Bus Priority Infrastructure Program On-time running improvements Hurstville to Macquarie Park via Burwood

Submissions report

Roads and Maritime Services | November 2017
Bus Priority Infrastructure Program
On-time running improvements
Hurstville to Macquarie Park via Burwood Corridor
Submissions report

November 2017

Prepared by NGH Environmental and Roads and Maritime Services

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<table>
<thead>
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<th><strong>Approval and authorisation</strong></th>
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| **Title** | Bus Priority Infrastructure Program  
On-time running improvements Hurstville to Macquarie Park via Burwood Corridor Submissions Report |
| **Accepted on behalf of Roads and Maritime NSW by** | Roopa Janguni  
Project Manager  
Busway Program, Easing Sydney’s Congestion PMO, Sydney Division |
| **Signed** | [Signature] |
| **Dated** | 9 November 2017 |
Executive summary

The proposal

Transport for NSW, in partnership with Roads and Maritime, is proposing to improve the reliability of buses by making changes to bus stops along the corridor between Macquarie Park and Hurstville (the proposal). This corridor is predominantly serviced by the Metrobus M41 route, plus other local and suburban bus routes on parts of the corridor.

The main features of the proposal are:

- Reducing the number of locations at which buses need to stop by combining, removing or relocating some bus stops
- Lengthening some bus stops to improve access for buses and assist passenger boarding and alighting
- Improving bus stop infrastructure at some locations including changes to bus stop signage
- Reducing delays for buses by moving bus stops to the departure side of traffic lights, allowing them to take advantage of the Public Transport Information and Priority System (PTIPS).

The proposed changes include the following:

- 22 bus stop removals
- Bus stop consolidation at one location (four bus stops consolidated into two)
- Five bus stop improvements
- Eight bus stop relocations

Following a review of the submissions received, changes to the proposal have been made. These are discussed in Chapter 5 (Changes to the proposal) and a summary table of the changes made to the original proposal by bus stop location is provided in Table 0-1.

Display of the REF

Roads and Maritime prepared a review of environmental factors (REF) to assess the environmental impacts of the proposed works. The REF was electronically displayed for 47 days between Monday 27 March 2017 and Friday 12 May 2017. The REF was placed on the Roads and Maritime project website and made available for download. The website link was advertised in the following publications:

- Canterbury-Bankstown Express
- Inner West Courier
- Northern District Times
- St George and Sutherland Shire Leader

In addition to the above public display, a community update was letterbox-dropped to residents and businesses, and additional stakeholders were sent the community update with a covering email/letter. During the public display period, project team staff visited potentially affected residents, businesses and other stakeholders near bus stops with significant changes.

Issues raised

A total of 93 submissions were received in response to the display of the review of environmental factors (REF). This included submissions from one government agency (Canada Bay Council) and 92 from the community. Each submission has been examined individually to understand the issues being raised. The issues raised in each submission have been extracted and collated, and
corresponding responses to the issues have been provided. Where similar issues have been raised in different submissions, only one response has been provided.

Of the 93 submissions received in regards to the 38 bus stop locations where works are being proposed:

- 28 bus stop locations received objections.
- Between one and 11 objections on individual bus stops were received, with the highest number of objections received for bus stops #144 and #145 (10 and 11 objections respectively), bus stop #97 (nine objections) and bus stop #102 (nine objections).
- Nine bus stop locations received submissions that supported the proposed works (between one and two in support for each of these bus stops), but they also had objectors, except for bus stop #134.
- The proposal wide submissions received 11 objections and two submissions in support.

A total of 318 issues were raised on the proposal. Key issues raised by both the community and Canada Bay Council included the following:

- Increased walking distance as a result of removing/relocating bus stops, in particular where it would impact on the elderly or school children (54 issues raised).
- Overall justification of the proposed works, in terms of whether the scope of works would improve bus travel times (45 issues raised).
- Decreased pedestrian safety as a result of removing/relocating bus stops in areas that do not provide safe pedestrian crossings (27 issues raised).

In addition, a total of 64 issues were raised which were considered outside the scope of the proposed works.

**Proposal changes**

The following table (Table 0-1) provides a summary of the changes to the original proposal as a result of the public display of the REF and feedback received from the local community and Canada Bay Council as described in this report.

A total of eight bus stops are now proposed to be retained in their current location (#35, #87, #96, #97, #101, #122, #144 and #145). One existing bus stop (not previously proposed to change as part of the original proposal – bus stop #100) will be relocated about 80 metres south of its current location to pair with bus stop #101 which is now proposed to be retained. One bus stop previously proposed to be removed (bus stop #36) is now proposed to be retained and relocated about 30 metres south of its current location to be clear of an existing slip lane.

The extension of bus stop #78 will be modified to retain two public garden beds with juvenile Tuckaroo (*Cupaniopsis anacardioides*) trees (previously proposed to be removed in the REF). Changes to bus stop #78 will now only require changes to the existing bus stop signage.

The proposed changes are detailed in Chapter 5 (Changes to the proposal) and Appendix C.
Table 0-1 Proposed changes to original proposal

<table>
<thead>
<tr>
<th>Ref#</th>
<th>Location and TSN</th>
<th>Changes to the proposal</th>
</tr>
</thead>
<tbody>
<tr>
<td>#35</td>
<td>Lane Cove Road before Quarry Road, Ryde (stop 2112234)</td>
<td>The existing bus stop will be retained at its current location to pair with bus stop #36 which is now proposed to be retained and relocated about 30 metres south of its current location.</td>
</tr>
<tr>
<td>#36</td>
<td>Lane Cove Road after Quarry Road, Ryde (stop 211263)</td>
<td>The existing bus stop will be retained and relocated about 30 metres south of its existing location. The proposed relocation would involve the relocation of bus signage, TGSI and a plinth. There is space available for a seat to be installed in this new location to replace the seat provided at the existing bus stop location (subject to confirmation by council).</td>
</tr>
<tr>
<td>#78</td>
<td>Wellbank Street near Concord Road, Concord (stop 2137115)</td>
<td>The extension of bus stop #78 will be modified to retain two public garden beds with juvenile Tuckaroo (<em>Cupaniopsis anacardioi</em>) trees (previously proposed to be removed). Changes to bus stop #78 will now only require changes to the existing bus stop signage. The proposed changes are detailed in Chapter 5 (Changes to the proposal) and Appendix C.</td>
</tr>
<tr>
<td>#87</td>
<td>Majors Bay Road near Gallipoli Street, Concord (stop 213780)</td>
<td>The existing bus stop will be retained at its current location.</td>
</tr>
<tr>
<td>#96</td>
<td>Burwood Road near Stanley Street, Concord (stop 213726)</td>
<td>The existing bus stop will be retained at its current location.</td>
</tr>
<tr>
<td>#97</td>
<td>Burwood Road near Stanley Street, Concord (stop 213794)</td>
<td>The existing bus stop will be retained at its current location.</td>
</tr>
<tr>
<td>#100</td>
<td>Burwood Road near Moreton Street, Concord (stop 2137133)</td>
<td>The existing bus stop will be relocated around 80 metres south to be paired with bus stop #101 which is now being retained. The proposed relocation would involve the relocation of bus signage, TGSI and a plinth. Relocation will also require the removal of two part time parking spaces.</td>
</tr>
<tr>
<td>#101</td>
<td>Burwood Road near Burton Street, Concord (stop 213724)</td>
<td>The existing bus stop will be retained at its current location and paired with bus stop #100 which is being relocated around 80 metres south to be closer to this particular stop as its corresponding bus stop #102 is being removed as part of this proposal.</td>
</tr>
<tr>
<td>#122</td>
<td>Burwood Road near Mitchell Street, Enfield (stop 213628)</td>
<td>The existing bus stop will be retained at its current location.</td>
</tr>
</tbody>
</table>

1 Transport Stop Number
### Next steps

The submission report will be endorsed by Transport for NSW / Roads and Maritime and REF determination prior to release of closeout community update. Prior to implementation the relevant local authorities will be consulted for coordination for bus stop changes.

<table>
<thead>
<tr>
<th>Ref#</th>
<th>Location and TSN¹</th>
<th>Changes to the proposal</th>
</tr>
</thead>
<tbody>
<tr>
<td>#144</td>
<td>New Illawarra Road near Ellersie Road, Bexley North (stop 2207180)</td>
<td>The existing bus stop will be retained at its current location.</td>
</tr>
<tr>
<td>#145</td>
<td>New Illawarra Road near Tomkins Street, Bexley North (stop 2207181 / 2207151)</td>
<td>The existing bus stop will be retained at its current location.</td>
</tr>
</tbody>
</table>
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1 Introduction and background

1.1 The proposal

Transport for NSW, in partnership with Roads and Maritime, is proposing to improve the reliability of buses by making changes to bus stops along the corridor between Macquarie Park and Hurstville (the proposal) (Figure 1-1). This corridor is predominantly serviced by the Metrobus M41 route, plus other local and suburban bus routes on parts of the corridor.

The proposal site traverses the suburbs of Macquarie Park, North Ryde, Ryde, Putney, Rhodes, Concord West, North Strathfield, Concord, Burwood, Campsie, Kingsgrove, Earlwood, Bexley, Bexley North and Hurstville and is within the Ryde, Canada Bay, Burwood, Canterbury-Bankstown, Bayside and Georges River local government areas.

Bus stop information for bus stops along the proposal route including the bus stop location number (as assigned in the REF), street address and Transit Stop Number (TSN) are provided in Appendix A.

The key features of the proposal are:

- Reducing the number of locations at which buses need to stop by combining, removing or relocating some bus stops
- Lengthening some bus stops to improve access for buses and assist passenger boarding and alighting
- Improving bus stop infrastructure at some locations including changes to bus stop signage
- Reducing delays for buses by moving bus stops to the departure side of traffic lights, allowing them to take advantage of the Public Transport Information and Priority System (PTIPS).

The proposed changes as presented in the REF which went on display included the following and are illustrated in Figures 1-2 to 1-10:

- 22 bus stop removals
- Bus stop consolidation at one location (four existing bus stops removed and consolidated into two new stops with new TSNs)
- Five bus stop improvements
- Eight bus stop relocations.

Implementation of the proposal would take up to two months, although the proposed changes on Waterloo Road at Macquarie Park would be deferred until 2019 following the commencement of Sydney Metro Northwest operations.

A more detailed description of the proposal is found in the Bus Priority Program On-time running improvements Hurstville to Macquarie Park via Burwood Corridor Review of Environmental Factors prepared by Roads and Maritime in March 2017.

1.1.1 Need for the proposal

The proposal forms part of the Bus Priority Infrastructure Program and supports Sydney’s Bus Future (Transport for NSW, 2013) by delivering projects that make buses more reliable. The Bus Priority Infrastructure Program is consistent with, and recognises and progresses NSW Government policies and plans, including the NSW Premier Priorities and Sydney’s Bus Futures. The current program focuses on improvements in Rapid and Suburban routes, as outlined in Sydney’s Bus Future, and targeted corridors that experience lower service reliability.

The Bus Priority Infrastructure Program supports targeted improvements for bus on-time running through a range of initiatives, including:
- Combining or removing some bus stops where they are spaced close together
- Lengthening some bus stops to accommodate longer articulated buses
- Making it easier for buses to move in and out of bus stops by removing or relocating on-street parking
- Reducing potential delays for buses at traffic signals by moving stops to the departure side of the intersection.

This initiative is the first stage aimed at achieving on-time running improvements of buses. Any future proposal by the NSW Government to develop the corridor into a rapid route would involve further reviewing the bus service along this corridor and consideration of other road and traffic management improvements. This would be subject to further consultation.

1.1.2 Objectives of the proposal
The objectives of the proposal are to:

1. Achieve more reliable travel times for bus passengers
2. Improve on-time running for buses consistent with the State Priority to maintain or improve reliability of public transport services
3. Minimise impacts for users of suburban and local services
4. Minimise impacts on the environment and the community.

1.1.3 Proposal background and methodology
Every year, Transport for NSW and bus operators receive thousands of complaints about slow and unreliable bus services. This can affect people's perception of bus service quality compared to other travel choices and their ability to reliably access employment, education, medical and other services. A number of measures have been identified to address these issues targeting particular bus corridors that currently experience lower service reliability including bus route M41.

Adjusting the number and location of bus stops along a bus corridor is one measure that can help reduce the risk of delays to passengers. It limits the need for buses to continually pull in and out of traffic from poorly located stops where customers may be considerably lower compared to other adjacent stops along the route or where buses may miss green traffic lights or get caught in queues behind turning cars.

Maintaining suitable access to bus stops and adjacent land uses which the stop services is an important consideration when determining if a bus stop should be removed or relocated. The proposal aims to strike a balance between:

- maintaining a suitable walking distance to bus stops (i.e. within a 400 metre radius or an average five minute walk) and those key land uses which they service, and
- providing a bus service that can keep to time and enable bus passengers to reach their destinations quickly and reliably.

While at individual locations the proposed changes may only seem to have small benefits, collectively they can deliver an important cumulative benefit to service reliability across the corridor.

The methodology for selecting the preferred option was an iterative process that involved several stages of evaluation as described below:

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2 Based on a ‘walkable’ catchment area of 400 metres as described in ‘Integrating Land Use and Transport: Improving Transport Choice – Guidelines for planning and development’, prepared for NSW Department of Urban Affairs and Planning, August 2001, 99/77, ISBN 0 7347 0076 8. This is also consistent with the guidelines of Sydney’s Bus Future which states an average five minute walk to a bus route (Transport for NSW, 2013).
**Stage 1 – Preliminary investigations**

- Performance study carried out by Transport NSW along key corridors outlined in *Sydney’s Bus Future*.

**Stage 2 – Field investigation / site observations**

- Inspect bus routes by riding the buses during peak periods to understand the bus route operation and identify operational issues.
- Review bus stop location, topography and adjacent land use.
- Conduct a survey on each bus stop to determine the number of passengers using the stop and user’s profiles (also reviewing Opal data).
- Carry out an audit of each bus stop to prepare an inventory of existing infrastructure at the bus stop.

**Stage 3 – Early stakeholder engagement**

- Engage with stakeholders such as bus operators and councils regarding the proposal corridor.

**Stage 4 – Initial assessment**

- Review the survey data and identify deficiencies of existing bus stop infrastructure against the draft *Bus Stop Location Guidelines Sydney Metropolitan Area* (Transport for NSW, 2014).
- Carry out a preliminary assessment for each bus stop to determine whether the bus stop should be retained, modified, relocated or consolidated, including a review and analysis of:
  - Customers counts (Opal data) to identify usage at each stop including identifying the busiest times and the relative numbers of seniors/pensioners and students.
  - Public Transport Information and Priority System (PTIPS) data showing bus performance along routes, compared with schedule.
  - Key customers generators.
  - Topography and bus stop spacing having regard to the 400 metre spacing guideline in *Sydney’s Bus Future* (which helps with efficient bus operation) whilst maintaining a suitable walking distance to bus stops (i.e. within a five minute walk or 400 metre radius).
- In the initial assessment phase, Roads and Maritime’s Network and Safety team undertook a safety review of the bus stop locations identified for potential relocation/removal/extension, taking into consideration the following factors:
  - Curvature of the road and sight distance
  - Location in relation to traffic signals and pedestrian crossings
  - Adjacent land uses
  - Vegetation and street tree plantings
  - Adjacent traffic or parking restrictions
  - Distances to adjacent bus stops
  - Developing the proposed scheme of bus stop changes in order to determine overall location of bus stops along the route
  - Consultation with Transport for NSW and State Transit Authority NSW (STA) to ensure the proposed changes are suitable.

**Stage 5 – Detailed assessment**

- Carry out additional surveys at the identified bus stops during peak periods covering extended periods for both weekdays and weekends.
- Prepare concept drawings (to scale) for each bus stop where modifications are proposed, identifying new / removed / relocated infrastructure.
• Prepare a plan of work including ownership of assets and cost estimate for bus stop modification, relocation and consolidation.

**Stage 6 – Environmental assessment**

• Prepare a REF and assess the potential environmental impacts of the proposal.

**Stage 7 – Wider community and stakeholder consultation**

• Publicly display the REF and invite community and stakeholder comment.
• Consider community / stakeholder views and modify the proposal as appropriate.

### 1.1.4 Key proposal considerations

Key considerations for developing the proposal were derived from the *Sydney’s Bus Future* (Transport for NSW, 2013), *Improving Transport Choice* (NSW Department of Urban Affairs and Planning⁴, 2001) and the draft *Bus Stop Location Guidelines Sydney Metropolitan Area* (Transport for NSW, 2014) and were as follows:

1. Generally aiming for a standardised spacing of about 400 metres between bus stops, with a greater than 400 metre spacing accepted at some locations to minimise the number of bus stop relocations across the corridor (acknowledging that bus stop spacings of around 800 metres would still maintain a walking catchment of 400 metres to the nearest bus stop, however a 800 metre spacing was not an aim of this proposal).
2. Ensure bus stops are located close to major customers generators and community facilities to maximise the efficiency of a bus stop and eliminating redundant and underutilised stops.
3. Locate bus stops on the departure side of signalised intersections to improve traffic conditions and help buses to meet the timetable using Public Transport Information and Priority System (PTIPS).
4. Adjust and locate bus stops to maintain and/or improve pedestrian safety.
5. Provide suitable bus zone length to allow buses to manoeuvre in and out of bus stops easily without obstructing the adjacent lane.

An important consideration in developing the proposal was to ensure bus stops used by local and suburban services in the corridor remained accessible, factoring in site specific considerations such as topography, walking distance, adjacent land uses and safe crossing facilities. *Improving Transport Choice - guidelines for planning and development* (NSW Department of Urban Affairs and Planning⁴, 2001) is an important part of the State government’s commitment to promote urban areas in NSW as attractive, accessible and convenient places in which to live and work. The guidelines are part of a package of initiatives to improve the integration of land use and transport planning and provide principles, initiatives and best practice to improve access to more sustainable transport modes including public transport (buses and trains), walking and cycling.

