

APPENDIX 8

Response to Submissions (Transport and Traffic)

Barangaroo Headland Park and Northern Cove - Main Works

Response to submission (Transport and Traffic)

7 February 2011

Prepared for
Barangaroo Delivery Authority

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Contents

1	Introduction	1
2	Authority Submissions	2
2.1	City of Sydney	2
2.2	Sydney Ports Corporation	8
3	Public Submissions	11
Appendix A	Sketch Plan of Towns Place / Dalgety Road Roundabout	A.1
Appendix B	Construction Traffic Impacts on Temporary Cruise Terminal Access	B.1

1 Introduction

Halcrow was commissioned by the Barangaroo Delivery Authority to prepare a traffic impact assessment and construction traffic management plan for construction works associated with the Barangaroo Headland Park – Main works.

This report provides a response to issues raised as part of the public exhibition for *MP10_0048 – Headland Park and Northern Cove – Main Works*. The issues addressed in this report are those relating to traffic and transport and construction vehicle access, queuing and management.

2 Authority Submissions

2.1 *City of Sydney*

The following responses address the matters raised in the Council's submission as indicated in italics.

4.3 Protection of Heritage Conservation Areas

The need for a Traffic Management Plan to appropriately manage traffic through heritage conservation precincts of Millers Point etc.

Response:

The proposed Headland Park car park and Northern Cove are not on their own expected to elevate traffic levels in Millers Point to the level at which special traffic management measures in the heritage conservation precinct would be needed. However it would be appropriate as part of a prudent overall precinct management plan for Sydney City Council to monitor traffic patterns generally in the area and, as in the past, respond to particular traffic issues as they arise.

Merriman Street should be closed to construction traffic.

Response:

Merriman Street is not proposed as a construction traffic access. It will only be used for construction elements directly abutting it that could not be accessed via an alternative route. The extent of such activity would be very low.

Streets in Millers Point etc. should be repaved to enhance their heritage character and discourage vehicular traffic.

Response:

The extent of traffic that would be generated by the proposed development does not necessitate such a major intervention.

5.1 Construction Traffic Management Plan

Constructions vehicle/trucks access should be via Hickson Road only.

Response:

As per section 7.2 of the Traffic Impact Assessment and Construction Traffic Management Plan general access for construction traffic is proposed off Hickson Road.

The Towns Place site access will only be used for incidental work at the northern end of the site and for sandstone extraction and for site compound access.

Construction vehicles/trucks not to congregate in Hickson Road before 7:00am.

Response:

This is not expected to be a major issues as truck queuing is normally of greatest concern for projects that involve a major extent of excavation. In this case the production rate of sandstone to be taken away will not be so great as to generate significant truck queuing issues. Trucks bringing fill material into the site will for the most part come from excavation works at Barangaroo south and their times and concentrations will be controlled by filling rates at that end rather than discharge rates that the Headland Park end. This would reduce the potential for truck queuing on Hickson Road prior to 7:00am at the Headland Park gates. It is thus considered that operational constraints would prevent truck queuing on Hickson Road prior to 7:00am at the Headland Park gates.

Only existing gates in Hickson Road should be used for access to the site to minimise impacts on parking and traffic arrangements.

Response:

While it would be normal to use existing facilities, it would be unreasonable to be prescriptive about such as during the course of construction situations such as utility or drainage adjustments, site re-grading or other construction activities may necessitate minor changes to gate locations. Such would not impact on arrangements for traffic travelling along Hickson Road. On the other hand minor short term changes to parking along a road on which very major changes to parking will eventually take place should not be a determinant of access efficiency for the site.

Changes to public roads to be designed in accordance with RTA Technical Directions and referred to the Sydney Traffic Committee for approval.

Response:

This would be normal and is agreed.

Measures are needed to stop construction workers from using on-street parking measure.

Response:

Construction workers will be treated the same as all other CBD works in terms of access to on-street car parking. In particular they will need to pay the going rates for parking as set by Sydney City Council. These are set to discourage all day car parking.

City Council wishes to monitor traffic flow in the northern part of the CBD and if there are significant increases in delays request the proponent to monitor the Construction Traffic Management Plan (CTMP).

Response:

Monitoring of traffic flow by the City Council would be a useful activity. It would be best if a collaborative approach between the Council, Sydney Ports Corporation, RTA, Barangaroo Development Authority, Bovis Lend Lease and the Headland Park and Northern Cove construction contractor were to be agreed so that traffic issues could be managed continuously throughout the building process.

