

**DECISION OF 3658th COUNCIL MEETING
HELD ON 17 NOVEMBER 2014**

493. COS02: Legal and Planning Committee - 10 November 2014

25. LP03: North Sydney Centre Traffic and Pedestrian Management Study

Report of Mark Yee, Strategic Planner

In December 2013, Council appointed Arup to complete the 'North Sydney Centre Traffic and Pedestrian Management Study'. The Study is a key component of the North Sydney Centre Review, as improving the amenity and experience for pedestrians is an essential element of the revitalisation of the Centre.

Given the importance of the project, it was co-operatively undertaken by Council's City Strategy and Engineering and Property Services Departments. The Study investigated recommendations from previous Council projects such as the Education Precinct Study/ Masterplan and the outcomes from the Study will also feed into existing Council projects such as the current public domain upgrade program and the Education Precinct Masterplan.

The study required Arup to undertake a detailed transport planning analysis of the existing transport network and travel behaviour in North Sydney and then provide recommendations for improvement.

The recommendations are focused on improving pedestrian connectivity, amenity and mobility within the North Sydney Centre. Traffic modelling was undertaken to understand the impacts that the works would have on traffic operation. The final recommendations of the study include a range of initiatives such as:

- New mid-block pedestrian crossings;
- Works associated with the upgrade of Miller Street;
- Changes in traffic operation on the Pacific Highway;
- Opportunities for shared zones;
- Footpath widening; and
- Location of new taxi ranks.

Maps illustrating the proposed changes are attached to this report.

In conjunction with public domain upgrades, the traffic/pedestrian works will create a more inviting environment in the North Sydney Centre. The recommendations provide the opportunity for Council to demonstrate that it is committed to maintaining North Sydney's reputation as major economic hub and is creating an environment that encourages business investment on a global scale. The street level activation will also encourage greater activity outside of standard business hours.

This report seeks the resolution of Council to place the study on public exhibition. Feedback from the public exhibition will be reported back to Council before proceeding with the various recommendations outlined in this report. Some preliminary investigations of these recommendations may be undertaken during this time.

Funding for this project was included in the adopted 2013/14 budget.

Recommending:

- 1. THAT** Council place the 'North Sydney Centre Traffic and Pedestrian Management Study' on public exhibition.
- 2. THAT** feedback received from the public exhibition is reported back to Council.

The Motion was moved by Councillor Marchandean and seconded by Councillor Reymond.

Resolved to recommend:

- 1. THAT** Council place the 'North Sydney Centre Traffic and Pedestrian Management Study' on public exhibition.
- 2. THAT** feedback received from the public exhibition is reported back to Council.

3. **THAT** the following traffic management issues are referred to the Traffic Manager for investigation and consideration in any future Council Traffic management:

- Signal crossing delays for traffic flows following the recommendations of the recent Coroner’s report into a fatal accident at Beecroft;
- Best practice traffic signals arrangements for sight impaired pedestrians;
- Countdown displays for signalised pedestrian crossings.

Voting was as follows:

For/Against 7/0

Councillor	Yes	No	Councillor	Yes	No
Gibson	Y		Barbour	Y	
Reymond	Y		Morris	Absent	
Clare	Y		Burke	Absent	
Baker	Absent		Marchandean	Y	
Carr	Y		Bevan	Absent	
Beregi	Y				

**Report to General Manager**

Attachments:

1. North Sydney Centre Traffic and Pedestrian Management Study
2. Maps illustrating key recommendations

SUBJECT: North Sydney Centre Traffic and Pedestrian Management Study**AUTHOR:** Mark Yee, Strategic Planner**ENDORSED BY:** Joseph Hill, Director City Strategy**EXECUTIVE SUMMARY:**

In December 2013, Council appointed Arup to complete the 'North Sydney Centre Traffic and Pedestrian Management Study'. The Study is a key component of the North Sydney Centre Review, as improving the amenity and experience for pedestrians is an essential element of the revitalisation of the Centre.

Given the importance of the project, it was co-operatively undertaken by Council's City Strategy and Engineering and Property Services Departments. The Study investigated recommendations from previous Council projects such as the Education Precinct Study/Masterplan and the outcomes from the Study will also feed into existing Council projects such as the current public domain upgrade program and the Education Precinct Masterplan.

The study required Arup to undertake a detailed transport planning analysis of the existing transport network and travel behaviour in North Sydney and then provide recommendations for improvement.

The recommendations are focused on improving pedestrian connectivity, amenity and mobility within the North Sydney Centre. Traffic modelling was undertaken to understand the impacts that the works would have on traffic operation. The final recommendations of the study include a range of initiatives such as:

- New mid-block pedestrian crossings;
- Works associated with the upgrade of Miller Street;
- Changes in traffic operation on the Pacific Highway;
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- Location of new taxi ranks.

Maps illustrating the proposed changes are attached to this report.

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investment on a global scale. The street level activation will also encourage greater activity outside of standard business hours.

This report seeks the resolution of Council to place the study on public exhibition. Feedback from the public exhibition will be reported back to Council before proceeding with the various recommendations outlined in this report. Some preliminary investigations of these recommendations may be undertaken during this time.

FINANCIAL IMPLICATIONS:

Funding for this project was included in the adopted 2013/14 budget.

RECOMMENDATION:

- 1. THAT** Council place the 'North Sydney Centre Traffic and Pedestrian Management Study' on public exhibition.
 - 2. THAT** feedback received from the public exhibition is reported back to Council.
-

LINK TO DELIVERY PROGRAM

The relationship with the Delivery Program is as follows:

Direction: 2 Our Built Environment

Outcome: 2.5 Sustainable transport is encouraged
2.6 Improved traffic management

Direction: 3 Our Economic Vitality

Goal: 3.1 Diverse, strong, sustainable and vibrant local economy
3.2 North Sydney CBD is one of Australia's largest commercial centres

SUSTAINABILITY STATEMENT

The sustainability implications were considered and reported on during the initiation phase of this project.