The guidelines recognise that the proximity of housing and other key land uses such as commercial centres and community facilities to public transport services is an important determinant in improving transport choice and managing travel demand in urban areas. In relation to land use and bus services, the guidelines recommend a maximum of 400 metres (about a five minute walk) from a bus route accessing a metropolitan railway station or equivalent mass transit node served at least every 20 to 30 minutes. This is generally consistent with the guidelines in

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³ Now the Department of Planning and Environment
⁴ Now the Department of Planning and Environment
Sydney’s Bus Future which recommend that people are within an average five minute walk to a bus stop (Transport for NSW, 2013). In denser urban areas with higher frequency services, the Improving Transport Choice guidelines state that the walking catchment could be 600 to 800 metres.

Where distances between stops have exceeded 400 metres, consideration was given to ensure that the proposed spacing maintained a 400 metre walking catchment (or five minute walk) to the nearest bus stop in accordance with the guidelines of Sydney’s Bus Future and Improving Transport Choice described above.

Based on these guidelines, stop spacings of up to 800 metres would maintain an accessible walking catchment to the nearest bus stop of 400 metres, however proposed bus stop spacings have generally been kept well below 800 metres to maintain a duplicate coverage area that potentially provides bus users with a choice of stops in some locations. Where removing a bus stop would result in excessive distance between stops for local and/or suburban routes, no changes have been proposed.

The position and dimensions of new and relocated bus stops (and those existing stops subject to significant alteration as a result of the proposal) would be assessed against the requirements of AS 1428.1-2001 Design for Access and Mobility prior to becoming operational. A further safeguard has been included to address this in Chapter 7 (Environmental Management) of this report. The provision of accessible bus stops is a shared responsibility between both council and Transport for NSW. Roads and Maritime would liaise directly with the relevant local council and Transport for NSW during implementation of the proposal to ensure that resulting bus stop infrastructure changes (i.e. new or relocated stops and existing stops subject to significant alteration as a result of the proposal) have been considered against these requirements.
Figure 1-1 Location of the proposal
Figure 1-2 Proposed changes on the corridor from Hurstville to Macquarie Park (map 1) as presented in the REF
Figure 1-3 Detail of proposed changes - Ryde local government area as presented in the REF
Figure 1-4 Proposed changes on the corridor from Hurstville to Macquarie Park (map 2) as presented in the REF
Figure 1-5 Detail of proposed changes – Canada Bay local government area as presented in the REF
Figure 1-6 Detail of proposed changes – Canada Bay local government area as presented in the REF
Figure 1-7 Proposed changes on the corridor from Hurstville to Macquarie Park (map 3) as presented in the REF

Figure 1-8 Detail of proposed changes – Burwood local government area as presented in the REF
Figure 1-9 Proposed changes on the corridor from Hurstville to Macquarie Park (map 4) as presented in the REF.
Figure 1-10 Detail of proposed changes – Bayside and Georges River local government areas as presented in the REF
### 1.2 REF display

Roads and Maritime and Transport for NSW sought community feedback on a Review of Environmental Factors (REF) for changes to bus stops and on street parking along the Macquarie Park to Hurstville bus corridor. This is serviced mainly by the M41 bus route which runs through the City of Ryde, City of Canada Bay, Municipality of Burwood, City of Canterbury-Bankstown, Bayside and Georges River local government areas. The proposal has been developed in close consultation with Transport for NSW, Sydney Buses and local councils. The proposal is part of the Bus Priority Infrastructure Program that aims to improve the reliability of bus services by combining, relocating, removing or lengthening some bus stops. The proposal implements part of Transport for NSW’s *Sydney’s Bus Future* strategy.

Roads and Maritime sought community feedback on the REF between Monday 27 March and Friday 12 May 2017. The REF was placed on the Roads and Maritime project website and made available for download during this time. The website link was advertised in:

- Canterbury-Bankstown Express
- Inner West Courier
- Northern District Times
- St George and Sutherland Shire Leader

As the proposal covered a large area, Roads and Maritime explained the proposal in four community updates. Each update focused on changes to bus stops in a specific council area. These were distributed to residents and businesses along the impacted route. There was also signage displayed at bus stops that were proposed to be removed, extended or relocated. Doorknocks were carried out for the residents and businesses near the affected stops. Advertisements were also placed in local papers and updates were provided on the Roads and Maritime website with stakeholder meetings offered to schools, businesses and aged care facilities. The dates of the communication activities undertaken are provided in *Table 1-1*.

**Table 1-1 Communication activities undertaken for the proposal during public display of REF**

<table>
<thead>
<tr>
<th>Date</th>
<th>Communication activity</th>
<th>Targeted stakeholders</th>
</tr>
</thead>
<tbody>
<tr>
<td>Monday 27 March 2017</td>
<td>Distribution of community update</td>
<td>Local residents, business and community</td>
</tr>
<tr>
<td>Monday 27 March 2017</td>
<td>Signs at bus stops that will be removed, relocated or extended</td>
<td>Transport users</td>
</tr>
<tr>
<td>Monday 27 March 2017</td>
<td>Flyers on buses that follow the affected routes</td>
<td>Transport users</td>
</tr>
<tr>
<td>Monday 27 March 2017</td>
<td>Media release</td>
<td>Wider community</td>
</tr>
<tr>
<td>Monday 27 March 2017</td>
<td>Website update</td>
<td>Wider community</td>
</tr>
<tr>
<td>Monday 27 March 2017</td>
<td>Email update</td>
<td>Local government, emergency services, utilities, interest groups and educational stakeholders with email addresses</td>
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1.3 Purpose of the report

This submissions report relates to the review of environmental factors (REF) prepared for the Bus Priority Infrastructure Program On-time running improvements Hurstville to Macquarie Park via Burwood Corridor, and should be read in conjunction with that document (Bus Priority Program – On-time running improvements Hurstville to Macquarie Park via Burwood Corridor REF March 2017).

The REF was placed on public display and submissions relating to the proposal and the REF were received by Roads and Maritime.

Each submission has been examined individually to understand the issues being raised. The issues raised in each submission have been extracted, summarised and collated, and corresponding responses to the issues raised have been provided.

This submissions report summarises the issues raised and provides responses to each issue as well as outlines subsequent changes to the proposal as a result of the issues raised in the submissions process and any associated environmental impacts. Additional amendments to the safeguards and mitigation measures for inclusion within the REF are also outlined to address issues raised in submissions as appropriate.

This submissions report is structured as follows:

- Chapter 2 (Summary of issues)
- Chapter 3 (Response to issues - community)
- Chapter 4 (Response to issues – council)
- Chapter 5 (Changes to the proposal)
- Chapter 6 (Additional assessment)
- Chapter 7 (Environmental management).
2 Summary of issues

Roads and Maritime received 93 submissions, between 27 March 2017 and 12 May 2017. Appendix B lists the respondents and each respondent’s allocated submission number. Appendix B also indicates where the issues from each submission have been addressed in Chapter 3 (Response to issues - community) and Chapter 4 (Response to issues – council) of this report.

2.1 Overview of issues raised

A total of 93 submissions were received in response to the display of the REF. This included submissions from one government agency (Canada Bay Council) and 92 from the community.

Each submission has been examined individually to understand the issues being raised. The issues raised in each submission have been extracted and collated, and corresponding responses to the issues have been provided. Where similar issues have been raised in different submissions, only one response has been provided.

The issues raised in submissions have been categorised by location (ie. by individual bus stops or proposal wide) as the issues raised primarily related to specific individual bus stop locations along the route. The issues have been further categorised and summarised based on the nature of the comments raised for each stop (ie. safety, increased walking distance). Figure 2-1 provides an overview of the number of submission issues received with identified support or objection to the proposed works at specific bus stops and the proposal as a whole. Of the 38 bus stop locations where works are being proposed:

- 28 bus stop locations received objections.
- Between one and 11 objections on individual bus stops were received, with the highest number of objections received for bus stops #144 and #145 (10 and 11 objections respectively), bus stop #97 (nine objections) and bus stop #102 (nine objections).
- Nine bus stops locations received submissions that supported the proposed works (between one and two in support for each of these bus stops), but they also had objectors, except for bus stop #134.
- The proposal wide submissions received 11 objections and two submissions in support.

Figure 2-2 provides an overview of the types of sub issues raised by Canada Bay Council and the community in their submissions for all bus stops combined, including the proposal as a whole. A total of 318 issues were raised. The key sub issues raised included the following:

- Increased walking distance as a result of removing/relocating bus stops, in particular where it would impact on the elderly or school children (54 issues raised).
- Overall justification of the proposed works, in terms of whether the scope of works would improve bus travel times (45 issues raised).
- Decreased pedestrian safety as a result of removing/relocating bus stops in areas that do not provide safe pedestrian crossings (27 issues raised).

Furthermore, 64 issues raised were considered outside the scope of the proposed works.

In their submission, Canada Bay Council advised they were not in favour of most of the changes proposed in their Local Government Area (LGA) especially locations where bus stops are proposed to be removed or relocated resulting in the new distance between bus stops being greater than 300 metres. In particular, the council opposed those locations where the proposed bus stop arrangement would disadvantage seniors/pensioners and concession card holders. The council also provided feedback on design features and processes that needed to be taken into consideration for bus stop removals, extensions and relocations as a result of the proposal.
Figure 2-1 Objections and support for proposed works at individual bus stop locations by submission issue. It includes issues considered outside the scope of works being proposed.
Figure 2-2 Sub issue topics raised in the submissions for all bus stop locations combined, including the proposal as a whole
3 Response to issues - community

This chapter addresses the community submissions made in relation to the proposal. Proposal wide comments made regarding the proposal are addressed in section 3.1. Specific comments on individual bus stop locations are addressed in sections 3.2 to 3.21. Out of scope submissions are addressed in section 3.22.

3.1 Proposal wide

3.1.1 Support

Submission number(s)
9, 30

Issue description
- Supports the rationale of the project in general as often there are too many stops placed close to each other.

Response
Roads and Maritime and Transport for NSW acknowledge the support for the proposal.

3.1.2 Scope/justification of works

Submission number(s)
15, 18, 35, 36, 57, 65, 69, 72, 77, 88, 91

Issue description
The justification of the proposal was questioned in a number of submissions with the need for the proposal and its ability to improve bus reliability raised as key concerns. Common concerns raised under this category (which are described further below) related to:
- General opposition
- Does not address underlying cause of bus delays
- Reduces availability of public transport infrastructure
- Not in the public interest
- On time running effectiveness for M41 route
- Existing time savings with Opal system
- Bunched bus platoons
- Increases in parking supply

General opposition
- Against removal of any bus stops related to the northbound M41 bus route.

Does not address underlying cause of bus delays
- The removal and relocation of bus stops will not improve the traffic congestion in Ryde especially in light of proposed developments and subsequent population increases in the area.
- Major passenger loading and unloading points are at Hurstville, Campsie, Burwood, Concord, Top Ryde and Macquarie Centre shops and Concord Hospital with occasional use at intermediate stops. Bus delays are mostly experienced from Top Ryde to Hospital Road and
Concord, Burwood and Campsie shops as a result of heavy vehicular and pedestrian traffic. Removal of 11 bus stops will not improve on time running.

- The slowing down of M41 route is due to increased population and resulting traffic.
- Main issue with M41 buses is peak hour congestion on main roads.

Reduces availability of public transport infrastructure

- Local residents in this area desperately need more, not less, public transport infrastructure.

Not in the public interest

- Speeding up buses by removing bus stops and detouring around busy centres would be contrary to passengers’ interests.
- The focus on standardised spacing is at odds with what should be the primary focus which is to provide a service to the public.

On time running effectiveness for M41 route

- The proposal is not needed as the M41 service is one of the more reliable services.
- The proposal will not improve on-time running.
- Metrobuses (M41) do not have a timetable and therefore on time running is not an issue.

Existing time savings with Opal system

- Deleting stops would not make much difference to on time running, especially as the Opal system removes delay of ticketing. The proposal does not mention time saved from use of Opal system.

Bunched platoons of buses

- Bunched platoons of buses are undesirable because of the changes they cause to travel times.

Provision of parking

- Bus stops should not be displaced for car parking.

Response

General opposition, traffic congestion, availability of public transport infrastructure, public interest, on time running, Opal system, bunched bus platoons

The proposal forms part of the Bus Priority Infrastructure Program under the Easing Sydney’s Congestion Program Office\(^5\) and supports Sydney’s Bus Future (Transport for NSW, 2013). Buses are a key part of Sydney’s growing and evolving public transport network. Sydney’s Bus Future is the NSW Government’s long term plan to redesign our city’s bus network to meet customer needs now and into the future (Transport for NSW, 2013). Sydney’s buses provide more than 220 million trips a year across the city. As Sydney grows, the bus system needs to meet the challenges growth brings. Sydney’s Bus Future sets out step-by-step actions to deliver fast and reliable bus services for customers where and when they are needed.

Road and Maritime supports Sydney’s Bus Future by delivering projects in the Bus Priority Infrastructure Program that make bus services faster and more reliable. These projects help to provide:

\(^5\) Easing Sydney’s Congestion Program Office (ESCPO) is developing projects on the State road network, in accordance with government initiatives, for managing and improving traffic congestion and road safety within the Sydney region.
- red bus lanes
- bus priority at traffic lights
- more efficient bus stop placement

Transport for NSW and bus operators regularly receive thousands of complaints annually about slow and unreliable bus services. This can affect people's perception of bus service quality compared to other travel choices and their ability to reliably access employment, education, medical and other services. A number of measures have been identified to address these issues targeting particular bus corridors that currently experience lower service reliability.

Making adjustments to the number and location of bus stops along a bus corridor is one measure that can help reduce the risk of delays to passengers. It limits the need for buses to continually pull in and out of traffic from poorly located stops where there are less customers compared to other adjacent stops along the route or where buses may miss green traffic lights or get caught in queues behind turning cars.

Chapter 2 (Need and options considered) of the REF describes the strategic need for the proposal and establishes its consistency with key strategic planning and policy documents. As noted in Section 2.1 of the REF, the proposal forms part of the Bus Priority Infrastructure Program which focuses on improvements in Rapid and Suburban routes, as outlined in Sydney’s Bus Future (Transport for NSW, 2013), and targets corridors that experience lower service reliability. Overall the proposal, as part of the Bus Priority Infrastructure Program, supports targeted improvements for bus on-time running through a range of initiatives, including:

- Reducing the number of locations at which buses need to stop by combining, removing or relocating some bus stops
- Lengthening some bus stops to improve access for buses and assist passenger boarding and alighting
- Improving bus stop infrastructure at some locations including changes to bus stop signage
- Reducing potential delays for buses by moving bus stops to the departure side of traffic lights, allowing them to take advantage of the Public Transport Information and Priority System (PTIPS).

While it is acknowledged that the road network can be highly congested resulting in delays and poor reliability for some bus services, the proposal would still improve bus reliability by reducing common sources of delay. A key issue is delays associated with servicing bus stops that are positioned too close together and which are underutilised. Numerous bus stops positioned closely together multiply the delays associated with a bus leaving the traffic stream, allowing customers to board / alight and then waiting to re-enter the traffic stream. While the Opal system has reduced some delays on Sydney bus services, reliability issues have still been identified along the M41 route.

Improvements to the reliability of bus services are expected to encourage public transport use. While for some people optimisation of bus stop spacing would mean additional walking distance and reduced convenience, the proposed changes would still mean the bus services using the corridor would be accessible and would remain an attractive transport option.

Section 1.1.3 of this submissions report details how options were assessed to achieve these objectives. Transport for NSW took into account existing and future developments, including major business and residential centres and the demography of the area when determining the proposed scope of works to ensure users of suburban and local services were not severely impacted. There is no intention to detour buses or change the length of the route as part of the proposal and the M41 route and all bus services using the bus stops would be maintained.

Improving bus service reliability would encourage more people to use public transport which would contribute to easing current traffic congestion on our roads. While at individual locations the
proposed changes may only seem to have small benefits, collectively they can deliver an important cumulative benefit to service reliability across the corridor as a whole. Improving bus reliability would reduce bunched platoons of buses.

**Provision of parking**

The provision of parking is not an objective of the proposal. However, where bus stops are proposed for removal and there is an opportunity to reinstate parking, this has been proposed. Provision of on-street parking can provide benefits for nearby residences and businesses. The parking restrictions proposed are recommendations based on restrictions that currently exist on roads adjacent to proposal site. Transport for NSW and Roads and Maritime would confirm with the relevant council the parking restrictions to be applied following the relocation or removal of specific bus stops in their local government area. Council is responsible for implementation of parking restrictions on local roads (where parking is most affected by the proposal) and Roads and Maritime is responsible for the implementation of parking restrictions on State roads.

**Specific bus stop changes**

Where the justification for changes at specific bus stop locations was raised in submissions, the justification for those changes is addressed in relevant sections below.

### 3.1.3 Pedestrian safety

**Submission number(s)**

69

**Issue description**

- Locate bus stops where the road can be safely crossed (either at signalised or marked pedestrian crossings).

**Response**

As detailed in section 1.1.3 of this report, a key consideration in the development of the proposal was to ensure (as far as practicable) that bus stops were adjusted and located in a manner that maintained or improved pedestrian safety. Section 6.10 (Hazards and Risks) of the REF recognises potential hazards or risks associated with the operation of the proposal including the potential for changed pedestrian behaviour as a result of new bus stop locations (for example, crossing major roads away from signalised crossings). As detailed in section 6.10.2 (Environmental safeguards and management measures) of the REF, a safeguard has been proposed that a further safety review of all new bus stop locations be conducted during the design phase prior to implementation to identify whether any additional pedestrian safety measures are required at any new stop locations.

### 3.1.4 Local access

**Submission number(s)**

77

**Issue description**

- Removal of bus stops would substantially affect the numerous elderly and disabled people accessing Concord Hospital and shopping centres.