Cumulative impact of developments.

Response:

The cumulative construction traffic impacts of the Lend Lease Barangaroo south “Stage 1” construction are assessed in the Traffic Impact Assessment (TIA) and Construction Traffic Management Plan for this project. This finds that the combined traffic generation would have an acceptable impact on the local road system.

Green Travel Strategy for the whole [Barangaroo] site should be prepared.

Response:

As only 50 construction workers are expected to work on the Headland Park sites at any one time and travel by private car will be inhibited by the City Council's on street car parking charges, it is not considered appropriate to prepare a formal green travel strategy for the site.

Again a collaborative traffic management strategy would be appropriate. It may be appropriate for the Department of Planning to convene such a meeting and to require all relevant Barangaroo contractors and development sponsors to participate in such along with government authorities.

5.2 Car Park Access Location

Vehicular access to the car park should be via Hickson Road or via an internal road within Barangaroo.

Response:

Reasons for the location of the car park access off Towns Place are explained in full in the TIA & CTMP. These include:

- Minimisation of impacts on the future light rail on Hickson Road
- Avoidance of pedestrian and bicycle conflicts with vehicles along the foreshore
- Reduced amenity for the northern cove and built space on the site, and
- Reduced driveway length.

Analysis indicates that while there would be more traffic on Towns Place and Dalgety Road, the future levels would be within normal environmental limits even for a suburban location let alone a CBD location.

In view of these considerations the proposed location of the car park access is considered to be acceptable.

5.3 Pedestrian Amenity

The impacts of the pedestrian amenity should be reduced via the widening of the footpath on both sides of the road, not just on the western side.

Response:

The proposed development would be unlikely to generate significant pedestrian activity on the eastern side of Dalgety Road once a new footpath was constructed on the Western sides. Thus footpath widening on the eastern side would not be necessitated by the proposal.

5.4 Car Parking Pay Structure

This should ensure that the car park would not be used as a commuter car park for nearby office workers.

Response:

It is proposed that this car park operate as a short to medium stay car park serving principally visitors to the Headland Park, the future cultural facility therein and the central part of Barangaroo. A very limited number of spaces may be allocated as long stay parking for a caretaker and for operational needs of the cultural centre.

In order to ensure that the car park does not become a commuter car park it is proposed that during the day time an increasing charge rate apply so that long stay parking is discouraged. This is in keeping with Sydney City Council policies for short stay casual parking in the CBD.

It would be sufficient for a condition of consent to be imposed requiring this approach. Possible wording is:

“The car park shall be operated as a casual medium to long stay car park. A charging regime shall be imposed which promotes this. No long stay commuter car parking is to be provided.”

5.5 Proposed Roundabout

Consideration should be given to a more pedestrian friendly standard of intersection at the proposed car park entrance at the junction of Dalgety Road and Towns Place.

Response:

An intersection is required at this location for safety reasons because the sharp bend at the junction of Dalgety Road and Towns Place has limited sight distance and would make the provision of the necessary sheltered right turn lane at an un-signalised intersection very awkward to provide.

In addition concerns have been expressed in submissions from the public regarding the safety hazard presented by the junction in its present form even without a car park entrance coming off it.

A roundabout would slow traffic and generally make the two roads safer for both pedestrians and motor vehicles.

The final design for the roundabout will be worked up with council engineers to promote both pedestrian safety/amenity and traffic safety/efficiency.

5.6 Changes to Kerb Side Parking

Consideration should be given to providing bus and coach parking in the car park. A separate submission should be made to the Sydney Traffic Operations Unit seeking approval to any changes to kerbside parking restrictions and all costs there of should be at no cost to the council.

Response:

For head room and manoeuvring reasons it would not be practical to provide coach parking within the car park.

The requirements for approval for changes to kerbside parking controls and for all such changes to be at no cost to the Council is agreed to.

Additional Traffic on Towns Place and need for cumulative traffic impacts to be considered.

Response:

The Headland Park car park was included in the original and in the modified Barangaroo Concept Plans both of which have been approved. Traffic from the car park was included in the detailed traffic modelling and assessment that informed these approvals. Thus cumulative traffic impacts have been considered.

In relation to the role of Towns Place it is a critical part of the local road system in what has historically been a significant port area not a quiet residential precinct.

