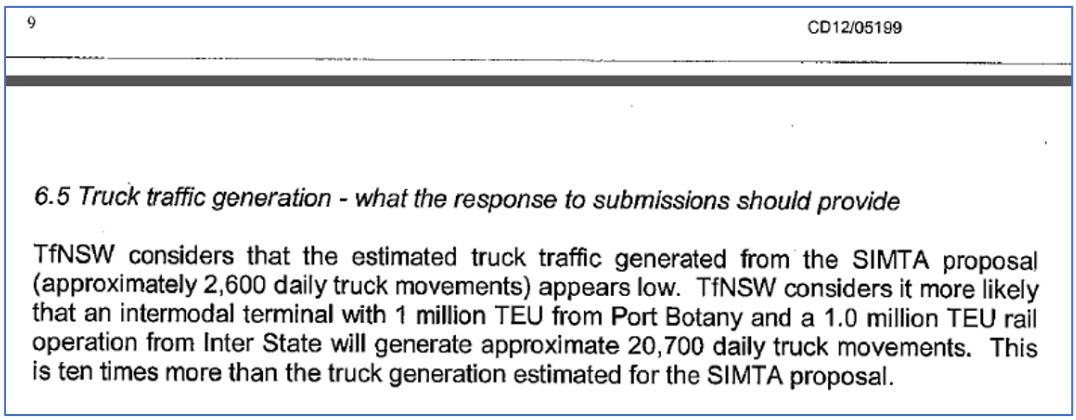
Simple questions

- What happens when the warehouses are full?
- Will the Intermodal stop its operation, or will new trucks or light commercial vehicles come and empty the warehousing?

It that is the case, then there will be many trucks and light commercial vehicles travelling to and from the Moorebank Intermodal – these trucks and light commercial vehicles will empty the warehousing.

Estimate of truck generation

In the TfNSW response, reference CD 12/05199 page 10, it estimates that for a 2 million TEU intermodal, the truck trips are more than 10 times the SIMTA estimates.



9 CD12/05199

6.5 Truck traffic generation - what the response to submissions should provide

TfNSW considers that the estimated truck traffic generated from the SIMTA proposal (approximately 2,600 daily truck movements) appears low. TfNSW considers it more likely that an intermodal terminal with 1 million TEU from Port Botany and a 1.0 million TEU rail operation from Inter State will generate approximate 20,700 daily truck movements. This is ten times more than the truck generation estimated for the SIMTA proposal.

How does this statement compare with Mr Owers statements?

Reduction on accidents

The PR pitch is that the Intermodal will reduce accidents, and is found in almost every report and brochure.

Existing accidents

This table below shows the accident data reported in SIMTA EIS documents.

	SIMTA EIS August 2011	SIMTA EIS March 2015		SIMTA Oct 2016 & Dec 2016
Years of data analysis	2004 - 2009	2009 – 2013	Note: 2012 M5 widening – more traffic – higher density	1st July 2010 – 30th June 2015
Number analysed	**559**	**524**		**444**
Fatalities	3	0		2
Injuries	240	284	Nearly 20% increase	210
Heavy vehicle crashes	59	71	Over 20% increase	
articulated vehicles	**26**	**31**		**27**
Light Commercial vehicles	106	111		
Cars	520 (93%?)	487 (93%?)		
Total vehicles	685	669		

SIMTA did not provide any reason for the reduction in number of accidents analysed in the latest EIS documents: down from 559-524 to 444. This represents about a 20% reduction in accidents. In a technical report, should there be some explanation for this reduction?

However, even with this 20% reduction, it cannot hide that as a proportion the articulated vehicle accidents are higher now, than ever before.

It is easy to hypnotise why SIMTA is now reporting on a smaller study area: the MICL EIS shows that the accident rate on the M5 between Heathcote Rd and Hume Highway is 40 times higher than the RMS guidelines for black spots.

Future accidents

Both SIMTA and MICL have estimate that about 75% - 85% of the Intermodal traffic will use this "black spot". In addition, both SIMTA and MICL estimate that about 25% of the Intermodal traffic will traverse Sydney's worst crash site.

How do these facts compare to the PR pitch that Moorebank Intermodal will reduce accidents?

Provide freight distribution opportunities in a strategically appropriate location, and in turn, provide employment opportunities and associated economic and social benefits in Western and South-Western Sydney.

As for being strategically located, less than 6% of Port Botany's freight is destined for Liverpool.

Any professional person who has worked in land use planning or transportation understands that Intermodal terminals are one of the most automated industries, and would know that any other land use will create many more jobs. Especially, land fronting a River and so close the a CBD.

As for social benefits, the SIMTA EIS does not show the distance from the Intermodal on a map.

- Is this for fear of being criticised for wrong measurements?
- Why did the maps not highlight the large section of housing between Moorebank and Wattle Grove?

We encourage Mr Owers to carefully, re-read what he signed, and have a serious think about his professional morals and ethics.