**Response**

No bus services or bus stops near Concord Hospital would be impacted. As detailed in section 1.1.3 of this report, Transport for NSW took into account existing and future developments, including major business (shopping) and residential centres and the demography of the area when determining the proposed scope of works to ensure that users of suburban and local services were not severely impacted in terms of having limited access to these services.
3.1.5 Stakeholder and community consultation

Submission number(s)
35, 52, 57, 88

Issue description
- The report does not provide all relevant and accurate information, ignoring or minimising major factors. The report shows little evidence that local issues would be identified to ensure proposal aligns with community needs.
- The proposal was not communicated widely and the community were not informed of the proposed changes with information relying on use of technology (i.e. internet).
- There are still no notifications of the proposed changes at any of the bus stops and concerned that deadline is approaching leaving little time for commuters to comment.
- Request acknowledgement of feedback and an update when the submissions report is available.

Response
Key considerations and justification for developing the proposal were derived from Sydney’s Bus Future (Transport for NSW, 2013), the draft Bus Stop Location Guidelines Sydney Metropolitan Area (Transport for NSW, 2014) and Improving Transport Choice - guidelines for planning and development (NSW Department of Urban Affairs and Planning, 2001).

Section 1.1.3 of this report explains the methodology used to select the preferred option and the bus stops to be removed, relocated or adjusted. Councils were given the opportunity to comment on the proposed works during the planning stage and the development of the preferred option.

An important consideration in developing the proposal was to ensure bus stops used by local and suburban services in the corridor remain accessible. Where distances between stops have exceeded 400 metres, consideration was given to ensure that the proposed spacing maintained a 400 metre walking catchment (or five minute walk) to the nearest bus stop in accordance with the guidelines of Sydney’s Bus Future and Improving Transport Choice. Based on these guidelines, stop spacings of up to 800 metres maintain an accessible walking catchment to the nearest bus stop of 400 metres, however proposed bus stop spacings have generally been kept well below 800 metres to maintain a duplicate coverage area that potentially provides bus users with a choice of stops in some locations. Where removing a bus stop would result in excessive distance between stops for local and / or suburban routes, no changes have been proposed.

Chapter 5 (Stakeholder and community consultation) of the REF includes the information on the consultation undertaken during the preparation of the report. Consultation during the REF preparation focused on government agencies, in particular councils. Community consultation was undertaken with the local community during the display of the REF, which provided an opportunity for the wider community to provide feedback on the proposed works. The consultation activities undertaken during the display period are further described in section 1.2 of this submissions report.

The submissions report is made publicly available and summarises the feedback received and provides responses to the issues raised by individuals. All individuals, councils and organisations that have provided a submission are notified once the submissions report has been published.

3.1.6 Alternatives and options

Submission number(s)
55
**Issue description**
- Suggest providing options such as one bus that uses less stops rather than removal of stops altogether, or removal of stops that are less used and further from residences, aged care facilities and student accommodation.

**Response**
The objectives of the proposal are to:

1. Achieve more reliable travel times for bus passengers
2. Improve on-time running for buses consistent with the State Priority to maintain or improve reliability of public transport services
3. Minimise impacts for users of suburban and local services
4. Minimise impacts on the environment and the community.

Section 1.1.3 of this submissions report details how options were assessed to achieve these objectives. Transport for NSW took into account existing and future developments, including major business and residential centres and the demography of the area when determining the proposed scope of works to ensure users of suburban and local services were not severely impacted.

The option for bus routes to use less stops instead of removing bus stops altogether was not considered as this option would not remove or consolidate bus stops in order to de-clutter the existing bus network. The aim of the proposal is to modernise the bus network in accordance with the strategies in *Sydney's Bus Future* (Transport for NSW, 2013). Skipping some bus stops would not deliver a simpler bus network that is easy for customers to understand and use. Under *Sydney's Bus Future*, optimal (operational) spacing is identified for Rapid, Suburban and Local routes which cannot be achieved by skipping particular bus stops. The skipping of some bus stops by some bus routes would also negatively impact the bus stop spacing for customers of that bus route.

### 3.2 Removal of bus stops #3 (TSN #212227) and #4 (TSN #211332), Culloden Road near Taranto Road, Macquarie Park

#### 3.2.1 Scope/justification of works

**Submission number(s)**
6, 65, 74, 85, 88, 89

**Issue description**
The justification for the removal of bus stops #3 (TSN #212227) and #4 (TSN #211332) was raised as an issue. In summary, submission points made about the justification for the removal of these stops related to:

- General opposition
- Reasons for their current location was not considered
- The bus stops are highly utilised
- Main issue is traffic congestion
- There would be no time savings as a result of the proposal
- Length of bus stops is not an issue

**General opposition**
- Objects to the removal of bus stops #3 and #4 being replaced with no parking zones.
Reason for current location of bus stops not considered

- The report does not mention why certain stops were introduced originally, including the decision to relocate bus stop #3 on the western side of Culloden Road a few years ago, or pedestrian flows of local residents.

Bus stops #3 and #4 are highly used and should be retained

- The customer utilisation of bus stops #1 and #2 are insufficient for retention compared to the high use of stops #3 and #4. Furthermore, there is likelihood of increased customer utilisation of stops given proposal to erect new University buildings adjacent to these stops as well as increased customers from new developments.
- Objects to the removal of bus stops #3 and #4 as the stops service residents from Taranto Road, Libya Place and nearby villas of Culloden Road. The decision is based on a formula for spacing with no consideration of demographics of the area including the numbers of elderly and disabled residents.
- The report makes no mention of other bus routes using Culloden Road and it is unclear if the Opal data used to justify the proposed works refers to only M41 usage or other routes. If it only relates to M41 usage the recommendation is based on flawed data and underestimates the impact on local bus users.
- The failure to include full Opal Card data for bus stops #3 and #4 and any Opal Card data for the other stops on Culloden Road means that underutilisation is difficult to establish.
- Strongly object to removal of stops #3 and #4 as these are frequently used.

The issue is traffic congestion

- Reliability issues occur on more heavily congested streets and/or because of buses not running to schedule and bunching or not commencing their journey on time. The removal of bus stops #3 and #4 would not improve reliability as they are the first and last stops on the M41 route.
- Bus stops #3 and #4 are the most essential of any on Culloden Road. Do not believe the time savings will make any difference as the main problem is the traffic.

There will be no time saving as a result of the proposal

- The removal of bus stops #3 and #4 at the beginning and end of the route will have no effect on overall time.
- The removal of bus stops #3 and #4 will only save a few minutes in bus times but inconvenience the public who live in the area.

Length of bus stops is not an issue

- There have been no issues with the length of existing stops observed at bus stops #3 and #4 and argue buses experience more difficulty at bus stops #1, #2 and #6.

Response

There is an opportunity to optimise the spacing of bus stops at this location to improve the overall reliability of the bus route. While the spacing between bus stops would increase, the proposed bus stop locations in this area would still maintain a walkable catchment (ie stops within a 400 metre radius or a five minute walk) consistent with the Improving Transport Choice and Sydney’s Bus Future guidelines (refer to sections 1.1.3 and 1.1.4 for further information about bus stop accessibility).

While at individual locations the proposed changes may only seem to have small benefits, collectively they can deliver an important cumulative benefit to service reliability across the corridor as a whole.

Bus stop #3 has more customers (average 24-hour weekday demand of 64 passengers) compared with preceding bus stop #1 (average 24-hour weekday demand of 42 passengers) and similar customers compared to the following bus stop #6 (average 24-hour weekday demand of 62 passengers). Bus stop #3 is located 200 metres from the previous bus stop #1 and 155 metres from the next bus stop #6.
Bus stop #4 has similar customers (average 24-hour weekday demand of 65 passengers) compared with the preceding bus stop #5 (average 24-hour weekday demand of 74 passengers) but higher customers compared to the following bus stop #2 (average 24-hour weekday demand of 33 passengers). Bus stop #4 is located 145 metres from the previous bus stop #5 and 195 metres from the next stop #2.

Although the Opal data for bus stops #3 and #4 is lower compared to bus stops #1 and #2, the option to remove bus stops #1 and #2 instead of bus stops #3 and #4 is not practicable for operational reasons. Bus stops #1 and #2 are located at the beginning and end of the route and provide for bus driver relief between shifts when there is not enough room at the nearby terminus.

The removal of bus stops #1 and #2 would effectively reduce the length of the bus route which was not an intention of the proposal. Bus stops #3 and #4 are mid-block bus stops and can be removed to optimise spacing between bus stops whilst maintaining the extent of the bus route and providing for the operational needs of bus drivers.

The REF has considered all bus services running along the M41 route that use the bus stops. Section 6.1 (Socio-economic) of the REF assessed the impacts of the removal of bus stops on other routes. For bus stops #3 and #4, the impacts have been considered minimal as all services stop at the preceding and following bus stops.

As detailed in section 1.1.3 of this report and assessed in section 6.1 of the REF, the removal of the bus stops has taken into account the population size, demography, local facilities, current and future, and other relevant factors when determining which bus stops to remove. The Opal data used included all bus services using the stop when determining which bus stops needed to be relocated or removed. Usage of preceding and following bus stops was also considered.

Local bus operators have informed Roads and Maritime that the existing bus stops in this location have been located there for over 20 years. As part of this proposal, consideration has been given to why certain bus stops may have been introduced originally where this information is known, however in some locations where bus stops have been established for a significant period of time it is not always clear what the original reasons may have been for locating bus stops in particular areas along the route.

In 2012, bus stop #3 was relocated slightly from its previous location by the local council (and parking removed) to provide for the installation of a pedestrian refuge island in the road corridor. This particular pedestrian refuge island will continue to remain in its current location following the removal bus stops #3 and #4 for use by the local community.

The existing bus zone lengths for bus stops #3 and #4 were not a primary consideration in their removal. There are no issues with bus zone lengths for bus stops #1, #2 and #6.

3.2.2 Project design

Submission number(s)
88

Issue description
• Key consideration to locate bus stops on the departure side of signalised intersections is not relevant to bus stops #3 and #4.
Response
As detailed in sections 1.1.3 and 1.1.4 of this report, key considerations for developing the proposal were derived from the *Sydney’s Bus Future* (Transport for NSW, 2013), *Improving Transport Choice* (NSW Department of Urban Affairs and Planning, 2001) and the draft *Bus Stop Location Guidelines Sydney Metropolitan Area* (Transport for NSW, 2014) and were as follows:

1. Generally aiming for a standardised spacing of about 400 metres between bus stops, with a greater than 400 metre spacing accepted at some locations to minimise the number of bus stop relocations across the corridor (acknowledging that bus stop spacings of around 800 metres would still maintain a walking catchment of 400 metres to the nearest bus stop).
2. Ensure bus stops are located close to major customer generators and community facilities to maximise the efficiency of a bus stop and eliminating redundant and underutilised stops.
3. Locate bus stops on the departure side of signalised intersections to improve traffic conditions and help buses to meet the timetable using Public Transport Information and Priority System (PTIPS).
4. Adjust and locate bus stops to improve pedestrian safety.
5. Provide suitable bus zone length to allow buses to manoeuvre in and out of bus stops easily without obstructing the adjacent lane.

It is acknowledged that the key consideration to locate bus stops on the departure side of signalised intersections is not relevant to bus stops #3 and #4. Not all the key considerations detailed above and in sections 1.1.3 and 1.1.4 apply to all bus stops as it depends on the location and surrounding land use context.

### 3.2.3 Increased walking distance

**Submission number(s)**
74, 85

**Issue description**
- Issue of increased walking distances as a result of the removal of bus stops #3 and #4 is greatly underestimated and ignores the specific topography, population density and impact on changes to other routes.
- Removal of bus stops #3 and #4 would cause considerable hardship due to disability and being unable to walk far.
- Removal of bus stops #3 and #4 would affect many people accessing the bus by significantly increasing walking distance and creating inconvenience at night with safety issues.

**Response**
There is an opportunity to optimise the spacing of bus stops at this location to improve the overall reliability of the bus route. While the spacing between stops would increase, the proposed stop locations in this area would still maintain a walkable catchment (ie stops within a 400 metre radius or a five minute walk) consistent with the *Improving Transport Choice* and *Sydney’s Bus Future* guidelines (refer to sections 1.1.3 and 1.1.4 for further information about bus stop accessibility).

As detailed in section 1.1.3 of this report, the removal of the bus stops has taken into account the population size, demography, local facilities, current and future, and other relevant factors when determining which bus stops to remove or relocate to ensure users of suburban and local services were not severely impacted.

The REF has considered all bus services running along the M41 route that use the bus stops. Section 6.1 (Socio-economic) of the REF assessed the impacts of the removal of bus stops on

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6 Now the Department of Planning and Environment
other routes. For bus stops #3 and #4, the impacts have been considered minimal as all services stop at the preceding and following bus stops.

Bus stop #3 has more customers (average 24-hour weekday demand of 64 passengers) compared with preceding bus stop #1 (average 24-hour weekday demand of 42 passengers) and similar customers compared to the following bus stop #6 (average 24-hour weekday demand of 62 passengers). Bus stop #3 is located 200 metres from the previous bus stop #1 and 155 metres from the next stop #6.

Bus stop #4 has similar customers (average 24-hour weekday demand of 65 passengers) compared with the preceding bus stop #5 (average 24-hour weekday demand of 74 passengers) but higher customers compared to the following bus stop #2 (average 24-hour weekday demand of 33 passengers). Bus stop #4 is located 145 metres from the previous bus stop #5 and 195 metres from the next bus stop #2.

3.2.4 Pedestrian safety

Submission number(s)
74, 85, 88, 89

Issue description
- There is a pedestrian refuge between bus stops #3 and #4 and removal of these bus stops would make crossing the road very hazardous at the alternative stops to be retained (bus stops #1, #2, #5 and #6).
- Bus stops #3 and #4 are currently located at a pedestrian refuge that children and elderly use to cross the road. Safety and security may be compromised if they try to cross the road in a less safe location.
- Removal of bus stops #3 and #4 does not align with the goal to adjust and locate bus stops to improve pedestrian safety as they are the only bus stops on Culloden Road with a pedestrian safety island. There is no mention of any plans to add pedestrian safety features at bus stops #1, #2, #5 and #6 to improve safety.
- The provision of a pedestrian refuge at bus stops #3 and #4 is a huge advantage for those crossing Culloden Road especially elderly, mothers with prams and dog walkers. Remaining alternative bus stops do not have such facilities.

Response
The existing pedestrian refuge at the location of bus stops #3 and #4 will be retained. As detailed in section 6.10 (Hazards and risks) of the REF, it is recognised that hazards or risks associated with the operation of the proposal include the potential for changed pedestrian behaviour as a result of new bus stop locations (for example, crossing major roads away from signalised crossings).

A key consideration in the development of the proposal was to ensure (as far as practicable) that bus stops were adjusted and located in a manner that maintained or improved pedestrian safety. A pedestrian refuge is located on Culloden Road in proximity to bus stops #5 and #6 (the next stops to the north). It is recognised that there are no safe pedestrian crossings at the location of bus stops #1 and #2. As Culloden Road is a local road under the management of council, Roads and Maritime will notify council that there is no pedestrian crossing at bus stops #1 and #2 and recommend that one be installed in this location.

3.2.5 Local access

Submission number(s)
36, 85
**Issue description**

- The removal of bus stops #3 and #4 would disadvantage school children and adults who catch 551, 292, and 293.
- Query if Route 292 buses would also be affected.

**Response**

There is an opportunity to optimise the spacing of bus stops at this location to improve the overall reliability of the bus route. While the spacing between bus stops would increase, the proposed bus stop locations in this area would still maintain a walkable catchment (ie bus stops within a 400 metre radius or a five minute walk) consistent with the *Improving Transport Choice* and *Sydney’s Bus Future* guidelines (refer to sections 1.1.3 and 1.1.4 for further information about bus stop accessibility).

All services stop at the preceding and following bus stops and the resulting spacing with the proposal would be 355 metres for bus stop #3 and 340 metres for bus stop #4.

### 3.2.6 Business access

**Submission number(s)**

88

**Issue description**

- Access to businesses with reduced parking is not an issue for these bus stops.

**Response**

It is acknowledged that access to businesses with reduced parking is not an issue for bus stops #3 and #4.

### 3.2.7 Residential amenity

**Submission number(s)**

88

**Issue description**

- Short-term static noise is not an issue at these bus stops.

**Response**

It is acknowledged that short term noise impacts are not relevant to bus stops #3 and #4 and were not a consideration in their removal.

### 3.2.8 Parking loss

**Submission number(s)**

88

**Issue description**

- An increase in parking is not the case as spaces will be declared "no parking" zones.

**Response**

It is acknowledged that parking impacts will not be an issue for bus stops #3 and #4 which are located on a local road. Future parking restrictions to be applied on local roads will be determined and confirmed by council.
3.2.9 Alternatives and options

Submission number(s)
88, 89

Issue description
- Suggest that the removal of bus stops #1 and #2 (Culloden Road near Waterloo Road) would provide better traffic flow and reduce traffic congestion than removal of bus stops #3 and #4.

Response
Bus stops #1 and #2 are the first and last stops of the M41 route and are being retained to maintain the overall length and extent of the bus route and to optimise spacing between stops in this location. Bus stops #1 and #2 are also being retained for operational reasons as they provide for bus driver relief between shifts when there is not enough room at the nearby terminus. Refer also to response provided in section 3.2.1 of this report.

3.3 Removal of bus stop #36 (TSN #211263), Lane Cove Road, Ryde

3.3.1 Scope/Justification of works

Submission number(s)
18

Issue description
- The bus stop at the top of the hill near Dobson Crescent (bus stop #38) is not heavily used compared to bus stop #36. Query why this bus stop is not being removed instead of bus stop #36.

Response
Following a review of the issues raised by council and the local community, Roads and Maritime and Transport for NSW have agreed that a number of bus stops needed to be retained to minimise impacts on the local community, in particular seniors/pensioners, children and concession card holders. Bus stop #36 is now proposed to be retained and relocated approximately 30 metres south away from the existing slip lane in a safer location. The proposed changes are detailed in Chapter 5 (Changes to the proposal).