CONSULTATION REQUIREMENTS

Community engagement will be undertaken in accordance with Council's Community Engagement Protocol.

BACKGROUND

In December 2013, Council appointed Arup to complete the 'North Sydney Centre Traffic and Pedestrian Management Study'. The study is one of the key projects of the North Sydney Centre Review.

The focus of the study was to identify recommendations which would improve pedestrian amenity and mobility within the centre, whilst ensuring that there is not a significant detrimental impact on traffic flow. The study was completed in stages as follows:

Stage 1

Stage 1 of the project provided an overall assessment of the existing transport network and travel behaviour. A number of preliminary recommendations for traffic/pedestrian works were then provided to Council.

Stage 2

Following consultation with Council staff in Stage 1, Stage 2 of the study required the consultant to undertake a detailed assessment of the proposed works. This was undertaken utilising microsimulation traffic modeling to identify the overall impact that the works would have on traffic function in the Centre.

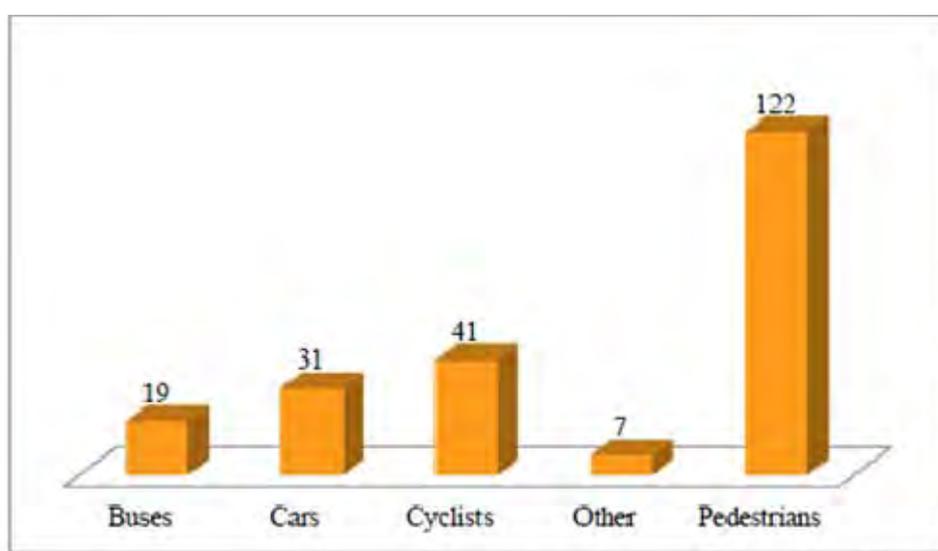
Stage 3

From the findings of the traffic modeling, the last stage of the project required the consultant to submit a report with a number of final recommendations for traffic/pedestrian works.

Online Collaborative Map

For Stage 1 of the project, an online collaborative mapping tool was launched to receive feedback from the community. This tool is an interactive way for the public to share their thoughts and ideas.

Public comments were invited from 12 March to 2 April 2014 with 220 comments being submitted to the site with an additional 988 votes for comments made on the site. The graph below shows the distribution of the comments across the five categories, with the 'pedestrian' category being the most popular, accounting for 55% of all comments.



This tool proved valuable in allowing the community to identify issues and potential solutions. Arup developed the tool for this project but Council may consider using this tool for other suitable projects.

Traffic Modeling

For this project Arup developed a micro-simulation model of the North Sydney Centre using the software package VISSIM.

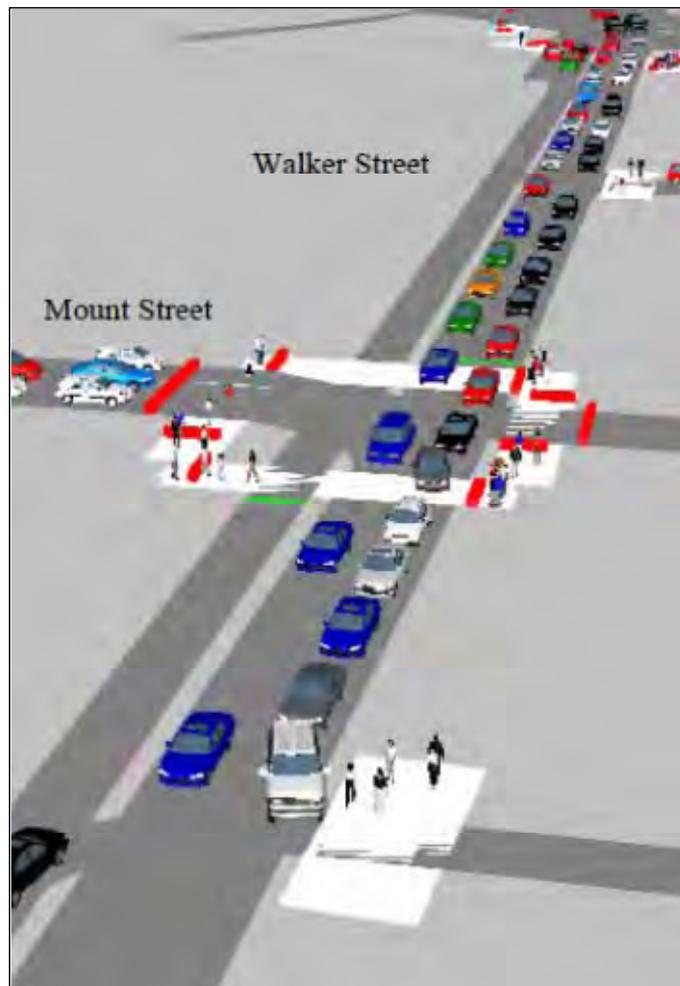
What is Traffic Modelling?