The revitalisation of the former port area together with the previous development of the Millers Point arts precinct mean that Towns Place will retain its role as an important part of the local road system. As such it needs to be managed to carry a reasonable amount of traffic. In this regard achievement of a traffic level that is consistent with RTA guidelines is considered to be reasonable.

5.7 Impact Assessment and Construction Traffic Management Plan

Car park should not provide additional parking for visitors to Walsh Bay.

Response:

While the car park is specifically proposed to serve Barangaroo development, it nevertheless could serve the arts precinct at Walsh Bay for the infrequent occasions on which there was excess parking demand generated by that precinct. It would be preferable for any overflow to use the Headland Park Car Park than to overflow onto local streets outside of the arts precinct.

Bike parking should be provided at rates identified in the NSW State Government Planning Guidelines for Walking and Cycling.

Response:

These guidelines are not applicable as they base visitor parking on “seating capacity” and there is no seating capacity for the Headland Park. However it is agreed that bicycle parking should be provided and as outlined in ESD report in the Built Ecology section (Appendix 17) of the Environmental Assessment it is proposed to provide about 30 bicycle parking spaces initially along with provision for this number to be increased to 150 spaces in future.

2.2 Sydney Ports Corporation

Assess potential impacts on the operation of temporary cruise passenger terminal at Wharf 5 Hickson Road.

Response:

Construction is programmed to continue until the middle of 2014. By this time the temporary cruise terminal would be relocated to its proposed location at White Bay. There would only be an overlap of construction activities for about two years.

During this time the main potential for impact of Headland Park construction traffic would occur due to the transport of fill material from Barangaroo (south) Stage 1 excavation to the Headland Park site.

This transport and its potential impacts on access to the temporary passenger terminal are discussed in detail in the construction traffic management plan prepared by consultant, Arup, for the Stage 1 works¹.

As part of the stage 1 construction management plan it is proposed to provide traffic signal control for the cruise terminal main access road. The Arup analysis indicates that under such controls satisfactory access to the passenger cruise terminal would be maintained.

Further analysis of the effects of Headland Park construction traffic on the operation of the access is provided in Appendix B of this submission. This shows that the access arrangements proposed for the temporary cruise terminal indicated in the Arup report would continue to operate satisfactorily on “ship days” at the terminal with Headland Park construction traffic using Hickson Road.

Request a plan showing truck queuing areas on site

A plan is not considered necessary. Rather truck queuing across Moores Wharf entry gate will be controlled by including the following measures in the Construction Traffic Management Plan:

- Mark out an area stating “keep clear” in front of the Moores Wharf entry gate.

¹ September 2010

Arup Barangaroo Stage 1 – PA1 – Bulk Excavation and Basement Car Parking (MP 10-0023) Construction Traffic Management Plan

- Gate 4 is the primary point for truck deliveries to and from the site. Gate 3 will be used only by exception hence limited truck movements are expected in the vicinity of Moores Wharf entry gate.

Need to improve safety at the intersection of Dalgety Road with Towns Place.

Response:

It is proposed to construct a roundabout at this intersection which will improve safety. A copy of this proposal is attached in Appendix A. The final layout will need to be agreed with Sydney City Council.

Requests that the Construction Traffic Management Plan and Waste Traffic Management Plan be reviewed and agreed to by Sydney Ports Corporation prior to construction commencing.

Response:

Barangaroo Development Authority commits to continue liaising with Sydney Ports Corporation on the management of traffic related to construction activities.

In this regard, as indicated above, it may be appropriate for Department of Planning to convene a coordination committee to liaise and manage overall traffic aspects during construction in the area. Likely participants would be Sydney City Council, Sydney Ports Corporation, RTA, Barangaroo Development Authority, Bovis Lend Lease and the Headland Park and Northern Cove construction contractor.