3.4 Removal of bus stop #47 (TSN #211270) and relocation of bus stop #48 (TSN #211267), Church Street, Ryde

3.4.1 Scope/Justification of works

Submission number(s)
22, 52

Issue description
- Concerned about moving the Church Street and Junction Street bus stop. Keeping the bus stops is vital to serve the increased demand for public transport due to influx of residents from new development and the future temporary closure of Macquarie University and Macquarie Park train stations.
- The time for people to get on and off buses is about 30 seconds therefore unlikely to impact on traffic congestion.
- Against the removal of bus stop #47 and relocation of bus stop #48. Bus stops #47 and #48 are highly used by parents and students accessing the school as it is the closest bus stop to the school.
Response

During the temporary shutdown of Macquarie Park train station, the existing bus stop near Macquarie Park station will be retained. No changes are proposed to those particular bus stops in that location. This will not impact on the removal of bus stop #47 and relocation of bus stop #48. The removal of bus stop #47 and relocation of bus stop #48 will be completed by the end June 2018 prior to the temporary shutdown of Macquarie Park train station.

The proposal forms part of the Bus Priority Infrastructure Program and supports Sydney’s Bus Future (Transport for NSW, 2013) by delivering projects that make buses more reliable. As detailed in the REF, the removal of bus stop #47 and relocation of bus stop #48 are part of a broader program along the Metrobus M41 route aimed at improving reliability by:

- Reducing the number of locations at which buses need to stop by combining, removing or relocating some bus stops
- Lengthening some bus stops to improve access for buses and assist passenger boarding and alighting
- Improving bus stop infrastructure at some locations including changes to bus stop signage
- Reducing delays for buses by moving bus stops to the departure side of traffic lights, allowing them to take advantage of the Public Transport Information and Priority System (PTIPS).

While at individual locations the proposed changes may only seem to have small benefits, collectively they can deliver an important cumulative benefit to service reliability across the corridor as a whole.

Section 1.1.3 of this submissions report details how options were assessed to achieve these objectives. Transport for NSW took into account existing and future developments, including major business and residential centres, when determining the proposed scope of works to ensure users of suburban and local services were not severely impacted.

Bus stop #47 has less customers (average 24-hour weekday demand of 45 passengers) compared with preceding bus stop #50 (average 24-hour weekday demand of 174 passengers) but higher customers compared to the following bus stop #46 (average 24-hour weekday demand of 28 passengers). There is an opportunity to optimise the spacing of bus stops at this location to reduce delays by removing this bus stop. The resulting spacing between the preceding and next bus stops (#50 and #46) would be 500 metres.

Bus stop #48 is currently paired with bus stop #47 (its equivalent northbound stop) which is proposed to be removed. There is an opportunity to relocate bus stop #48 to make a pair with bus stop #46. This would only require a minor relocation 80 metres to the north of its current location.

3.4.2 Increased walking distances

Submission number(s)

72, 92

Issue description

- Against the removal of bus stop #47. The removal would require the elderly, parents with children and residents with impaired mobility travel further up a steep hill. Furthermore, up to 10,000 more people will be in the area between Church Street, Junction Road, Ryde Bridge and Meadowbank Train Station in the next two years. The use of bus stop #47 is increasing.
- Disagree with the removal of bus stop #47 and relocation of bus stop #48. As a resident of Junction Street the stops are conveniently located near developing residential estate and located near a traffic light minimising jaywalking.
Response
There is an opportunity to optimise the spacing of bus stops at this location to improve the overall reliability of the bus route. While the spacing between bus stops would increase, the proposed bus stop locations in this area would still maintain a walkable catchment (i.e., bus stops within a 400 metre radius or a five minute walk) consistent with the Improving Transport Choice and Sydney’s Bus Future guidelines (refer to sections 1.1.3 and 1.1.4 for further information about bus stop accessibility).

Transport for NSW took into account existing and future developments, including major business and residential centres, when determining the proposed scope of works to ensure users of suburban and local services were not severely impacted. It is noted that in this location, the nearest stops proposed to be retained (bus stops #49 and #50) are next to large high density residential developments currently under construction, whilst low density housing is observed near bus stops #47 and #48.

Bus stop #47 has less customers (average 24-hour weekday demand of 45 passengers) compared with preceding bus stop #50 (average 24-hour weekday demand of 174 passengers) but higher customers compared to the following bus stop #46 (average 24-hour weekday demand of 28 passengers). There is a moderate to steep slope downwards extending from Victoria Road to the Parramatta River in this location. The resulting spacing between the preceding bus stop #50 and next bus stop #46 would be 500 metres. Opal data indicates that the elderly only comprise 16% of customers at bus stop #47 and 10% at bus stop #46.

Bus stop #48 is currently paired with bus stop #47 (its equivalent northbound stop) which is proposed to be removed. There is an opportunity to relocate bus stop #48 to make a pair with bus stop #46. This would only require a minor relocation 80 metres to the north of its current location. This new location would be close to a signalised intersection to allow safe road crossings for pedestrians.

3.4.3 Stakeholder and community consultation
Submission number(s)
18
Issue description
- No information has been provided at the affected bus stops. Users are not all local and include students, families and employees of school and local childcare/Out Of School Hours centre and they should be considered in regards to the proposed works.

Response
Chapter 5 (Stakeholder and community consultation) of the REF includes the information on the consultation undertaken during the preparation of the report. Consultation during the REF preparation was focused on government agencies, in particular councils. Community consultation was undertaken with the local community during the display of the REF, which provided an opportunity for the wider community to provide feedback on the proposed works. The consultation activities undertaken during the display period are further described in section 1.2 of this report.

As the proposal covered a large area, Roads and Maritime explained the proposal in four community updates. Each update focused on changes to bus stops in a specific local government area. These were distributed to residents and businesses along the impacted routes. There was also signage displayed at bus stops that were proposed to be removed, extended or relocated. Doorknocks were carried out for the residents and businesses near these affected stops. Advertisements were also placed in local papers as well as updates to the Roads and Maritime website and offering stakeholder meetings to schools, businesses and aged care facilities.
3.4.4 Alternatives and options

Submission number(s)
72

Issue description
- Recommend that instead of removal, bus stop #47 should be upgraded with a shelter to accommodate the increased use as a result of new development in the area.

Response
Bus stop #47 has less customers (average 24-hour weekday demand of 45 passengers) compared with preceding bus stop #50 (average 24-hour weekday demand of 174 passengers) but higher customers compared to the following bus stop #46 (average 24-hour weekday demand of 28 passengers). There is an opportunity to optimise the spacing of stops at this location to reduce delays by removing this bus stop. The resulting spacing between the preceding and next bus stops (#50 and #46) would be 500 metres. As discussed in section 1.1.3, Transport for NSW took into account existing and future developments, including major business and residential centres, when determining the proposed scope of works to ensure users of suburban and local services were not severely impacted.

Bus stop #48 is currently paired with bus stop #47 (its equivalent northbound stop) which is proposed to be removed. There is an opportunity to relocate bus stop #48 to make a pair with bus stop #46. This would only require a minor relocation 80 metres to the north of its current location. Paired bus stops improve the customer experience by allowing boarding and alighting to happen near each other, with the opposite stop clearly visible.

The provision of bus shelters is the responsibility of the local council. Bus shelter requests for bus stops subject to changes along the route will be forwarded on to the relevant council.

3.5 Removal of bus stop #52 (TSN #213811), Concord Road, Rhodes

3.5.1 Scope/justification of works

Submission number(s)
77

Issue description
- Request that removal of bus stop #52 is reviewed particularly as it has recently received a shelter.

Response
The objectives of the proposal are to:

1. Achieve more reliable travel times for bus passengers
2. Improve on-time running for buses consistent with the State Priority to maintain or improve reliability of public transport services
3. Minimise impacts for users of suburban and local services
4. Minimise impacts on the environment and the community.

The proposal forms part of the Bus Priority Infrastructure Program and supports Sydney’s Bus Future (Transport for NSW, 2013) by delivering projects that make buses more reliable. As detailed in the REF, the removal of bus stop #52 is part of a broader program along the Metrobus M41 route aimed at improving reliability by:

- Reducing the number of locations at which buses need to stop by combining, removing or relocating some bus stops
• Lengthening some bus stops to improve access for buses and assist passenger boarding and alighting
• Improving bus stop infrastructure at some locations including changes to bus stop signage
• Reducing delays for buses by moving bus stops to the departure side of traffic lights, allowing them to take advantage of the Public Transport Information and Priority System (PTIPS).

While at individual locations the proposed changes may only seem to have small benefits, collectively they can deliver an important cumulative benefit to service reliability across the corridor as a whole.

Section 1.1.3 of this submissions report details how options were assessed to achieve these objectives. Transport for NSW took into account existing and future developments, including major business and residential centres, when determining the proposed scope of works to ensure users of suburban and local services were not severely impacted.

Bus stop #52 has less customers (average 24-hour weekday demand of 14 passengers) compared with preceding bus stop #49 (average 24-hour weekday demand of 142 passengers) and similar customers to the following bus stop #53 (average 24-hour weekday demand of 13 passengers).

It is recognised that the removal of bus stop #52 will result in the distance between the previous and next bus stop to be 860 metres. However, the proposed removal of this bus stop took into account the following:

• The following bus stop #53 to the south is 200 metres away.
• The preceding bus stop #49 to the north is 655 metres away but on the other side of Ryde Bridge which is 300 metres long and it is therefore unlikely to be used by residents to the south of the bridge.

The provision and removal of bus shelters is responsibility of the local council and their contractor. It is the general intention that any shelters to be removed as a result of the proposal would be reused at another bus stop to minimise waste.

3.6 Removal of bus stops #67 (TSN #213836) and #68 (TSN #213827), Concord Road, Concord West

3.6.1 Scope/justification of works

Submission number(s)
68, 71, 76, 91

Issue description
• Removal of bus stops #71, #72 and #67 may be infrequently used but are convenient for residents and removal would only have marginal effect on on-time running.
• Using public transport is better than having more cars on the road.
• The proposal would not encourage use of public transport. Against the removal of bus stop #68.
• Outside peak hours the traffic on Concord Road is light and passengers alighting at one stop or the other will not increase on-time running.
Response

The proposal is part of the Easing Sydney’s Congestion Program Office under the Bus Priority Infrastructure Program and supports Sydney’s Bus Future (Transport for NSW, 2013) by delivering projects that make buses more reliable.

The objectives of the proposal are to:

1. Achieve more reliable travel times for bus passengers
2. Improve on-time running for buses consistent with the State Priority to maintain or improve reliability of public transport services
3. Minimise impacts for users of suburban and local services
4. Minimise impacts on the environment and the community.

As detailed in the REF, the removal of bus stops #67 and #68 is part of a broader on-time running program along the Metrobus M41 route aimed at improving reliability by:

- Reducing the number of locations at which buses need to stop by combining, removing or relocating some bus stops
- Lengthening some bus stops to improve access for buses and assist passenger boarding and alighting
- Improving bus stop infrastructure at some locations including changes to bus stop signage
- Reducing delays for buses by moving bus stops to the departure side of traffic lights, allowing them to take advantage of the Public Transport Information and Priority System (PTIPS).

While at individual locations the proposed changes may only seem to have small benefits, collectively they can deliver an important cumulative benefit to service reliability across the corridor as a whole.

There is an opportunity to optimise the spacing of bus stops at this location to improve the overall reliability of the bus route. While the spacing between bus stops would increase, the proposed bus stop locations in this area would still maintain a walkable catchment (i.e., bus stops within a 400 metre radius or a five minute walk) consistent with the Improving Transport Choice and Sydney’s Bus Future guidelines (refer to sections 1.1.3 and 1.1.4 for further information about bus stop accessibility).

Bus stop #67 has less customers (average 24-hour weekday demand of 17 passengers) compared with preceding bus stop #69 (average 24-hour weekday demand of 74 passengers) and similar customers to the following bus stop #65 (average 24-hour weekday demand of 20 passengers) stops. Bus stop #67 is located 180 metres from the preceding bus stop #69 and 360 metres from the following bus stop #65.

Bus stop #68 has similar customers (average 24-hour weekday demand of 28 passengers) compared with preceding bus stop #66 (average 24-hour weekday demand of 29 passengers) and less customers to the following bus stop #70 (average 24-hour weekday demand of 42 passengers). Bus stop #68 is located 340 metres from the preceding bus stop #66 and 200 metres from the following bus stop #70.

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7 Easing Sydney’s Congestion Program Office (ESCPO) is developing a range of projects on the State road network under various programs, in accordance with government initiatives, for managing and improving traffic congestion and road safety within the Sydney region. The aim of the program as a whole is to reduce peak period congestion as measured by increased travel speeds, improvement of travel times, and decreased traffic volumes on the corridor.
3.6.2 Increased walking distance

Submission number(s)
53, 58, 68, 76, 91

Issue description
- Elderly resident on Wunda Road relies on bus stop #67 as it is the closest stop to access public transport. This resident cannot physically walk up the hill from the Concord West train station.
- Against removal of bus stops #67 and #68 as these are highly used by school students and would impact elderly, mobility restricted, vision impaired passengers, in particular due to the increased walking distance and need to walk up a steep hill.

Response
There is an opportunity to optimise the spacing of bus stops at this location to improve the overall reliability of the bus route. While the spacing between bus stops would increase, the proposed bus stop locations in this area would still maintain a walkable catchment (i.e. bus stops within a 400 metre radius or a five minute walk) consistent with the Improving Transport Choice and Sydney’s Bus Future guidelines (refer to sections 1.1.3 and 1.1.4 for further information about bus stop accessibility).

Transport for NSW took into account existing and future developments (including major business and residential centres) when determining the proposed scope of works to ensure users of suburban and local services were not severely impacted.

Bus stop #67 has less customers (average 24-hour weekday demand of 17 passengers) compared with the preceding bus stop #69 (average 24-hour weekday demand of 74 passengers) and has similar customer numbers to the following bus stop #65 (average 24-hour weekday demand of 20 passengers).

Bus stop #67 is located 180 metres from the preceding bus stop #69 and 360 metres from the following bus stop #65. Wunda Road is located 120 metres north of the existing bus stop #67. The preceding bus stop #69 is located 306 metres from Wunda Road (an additional walking distance of 186 metres) and the following bus stop #65 is located 240 metres from Wunda Road (an additional walking distance of 120 metres).

Bus stop #68 has similar customer numbers (average 24-hour weekday demand of 28 passengers) compared with the preceding bus stop #66 (average 24-hour weekday demand of 29 passengers) and less customers to the following bus stop #70 (average 24-hour weekday demand of 42 passengers). Bus stop #68 is located 340 metres from the preceding bus stop #66 and 200 metres from the following bus stop #70.

Bus stops #67 and #68 are located at the top of a hill. To the south of bus stops #67 and #68 there is a moderate grade downhill in a north to south direction towards the nearest alternative bus stops (#69 and #70) which are situated 180 metres and 200 metres away respectively. To the north of bus stops #67 and #68, there is a gentle to moderate grade downhill from south to north towards the other alternative bus stops #65 and #66 which are situated 360 metres and 340 metres respectively.

The additional distance to future alternative bus stops combined with the slopes described above is not considered unreasonable for customers currently using bus stops #67 and #68.

3.6.3 Pedestrian safety

Submission number(s)
73
Issue description
- The removal of bus stop #68 would cause inconvenience to families, the elderly and local community who can currently safely access local facilities in Concord including shops and Concord West train station.

Response
Bus stop #68 has a similar number of customers (average 24-hour weekday demand of 28 passengers) compared with the preceding bus stop #66 (average 24-hour weekday demand of 29 passengers) and less customers to the following bus stop #70 (average 24-hour weekday demand of 42 passengers). Bus stop #68 is located 340 metres from the preceding bus stop #66 and 200 metres from the following bus stop #70. There is an opportunity to optimise the spacing of bus stops at this location to reduce delays by removing this bus stop. The next bus stop #70 located 200 metres away is considered to be as conveniently located to churches, shopping areas, community facilities and the Concord West train station and railway overpass as bus stop #68. Bus stop #68 is located 106 metres from Victoria Avenue intersection and the next bus stop #70 is located 116 metres from the same intersection which includes a safe signalised crossing for pedestrians.

3.6.4 Local access

Submission number(s)
35

Issue description
- Strongly oppose removal of bus stop #68 as this is the bus stop that services Victoria Avenue for access to churches, shopping areas, post office and other community facilities, Concord West train station and railway overpass.

Response
Bus stop #68 has similar customers (average 24-hour weekday demand of 28 passengers) compared with the preceding bus stop #66 (average 24-hour weekday demand of 29 passengers) and less customers to the following bus stop #70 (average 24-hour weekday demand of 42 passengers). Bus stop #68 is located 340 metres from the preceding bus stop #66 and 200 metres from the following bus stop #70. There is an opportunity to optimise the spacing of stops at this location to reduce delays by removing this bus stop. The next bus stop #70 located 200 metres away is considered to be as conveniently located to churches, shopping areas, community facilities and the Concord West train station and railway overpass as bus stop #68. Bus stop #68 is located 106 metres from Victoria Avenue intersection and the next bus stop #70 is located 116 metres from the same intersection which includes a safe signalised crossing for pedestrians.

3.6.5 Alternatives and options

Submission number(s)
35, 58

Issue description
- Removal of bus stops #67 and #68 and #71 and #72 seems excessive. These bus stops should be combined and would still allow a reliable, fast bus network.
- Suggest that if it must be removed then bus stop #70 should be relocated closer to the Victoria Avenue/Concord Road intersection to maintain access to facilities.

Response
The proposal forms part of the Bus Priority Infrastructure Program and supports Sydney’s Bus Future (Transport for NSW, 2013) by delivering projects that make buses more reliable. As detailed in the REF, the removal of bus stops #67 and #68 and #71 and #72 is part of a broader program aimed at improving reliability by:
• Reducing the number of locations at which buses need to stop by combining, removing or relocating some bus stops
• Lengthening some bus stops to improve access for buses and assist passenger boarding and alighting
• Improving bus stop infrastructure at some locations including changes to bus stop signage
• Reducing delays for buses by moving bus stops to the departure side of traffic lights, allowing them to take advantage of the Public Transport Information and Priority System (PTIPS).