Traffic micro-simulation models are computer models that test/display the movements of individual vehicles and pedestrians travelling around road networks. They are utilised for the evaluation and development of road traffic management and control systems.

The model detailed the performance of the whole of the North Sydney Centre. The model was able to detail how a proposed traffic work would affect the whole of the transport network and test concurrent interventions.

One of the benefits of microsimulation models is that they provide a moving visual

representation of the traffic behavior. A screenshot of the model is provided below:



RMS Guidelines

The AM and PM peak models were validated and calibrated using the Roads and Maritime Service's (RMS) '*Traffic Modelling Guidelines*'. This was a key requirement of the project as many of the works will require consultation or the approval of the RMS.

Outcomes from the Modelling

The modelling found that the majority of the identified works would have a manageable impact on traffic operations. These works were subsequently included in the final recommendations.

The study specifically states that the recommended works would significantly improve the connectivity, mobility and amenity for pedestrians in the North Sydney Centre.

DETAIL

North Sydney Centre Review

The Study is a key component of the North Sydney Centre Review, which aims to implement strategies to ensure that North Sydney retains and strengthens its role as a key component Sydney's global economic arc, remains the principal economic engine of Sydney's North Shore, and becomes a more attractive, sustainable and vibrant place for residents, workers and businesses.

Improving the experience for pedestrians is necessary for revitalising North Sydney and ensuring that it remains a premium commercial centre. Improving street level activation opportunities will encourage greater activity outside of standard business hours.

Council Interdepartment Co-operation

Given the importance of the project, it was co-operatively undertaken by Council's City Strategy Department and Engineering and Property Services Department. The project was jointly undertaken by Council's City Strategy Department and Engineering and Property Services Department.

The study investigated recommendations from previous Council projects such as the Education Precinct Study and Masterplan and the outcomes from the study will also feed into existing Council projects such as the public domain upgrades and the Education Precinct Masterplan.

Recommendations

The Study has now been completed and makes a number of final recommendations. These recommendations cover a wide range of works/initiatives, from new pedestrian crossings and changes in traffic configurations as well as simple initiatives such as updating wayfinding signage on bus stops. The recommendations are:

Key Interventions

1. The introduction of 3 signalised mid-block pedestrian crossings;
2. Works to assist the upgrade of Miller Street;
3. Changes to the operation of the Pacific Highway;

Other Recommendations

4. Denison Street footpath widening
 5. Introduction of new taxi ranks
 6. Potential cycleway impacts
 7. Public open space and activity
 8. Shared zone opportunities
 9. Introduce automated pedestrian crossings throughout the North Sydney Centre
 10. Lobby RMS to reduce the Pacific Highway speed limit to 50km/h
 11. Removing kerbside parking on the southern side of Mount Street (near Shore)
 12. Update wayfinding signage
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13. Footpath continuation opportunities

The recommendations are focused on achieving improvements in pedestrian connectivity, amenity and mobility within the North Sydney Centre.

Key Interventions

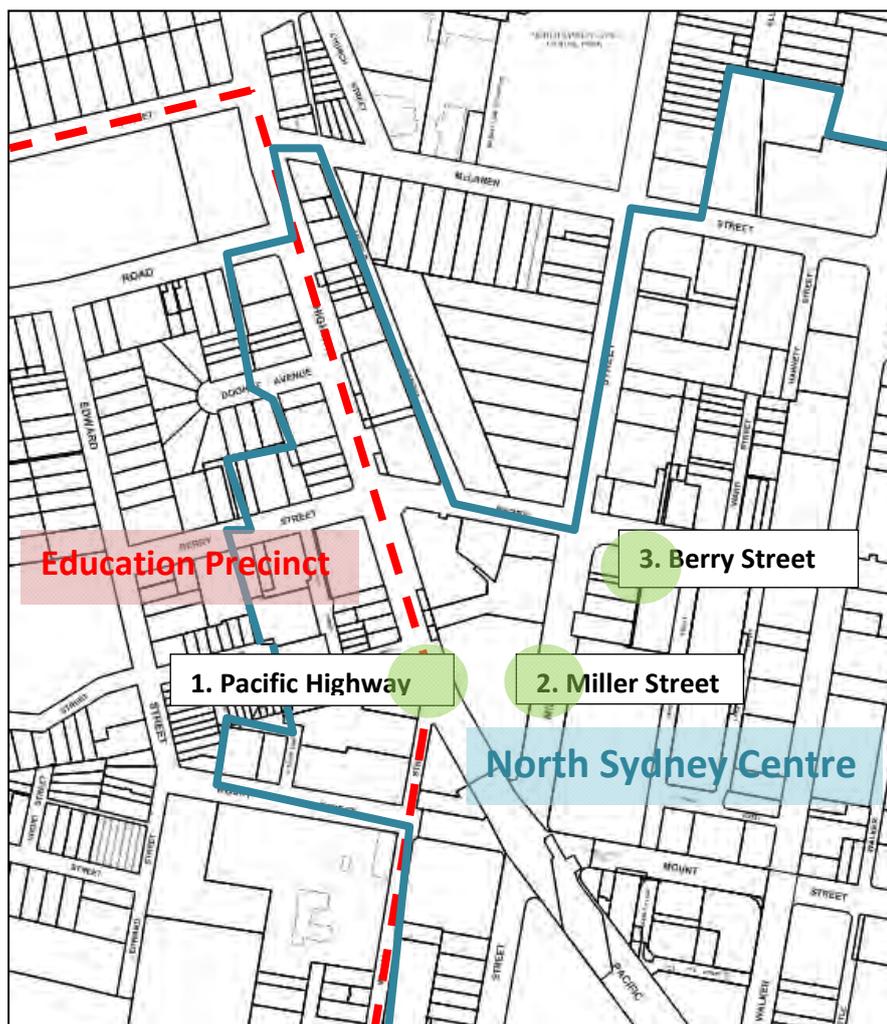
The key interventions aim to improve pedestrian amenity and movement in the North Sydney Centre. As these interventions could potentially impact traffic operations, modelling was undertaken.