3 Public Submissions

Respondent	Main Issues Raised	Response
Beverley Bowden	Use of local streets by trucks and heavy vehicles accessing Towns Place during construction	Most construction trucks would access the site off Hickson Road. Towns Place would only be a secondary access.
	Inclusion of car park (considers inadequate justification for carpark)	The car park is an integral part of the Barangaroo Precinct and is needed to provide traffic access to the northern part of the site.
	Impact of access to carpark at Towns Place (should comply with RTA environmental limit of 330vph)	The RTA's recommended environmental limit is 500 veh/hr and forecast future traffic levels are below this limit.
Dynamic Property Services (OBO Owners Corp. SP76902 Towns Place – mixes use building)	Object to use of Gate 3 by heavy vehicles – noise and vibration impacts on residents – request limit to Gates 4 and 5	Gate 3 will only be a secondary point of access for construction vehicles. Given its former use for port access by large vehicles its use by construction vehicles would not be inconsistent with its past use.
Grant Logan	Concerned about traffic impact to surrounding streets of car park entry off Dalgety Road/Towns Place. Suggest would be better off Hickson Road.	For reasons outlined in the Traffic Impact Assessment and Construction Traffic Management Plan and restated above in response to the Sydney City Council submission, the traffic effects of providing the car park access of Dalgety Road/Towns Place are considered to be satisfactory.
Guy Washington	Concerned that new car park will encourage people to drive to City. Considers car parking should not be allowed except for persons with a disability	The amount of parking proposed is very modest even in the Sydney CBD context. Not all persons are able to travel by public transport or non motorised modes and a minimum amount of essential parking is needed.
Ingrid Webster	Concerned about traffic impact to surrounding streets of car park entry off Dalgety Road/Towns Place – previously Globe Street	See above under City of Sydney and Beverley Bowden.

	Notes Dalgety Road dangerous with accidents having occurred in the past	Dalgety Road will be made safer due to the provision of a roundabout at the car park entrance and realignment of Dalgety Road and Towns Place on the approaches thereto.
	Queries potential to reopen Pottinger Street	Re-opening of Pottinger Street may or may not have merit in its own right. However such is not related to the Headland Park proposal.
	Considers 300 space car park will end up being 800 spaces	The application is only for 300 spaces. Any increase thereon would be need to be the subject of a separate application.
	Considers Hickson Road entry would be preferable given major road	See response to City of Sydney submission and to Beverley Bowden above.
Clr Irene Doutney (City of Sydney)	Objects to 300 space car park and considers it inconsistent with sustainable, low car ideals espoused by BDA and City of Sydney	The proposed car park is consistent with sustainable, low car, ideals given its small scale in the context of the overall Barangaroo development. It will be the only fulltime public car park in the whole development.
Jane Irwin Landscape Architect	Towns Place could be dangerous as main car park entry and main tourist entry	The proposed reconfiguration of Towns Place at the car park entry will make this a safe entry point.
	Queries traffic impact assessment given example of Royal Botanic Gardens and Lady Macquarie's Chair?	In contrast to the situation Mrs Macquarie's Chair, traffic generated by the Headland Park will not pass through it but beside it. Parking will take place beneath the park rather than within the park. The effects of the generated traffic and parking will be incomparably better.
	Queries logic of high charging rates for car park	The car park is not proposed to serve long stay commuter parking and, in keeping with Sydney City Council policies, the charging rate will discourage such parking. There is potential to charge lower rates at weekends but these would still seek to discourage all day parking so that short and medium stay parkers would not be discouraged.
	Raises concern that Merriman	Merriman Street will need to be managed to

	Street will be preferred parking location given ease of access – impact on residential area	protect resident priority to kerbside parking the same as any other street in the Sydney CBD.
Liz Lowrie	Email indicated would like to see entrance to car park moved to business end of Barangaroo	Discussed above in the response to the City of Sydney submission.
Penelope Morris	Use of local streets by trucks and heavy vehicles accessing Towns Place during construction	See response to Beverley Bowden above.
	Inclusion of car park (considers inadequate justification for carpark)	See response to Beverley Bowden above.
	Impact of access to carpark at Towns Place (should comply with RTA environmental limit of 330vph)	See response to Beverley Bowden above.
	Object to use of Gate 3 by heavy vehicles – noise and vibration impacts on residents – request limit to Gates 4 and 5	See response to Dynamic Property services above.
Phillip Bushby	Considers numerous existing car parks and on street parking in the area which are underutilised on weekends when demand would be highest	The Headland Park car parking is needed for both weekdays and weekends.
	Access at Towns Place would cause traffic congestion in an area which is already dangerous	Analysis indicates that traffic effects of the car park would be satisfactory.
	Use of cars should not be encouraged in an area which is becoming a pedestrian precinct. Public transport should be provided and its use encouraged	See response to Cllr Irene Doughty above.
Warwick and	Object to entry to car park being	See response to Ingrid Webster above.