There is an opportunity to optimise the spacing of bus stops at this location to improve the overall reliability of the bus route. While the spacing between stops would increase, the proposed bus stop locations in this area would still maintain a walkable catchment (ie bus stops within a 400 metre radius or a five minute walk) consistent with the *Improving Transport Choice and Sydney’s Bus Future* guidelines (refer to sections 1.1.3 and 1.1.4 for further information about bus stop accessibility). Combining these bus stops would not provide adequate distances with respect to the guidelines.

Bus stop #70 needs to be retained to maintain suitable spacing between bus stops with respect to the guidelines and considerations referred to in sections 1.1.3 and 1.1.4. The proposed removal of bus stop #68 has been considered taking into account access to surrounding facilities. The next bus stop, bus stop #70, located 200 metres away is considered to be as conveniently located to churches, shopping areas, community facilities and the Concord West train station and railway overpass as bus stop #68. Bus stop #68 is located 106 metres from Victoria Avenue intersection and the next bus stop #70 is located 116 metres from the same intersection.

### 3.7 Removal of bus stops #67 (TSN #213836), #71 (TSN #213834) and #72 (TSN #213829), Concord Road, Concord West

#### 3.7.1 Scope/justification of works

**Submission number(s)**

91

**Issue description**

• Bus stops #71, #72 and #67 may be infrequently used but are convenient for residents and their removal would only have marginal effect on on-time running.

**Response**

The proposal forms part of the Bus Priority Infrastructure Program and supports *Sydney’s Bus Future* (Transport for NSW, 2013) by delivering projects that make buses more reliable. As detailed in the REF, the removal of bus stops #71 and #72 and #67 is part of a broader program aimed at improving reliability by:

• Reducing the number of locations at which buses need to stop by combining, removing or relocating some bus stops
• Lengthening some bus stops to improve access for buses and assist passenger boarding and alighting
• Improving bus stop infrastructure at some locations including changes to bus stop signage
• Reducing delays for buses by moving bus stops to the departure side of traffic lights, allowing them to take advantage of the Public Transport Information and Priority System (PTIPS).

While at individual locations the proposed changes may only seem to have small benefits, collectively they can deliver an important cumulative benefit to service reliability across the corridor as a whole.
There is an opportunity to optimise the spacing of bus stops at this location to improve the overall reliability of the bus route. While the spacing between bus stops would increase, the proposed bus stop locations in this area would still maintain a walkable catchment (ie bus stops within a 400 metre radius or a five minute walk) consistent with the *Improving Transport Choice and Sydney’s Bus Future* guidelines (refer to sections 1.1.3 and 1.1.4 for further information about bus stop accessibility).

Bus stop #67 has less customers (average 24-hour weekday demand of 17 passengers) compared with preceding bus stop #69 (average 24-hour weekday demand of 74 passengers) and similar customers to the following bus stop #65 (average 24-hour weekday demand of 20 passengers) stops. Bus stop #67 is located 180 metres from the preceding bus stop #69 and 360 metres from the following bus stop #65.

Bus stop #71 has a similar number of customers (average 24-hour weekday demand of 18 passengers) compared with the preceding bus stop #74 (average 24-hour weekday demand of 13 passengers) and less customers to the following bus stop #69 (average 24-hour weekday demand of 74 passengers). Bus stop #71 is located 350 metres from the preceding bus stop #74 and 220 metres from the following bus stop #69. The resulting spacing between the preceding and next bus stops (#74 and #69) would be 400 metres (with the relocation of bus stop #74).

Bus stop #72 has less customers (average 24-hour weekday demand of 26 passengers) compared with the preceding bus stop #70 (average 24-hour weekday demand of 42 passengers) and more customers to the following bus stop #73 (average 24-hour weekday demand of 10 passengers). Bus stop #72 is located 200 metres from the preceding bus stop #70 and 300 metres from the following bus stop #73. The resulting spacing between the preceding and next bus stops (#70 and #73) would be 400 metres (with the relocation of bus stop #73).

### 3.7.2 Local access

**Submission number(s)**

20

**Issue description**

- Bus stops #71 and #72 provide access to Concord Hospital and are important for the community. Request consideration of this when determining whether to remove these stops.

**Response**

There is an opportunity to optimise the spacing of bus stops at this location to improve the overall reliability of the bus route. While the spacing between stops would increase, the proposed bus stop locations in this area would still maintain a walkable catchment (ie bus stops within a 400 metre radius or a five minute walk) consistent with the *Improving Transport Choice and Sydney’s Bus Future* guidelines (refer to sections 1.1.3 and 1.1.4 for further information about bus stop accessibility).

Bus stop #71 has similar customers (average 24-hour weekday demand of 18 passengers) compared with the preceding bus stop #74 (average 24-hour weekday demand of 13 passengers) and less customers to the following bus stop #69 (average 24-hour weekday demand of 74 passengers). Bus stop #71 is located 350 metres from the preceding bus stop #74 and 220 metres from the following bus stop #69. The resulting spacing between the preceding and following bus stops (#74 and #69) would be 400 metres (with the relocation of bus stop #74).

Bus stop #72 has less customers (average 24-hour weekday demand of 26 passengers) compared with the preceding bus stop #70 (average 24-hour weekday demand of 42 passengers) and more customers to the following bus stop #73 (average 24-hour weekday demand of 10 passengers). Bus stop #72 is located 200 metres from the preceding bus stop #70 and 300 metres from the following bus stop #73. The resulting spacing between the preceding and next bus stops (#70 and #73) would be 400 metres (with the relocation of bus stop #73).
Figure 1-4 in section 1.1 of this report illustrates the location of bus stops #71 and #72 relative to Concord Hospital. These bus stops are located around 1.6 kilometres from the hospital and there are numerous bus stops, including the preceding and following bus stops described above, that adequately service the hospital in this location.

### 3.7.3 Alternatives and options

#### Submission number(s)

58

#### Issue description

- Removal of bus stops #67 and #68 and #71 and #72 seems excessive. These bus stops should be combined and would still allow a reliable, fast bus network.

#### Response

There is an opportunity to optimise the spacing of bus stops at this location to improve the overall reliability of the bus route. While the spacing between bus stops would increase, the proposed bus stop locations in this area would still maintain a walkable catchment (i.e., bus stops within a 400 metre radius or a five-minute walk) consistent with the *Improving Transport Choice* and *Sydney’s Bus Future* guidelines (refer to sections 1.1.3 and 1.1.4 for further information about bus stop accessibility).

There is an existing pair of bus stops (bus stops #70 and #69) between these named bus stops in this particular location. Bus stop #69 is located between bus stops #67 and #71 and bus stop #70 is located between bus stops #68 and #72. Combining bus stops #67 and #71 and bus stops #68 and #72 would not optimise the spacing between bus stops in this location.

### 3.8 Relocation of bus stops #73 (TSN #213830) and #74 (TSN #213833), Concord Road, Concord West

#### 3.8.1 Increased walking distance

#### Submission number(s)

78, 84

#### Issue description

- Object to relocation of bus stops #73 and #74. Bus stops #73 and #74 are used by families, school children, the elderly and disabled. Relocation would force users to take longer to get to the stop which will be moved down a hill and harder to navigate.

#### Response

There is an opportunity to optimise the spacing of bus stops at this location to improve the overall reliability of the bus route. While the spacing between bus stops would increase, the proposed bus stop locations in this area would still maintain a walkable catchment (i.e., bus stops within a 400 metre radius or a five-minute walk) consistent with the *Improving Transport Choice* and *Sydney’s Bus Future* guidelines (refer to sections 1.1.3 and 1.1.4 for further information about bus stop accessibility).

Transport for NSW took into account existing and future developments, including major business and residential centres, when determining the proposed scope of works to ensure users of suburban and local services were not severely impacted.

The relocation of bus stops #73 and #74 would result in an additional walking distance of 70 metres and 80 metres respectively. This is considered a minimal impact for all users.
3.8.2 Pedestrian safety

Submission number(s)
84

Issue description
- Object to relocation of bus stops #73 and #74. Bus stops #73 and #74 are used by families, school children, the elderly and disabled. Relocation would create a blind spot due to the hill blocking views of oncoming traffic and causing a safety hazard. This could result in accidents from people crossing the road.

Response
The relocation of bus stops #73 and #74 would result in an additional walking distance of 70 metres and 80 metres respectively. There is currently no safe pedestrian crossing across Concord Road at the location of the bus stops and the proposed new location would maintain existing conditions. No safety issues were identified in the initial scheme development stage for these bus stop locations.

As detailed in section 1.1.3 of this report, a key consideration in the development of the proposal was to ensure (as far as practicable) that bus stops were adjusted and located in a manner that maintained or improved pedestrian safety. Furthermore, section 6.10 (Hazards and risks) of the REF recognises potential hazards or risks associated with the operation of the proposal including the potential for changed pedestrian behaviour associated with new bus stop locations (for example, crossing major roads away from signalised crossings). As detailed in section 6.10.2 (Environmental safeguards and management measures) of the REF, a further safety review of all new bus stop locations will be conducted during the design phase prior to implementation to identify whether any additional pedestrian safety measures are required.

Opal data indicates a high proportion of elderly and children using bus stop #73 including 57% senior/pensioner customers and 14% child/youth customers. A high proportion of elderly and children customers also use bus stop #74 including about 53% senior/pensioner customers and 16% child/youth customers. However, Opal data indicates that bus stops #73 and #74 are underutilised with about four to eight customers using these bus stops each day.

3.9 Removal of bus stop #77 (TSN #213719), Concord Road, North Strathfield

3.9.1 Increased walking distance

Submission number(s)
16, 47, 48, 57

Issue description
- Bus stop #77 should be retained as it is accessible. Its removal would increase walking distance to the next bus stop.
- Against removal of bus stop #77 as it would impact on homeless, mostly elderly women residents of Yaralla Cottages, who are dependent on the bus stop.

Response
There is an opportunity to optimise the spacing of bus stops at this location to improve the overall reliability of the bus route. While the spacing between bus stops would increase, the proposed bus stop locations in this area would still maintain a walkable catchment (ie stops within a 400 metre radius or a five minute walk) consistent with the Improving Transport Choice and Sydney’s Bus Future guidelines (refer to sections 1.1.3 and 1.1.4 for further information about bus stop accessibility).
Transport for NSW took into account existing and future developments, including major business and residential centres, when determining the proposed scope of works to ensure users of suburban and local services were not severely impacted.

Bus stop #77 has similar customers (average 24-hour weekday demand of 35 passengers) compared with preceding bus stop #79 (average 24-hour weekday demand of 28 passengers) but less customers compared to the following bus stop #76 (average 24-hour weekday demand of 54 passengers). Bus stop #77 is located 195 metres from the previous bus stop #79 and 210 metres from the next bus stop #76. Following removal of bus stop #77 the total distance between bus stops #79 and #76 will be 405 metres.

The previous and next bus stops described above are also conveniently placed immediately north and south of the shopping strip and Yaralla Cottages along Concord Road.

3.9.2 Pedestrian safety

Submission number(s)
57

Issue description
- Bus stop #77 should be retained as it is safe and accessible with less road crossings compared to other stops which have dangerous intersections.

Response
Bus stop #77 does not include safe crossings for pedestrians with the nearest signalised pedestrian crossings located 170 metres to the north and 135 metres to the south. The preceding bus stop #79 and following bus stop #76 are located at signalised intersections allowing safe pedestrian crossings.

3.9.3 Local access

Submission number(s)
57, 87, 91

Issue description
- Bus stop #77 should be retained as it is only one of two bus stops that serves the Western area of North Strathfield and the bus stop shelter was only recently upgraded.
- Removal of bus stop #77 should not go ahead as it is easily accessible for shoppers in the North Strathfield Shopping district and bus to train passengers using the North Strathfield Station.
- Against removal of bus stop #77 as it is well placed and convenient for shoppers.

Response
There is an opportunity to optimise the spacing of bus stops at this location to improve the overall reliability of the bus route. While the spacing between bus stops would increase, the proposed bus stop locations in this area would still maintain a walkable catchment (ie bus stops within a 400 metre radius or a five minute walk) consistent with the Improving Transport Choice and Sydney’s Bus Future guidelines (refer to sections 1.1.3 and 1.1.4 for further information about bus stop accessibility).

Bus stop #77 has similar customers (average 24-hour weekday demand of 35 passengers) compared with preceding bus stop #79 (average 24-hour weekday demand of 28 passengers) but less customers compared to the following bus stop #76 (average 24-hour weekday demand of 54 passengers). Bus stop #77 is located 195 metres from the previous bus stop #79 and 210 metres from the next bus stop #76 which both service the western areas of North Strathfield. The previous and next bus stops are also conveniently placed immediately north and south of the shopping strip along Concord Road.
The provision and removal of bus shelters is responsibility of the local council and their contractor. It is the general intention that any shelters to be removed as a result of the proposal would be reused at another bus stop to minimise waste.

3.9.4 Alternatives and options

Submission number(s)
57, 87

Issue description
- Suggest removal of bus stops along Majors Bay Road and Wellbank Street where M41 route impacted by traffic congestion and parked cars. Bus stop #77 is not impacted by parking or traffic congestion so allows traffic to move freely.
- Removal of bus stop #77 should not go ahead. Suggest relocation to the opposite corner at Waratah Street and Concord Road and removal of stop at Concord Road near Wellbank Street in North Strathfield (Stop ID 213718) as there is no safe crossing at this location.
- Relocating bus stop #77 will not correct issues. Consider changing current parking arrangements.

Response
Bus stop #78 is being removed and bus stop #77 is being relocated along Majors Bay Road to optimise spacing between bus stops. Bus stop #77 is also being removed for the same reason. All other bus stops along Majors Bay Road and Wellbank Street are being retained to ensure adequate spacing between bus stops. Improving the distance between bus stops allows for improved reliability of buses along the M41 route as a whole.

Bus stop #77 does not include a safe crossing for pedestrians with the nearest signalised pedestrian crossings located 170 metres to the north and 135 metres to the south. The preceding bus stop #79 and following bus stop #76 are located at signalised intersections allowing safe pedestrian crossings. Bus stop #77 also does not have a pair. Paired bus stops improve the customer experience by allowing boarding and alighting to happen near each other, with the opposite stop clearly visible.

Carrying out general wider changes to current parking arrangements and restrictions on local roads was not an objective of the proposal and is considered outside the scope of the works being proposed. Any changes to existing parking arrangements on local roads is the responsibility of the local council.

3.10 Extension of bus stop #78 (TSN #2137115), Wellbank Street, North Strathfield

3.10.1 Support

Submission number(s)
91

Issue description
- Support proposal for improvements to bus stop #78.

Response
Roads and Maritime and Transport for NSW acknowledge the support for the proposal.
3.10.2 Tree removal

Submission number(s)
57, 87

Issue description
- Do not remove recently planted garden bed (trees) along Wellbank Street as they will provide shade and soften landscape.
- Agree that bus stop #78 needs modification but suggest relocating it to the existing bus stop utilised by bus routes 458 and 459 at Concord Road near Wellbank Street eliminating the need to remove trees for the extension.

Response
Following a review of the issues raised by council and the local community, Roads and Maritime and Transport for NSW have agreed that changes to the proposal are needed to minimise impacts on the local community.

The extension of bus stop #78 will be modified to retain two public garden beds with juvenile Tuckaroo (Cupaniopsis anacardioides) trees (previously proposed to be removed in the REF). Changes to bus stop #78 will now only require changes to the existing bus stop signage. The proposed changes are detailed in Chapter 5 (Changes to the proposal) and Appendix C.

3.10.3 Alternatives and options

Submission number(s)
57

Issue description
- Bus stop #78 is located too close to Concord Road resulting in cars banking up. The bus stop should be moved further down Wellbank Street, removing parked cars instead.

Response
The Bus Priority Infrastructure Program supports targeted improvements for bus on-time running. The extension of bus stop #78 is a targeted improvement to provide a suitable bus zone length nominated as per the Bus Infrastructure Guide (2011) and will allow buses to manoeuvre in and out of the bus stop easily without obstructing the adjacent lane.

Bus stop #78 is about 30 metres from the intersection of Concord Road and Wellbank Street on the departure side of the traffic lights. Bus stops on the departure side of intersections reduce delays for buses by allowing them to take advantage of the PTIPS. Relocating bus stop #78 away from the departure side of the Concord Road and Wellbank intersection to reduce cars backing up would reduce the ability of buses to take advantage of the PTIPS and negatively impact bus customers.

An extended bus zone length is needed to allow unobstructed bus arrival and departure manoeuvres. Bus stop #78 will be retained in the existing location and bus zone signage will be installed.

Bus stop #78 cannot be moved as the following bus stop (bus stop #81) is not used by the M41 bus route. If bus stop #78 was removed customers would be required to use bus stop #82 about 650 metres away. The resulting spacing between bus stops would be greater than the recommendations of the Improving Transport Choice and Sydney’s Bus Future guidelines (refer to sections 1.1.3 and 1.1.4 for further information about bus stop accessibility). Bus stop #78 is also adjacent to a local commercial hub.
Opal data indicates that the bus stop #78 is highly used compared to other bus stops in this location with about 46 customers using the bus stop per day (24 hour average weekday). Bus stop #78 is also paired with a southbound bus stop #79.

### 3.11 Relocation of bus stop #87 (TSN #213780), Majors Bay Road, Concord

**Submission number(s)**

14, 19, 51, 63, 67, 87

**Issue description**

Five submissions were received which objected to the proposed relocation of bus stop #87 with a number of concerns raised in relation to:

- Scope/justification of the proposed works at this bus stop
- Potential pedestrian safety concerns
- Potential loss of parking
- Potential impacts on driveway access

One submission supported the proposed changes to bus stop #87.