“I certify that I have prepared the contents of this EIS in accordance with the Secretary’s Environmental Assessment Requirements (SEARs) (Ref SSD 16-7628) dated 27 May 2016 and amended 24 November 2016, and that to the best of my knowledge, the information contained within this EIS is not false or misleading.” signed, Westley Owers.

Maybe Mr Owers should inform himself more.

Michael Yong’s unconventional traffic engineering approach

SIMTA SYDNEY INTERMODAL TERMINAL ALLIANCE, Part 4, Division 4.1, State Significant Development, December 2016, report: “2016-12-13 MPES2 EIS_App Kb_Operational Traffic and Transport Impact Assessment.pdf” by MICHAEL YONG, Integrated Transport Planning, Manager

Intersections

Mr Yong reports the impacts at key intersections as percentage increases in traffic.

Every traffic engineer knows that at intersections there is a highly non-linear relationship between average wait time and traffic flow.

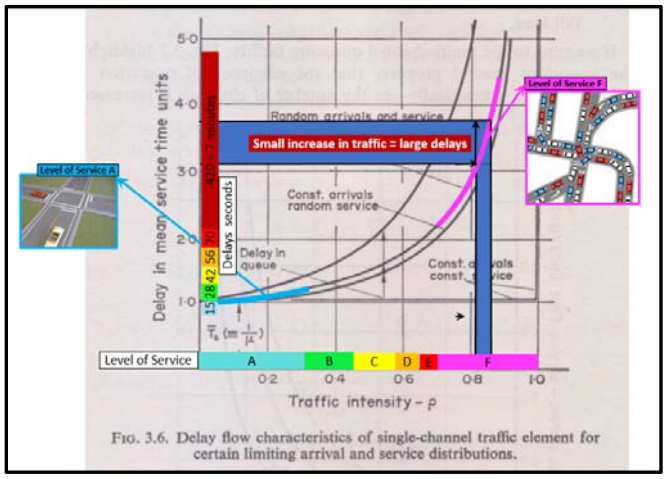


Fig. 3.6. Delay flow characteristics of single-channel traffic element for certain limiting arrival and service distributions.

The figure shows that the delays increase sharply, when intersections approach capacity.

All the traffic reports relating to the M-5 Widening, SIMTA EIS and MICL EIS show that many intersections are at or near capacity.

This means that even a small amount of additional traffic will result in very significant delays to every vehicle using that intersection.

All over the world, the practice is to refer to the intersection delay, rather than the additional flow. In Australia, traffic engineers refer to AUSTROADS Part 7 for guidance.

Why has Mr Young adopted this unconventional approach?

Traffic flows

The table 2.2 show two tables of historic traffic growths for links near the Intermodal. On the left from the earlier EIS and on the right from the current EIS.

There is a clear case of “missing numbers”, that somehow have become “not available”.

It is unclear, how the tables have been constructed.

How is the M-5 Motorway, which carries a flow that is between 5 to 10 times more traffic than the other flows, factored into the calculation of the “average”? The M-5 carries “through” trips, where are the bulk of the local roads would carry “local trips”.

First, a more conventional approach is to use a weighted average calculation. Secondly, and better approach is to extract the future trips (clearly the flows on the M5 Motorway are through trips) from the Sydney Strategic Travel Model.

Why apply a 1.3% growth to the M5 when the data shows a 4.3% growth?
Is this a deliberate step to “cook the books”?

Table 2-2 Traffic Trends (in AADT) at RTA's Count Stations, 2002-2010

Road Location	RTA Count Station	Data Type	AADT 2002	AADT 2005	AADT 2009	ADT [1] 2010
M5 - at bridge over Georges River	60.002	Vehicle	91,849	98,194	113,759	128,500
M5 ramp - East of Hume Hwy	60.003	Axle Pair	26,828	30,902	29,809	
Moorebank Ave - East Hills Railway overbridge	62.138	Axle Pair	14,348	15,903	14,098	16,500
Glenfield Rd - North of Cambridge Ave bridge	84.126	Axle Pair	12,424	12,232	12,841	

Note: *(1) ADT on M5 is estimated from peak hour counts in July/August 2010 as part of this project. The 2010 data on M5 is estimate based on short period sample counts and should not be compared with AADT data for growth calculation.*

[3] M5 West Widening, Environmental Assessment, September 2010, Roads and Traffic Authority.