Roslyn Rush Mackay	at corner of Towns Place and Dalgety Road an intersection which is already dangerous	
	Consider need to pedestrian crossing opposite gateway to Barangaroo Foreshore Walkway to protect pedestrians	The need for providing a pedestrian crossing will be agreed with the Sydney Local Traffic Committee when plans for the roundabout controlled access to the car park are presented to it.
	Consider entry should be on Hickson Road – larger road not so congested	See response to Grant Logan above.
	Consider Pottinger Street should be reopened – adding to traffic congestion	See response to Ingrid Webster above.

Appendix A Sketch Plan of Towns Place / Dalgety Road Roundabout

Towns Place intersection

Barangaroo Headland Park Main Works



Scale: N/a



Figure 3-2

Date: 16 August 2010

Appendix B Construction Traffic Impacts on Temporary Cruise Terminal Access

Implications of Headland Park Construction Traffic on Access to the Temporary Cruise Terminal

1. Introduction

This paper examines the effects of the construction traffic generated by the development of the Headland Park and Northern Cove on access to the temporary cruise terminal on ship days.

2. Previous Analysis

Access to the Temporary Cruise Terminal is via Gate 5 on Hickson Road. It is proposed that this be crossed by a haul road parallel to and close to Hickson Road. This would be used by trucks conveying excavation material from the Bovis Lend Lease Barangaroo South Stage 1 works to the Headland Park site as fill material.

As a safety measure on “ship days” the crossing of the Cruise Terminal would be controlled by traffic signals.

The operation of these traffic signals in combination with vehicle turning movements at the adjacent intersection of the cruise terminal access with Hickson Road was analysed by consultant Arup as part of the construction traffic impact assessment for the Barangaroo south stage 1 works. It found that this arrangement would operate satisfactorily on ship days.

The analysis was based on a count of traffic using Hickson Road with peak hourly cruise terminal traffic added. The period analysed was that during the middle of the day when cruise terminal traffic generation would be highest. The traffic flows used in the analysis are provided in Figure B1 to this report.

3. Headland Park Construction Traffic

The “Barangaroo Headland Park Main Works Traffic Impact Assessment and Construction Traffic Management Plan” report which accompanied the Environmental Assessment provides estimates of construction traffic that the works on the site would generate.

The estimated peak hourly traffic generation on Hickson Road during the construction activities would be 26 vehicle trips per hour. This estimate was for a busy day on which concrete pouring would add extra concrete trucks onto Hickson Road.

4. Analysis of Impacts of Headland Park Construction Traffic

This was done by analysing the operation of Cruise Terminal access roads/Hickson Road intersection peak hour (for ship days) conditions using the traffic flows outlined above. The analysis was undertaken using the SIDRA intersection analysis program. To take accounts of the interruption to

traffic flow on the terminal access road, Cruise Terminal traffic was factored up by 50%, this representing the one third loss of capacity that would occur for this traffic while fill haul trucks were allowed to cross it.

Results of this analysis are provided in Figure B2. In summary, traffic along Hickson Road including that turning into the site would operate well with little or no delay, both with and without the Headland Park construction traffic being present.

Traffic exiting the site would have to operation changed as follows:

	Without Headland Park traffic	With Headland Park traffic
Degree of Saturation	0.80	0.86
Average Delay (secs/veh)	24.4	30.6
Level of Service	B	C

Both levels of operation would be satisfactory with level of service D being the lowest desirable operating level for acceptable performance.