**Response**

Following a review of the issues raised by council and the local community, Roads and Maritime and Transport for NSW have agreed that a number of bus stops needed to be retained to minimise impacts on the local community, in particular seniors/pensioners, children and concession card holders. The proposed changes are detailed in Chapter 5 (Changes to the proposal). Bus stop #87 is now proposed to be retained in its current location.

### 3.12 Removal of bus stop #88 (TSN #213737), Majors Bay Road, Concord

#### 3.12.1 Increased walking distance

**Submission number(s)**

87

**Issue description**

- Removal of bus stop #88 would impact residents in the area as it is a gateway access for them. It would impact people with mobility issues due to incline.

**Response**

There is an opportunity to optimise the spacing of bus stops at this location to improve the overall reliability of the bus route. While the spacing between bus stops would increase, the proposed bus stop locations in this area would still maintain a walkable catchment (ie bus stops within a 400 metre radius or a five minute walk) consistent with the Improving Transport Choice and Sydney’s Bus Future guidelines (refer to sections 1.1.3 and 1.1.4 for further information about bus stop accessibility).

Bus stop #88 has similar customers (average 24-hour weekday demand of 34 passengers) compared with the preceding bus stop #90 (average 24-hour weekday demand of 33 passengers) but less customers compared to the following bus stop #86 (average 24-hour weekday demand of 260 passengers). Bus stop #88 is located 195 metres from the previous bus stop #90 and 140 metres from the next stop #86.
Transport for NSW took into account existing and future developments, including major business and residential centres, when determining the proposed scope of works to ensure users of suburban and local services were not severely impacted.

In this location there is a gentle slope downwards from north to south and there are good footpath facilities which are shaded by trees. The nearest alternative bus stop #86 to the north in the commercial hub is visible from bus stop #88. The additional distance to this bus stop is 140 metres on a gentle grade uphill.

### 3.13 Relocation of bus stops #92 (TSN #213782) and #94 (TSN #213790) Crane Street and Burwood Road, Concord

#### 3.13.1 Support

**Submission number(s)**

87

**Issue description**

- Relocating bus stop #94 is a reasonable compromise.

**Response**

Roads and Maritime and Transport for NSW acknowledge the support for the proposal.

#### 3.13.2 Scope/justification of works

**Submission number(s)**

70, 75

**Issue description**

- Against proposed relocation of bus stop #92. Query whether there is a technical, legal or other reason for the move.
- As a frequent user of services, appreciate proposals to improve the service.
- Bus stop #92 is unnecessary given bus stop #94 is located a few hundred metres away.

**Response**

There is an opportunity to relocate bus stop #92 to the south to pair it with bus stop #93. Paired bus stops improve the customer experience by allowing boarding and alighting to happen near each other, with the opposite stop clearly visible.

The current location of bus stop #94 does not allow the provision of improved infrastructure due to its location in front of several residential property accesses. There is an opportunity to adjust the location of bus stop #94 by relocating it around six metres to the south which would allow the provision of improved bus stop infrastructure (e.g. shelter).

Bus stops #92 and #94 need to be retained to maintain suitable spacing between bus stops and provide an adequate walking distance based on *Improving Transport Choice* and *Sydney’s Bus Future* guidelines as described in sections 1.1.3 and 1.1.4 of this report.

#### 3.13.3 Pedestrian safety

**Submission number(s)**

70, 86

**Issue description**

- Relocating bus stop #92 would introduce jaywalkers resulting in safety issues.
• There is inadequate space between the driveways of 7 and 9 Crane Street to accommodate a bus and this would result in safety concerns with an increased number of people waiting for buses near driveways increasing the risk of people and buses potentially being hit by vehicles entering/leaving driveways.
• The new location would require three trees to be removed to allow visibility of potential passengers.
• The poor condition of the footpath and kerbside at the proposed location for bus stop #92 is already a safety issue with risk heightened from additional foot traffic.

Response
Bus stop #92 would only be relocated 60 metres away. The additional walking distance is unlikely to result in increased jaywalkers or people running through traffic lights.

The existing location of bus stop #92 is in front of a driveway and there has not been any safety concerns observed. Opal data indicates 37 customers board on an average 24-hour period which is considered to be a low usage relative to adjacent stops in this location which would not require a bus to stop frequently in this location across the day. The bus would typically stop for a maximum of about three minutes in front of the driveway if needing to stop for customers in this location. Bus stop #92 has been relocated between 3 Crane Street and 7 Crane Street as there is adequate space for a bus to pull in and out of this location.

No trees would be required to be removed as part of the relocation of bus stop #92.

As detailed in section 1.1.3 of this report, a key consideration in the development of the proposal was to ensure (as far as practicable) that bus stops were adjusted and located in a manner that maintained or improved pedestrian safety. Furthermore, section 6.10 (Hazards and risks) of the REF recognises potential hazards or risks associated with the operation of the proposal including the potential for changed pedestrian behaviour associated with new bus stop locations (for example, crossing major roads away from signalised crossings). As detailed in section 6.10.2 (Environmental safeguards and management measures) the REF, a further safety review of all new bus stop locations will be conducted during the design phase prior to implementation to identify whether any additional pedestrian safety measures are required.

Council is responsible for the maintenance of footpaths. Roads and Maritime will inform the relevant council of the safety issues associated with the existing footpaths in this location.

3.13.4 Residential access

Submission number(s)
70

Issue description
• There is inadequate space between driveways of 7 and 9 Crane Street to accommodate a bus and this would result in buses inhibiting access to driveways.
• Residents of 9 Crane Street require disabled access currently available and the proposed bus stop and No-Stopping zone would impact on safe access.

Response
It is recognised that the proposed relocation has the potential to block driveway access on a very short term basis when a bus stops to pick up and drop off passengers at the same time. The duration of the blockage would however be very short term (about three minutes). The bus stop would be installed to ensure safety is not compromised. It is not uncommon for bus stops to be located in front of driveways along the route and in the vicinity of this location.

The proposed relocation would affect timed No Parking zones (6:30 am to 9:30 am and 3:30 pm to 6:30 pm, Monday to Friday). There would be a loss of three car parking spaces outside these
times. There is alternative parking (with the same restrictions) nearby on Broughton Street and therefore, as assessed in section 6.1 (Socio-economic) of the REF, impacts would be minimal. There is a gentle slope to the west from 9 Crane Street to alternative street parking on Broughton Street (about 40 metres to the west) and is considered suitable for disabled access with footpath facilities.

No disabled parking would be impacted as a result of the proposal. Parking arrangements and restrictions on local roads are determined by the local council.

### 3.13.5 Residential amenity

**Submission number(s)**

28, 70

**Issue description**

- Agrees to having the bus stop closer but not right in front of house.
- Residences at the proposed location have street facing bedrooms and privacy would be impacted by public waiting for buses and passengers on buses.
- The safety of children playing in their front yards will be compromised due to pollution and people loitering.

**Response**

Bus stops located on local roads in residential areas are not uncommon in the Sydney metropolitan area. A large number of bus stops are located directly in front of residential properties. It is recognised that the proposed works have the potential to impact residential amenity as discussed in Section 6.1 (Socio-economic) of the REF. This includes potential short term impacts as a result of construction activities but also operational impacts from a new bus stop in front of a residential property (temporary noise from buses and visual amenity impacts). However, the impacts are considered minor compared to the benefits.

The existing location of bus stop #92 is in front of a driveway outside residential properties. Opal data indicates 37 customers board on an average 24 hour period which is considered to be a low usage relative to adjacent bus stops in this location which would not require a bus to stop frequently in this location across the day. The bus would typically stop for a maximum of about three minutes in front of the driveway if needing to stop for customers in this location. Bus stop #92 has been relocated between 3 Crane Street and 7 Crane Street as there is adequate space for a bus to pull in and out of this location.

### 3.13.6 Local traffic impacts

**Submission number(s)**

70, 86

**Issue description**

- The new bus stop location would cause traffic congestion especially due to traffic turning from Broughton Street in a spot that already has increased incidences of minor accidents. Bus stop also serves other routes with more than one bus increasing issues. There is a bus stop directly opposite the proposed location and having two buses stopped at the same time would increase risk and congestion.
- Current location of bus stop #92 does not create a traffic issue. Moving the bus stop past the Broughton Street lights will create congestion as cars would be forced to merge into one lane.

**Response**

The bus stop would be relocated on the departure side of the Broughton Street intersection. This will allow buses to take advantage of the Public Transport Information and Priority System (PTIPS) which would improve reliability as well as overall traffic conditions and safety. PTIPS provides:
• Real-time tracking of bus location and status
• Traffic light priority for late running buses
• Bus/timetable performance and reliability reports
• Real-time bus arrival information for bus stops

Furthermore, there is an opportunity to relocate bus stop #92 to the south to pair it with bus stop #93. Paired bus stops improve the customer experience by allowing boarding and alighting to happen near each other, with the opposite stop clearly visible.

Roads and Maritime crash records indicate that there is no history of incidences at this location.

Overall, the relocation would improve traffic conditions compared to the current situation and improve bus reliability. No issues regarding traffic congestion are envisaged by having two opposing bus stops.

### 3.13.7 Bus services

**Submission number(s)**
86

**Issue description**
• The relocation of bus stop #92 would result in inefficiencies for users who access other routes (464, 466, 462) as well as M41 at this bus stop.

**Response**
There is an opportunity to optimise the spacing of bus stops at this location to improve the overall reliability of the bus route. While the spacing between bus stops would increase, the proposed bus stop locations in this area would still maintain a walkable catchment (ie bus stops within a 400 metre radius or a five minute walk) consistent with the *Improving Transport Choice* and *Sydney’s Bus Future* guidelines (refer to sections 1.1.3 and 1.1.4 for further information about bus stop accessibility).

All services would continue to use the bus stop which would only be relocated 60 metres away. All services also stop at the preceding and following bus stops. With the relocation, the distance to the preceding bus stop #89 would be 315 metres and the distance to the following bus stop #94 would be 260 metres. Therefore, the relocation of bus stop #92 would not result in inefficiencies for users who access other routes (464, 466, 462) as well as the M41 from this bus stop.

### 3.13.8 Alternatives and options

**Submission number(s)**
70

**Issue description**
• If relocation is imperative, request that a location one block east (between Gladstone Road and Excelsior Street) be considered where residences do not face the street, having less impact and removing safety risks on local traffic and pedestrians.

**Response**
Gladstone Street and Excelsior Street are to the west of bus stop #94 and east of bus stop #92. Relocation of these stops between Gladstone Road and Excelsior Street would not optimise the spacing between the preceding bus stop #89 and following bus stop #97. Bus stop #92 is proposed to be paired with an existing bus stop (#93). Paired bus stops improve the customer experience by allowing boarding and alighting to happen near each other, with the opposite bus stop clearly visible.
There is an existing signalised pedestrian crossing in this location to provide safe crossing for pedestrians. The proposed relocation of bus stop #92 will move it from one side of the crossing to the other similar to the existing situation. It is not considered to result in any new safety issues. There is no history of any safety incidences in this location.

The relocation of bus stops #92 and #94 are unlikely to change the existing noise environment as Crane Street is already subject to high traffic volumes which generate traffic noise in this location and is adjacent to a number of residential properties. Bus stops located on local roads in residential areas are not uncommon in the Sydney metropolitan area. A large number of bus stops are located directly in front of residential properties, particularly those that front main roads experiencing higher volumes of traffic.

It is recognised that the proposed works have the potential to impact residential amenity as discussed in Section 6.1 (Socio-economic) of the REF. This includes potential short term impacts as a result of construction activities but also operational impacts from a new bus stop in front of a residential property (temporary noise from buses and visual amenity impacts). However, the impacts are considered minor compared to the benefits.

Local traffic and pedestrian safety and other potential hazards are discussed further in sections 3.13.3, 3.13.4, 3.13.5 and 3.13.6 of section 3.13.

3.14 Removal of bus stops #96 (TSN #213726) and #97 (TSN 213794), Burwood Road, Concord

Submission number(s)
10, 38, 42, 43, 62, 79, 80, 81, 82, 83, 87, 93

Issue description
This bus stop received twelve submissions which objected to the proposed removal of bus stops #96 and #97 with concerns raised in regards to increased walking distances and pedestrian safety risks on school children and elderly who regularly use these bus stops.

Two submissions supported the proposed removal of bus stop #97.

Response
Following a review of the issues raised by council and the local community, Roads and Maritime and Transport for NSW have agreed that a number of bus stops needed to be retained to minimise impacts on the local community. The proposed changes are detailed in Chapter 5 (Changes to the proposal). Bus stops #96 and #97 are now proposed to be retained in their current location.

3.15 Removal of bus stops #101 (TSN #213724) and #102 (TSN #2137134), Burwood Road, Concord

3.15.1 Scope/justification of works

Submission number(s)
31

Issue description
- This area will become more vibrant once Westconnex opens with the traffic calming measures and bus stop #102 will be needed.
Response
Transport for NSW took into account existing and future developments, including major business and residential centres, when determining the proposed scope of works to ensure users of suburban and local services were not severely impacted.

There is an opportunity to optimise the spacing of bus stops at this location to improve the overall reliability of the bus route. While the spacing between bus stops would increase, the proposed bus stop locations in this area would still maintain a walkable catchment (ie bus stops within a 400 metre radius or a five minute walk) consistent with the Improving Transport Choice and Sydney’s Bus Future guidelines (refer to sections 1.1.3 and 1.1.4 for further information about bus stop accessibility).

Bus stop #102 has more customers (average 24-hour weekday demand of 137 passengers) compared with the preceding bus stop #100 (average 24-hour weekday demand of 45 passengers) and the following bus stop #103 (average 24-hour weekday demand of 44 passengers). However, bus stop #102 is only located 200 metres from the previous bus stop #100 and 85 metres from the next bus stop #103.

### 3.15.2 Increased walking distance

**Submission number(s)**
21, 45, 55, 56

**Issue description**
- The removal of bus stops #101 and #102 will impact on users by increasing walking distance to the next stops, especially for elderly.
- Against removal of bus stop #101 as it is across from public housing for elderly women and removal would make daily activities difficult.

**Response**
Following a review of the issues raised by council and the local community, Roads and Maritime and Transport for NSW have agreed that a number of bus stops needed to be retained to minimise impacts on the local community, in particular seniors/pensioners, children and concession card holders. The proposed changes are detailed in Chapter 5 (Changes to the proposal). Bus stop #101 is now proposed to be retained in its current location.

There is an opportunity to optimise the spacing of bus stops at the location of bus stop #102 to improve the overall reliability of the bus route. While the spacing between bus stops would increase, the proposed stop locations in this area would still maintain a walkable catchment to customers (ie. within a 400 metre radius or a five minute walk) consistent with the Improving Transport Choice and Sydney’s Bus Future guidelines (refer to sections 1.1.3 and 1.1.4 for further information about bus stop accessibility).

There is a flat to gentle slope from the north east to the south west in this location that is unlikely to impact mobility and access to the nearest alternative bus stops (#100 and #103) in the area.

Bus stop #102 has more customers (average 24-hour weekday demand of 137 passengers) compared with the preceding bus stop #100 (average 24-hour weekday demand of 45 passengers) and the following bus stop #103 (average 24-hour weekday demand of 44 passengers). However, bus stop #102 is only located 200 metres from the previous bus stop #100 and 85 metres from the next stop #103.

Bus stop #100 has a high proportion of customers who are senior/pensioner’s (46%). Bus stops #102 and #103 have about 20% of customers who are senior/pensioner’s. This indicates that bus stop #100 is more widely used by senior/pensioner’s compared to bus stop #102.
3.15.3 Pedestrian safety

Submission number(s)
21, 55, 56

Issue description
- The removal of bus stops #101 and #102 will impact on user safety by requiring people to cross busy roads, for example Parramatta Road and Gipps Street.

Response
Following a review of the issues raised by council and the local community, Roads and Maritime and Transport for NSW have agreed that a number of bus stops needed to be retained to minimise impacts on the local community, in particular seniors/pensioners, children and concession card holders. The proposed changes are detailed in Chapter 5 (Changes to proposal). Bus stop #101 is now proposed to be retained in its current location.

As detailed in section 1.1.3 of this report, a key consideration in the development of the proposal was to ensure (as far as practicable) that bus stops were adjusted and located in a manner that maintained or improved pedestrian safety. Furthermore, section 6.10 (Hazards and risks) of the REF recognises potential hazards or risks associated with the operation of the proposal including the potential for changed pedestrian behaviour associated with new bus stop locations (for example, crossing major roads away from signalised crossings). As detailed in section 6.10.2 (Environmental safeguards and management measures) of the REF, a further safety review of all new bus stop locations will be conducted during the design phase to identify whether any additional pedestrian safety measures are required. It should be noted, however, that both Parramatta Road and Gipps Street at the proposal locations include signalised pedestrian crossings to allow safe pedestrian access to the alternative bus stops to be retained in this location.

3.15.4 Bus services

Submission number(s)
31

Issue description
- Bus stop #102 should not be removed as it allows interchange with buses coming from Burwood and turning eastbound into Parramatta Road.

Response
There would be minimal impacts resulting from the removal of this bus stop as all routes stop at the preceding bus stop #100 and following bus stop #103 and the resulting spacing between these bus stops would be 285 metres. Interchange with buses from Burwood and turning eastbound into Parramatta Road would still be serviced.

3.15.5 Alternatives and options

Submission number(s)
56, 87

Issue description
- Suggest only some bus routes miss stops or remove bus stop #103 instead.
- Removal of bus stop #101 should not go ahead, bus stop #101 could be relocated in front of address 20 Burwood Road in Concord.

Response
Following a review of the issues raised by council and the local community, Roads and Maritime and Transport for NSW have agreed that a number of bus stops needed to be retained to minimise
impacts on the local community, in particular seniors/pensioners, children and concession card holders. The proposed changes are detailed in Chapter 5 (Changes to the proposal). Bus stop #101 is now proposed to be retained in its current location.