Moorebank Intermodal Terminal Facility (MITF)—Traffic and Transport
Hyder Consulting Pty Ltd-ABN 76 104 485 289
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Table 2-3 Annual Traffic Growth on the Key Roads, 2002-2009

Road	RTA Count station	Annual Average Growth Between 2002-2005	Between 2005-2009	Between 2002-2009
M5 - at bridge over Georges River	60.002	▲ 2.3 %	▲ 3.7 %	▲ 3.1 %
M5 ramp - East of Hume Hwy	60.003	▲ 4.8 %	▼ 0.9 %	▲ 1.5 %
Moorebank Ave - East Hills Railway overbridge	62.138	▲ 3.5 %	▼ 3.0 %	▼ 0.3 %
Glenfield Rd - North of Cambridge Ave bridge	84.126	▼ 0.5 %	▲ 1.2 %	▲ 0.5 %
Average for Study Area (last 7 years)				▲ 1.2 %

Table 2-2 Historical Traffic Volumes on Key Roads between 2002 and 2015

Roads/ Locations	AADT – all vehicles 2002[1]	2005[1]	2009[1]	2012[2]	2010[3]	2014[4]	2015[5]
M5 Motorway, at bridge over Georges River	91,849	98,194	113,759	119,800	128,500	n.a	n.a
Moorebank Avenue, north of Cambridge Avenue	14,348	15,903	14,098	n.a	16,500	16,460	16,760
Moorebank Avenue, south of Anzac Road	n.a	n.a	n.a	n.a	17,500	16,900	17,200
Anzac Road, east of Moorebank Avenue	n.a	n.a	n.a	n.a	9,500	10,230	10,410

Note: n.a= Data is not available.
Source: RMS count data, 2010 and 2014 traffic survey data
(1) AADT obtained from RMS.
(2) AADT obtained from RMS http://www.rms.nsw.gov.au/about/corporate-publications/statistics/traffic-volumes/map/index.html. The M5 West Widening project commenced in August 2012.
(3) ADT obtained from 2010/10 traffic survey for MPE Concept Approval.
(4) 2014 ADT obtained from 2014 November traffic survey for MPE Stage 1 Proposal traffic assessment.
(5) 2015 ADT traffic volumes have been estimated from 2014 actual ADT traffic counts and traffic count data sourced from the Roads and Maritime's wider Liverpool Moorebank Arterial Road Investigations (LMARI) traffic model.

Table 2-3 Historical Traffic Growth between 2002 and 2015

Roads/Locations	Annual Average Growth Rate (%) Between 2002-2009	Between 2002-2010	Between 2010-2015
M5 Motorway, at bridge over Georges River	n.a	▲4.3%	n.a
Moorebank Avenue, north of Cambridge Avenue	▼0.3%	n.a	▲0.3%
Moorebank Avenue, south of Anzac Road	n.a	n.a	▼0.3%
Anzac Road, east of Moorebank Avenue	n.a	n.a	▲1.8%
Average for all roads (last 13 years)		▲1.3%	

Note: n.a= Data is not available.

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Traffic generation

This image may be refreshing to consider again:

6.5 Truck traffic generation - what the response to submissions should provide

TfNSW considers that the estimated truck traffic generated from the SIMTA proposal (approximately 2,600 daily truck movements) appears low. TfNSW considers it more likely that an intermodal terminal with 1 million TEU from Port Botany and a 1.0 million TEU rail operation from Inter State will generate approximate 20,700 daily truck movements. This is ten times more than the truck generation estimated for the SIMTA proposal.

Note for Mr Yong: SIMTA EIS August 2011, reported that Halcrow's traffic and transport report prepared for the proposed M5 West Widening Project indicated worse performances than reported by SIMTA. Halcrow was renowned for their transport modelling skills. It is therefore, surprising that in the, almost 10 years of natural growth, the performance has not reduced as much as expected.

Is Mr Young aware that in SIDRA the intersections can be networked?

Table 4-2 Intersection Level of Service without the Proposal - 2019

ID	Intersection	2019 without the Proposal			
		AM Peak (8-9 am)		PM Peak (5-6 pm)	
		Delay (sec)	LoS	Delay (sec)	LoS
I-1	Moorebank Avenue / Anzac Road#	16	B	15	B
I-2	M5 Motorway / Moorebank Avenue#	24	B	25	B
I-3	M5 Motorway / Hume Highway#	86	F	37	C
I-4	Moorebank Avenue / Newbridge Road#	36	C*	34	C
I-5	Moorebank Avenue / Heathcote Road#	56	E	42	D
I-6	M5 Motorway / Heathcote Road#	50	D	37	C
I-7	Cambridge Avenue / Glenfield Road#	10	A	15	B
I-8	Cambridge Avenue / Canterbury Road#	11	A	7	A
I-A	Moorebank Avenue / DJLU Access#	9	A	8	A
I-B	Moorebank Avenue / MPE Stage 2 Access#	Intersection currently not operational			

Note: (*) The performance of the Moorebank Avenue / Newbridge Road intersection and the Moorebank Avenue / Heathcote Road intersection are inter-related and behave as one intersection due to the proximity of both intersections to one another and the high level of congestion on the road network. Therefore, the performance of the Moorebank Avenue / Newbridge Road intersection is more aptly reflected by the performance of the Moorebank Avenue / Heathcote Road intersection i.e. at LoS E in the AM and LoS D in the PM.
(#) Existing intersection layout modelled

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