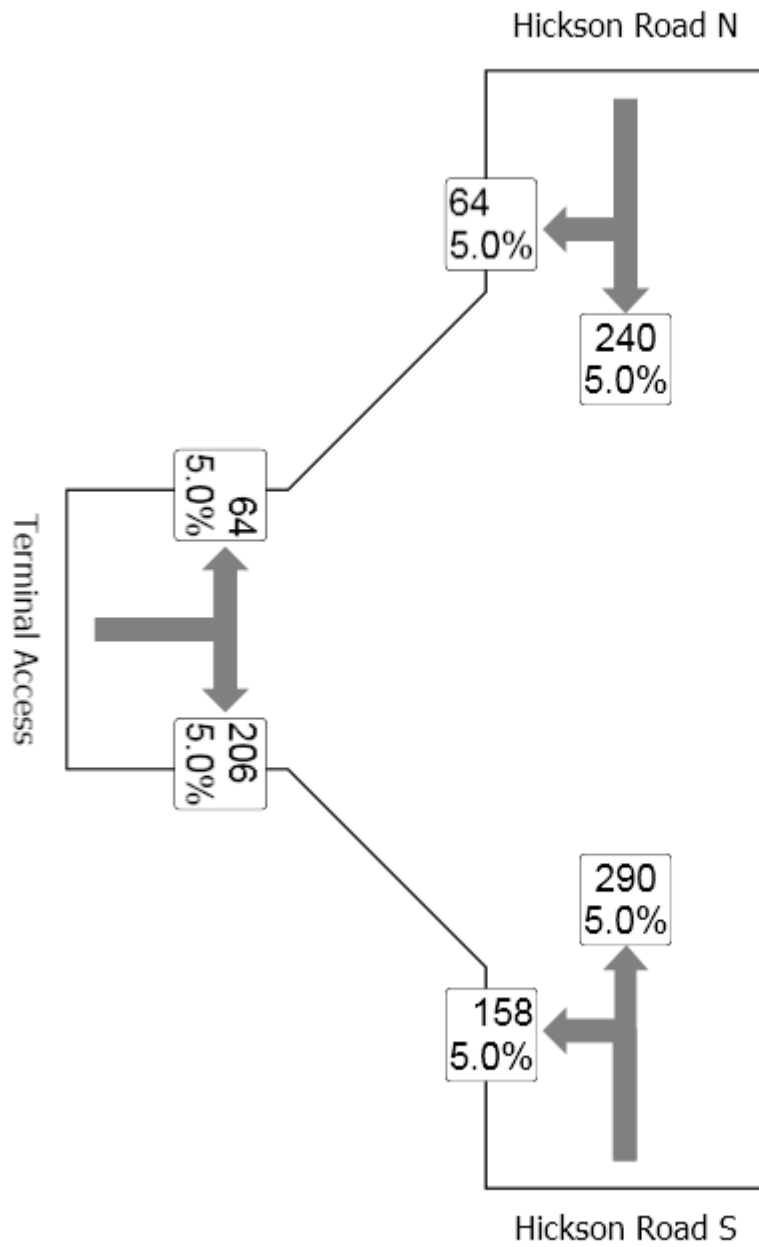
The analysis allows for only one lane coming out of the terminal. In practice better performance would be achieved if the section of its exit into Hickson Road at Gate 5 was marked as separate left and right turn lanes. This treatment is recommended.

5. Conclusion

It is concluded from the analysis that the temporary cruise terminal access would continue to operate satisfactory with Headland Park and Northern Cove construction traffic using Hickson Road.