There is an opportunity to optimise the spacing of bus stops at this location to improve the overall reliability of the bus route. While the spacing between bus stops would increase, the proposed bus stop locations in this area would still maintain a walkable catchment (ie bus stops within a 400 metre radius or a five minute walk) consistent with the Improving Transport Choice and Sydney’s Bus Future guidelines (refer to sections 1.1.3 and 1.1.4 for further information about bus stop accessibility).

Bus stop #102 has more customers (average 24-hour weekday demand of 137 passengers) compared with the preceding bus stop #100 (average 24-hour weekday demand of 45 passengers) and the following bus stop #103 (average 24-hour weekday demand of 44 passengers). However, bus stop #102 is only located 200 metres from the previous bus stop and 85 metres from the next stop.

Bus stop #103 needs to be retained to maintain optimal spacing and adequate walking distances between bus stops in this location.

3.16 Relocation of bus stop #122 (TSN #213628), Burwood Road, Enfield

Submission number(s)
5, 27, 37, 41, 59, 64

Issue description
Five submissions were received which objected to the proposed relocation of bus stop #122. In particular, it was raised that the proposed relocation would impact on visually impaired people as the existing bus stop location is close to Vision Australia and many visually impaired people use this stop. Other concerns were raised including but not limited to:

- Potential impacts to driveway access
- Potential pedestrian safety concerns
- Potential residential amenity impacts

One submission supported the proposed relocation of bus stop #122.

Response
Following a review of the issues raised by council and the local community, Roads and Maritime and Transport for NSW have agreed that a number of bus stops needed to be retained to minimise impacts on the local community, in particular seniors/pensioners, children and concession card holders. The proposed changes are detailed in Chapter 5 (Changes to the proposal). Bus stop #122 is now proposed to be retained in its current location.

3.17 Extension of bus stop #136 (TSN #220614), Bexley Road, Earlwood

3.17.1 Business access

Submission number(s)
24, 25, 26

Issue description
- Extension of bus stop #136 would block on access to delivery area for business.
• Extension of bus stop #136 would result in buses blocking driveway access for Datsig Jono's Detailing Services.
• Extension of bus stop #136 would result in buses blocking driveway access St Johns Mechanical Repairs.

Response
The proposed changes to bus stop #136 is to provide for additional bus capacity by relocating the existing southern bus zone signage about 20 metres south to providing a longer bus zone. It is recognised that this has the potential to block driveway access on a temporary basis should three buses stop to pick up and drop off passengers at the same time. The duration of the blockage would however be very short term. It is also noted that most of the route's bus stops are in front of driveways.

3.18 Extension of bus stop #140 (TSN #2207184), Bexley Road, Bexley North

3.18.1 Business access

Submission number(s)
23

Issue description
• Extension of bus stop #140 would impact on deliveries to and from the butchers as well as customers accessing Hung Huy Butchery.

Response
The proposal would extend the bus zone by relocating the existing northern bus zone signage five metres north. The extension only affects the existing No Stopping zone where it is currently illegal to stop and park in this area. Given this, there would be no impacts to parking or access in this location.

3.19 Removal of bus stops #144 (TSN #2207180) and #145 (TSN #2207181, #2207157), New Illawarra Road, Bexley North

Submission number(s)
7, 8, 11, 17, 29, 32, 34, 44, 49, 54, 61, 66

Issue description
Bus stops #144 and #145 received 11 submissions which objected to their proposed removal. In particular it was raised that their proposed removal would adversely impact residents of the Bexley North Gardens Aged Care Facility. It was noted that these bus stops were specifically placed at their current location to service these residents. Other concerns were raised including but not limited to:

• Potential pedestrian safety concerns
• Increased walking distances to next stops

One submission supported the proposed removal of bus stop #144.

Response
Following a review of the issues raised by council and the local community, Roads and Maritime and Transport for NSW have agreed that a number of bus stops needed to be retained to minimise impacts on the local community, in particular seniors/pensioners, children and concession card holders. The proposed changes are detailed in Chapter 5 (Changes to the proposal). Bus stops #144 and #145 are now proposed to be retained in their current location.
3.20 Removal of bus stop #155 (TSN #220868), Stoney Creek Road, Kingsgrove

3.20.1 Local access

Submission number(s)

60

Issue description

- Bus stop #155 should be retained as it is in a more convenient location.

Response

There is an opportunity to optimise the spacing of bus stops at this location to improve the overall reliability of the bus route. While the spacing between bus stops would increase, the proposed bus stop locations in this area would still maintain a walkable catchment (ie bus stops within a 400 metre radius or a five minute walk) consistent with the Improving Transport Choice and Sydney’s Bus Future guidelines (refer to sections 1.1.3 and 1.1.4 for further information about bus stop accessibility).

Bus stop #155 has fewer customers (average 24-hour weekday demand of 6 passengers) compared with the preceding bus stop #156 (average 24-hour weekday demand of 30 passengers) and the following bus stop #153 (average 24-hour weekday demand of 20 passengers). Bus stop #155 is located 245 metres from the previous bus stop #156 and 220 metres from the next bus stop #153.

Transport for NSW took into account existing and future developments, including major business and residential centres, when determining the proposed scope of works to ensure users of suburban and local services were not severely impacted.

3.21 Relocation of bus stops #166 (TSN #222092) and #167 (TSN #222095), Queens Road, Hurstville

3.21.1 Increased walking distance

Submission number(s)

3

Issue description

- The relocation of bus stops #167 and #168 will increase the walking distance for the elderly and is not supported.

Response

There is an opportunity to optimise the spacing of bus stops at this location to improve the overall reliability of the bus route. While the spacing between bus stops would increase, the proposed bus stop locations in this area would still maintain a walkable catchment to customers (ie. bus stops within a 400 metre radius or a five minute walk) consistent with the Improving Transport Choice and Sydney’s Bus Future guidelines (refer to sections 1.1.3 and 1.1.4 for further information about bus stop accessibility).

Opal data indicates that bus stop #166 is used by 64 customers per day (24 hour weekday average) and includes 18% elderly customers. Bus stop #167 is used by 55 customers per day (24 hour weekday average) and includes 23% elderly customers.
The relocation of bus stop #166 to a new bus stop at location #169 will increase the walking distance by 170 metres. The new bus stop #169 would be located 450 metres to the previous bus stop #174 and 300 metres to the next bus stop #165.

The relocation of bus stop #167 to a new bus stop at location #168 will increase the walking distance by 170 metres. The new bus stop at location #168 would be located 350 metres to the previous bus stop #164 and 450 metres to the next bus stop #172.

Bus stops #166 and #167 are at a low point in the road and there is a gentle slope to the south-west and footpaths are located on both sides of the road to the north of these bus stops. To the south of these bus stops between Forest Road and McLeod Road the land slopes gently to moderately downhill from south west to north east.

The increased walking distance described above and the gentle to moderate slopes to the future alternative bus stops are considered to maintain a suitable level of accessibility to bus stops in this location. Existing footpaths in the area in good condition and the new relocated bus stops would be located near to existing signalised pedestrian crossings.

Transport for NSW took into account existing and future developments, including major business and residential centres, when determining the proposed scope of works to ensure users of suburban and local services were not severely impacted.

3.21.2 Pedestrian safety

Submission number(s)
12

Issue description
- The relocation of bus stops #167 and #166 would require crossing at the Wright Street intersection which is a dangerous crossing with no lights or a pedestrian crossing. Relocation of these bus stops should be reconsidered or safe crossings of Wright Street be installed prior to relocation.

Response
As detailed in section 1.1.3 of this report, a key consideration in the development of the proposal was to ensure (as far as practicable) that bus stops were adjusted and located in a manner that maintained or improved pedestrian safety. Furthermore, section 6.10 (Hazards and risks) of the REF recognises potential hazards or risks associated with the operation of the proposal including the potential for changed pedestrian behaviour associated with new bus stop locations (for example, crossing major roads away from signalised crossings). As detailed in section 6.10.2 (Environmental safeguards and management measures) of the REF, a further safety review of all new bus stop locations will be conducted during the design phase to identify whether any additional pedestrian safety measures are required.

The Wright Street/Queens Road intersection is not considered a dangerous intersection to cross as Wright Street is a local side road which does not generate significantly high volumes of traffic. Vehicles requiring to turn into or out of Wright Street are required to slow down and stop on approach to the intersection with Queens Road.

3.22 Out of Scope

Submission number(s)
2, 4, 9, 10, 13, 30, 33, 36, 39, 40, 46, 50, 63, 69, 74, 78, 85, 87, 90, 91, 92
**Issue description**

Submissions raised a number of issues that are beyond the scope of the current proposal. These are grouped and summarised below based on the following common themes:

- Other suggested improvements to the M41 bus service
- Existing traffic congestion issues
- Suggested improvements to support other bus services
- Parking and clearways
- Impact of proposal on police enforcement areas

**Other improvements to the M41 bus service**

- Suggest two separate buses need to be used. Do not understand correlation of linking Macquarie Park to Hurstville as most people from the area would not go that far. Making route shorter would reduce times buses encounter high levels of traffic.
- The M41 route should be extended to Epping along Vimiera Road with pick up and set down in Vimiera Road and then Express to Epping. This would improve public transport accessibility and allow residents of two retirement villages to access public transport without using overhead pedestrian bridges.
- Suggestion to run the M41 service to Wellbank Street at Queen Street via Queen Street and Waratah Street to give Central Concord and East Concord access to North Strathfield Station and an alternative to Burwood Station.
- M41 buses crossing Gipps Street should be given priority over cars in both directions.
- It is likely that the bus stop opposite St Anne’s Church on Church Street will be removed. This bus stop has a shelter and is outside a block of units for elderly residents. Removal would impact these residents.
- A bus shelter should be installed at bus stop #134. There is no shelter for users in rain or heat and there is adequate room for a shelter to be installed.

**Existing traffic congestion issues**

- Limit non-essential car traffic in the Burwood and Campsie centres.
- Government is not addressing problems causing traffic jams due to high population growth.
- The most significant issues are the traffic congestion between Macquarie Park and the turn off to Concord Road from Homebush Bay Drive.

**Suggested improvements to support other bus services**

- Backlog of buses must be occurring at all bus stops and suggest staggering the bus timetable to avoid the backlog instead of removing bus stops and inconveniencing the public.
- Suggest monitoring clearways and keeping these free of cars would provide more benefit to running times.
- Proposed relocation of set down/pick up points:
  1. Relocation of Bexley Road bus stop to the north of the intersection of Shaw Street and Slade Road closer to rail access point
  2. Relocation of other services to use New Illawarra Road and Shaw Street (currently night ride only) bus stops
- Suggested introduction of right turn lane and realignment of through lane and introduction of a Bus lane on Bexley Road.
- Additional buses are required after 8.00pm on weekdays to cater for people that don’t leave work at 5.30pm.
- The departure bus stops at both Hurstville Station and Macquarie Centre are difficult for passengers to find. Diagrams should be posed so that first-time users can find their departure stops.
- Roads and Maritime should do what it can to make bus travel speeds acceptable and consistent. Suggest right turns prone to delays are controlled by traffic signals and turn arrows or bus priority lights.
• Suggest considering removal of unnecessary stops on Route 292.
• Community update does not indicate how on-time running issues will be addressed south of Parramatta Road.
• Suggest introduction of bus lanes or transit lanes including along Burwood Road, Lane Cove Road, Church Street leading onto Devlin Street and Concord Road from Hospital Road to Macquarie Park at Waterloo Road to reduce traffic congestion and/or improve bus travel times.
• Several measures are not being examined that would assist on-time running including bus bays along Concord Road to Ryde to enable buses to safely pull in/out (notably Rhodes Station stands A and B should be examined) and additional bus lanes.
• Request bus route along Pittwater Road connecting residents at southern end of Coxs Road North Ryde to Epping Road bus services, North Ryde Railway Station, and Victoria Road. Gladesville bus services.
• There should be a stop in the middle of the Majors Bay shops, ideally adjacent to the marked foot-crossing.

Parking and clearways
• Parking spaces and No Parking zones do not apply as Concord Road has clearways in place.

Impact of proposal on police enforcement areas
• Proposed new location for bus stop #74 is a dedicated area for police roadside breathalyser tests.

Response
These issues are considered to be outside the scope of works being proposed. The proposal is for the purpose of improving the reliability of bus services along the M41 route by:

• Combining or removing some bus stops where they are spaced close together
• Lengthening some bus stops to accommodate longer articulated buses
• Making it easier for buses to move in and out of bus stops by removing or relocating on-street parking, or
• Reducing potential delays for buses at traffic signals by moving stops to the departure side of the intersection.

The proposal is part of the Bus Priority Infrastructure Program, itself part of Easing Sydney’s Congestion Program Office (‘ESCPO’). The aim of the ESCPO is to reduce peak period congestion as measured by increased travel speeds, improvement of travel times, and decreased traffic volumes on the corridor. Other key initiatives under this program supporting this goal include the delivery of the M4 Smart Motorway, the Parramatta Congestion Improvement Program and accelerated Pinch Point and Clearways projects across metropolitan Sydney.

Transport for NSW and the State Transit Authority will take comments regarding bus stops, bus routes, timetables, the bus fleet and additional bus priority and on-time running changes into consideration as part of future bus service reviews in the area.

Roads and Maritime will consider the comments made regarding existing police enforcement areas and changes to road rules, layouts and parking restrictions on any State road within the extent of the proposal area.

Improvements to bus stop infrastructure (including shelters and signs), parking on local roads, and provision of local traffic management are the responsibility of the relevant local council. These comments should be directed to the relevant local council.
4 Response to issues – council

This chapter addresses the submissions made by Canada Bay Council in relation to the proposal within their local government area (LGA) (submission no. 1 as stated in Appendix B). Submissions covering multiple stops within the Canada Bay LGA are addressed in section 4.1. Specific comments on individual bus stop locations are addressed in sections 4.2 to 4.17. Out of scope submissions are addressed in section 4.18.

4.1 Bus stops within the Canada Bay LGA

4.1.1 Scope/justification of the proposal

Issue description
All existing bus stops in/near Rhodes and East Rhodes should be retained to reflect the current and future development of these areas as Transit Oriented Development (TOD) areas.

Response
The objectives of the proposal are to:
1. Achieve more reliable travel times for bus passengers
2. Improve on-time running for buses consistent with the State Priority to maintain or improve reliability of public transport services
3. Minimise impacts for users of suburban and local services
4. Minimise impacts on the environment and the community.

There is an opportunity to optimise the spacing of bus stops at this location to improve the overall reliability of the bus route. While the spacing between bus stops would increase, the proposed bus stop locations in this area would still maintain a walkable catchment (ie stops within a 400 metre radius or a five minute walk) consistent with the Improving Transport Choice and Sydney’s Bus Future guidelines (refer to sections 1.1.3 and 1.1.4 for further information about bus stop accessibility).

Only three bus stops are being removed near Rhodes (bus stops #52, #67 and #68) with the majority of stops in this locality being retained.

The removal of bus stop #52 will result in the distance between the previous and next bus stop to be 860 metres. However, the proposed removal of this bus stop took into account the following:

- The next bus stop to the south is 198 metres away.
- The next bus stop to the north is 655 metres away but on the other side of Ryde Bridge which is 300 metres long, therefore it is unlikely to be used by residents to the south of the bridge.

Bus stop #67 has fewer customers (average 24-hour weekday demand of 17 passengers) compared with preceding bus stop #69 (average 24-hour weekday demand of 74 passengers) and similar customers to the following bus stop #65 (average 24-hour weekday demand of 20 passengers). Bus stop #67 is located 180 metres from the preceding bus stop #69 and 360 metres from the following bus stop #65.

Bus stop #68 has similar numbers of customers (average 24-hour weekday demand of 28 passengers) compared with preceding bus stop #66 (average 24-hour weekday demand of 29 passengers) and less customers to the following bus stop #70 (average 24-hour weekday demand of 42 passengers). Bus stop #68 is located 340 metres from the preceding bus stop #66 and 200 metres from the following bus stop #70.
Transport for NSW took into account existing and future developments, including major business and residential centres, when determining the proposed scope of works to ensure users of suburban and local services were not severely impacted.

4.1.2 Socio-economic

Issue description
Removal of bus stops which are used regularly by adults and frequented by seniors/pensioners, children and concession card holders is not favoured.

Response
Following a review of the issues raised by council and the local community, Roads and Maritime and Transport for NSW have agreed that a number of bus stops needed to be retained to minimise impacts on the local community, in particular seniors/pensioners, children and concession card holders. The proposed changes are detailed in Chapter 5 (Changes to the proposal). Bus stops within the Canada Bay LGA that would not be relocated and/or removed following the submissions period include bus stops #87, #96, #97 and #101. In addition, bus stop #100 (which was to remain unchanged in the original proposal) is now proposed to be relocated to the south to be paired with the retained bus stop #101.

4.1.3 Increased walking distance

Issue description
Sydney Buses has previously mentioned 300 metres as an acceptable distance. Council objects to changes where bus stop spacing will be excessive (>300m).

Response
The objectives of the proposal are to:

1. Achieve more reliable travel times for bus passengers
2. Improve on-time running for buses consistent with the State Priority to maintain or improve reliability of public transport services
3. Minimise impacts for users of suburban and local services
4. Minimise impacts on the environment and the community.

There is an opportunity to optimise the spacing of bus stops at this location to improve the overall reliability of the bus route. While the spacing between bus stops would increase, the proposed bus stop locations in this area would still maintain a walkable catchment (ie stops within a 400 metre radius or a five minute walk) consistent with the Improving Transport Choice and Sydney’s Bus Future guidelines (refer to sections 1.1.3 and 1.1.4 for further information about bus stop accessibility).

Transport for NSW took into account existing and future developments, including major business and residential centres, when determining the proposed scope of works to ensure users of suburban and local services were not severely impacted.

Transport for NSW also consulted with Sydney Buses throughout the scheme development process and attended workshops to provide input into the scheme.