The modelling tested these interventions concurrently to ensure that they could work in conjunction with each other.

1. Mid-block crossings

The study investigated signalised mid-block pedestrian crossings at the following locations:

- Pacific Highway (between Miller Street and Berry Street, near Charles Street)
- Miller Street (between Pacific Highway and Berry Street)
- Berry Street (between Miller Street and Walker Street)



1.1 Pacific Highway

This signalised pedestrian crossing is proposed to be located just south of Charles Street on the Pacific Highway. This crossing was identified to improve the connection between the North Sydney Centre and the Education Precinct. Additionally, with redevelopments occurring on both sides of the Pacific Highway, a new crossing is highly desirable to deal with the resulting increase in pedestrian movements.

Charles/Napier Street has been identified a potential shared zone under the 'Education Precinct Traffic Study' (Arup 2013). Council recently endorsed this shared zone on the adoption of the 'Education Precinct Public Domain Masterplan' (NSC 2014).

Council will liaise with RMS on the new crossing during the planning for the shared zone at Charles/Napier Street.

1.2 Miller Street

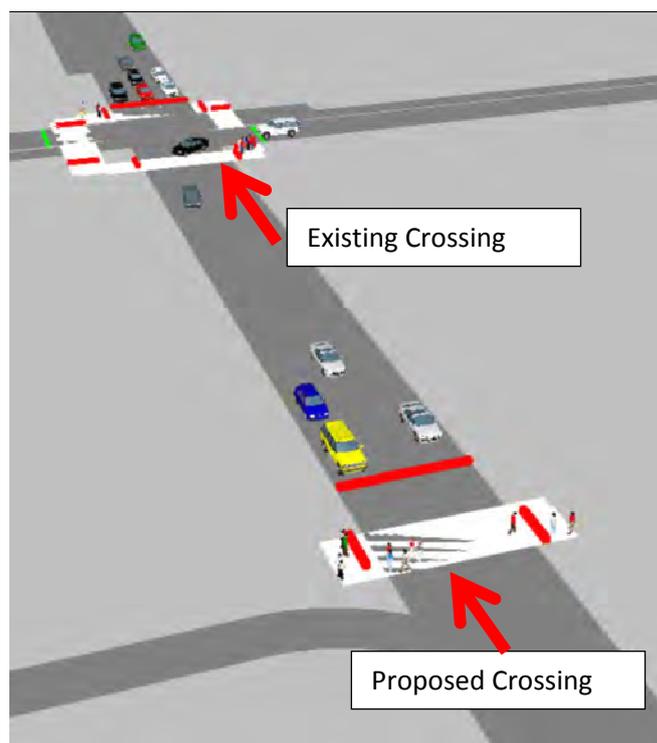
A signalised pedestrian crossing on Miller Street was originally identified in preliminary concept plans for public domain upgrade works. As Miller Street is a key pedestrian focal point of the North Sydney Centre, a pedestrian linkage at this location is highly desirable, and would formalise what is currently a popular pedestrian movement.

Council recently commenced a tender to appoint a consultant to undertake the design of the Miller Street upgrade. The results of the modeling for the crossing will be forwarded to the consultant to inform that process.

1.3 Berry Street

Council requested that Arup investigate a possible signalised pedestrian crossing at Berry Street between Miller Street and Walker Street. Such a crossing was seen as a possible project should significant redevelopment occur in this precinct.

The modeling found that such a crossing would result in a manageable disruption to traffic flow if the signals were coordinated with the nearby pedestrian crossing at the Berry/ Miller Street intersection.



Council should note the recommendation for a crossing at Berry Street and further investigate a crossing at this location should future development occur in the Ward Street precinct.

Recommendation

- 1.1 Council liaise with RMS regarding the signalised pedestrian crossing on the Pacific Highway during the planning for the shared zone at Charles/Napier Street.
- 1.2 The modeling for the proposed signalised pedestrian crossing at Miller Street be provided to the consultant appointed to design the Miller Street upgrade.
- 1.3 Council notes the recommendation for a signalised pedestrian crossing at Berry Street and further investigates this crossing should future development occur in the Ward Street precinct.

2. Upgrade of Miller Street

Miller Street is one of North Sydney's focal points. Pedestrian counts undertaken as part of this project revealed that it experiences the highest amount of pedestrian traffic in the North Sydney Centre.