Figure B1 – Cruise Terminal Peak Period Traffic Flows

Existing Flow without Headland Park Traffic



Future Flow with Headland Park Traffic

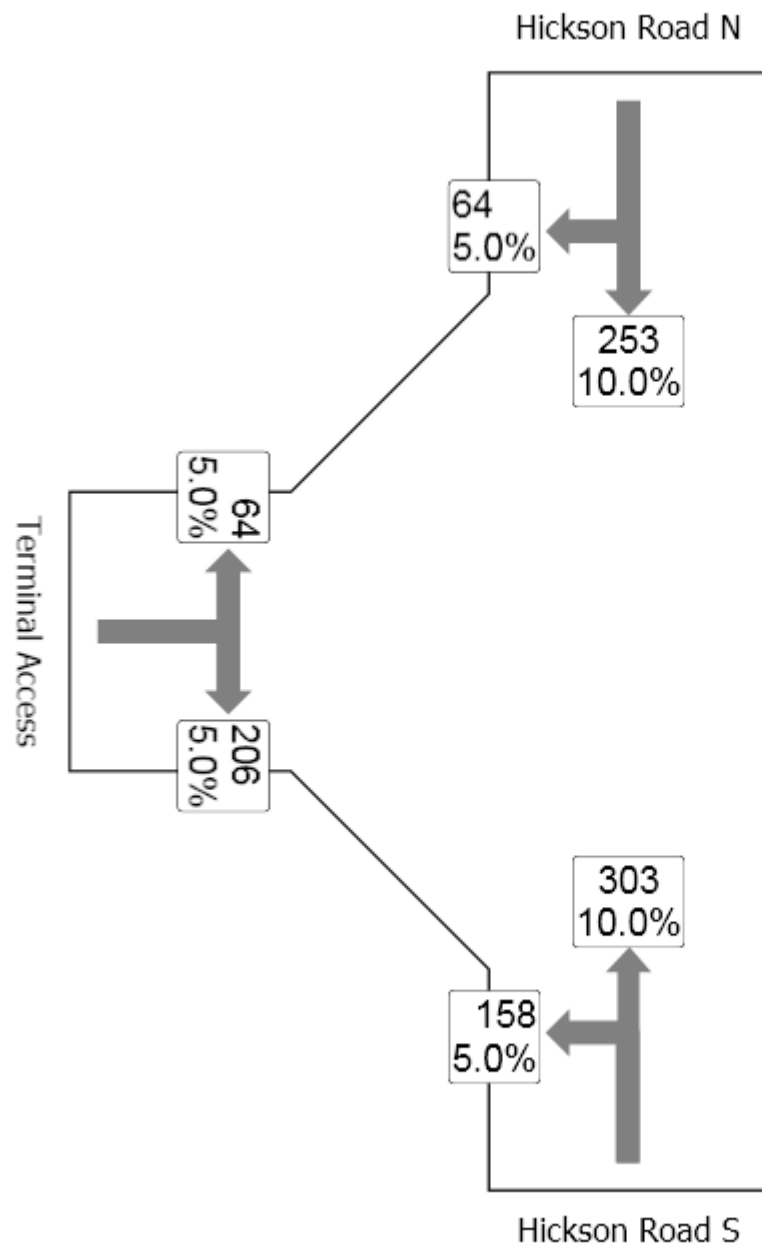
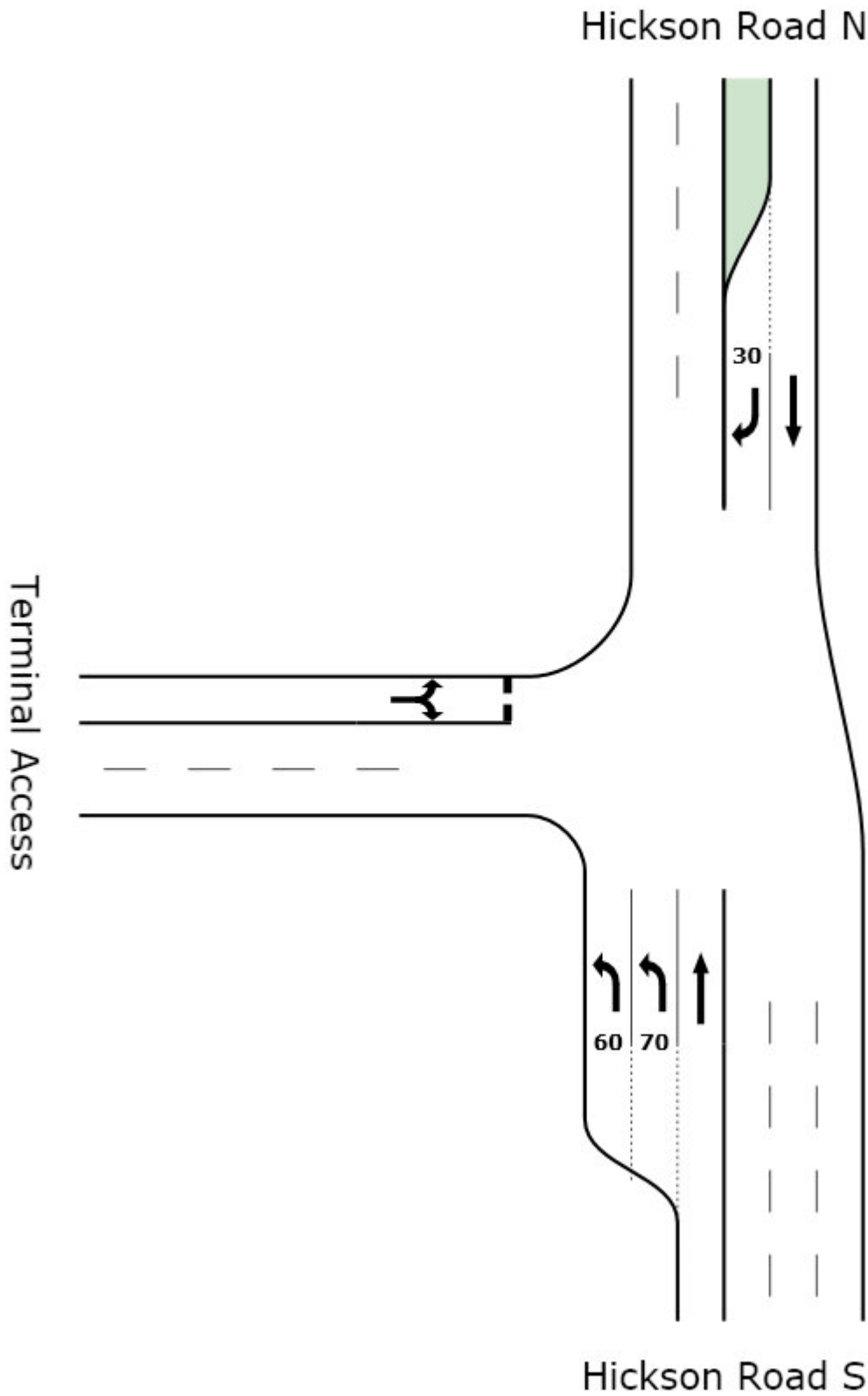