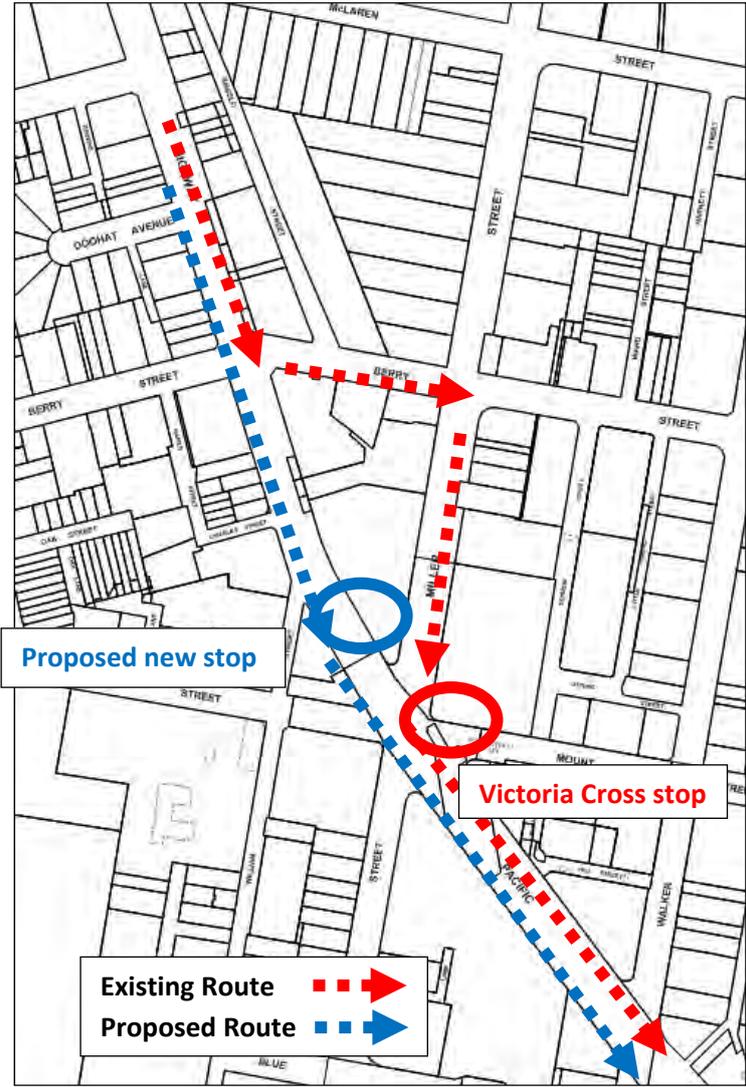
The planned upgrade of Miller Street has been identified by Council as a priority project to revitalise the North Sydney Centre, and will involve works to improve pedestrian movement and amenity within the public domain. As stated earlier, Council has commenced a tender to appoint a consultant to undertake the design of the Miller Street upgrade.

The study has noted that the upgrade of Miller Street is a key component to improving the overall vitality of the North Sydney Centre. Arup were provided preliminary concept designs of the upgrade to Miller Street, from which the following measures to reduce traffic on Miller Street were investigated.

2.1 Relocate selected bus services from Miller Street to Pacific Highway

The southbound bus stop at Victoria Cross on Miller Street currently services a large number of bus services. However, many of these services are from bus routes travelling from the Pacific Highway, which then turn onto Berry and Miller Streets, stopping at Victoria Cross. After leaving the Victoria Cross stop, these services then return to the Pacific Highway.

These buses cause a significant amount of traffic on Miller Street. To reduce congestion, the study recommends that the services from the Pacific Highway be diverted to a new stop on the Pacific Highway thereby avoiding Miller Street. The proposed route is shown below.



The modeling found that this new stop would remove a substantial amount of bus traffic from both Berry Street and Miller Street. It should be noted that the existing bus stop at Victoria Cross would remain to service bus routes travelling north/south on Miller Street.

The partial re-routing of bus services needs to be approved and implemented by Transport for NSW. It is recommended that Council engage with Transport for NSW on this issue during the planning for the Miller Street Upgrade.

2.2 Ban right turn from Miller Street (northbound)

The study suggests banning the right turn from Miller Street into Berry Street as a solution for reducing current congestion issues at the Miller Street / Berry Street intersection.

However, the study states that such a measure may only be required if other measures to reduce traffic are not introduced on Miller Street. As such, this intervention is recommended to only be considered if other proposed works are not pursued.

Recommendation

- 2.1 Council engages with Transport for NSW regarding the proposed new bus stop on Pacific Highway during the planning for the Miller Street Upgrade.
- 2.2 That the recommendation to ban the right hand turn on Miller Street only be considered if other proposed works are not pursued.

3. Changes to Pacific Highway traffic configuration

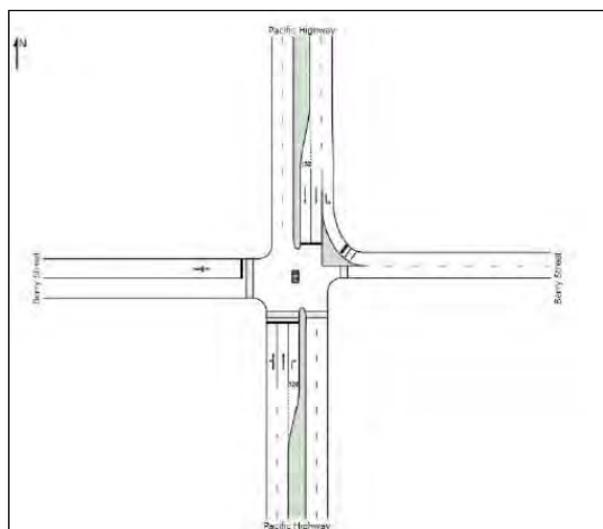
The study considers a range of possible interventions to the Pacific Highway. The outcomes of the proposed changes are interdependent and were considered in order of priority.

The following interventions on the Pacific Highway were examined in the model:

- Reconfiguration of the highway's intersection with Berry Street;
- The installation of traffic signals which allows all traffic movements at the intersection of Berry Street and the Pacific Highway; and
- Removing the left turn slip lanes at the highway's intersection with Walker Street and Miller Street.

The modelling also considers other proposed interventions in the study such as those outlined in sections 1.1 and 2.1 above

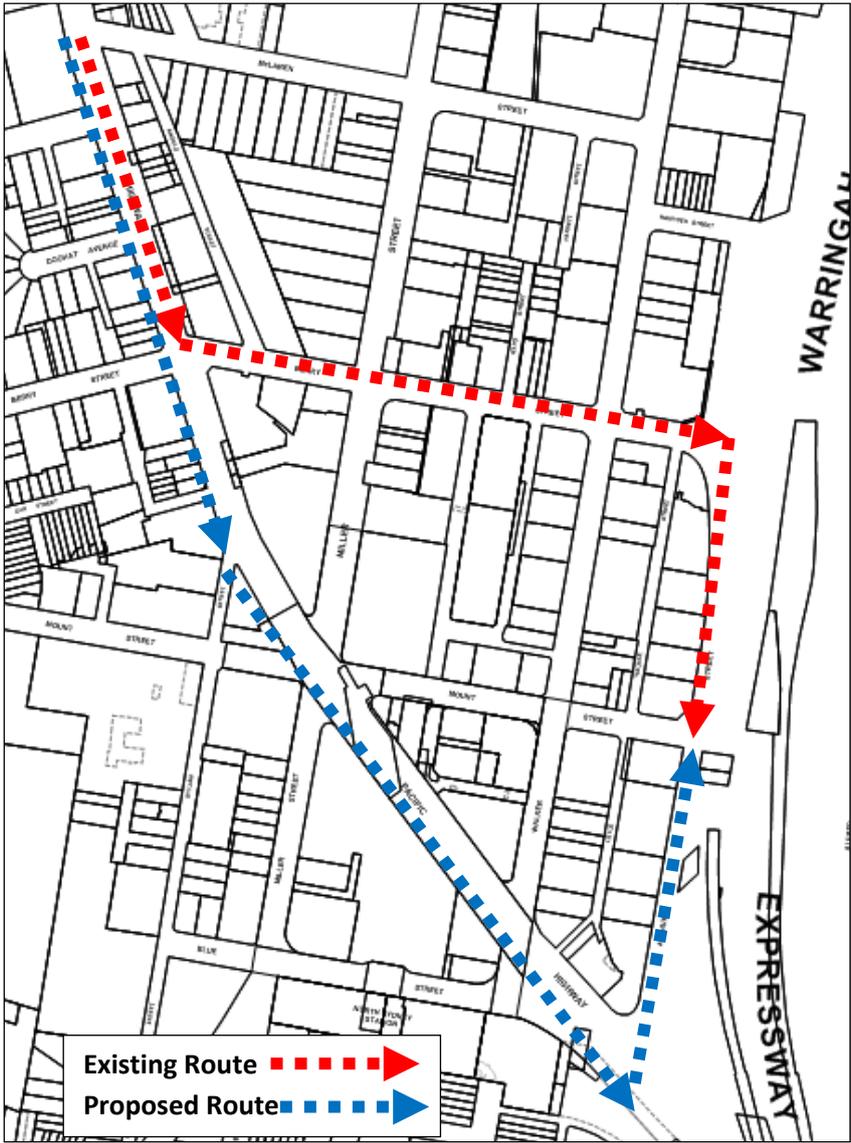
The diagram below shows reconfigured intersection as tested in the model.



3.1 Changes in Operations on Pacific Highway

To improve amenity on Berry Street, the consultant investigated measures on the Pacific Highway to encourage more city bound traffic to pass Berry Street and continue on the Pacific Highway, accessing the Mount Street ramps via Arthur Street.

The modelling included the transformation of one of the southbound left turn lanes into a through lane. The diagram below shows both the existing and the proposed travel route.



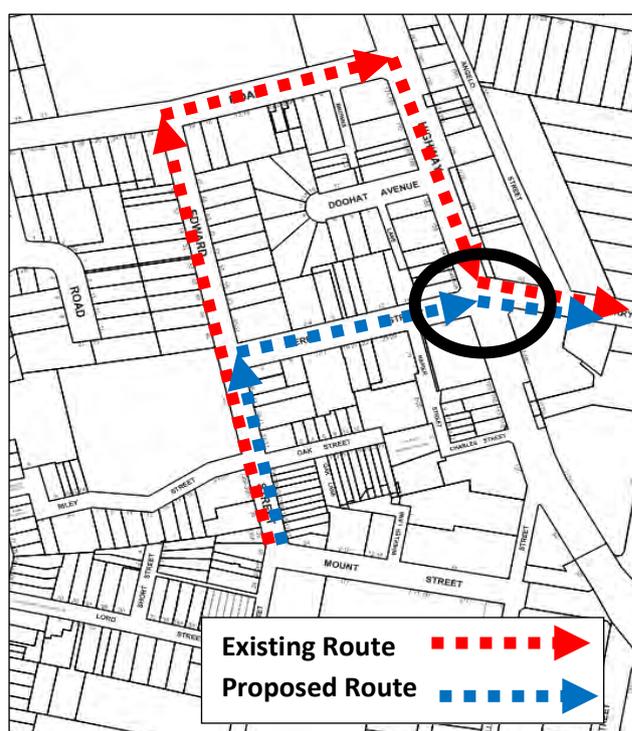
The modelling found that the Highway has sufficient capacity to accommodate a shift in traffic from Berry Street. However, there is insufficient capacity to accommodate all through traffic accessing the freeway at the Mount Street ramps.

The Study recommends that measures should be taken to determine how much additional green time could be given to through movements along the Highway at the Miller Street and Walker Street intersections. This would maximise the available capacity for additional through traffic and ensure an acceptable operation of the southbound kerbside lanes.

3.2 Introduction all traffic movement traffic signals at Berry Street/ Pacific Highway

The reconfiguration of the traffic signals at the Berry Street/Pacific Highway intersection to allow all movements was first identified under the 'North Sydney Education Precinct Traffic Study' (Arup 2013). This recommendation was made to assist city-bound traffic leave the education precinct faster.

Amending the intersection would reduce traffic on both Edward Street and Bay Road, as demonstrated below.



The modelling found that there is sufficient capacity to allow vehicles to exit the education precinct via an all-movements intersection at Berry Street. The signal phase allowing these movements is quite long due to the length of the parallel pedestrian crossing on the southern leg.