Figure B2 – Results of SIDRA Analysis

Intersection Configuration



MOVEMENT SUMMARY

Site: Existing _ 1.5 x terminal traffic (1 lane out)

Hickson Road x Terminal Access
Ship Day without Headland Park Traffic
Giveaway / Yield (Two-Way)

Movement Performance - Vehicles											
Mov ID	Turn	Demand Flow veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Queue Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Hickson Road S											
1	L	249	5.0	0.070	6.5	LOS A	0.0	0.0	0.00	0.61	43.3
2	T	305	5.0	0.162	0.0	LOS A	0.0	0.0	0.00	0.00	50.0
Approach		555	5.0	0.162	2.9	LOS A	0.0	0.0	0.00	0.27	46.7
North: Hickson Road N											
8	T	253	5.0	0.134	0.0	LOS A	0.0	0.0	0.00	0.00	50.0
9	R	101	5.0	0.090	8.6	LOS A	0.5	3.7	0.50	0.69	41.5
Approach		354	5.0	0.134	2.4	LOS A	0.5	3.7	0.14	0.20	47.2
West: Terminal Access											
10	L	101	5.0	0.802	24.6	LOS B	10.7	78.1	0.82	1.55	31.5
12	R	325	5.0	0.799	24.4	LOS B	10.7	78.1	0.82	1.45	31.5
Approach		426	5.0	0.799	24.4	LOS B	10.7	78.1	0.82	1.47	31.5
All Vehicles		1335	5.0	0.799	9.7	NA	10.7	78.1	0.30	0.64	40.6

LOS (Aver. Int. Delay): NA. The average intersection delay is not a good LOS measure for two-way sign control due to zero delays associated with major road movements.

Level of Service (Worst Movement): LOS B. LOS Method for individual vehicle movements: Delay (RTA NSW).

Approach LOS values are based on the worst delay for any vehicle movement.

MOVEMENT SUMMARY

Site: Future _ 1.5 x terminal traffic
(1 lane out)

Hickson Road x Terminal Access
Ship Day with Headland Park Traffic
Giveaway / Yield (Two-Way)

Movement Performance - Vehicles											
Mov ID	Turn	Demand Flow veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Queue Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Hickson Road S											
1	L	249	5.0	0.070	6.5	LOS A	0.0	0.0	0.00	0.61	43.3
2	T	319	10.0	0.174	0.0	LOS A	0.0	0.0	0.00	0.00	50.0
Approach		568	7.8	0.174	2.9	LOS A	0.0	0.0	0.00	0.27	46.8
North: Hickson Road N											
8	T	266	10.0	0.145	0.0	LOS A	0.0	0.0	0.00	0.00	50.0
9	R	101	5.0	0.092	8.7	LOS A	0.5	3.8	0.51	0.70	41.4
Approach		367	8.6	0.145	2.4	LOS A	0.5	3.8	0.14	0.19	47.3
West: Terminal Access											
10	L	101	5.0	0.856	30.7	LOS C	13.1	95.4	0.86	1.86	28.8
12	R	325	5.0	0.858	30.6	LOS C	13.1	95.4	0.86	1.65	28.8
Approach		426	5.0	0.858	30.6	LOS C	13.1	95.4	0.86	1.70	28.8
All Vehicles		1362	7.1	0.858	11.4	NA	13.1	95.4	0.31	0.70	39.2

LOS (Aver. Int. Delay): NA. The average intersection delay is not a good LOS measure for two-way sign control due to zero delays associated with major road movements.

Level of Service (Worst Movement): LOS C. LOS Method for individual vehicle movements: Delay (RTA NSW).

Approach LOS values are based on the worst delay for any vehicle movement.