As both the Pacific Highway and Berry Street are State roads, the reconfiguration of this intersection would be undertaken by RMS. Following consultation with the community, it is recommended that Council engage with RMS about the reconfiguration of this intersection.

3.3 Removing Slip Lanes

To provide wider footpaths and improve pedestrian safety, the Study investigated removing the slip lanes on the Pacific Highway at the intersections with Miller Street and Walker Streets. Left turning vehicles will instead turn left at the existing traffic signals.

Removing the slip lanes would provide the opportunity to extend the kerb at these locations to the existing 'splitter islands'. These splitter islands are often at capacity, with pedestrians sometimes being forced to wait on the kerb until the signal changes.



As a result of the modelling undertaken, the Study recommends that all tested left turn slip lanes should be removed to improve pedestrian storage areas, with the exception of the left turn into Blue Street (travelling northbound).

Recommendation

3.1 Council engage with RMS to discuss the following interventions on the Pacific Highway:

- *Reconfiguration of the highway's intersection with Berry Street to encourage more city bound traffic to continue down the highway.*
- *Introduction of traffic signals which permit all traffic movements intersection at Berry Street.*
- *Removing the left turn slip lanes at the highway's intersections with Walker Street and Miller Street.*

Other Recommendations

In addition to the key recommendations, the study also makes the following comments/recommendations, which generally would not require a significant alteration to traffic operations.

4. Denison Street Footpath Widening

The Study notes that there will be an increase in pedestrian flows around Denison Street generated by the developments at 1 Denison Street and 86-100 Mount Street. Given the lack of pedestrian connectivity and amenity between Berry Street and the developing precinct to the south, footpath widening is recommended along Denison Street.

Onsite investigations revealed that such widening would require the removal of 9 time-restricted parking spaces on Denison Street and the reconfiguration /relocation of a limited amount of loading areas.

This recommendation is supported and should be considered as part of the public domain upgrades in the North Sydney Centre.

Recommendation

4.1 Footpath widening on Denison Street is considered as part of the public domain upgrades in the North Sydney Centre.

5. Introduction of new Taxi Ranks

Taxis are vital to the centre as connectivity is one of North Sydney's strongest assets. Quick access for businesses to/from the Sydney CBD and other centres is necessary for North Sydney remaining to be seen as a viable alternative to the Sydney CBD.

The availability of taxis will also reduce car dependency for workers. The study recommends introducing new taxi ranks at the following locations:

- At William Street adjacent to the Coca Cola building, to limit taxis stopping along Pacific Highway.
- At Berry Street outside Shopping World, to limit taxis stopping along Berry Street.

The proposed new taxi ranks are supported as they would address existing issues with taxis in North Sydney. In particular, the proposed taxi rank at Berry Street would address the issue of taxis illegally utilising street parking spaces on Berry Street, which causes significant traffic hazards.

Recommendation

5.1 Council support the introduction of new taxi ranks at William Street and Berry Street. The approval of these ranks will be done via the Council's Traffic Committee and also require consultation with the NSW Taxi Council.

6. Potential cycleway impacts

Council's 'North Sydney Integrated Cycling Strategy' identifies a cycleway on the Pacific Highway. Discussions with RMS and Transport for NSW have indicated general support for this alignment.

The proposed cycleway was therefore included in the traffic model. The findings of the preliminary modelling are:

- There is sufficient capacity at Blue Street to accommodate redirected bus routes.
 - The highway's intersections with (the reconfigured) Berry Street, Bay Road, Miller Street and McLaren Street all have sufficient capacity to accommodate the resumption of the northbound kerbside lane.
-

- Further detailed investigations need to be undertaken to determine if there is sufficient capacity at the eastern high approach to Walker Street.

The development of a cycleway on the Pacific Highway would be undertaken by RMS and Transport for NSW. It is recommended that the modelling results be noted by Council and forwarded to RMS and Transport for NSW.

Recommendation

6.1 Council note the findings of the modelling for the proposed cycleway on the Pacific Highway and forward this information to RMS and Transport for NSW.

7. Public open space and activity

The Study notes that flexible public open space and active streets are crucial for supporting an attractive Centre for residents, students and workers. To improve open space in the North Sydney Centre, the study proposes a number of public domain works.

The Study also states that 'hard infrastructure' by itself will not be enough and suggests a layer of 'soft infrastructure' which includes such things as events/festivals.

The importance of improving the public domain and activating the centre through events has already been identified in a number of Council projects. Council is already undertaking public domain upgrades in the North Sydney Centre, including the revitalisation of Brett Whitely Place.

In early 2015, Council will commence a marketing and promotion campaign for the North Sydney Centre as part of the North Sydney Centre Review. Their campaign will include a heavy focus on events in order to promote North Sydney and activate greater street level activity.

It is therefore recommended that these suggestions be further considered as part of the Marketing and Promotion Campaign and the Events and Activity Review.

Recommendation

7.1 That the public open space and activity suggestions be further considered as part of the Marketing and Promotion Campaign and the Events and Activity Review.

8. Shared zone opportunities

A shared zone gives priority to pedestrians in a low speed environment of a maximum 10km/h. Shared zones currently exist in several locations in the North Sydney Centre including the southern end of Little Walker Street.

The Study notes that all side-streets may be suitable to introduce shared zones. An assessment of these streets against the RMS criteria for shared zones revealed that Napier Street, Little Walker Street, Mount Street, Angelo Street and Hill Street all have potential for shared zones.

Council has already supported a new shared zone on Napier/Charles Street and shared zones on Mount Street and Hill Street are being considered as part of the public domain upgrade program.

Council has undertaken a further assessment of the possibility of a shared zone at Angelo Street. However, this investigation revealed that given the additional traffic from the Mixed Use developments along the Pacific Highway backing onto Angelo Street, a shared zone would not be appropriate.

Recommendation

8.1 That shared zones continue to be considered as part of the public domain upgrade program.

8.2 Council not pursue the introduction of a shared zone on Angelo Street.

9. Introduce automated pedestrian crossings throughout the North Sydney Centre

Feedback from the public collaborative mapping exercise highlighted that not all signalised pedestrian crossings included automatic traffic lights, with pedestrians sometimes required to press the button to activate the pedestrian phase.

The Study recommended the introduction of automated pedestrian crossings throughout the whole of the North Sydney Centre. It is recommended that Council lobby RMS to get these automated crossings introduced.

Recommendation

9.1 Council lobby RMS to get the introduction of automated pedestrian crossings throughout the whole of the North Sydney Centre.

10. Lobby RMS to reduce the Pacific Highway speed limit to 50km/h

Given the crash rates along the Pacific Highway, the Study recommends reducing the speed limit to 50km/h along the highway. This would primarily be a safety measure but would also improve pedestrian amenity

The Study states that it is unlikely that RMS would support this measure. But it is recommended that Council raise this recommendation during any discussions with RMS regarding works on the Pacific Highway.

Recommendation

10.1 Council raise the possibility of reducing the speed limit on the Pacific Highway to 50km/h with RMS during any discussions regarding works on the Pacific Highway.

11. Removing kerbside parking on the southern side of Mount Street (near Shore School)

Congestion was identified on Mount Street around Shore School during drop off / pick up periods. Comments from the collaborative mapping exercise stated that the queue of buses along Mount Street can extend to the Pacific Highway on occasion.

To enable efficient bus movements and pickup activity around this location, the Study recommends removing kerbside parking on the southern side of Mount Street (west of William Street).

It is recommended that removal of kerbside parking be further considered as part of the implementation of the 'Education Precinct Public Domain Masterplan' (2014).

Recommendation

11.1 The removal of kerbside parking is further considered as part of the implementation of the Education Precinct Public Domain Masterplan (2014).

12. Update wayfinding signage

Suggestions from the collaborative mapping exercise were made regarding wayfinding signage within the Centre. These suggestions included directional maps, labelling bus stops A – Z and arranging bus stops in close proximity to allow for easy changeovers.

It is recommended that this recommendation be further considered as part of the public domain upgrades in the North Sydney Centre. It is further recommended that such signage identify key assets in and around the North Sydney Centre such as Council Chambers, North Sydney Oval and Luna Park. This initiative will help better link the Centre with the surrounding area.

Recommendation

12.1 That updating wayfinding signage is further considered as part of the public domain upgrades.

12.2 That upgraded signage also identify key local assets such as North Sydney Oval and Luna Park

13. Footpath continuation opportunities

The study identifies the introduction of footpath continuity treatments which extend footpath treatments across roads at intersection crossing points. They are implemented in areas of high pedestrian activity and have been widely implemented throughout the Sydney CBD and detailed in Council's Public Domain Style Guide Manual.

Opportunities for footpath continuity treatments were initially identified at:

- Angelo Street
- Hill Street
- Spring Street
- William Street

13.1 Angelo Street

Modelling for footpath continuation treatments at both ends of Angelo Street revealed that there would only be minor disruption to traffic operations. As such, footpath continuation treatments were considered appropriate from a traffic capacity viewpoint.

It is recommended that Council further investigate footpath continuation treatments on Angelo Street.

13.2 Hill Street

The model for a footpath continuation treatment at Hill Street indicated that whilst the pedestrian flows are high, the low volume of vehicles means that disruption to traffic operations should be minimal.

It is noted that a Council is considering introducing a shared zone on Hill Street as part of public domain upgrades in the Centre. It is recommended that Council further investigate footpath continuation treatments on Hill Street in conjunction with the proposed shared zone.

13.3 Spring Street

The study found that traffic flows are reasonably high in this area, with data showing up to 305 vehicles per hour. Modelling suggested that a footpath continuation treatment would cause traffic queues in both peak periods. Queues at this location were shown to impact on the operation of the Walker Street / Mount Street intersection.

The study recommends not implementing such a treatment on Spring Street.

13.4 William Street

Given the high traffic flows in this area, the model found that a footpath continuation treatment would generate traffic queues in both peak periods and recommended that a continuation treatment is not appropriate at this time.

However, the study noted that the proposed mid-block crossing at the Pacific highway (see section 1.1) and Charles St, and a reconfiguration of the Pacific Highway intersection at Berry St (see section 3), would reduce both traffic and pedestrian flows at William Street.

As such, the study states a reassessment of this treatment is warranted should these works be implemented.

Recommendation

13.1 Council further investigate footpath continuation treatments on Angelo Street

13.2 Council further investigate a footpath continuation treatment on Hill Street in conjunction with a shared zone.

13.3 Council not implement a footpath continuation treatment on Spring Street.

13.4 Council only consider a footpath continuation treatment on William Street if the other identified works occur on the Pacific Highway.

CONCLUSION

The recommendations of the Study are focused on improving pedestrian connectivity, amenity and mobility within the North Sydney Centre. In conjunction with ongoing public domain upgrades, the traffic/pedestrian works will create a safer and more inviting environment in the North Sydney Centre.

The recommendations provide an opportunity for Council to demonstrate that it is committed to maintaining North Sydney's reputation as major economic hub and is creating an environment to encourage business investment on a global scale. The implementation of these works will require a strong commitment from Council and will require ongoing lobbying/consultation with the State Government.

Given the scope of the proposed works it is recommended that Council place the study on public exhibition. Feedback from the public exhibition will be reported back to Council before proceeding with the various recommendations outlined in this report. It is noted that many of the intervention proposed by the Study will feed into other work programs or strategies that themselves will be the subject of public consultation or notification. Preliminary investigations of these recommendations may also occur during this time.