4.1.4 Stakeholder and community consultation

Issue description
The following issues were raised by Canada Bay Council in regards to the stakeholder and community consultation carried out as part of the proposal:

- Bus Priority Infrastructure Program report states as a next step that wider community consultation will be conducted in early 2017. Canada Bay Council is not aware of any community consultation being conducted to date.
Community consultation shall be conducted by Roads Maritime for the removal, relocation or installation of a bus stop as follows:

- Where a bus stop is to be removed consultation is to extend to residents within 300 metres of the existing bus stop.
- Where a bus stop is to be relocated (with or without a shelter) consultation is to extend to residents within 300 metres of the existing bus stop and residents within 50 metres of the proposed bus stop.
- Where a new bus stop is to be installed (with or without a shelter) consultation is to extend to residents within 50 metres of the proposed bus stop.

Response
Chapter 5 (Stakeholder and community consultation) of the REF includes the information on the consultation undertaken during the preparation of the report. Consultation during the REF preparation focused on government agencies, in particular councils. Community consultation was undertaken with the local community during the display of the REF, which provided an opportunity for the wider community to provide feedback on the proposed works. The consultation activities undertaken during the display period are further described in Section 2.1 of this submissions report.

Due to the nature of the works there will not be additional letterbox drops prior to or following commencement of the works. A community close out report (ie. display of submissions report) will be prepared by Roads and Maritime to inform the community on the final scheme. Signage will be included on all bus stops subject to change prior to implementation of the works.

It is noted that any shelter installation will require council to notify the affected residents and businesses.

4.2 Removal of bus stop #52 (TSN #213811), Concord Road, Rhodes

4.2.1 Increased walking distance

Issue description
Removal of bus stop #52 will result in the distance between bus stops being 860 metres. There is high usage of this bus stop and its removal will discourage use of public transport. The additional distance to travel to other bus stops if this bus stop is removed is unacceptable and will not reflect the current and future development of these areas as Transit Oriented Development (TOD) areas.

Response
It is recognised that the removal of bus stop #52 will result in the distance between the previous and next bus stop to be 860 metres. However, the proposed removal of this bus stop took into account the following:

- The next bus stop to the south is 198 metres away.
- The next bus stop to the north is 655 metres away but on the other side of Ryde Bridge which is 300 metres long, therefore it is unlikely to be used by residents to the south of the bridge.

4.3 Removal of bus stop #67 (TSN #213836), Concord Road, Concord West

4.3.1 Increased walking distance

Issue description
Removal of bus stop #67 will result in the distance between bus stops being 545 metres. There is high usage of this bus stop, in particular by the elderly, and its removal will discourage use of public transport. The removal will not reflect the current and future development of these areas as
Transit Oriented Development (TOD) areas. The additional distance to travel to bus stops if this stop is removed is unacceptable.

Response

There is an opportunity to optimise the spacing of bus stops at this location to improve the overall reliability of the bus route. While the spacing between stops would increase, the proposed bus stop locations in this area would still maintain a walkable catchment (ie stops within a 400 metre radius or a five minute walk) consistent with the Improving Transport Choice and Sydney’s Bus Future guidelines (refer to sections 1.1.3 and 1.1.4 for further information about bus stop accessibility).

Bus stop #67 has less customers (average 24-hour weekday demand of 17 passengers) compared with preceding bus stop #69 (average 24-hour weekday demand of 74 passengers) and similar customers to the following bus stop #65 (average 24-hour weekday demand of 20 passengers) stops. Bus stop #67 is located 180 metres from the preceding bus stop #69 and 360 metres from the following bus stop #65.

Transport for NSW took into account existing and future developments, including major business and residential centres, when determining the proposed scope of works to ensure users of suburban and local services were not severely impacted.

4.4 Removal of bus stop #68 (TSN #213827), Concord Road, Concord West

4.4.1 Increased walking distance

Issue description

Removal of bus stop #68 will result in the distance between stops being 540 metres. There is high usage of this bus stop and its removal will discourage use of public transport. The additional distance to travel to bus stops if this bus stop is removed is unacceptable.

Response

There is an opportunity to optimise the spacing of bus stops at this location to improve the overall reliability of the bus route. While the spacing between bus stops would increase, the proposed bus stop locations in this area would still maintain a walkable catchment (ie stops within a 400 metre radius or a five minute walk) consistent with the Improving Transport Choice and Sydney’s Bus Future guidelines (refer to sections 1.1.3 and 1.1.4 for further information about bus stop accessibility).

Bus stop #68 has similar customers (average 24-hour weekday demand of 28 passengers) compared with preceding bus stop #66 (average 24-hour weekday demand of 29 passengers) and less customers to the following bus stop #70 (average 24-hour weekday demand of 42 passengers). Bus stop #68 is located 340 metres from the preceding bus stop #66 and 200 metres from the following bus stop #70.

Transport for NSW took into account existing and future developments, including major business and residential centres, when determining the proposed scope of works to ensure users of suburban and local services were not severely impacted.
4.5 Removal of bus stop #71 (TSN #213834), Concord Road, Concord West

4.5.1 Increased walking distance

Issue description
Removal of bus stop #71 will result in the distance between bus stops being 570 metres. There is high usage of this bus stop, in particular by elderly, and its removal will discourage use of public transport. The additional distance to travel to bus stops if this stop is removed is unacceptable.

Response
There is an opportunity to optimise the spacing of bus stops at this location to improve the overall reliability of the bus route. While the spacing between bus stops would increase, the proposed bus stop locations in this area would still maintain a walkable catchment (ie stops within a 400 metre radius or a five minute walk) consistent with the Improving Transport Choice and Sydney’s Bus Future guidelines (refer to sections 1.1.3 and 1.1.4 for further information about bus stop accessibility).

Bus stop #71 has a similar number of customers (average 24-hour weekday demand of 18 passengers) compared with the preceding bus stop #74 (average 24-hour weekday demand of 13 passengers) and fewer customers to the following bus stop #69 (average 24-hour weekday demand of 74 passengers). Bus stop #71 is located 350 metres from the preceding bus stop #74 and 220 metres from the following bus stop #69. The resulting spacing between the preceding and next bus stops (#74 and #69) would be 400 metres (with the relocation of bus stop #74).

Transport for NSW took into account existing and future developments, including major business and residential centres, when determining the proposed scope of works to ensure users of suburban and local services were not severely impacted.

4.6 Removal of bus stop #72 (TSN #213829) and relocation of bus stop #73 (TSN# 213830), Concord Road, Concord West

4.6.1 Increased walking distance

Issue description
Removal of bus stop #72 and the relocation of bus stop #73 will result in the distance between stops being 760 metres. There is high usage of these bus stops and their removal will discourage use of public transport. The additional distance to travel to these bus stops if these bus stops are removed is unacceptable.

Response
There is an opportunity to optimise the spacing of bus stops at this location to improve the overall reliability of the bus route. While the spacing between bus stops would increase, the proposed bus stop locations in this area would still maintain a walkable catchment (ie bus stops within a 400 metre radius or a five minute walk) consistent with the Improving Transport Choice and Sydney’s Bus Future guidelines (refer to sections 1.1.3 and 1.1.4 for further information about bus stop accessibility).

Bus stop #72 has less customers (average 24-hour weekday demand of 26 passengers) compared with the preceding bus stop #70 (average 24-hour weekday demand of 42 passengers) and more customers to the following bus stop #73 (average 24-hour weekday demand of 10 passengers). Bus stop #72 is located 200 metres from the preceding bus stop #70 and 300 metres from the following bus stop #73. The resulting spacing between the preceding and next bus stops (#70 and #73) would be 400 metres (with the relocation of bus stop #73).
Transport for NSW took into account existing and future developments, including major business and residential centres, when determining the proposed scope of works to ensure users of suburban and local services were not severely impacted.

4.7 Relocation of bus stop #74 (TSN #213833), Concord Road, Concord West

4.7.1 Increased walking distance

Issue description
Relocation of bus stop #74 will result in the distance between bus stops being 820 metres. There is high usage of this bus stop. The additional distance to travel to bus stops if this stop is removed is unacceptable.

Response
There is an opportunity to optimise the spacing of bus stops at this location to improve the overall reliability of the bus route. While the spacing between bus stops would increase, the proposed bus stop locations in this area would still maintain a walkable catchment to customers (ie. bus stops within a 400 metre radius or a five minute walk) consistent with the *Improving Transport Choice* and *Sydney’s Bus Future* guidelines (refer to sections 1.1.3 and 1.1.4 for further information about bus stop accessibility).

Bus stop #74 would only be relocated by about 80 metres to the north. The relocation of bus stop #74 will result in a distance of 350 and 470 metres between bus stops either side of the relocated bus stop #74.

Opal data indicates that about utilisation of bus stop #74 is low relative to adjacent stops and that only 13 customers use bus stop #74 (24 hour average weekday).

Transport for NSW took into account existing and future developments, including major business and residential centres, when determining the proposed scope of works to ensure users of suburban and local services were not severely impacted.

4.8 Removal of bus stop #77 (TSN #213719), Concord Road, North Strathfield

4.8.1 Increased walking distance

Issue description
Removal of bus stop #77 will result in the distance between stops being 405 metres. There is high usage of this bus stop. The additional distance to travel to this bus stop if it is removed is unacceptable.

Response
There is an opportunity to optimise the spacing of bus stops at this location to improve the overall reliability of the bus route. While the spacing between bus stops would increase, the proposed bus stop locations in this area would still maintain a walkable catchment (ie bus stops within a 400 metre radius or a five minute walk) consistent with the *Improving Transport Choice* and *Sydney’s Bus Future* guidelines (refer to sections 1.1.3 and 1.1.4 for further information about bus stop accessibility).

Bus stop #77 has similar number of customers (average 24-hour weekday demand of 35 passengers) compared with preceding bus stop #79 (average 24-hour weekday demand of 28 passengers) but with fewer customers compared to the following bus stop #76 (average 24-hour
weekday demand of 54 passengers). Bus stop #77 is located 195 metres from the previous bus stop #79 and 210 metres from the next bus stop #76.

Transport for NSW took into account existing and future developments, including major business and residential centres, when determining the proposed scope of works to ensure users of suburban and local services were not severely impacted.

### 4.9 Extension of bus stop #78 (TSN #2137115), Wellbank Street, North Strathfield

#### 4.9.1 Project design

**Issue description**

- Extension appears unnecessary and may be hazardous with the proposed No Stopping zone being so close to Clermont Lane. It is suggested that the Bus Zone be lengthened to the western end where the mail box is located.
- It is undesirable to remove the planter boxes and the location of the bus stop, if it is necessary to remove 1 or 2 planters then suitable alternative planter locations should be considered.

**Response**

The proposal is to extend bus zone to improve bus manoeuvres into and out of this bus stop by relocating signage about three metres to the east and about five metres to the west. The proposed works has taken into account safety and the majority of the extension is being proposed to the west.

Clermont Lane is a local road which appears to only be utilised by service vehicles, primarily and staff for adjacent businesses and neighbouring adjoining residences. Where vehicles turning left out of Clermont Lane, there is a kerbside lane for cars to reside before merging safely into the inner lane.

Following a review of the issues raised by council and the local community, Roads and Maritime and Transport for NSW have agreed that changes to the proposal are needed to minimise impacts on the local community.

The extension of bus stop #78 will be modified to retain two public garden beds with juvenile Tuckaroo (*Cupaniopsis anacardioides*) trees (previously proposed to be removed in the REF). Changes to bus stop #78 will now only require changes to existing bus stop signage. The proposed changes are detailed in Chapter 5 (Changes to the proposal) and Appendix C.

### 4.10 Relocation of bus stop #87 (TSN 213870), Majors Bay Road, Concord

**Issue description**

The proposed relocation of bus stop #87 is not favoured as it will result in the loss of five parking spaces outside residential properties.

**Response**

Following a review of the issues raised by council and the local community, Roads and Maritime and Transport for NSW have agreed that a number of bus stops needed to be retained to minimise impacts on the local community, in particular seniors/pensioners, children and concession card holders. The proposed changes are detailed in Chapter 5 (Changes to the proposal). Bus stop #87 is now proposed to be retained in its current location.
4.11 Removal of bus stop #88 (TSN213737), Majors Bay Road, Concord

4.11.1 Increased walking distance

Issue description
Removal of bus stop #88 will result in the distance between bus stops being 335 metres. There is high usage of this bus stop. The additional distance to travel to bus stops if this bus stop is removed is unacceptable.

Response
There is an opportunity to optimise the spacing of bus stops at this location to improve the overall reliability of the bus route. While the spacing between bus stops would increase, the proposed bus stop locations in this area would still maintain a walkable catchment (ie stops within a 400 metre radius or a five minute walk) consistent with the Improving Transport Choice and Sydney’s Bus Future guidelines (refer to sections 1.1.3 and 1.1.4 for further information about bus stop accessibility).

Bus stop #88 has a similar number of customers (average 24-hour weekday demand of 34 passengers) compared with the preceding bus stop #90 (average 24-hour weekday demand of 33 passengers) but a fewer number of customers compared to the following bus stop #86 (average 24-hour weekday demand of 260 passengers). Bus stop #88 is located 195 metres from the previous bus stop #90 and 140 metres from the next bus stop #86.

Transport for NSW took into account existing and future developments, including major business and residential centres, when determining the proposed scope of works to ensure users of suburban and local services were not severely impacted.

4.12 Relocation of bus stop #92 (TSN #213782), Crane Street, Concord

4.12.1 Parking loss

Issue description
Proposed relocation of bus stop #92 is not favoured as this will result in the loss of five part time parking spaces outside residential properties and there is no offset at the existing location as No Stopping is to be reintroduced on lead-up to traffic signals.

Response
As detailed in Table 3.1 and section 6.1 (Socio-economic) of the REF, the proposed relocation would affect three car parking spaces outside No Parking zone operation (6:30am to 9:30am and 3:30pm to 6:30pm, Monday to Friday). However, alternative parking (with the same restrictions) is located to the south on Burwood Road and therefore the loss of three parking spaces is considered acceptable. The existing bus stop does not currently allow parking and therefore introducing a No Stopping zone following its removal is not considered a loss of parking spaces.

4.13 Relocation of bus stop #94 (TSN #213790), Burwood Road, Concord

4.13.1 Parking loss

Issue description
Relocation of bus stop #94 is not favoured as it will result in the loss of at least two parking spaces. Furthermore, restrictions are currently No Parking 6.30am to 9.30am and 3.30pm to 6.30pm Monday to Friday not No Parking at all times.
Response
The loss of parking is considered minimal with alternative parking available in the locality. Parking restrictions proposed were based on surrounding parking restrictions in the locality. Transport for NSW and Roads and Maritime would confirm with the council the parking restrictions to be applied following the relocation or removal of specific bus stops. Council is responsible for implementation of parking restrictions on local roads.

4.13.2 Pedestrian access

Issue description
Proposed shelter location will block pedestrian access to 97 Burwood Road.

Response
The proposed shelter locations are indicative only and are to be confirmed and implemented by the local council. A shelter is no longer being proposed at this bus stop and therefore it would not block pedestrian access.

4.14 Removal of bus stop #96 (TSN #213726) Burwood Road, Concord

4.14.1 Support

Issue description
The removal of bus stop #96 is supported by the council.

Response
Roads and Maritime and Transport for NSW acknowledge the support for the proposal.

4.15 Removal of bus stop #97 (TSN #213794), Burwood Road, Concord

4.15.1 Support

Issue description
The removal of bus stop #97 is supported by the council.

Response
Roads and Maritime and Transport for NSW acknowledge the support for the proposal.

4.16 Removal of bus stop #101 (TSN #213724), Burwood Road, Concord

Issue description
Removal of bus stop #101 will result in the distance between bus stops being 480 metres. There is high usage of this bus stop. The additional distance to travel to other bus stops if this bus stop is removed is unacceptable.

Response
Following a review of the issues raised by council and the local community, Roads and Maritime and Transport for NSW have agreed that a number of bus stops needed to be retained to minimise impacts on the local community, in particular seniors/pensioners, children and concession card holders. The proposed changes are detailed in Chapter 5 (Changes to the proposal). Bus stop #101 would be retained at its current location.
4.17 Removal of bus stop #102 (TSN #2137134), Burwood Road, Concord

4.17.1 Support

Issue description
The removal of bus stop #102 is supported by the council.

Response
Roads and Maritime and Transport for NSW acknowledge the support for the proposal.

4.18 Out of scope

4.18.1 Parking restrictions

Issue description
Where bus stops are being removed or altered in dimension the background parking restrictions shall be reinstated.

Response
This is considered to be outside the scope of the works being proposed. The associated changes to parking restrictions shown on the concept drawings are indicative only and are recommendations made by Roads and Maritime based on the existing parking conditions adjacent to the stops in question. Any future changes to parking restrictions on local roads as a result of this proposal are the responsibility of council. Any changes to State road parking restrictions are the responsibility of Roads and Maritime.

4.18.2 Proposal design and implementation

Issue description
The following design measures and processes should be considered in terms of any changes to bus stop infrastructure:

- All bus stop removals will at least require removal of bus stop sign plinths, bus shelter footings, seat footings, signage and tactile indicators.
- At bus stops with bus shelters the shelter is to be removed by council's contractor (Adshel).
- At bus stops with a 'new' bus shelter the shelter shall be installed by Council's contractor.
- Any and all bus shelter relocations are subject to agreement being reached between council and its contractor Adshel.
- Where a bus shelter is removed the shelter slab shall be cut and/or removed and the nature strip and footpath are to be reinstated as directed by council’s Assets Engineer.
- All new bus shelter locations shall be Disability Discrimination Act 2002 (DDA) compliant.
- Proposed shelter location may require removal of tree at bus stop #94.

Response
This is considered to be outside of the scope of the works being proposed. The changes identified to bus stop infrastructure (including shelters, signage and plinths) on the concept drawings are indicative only (ie. recommendations made by Roads and Maritime) to be considered and determined by council. Ultimately, local councils are responsible for any changes to bus shelters, signage and plinths as a result of the proposal. At bus stops where shelters are required to be removed or established, the shelter will be removed or installed by council’s contractor Adshel.

Section 6.2 (Biodiversity) of the REF assesses the potential biodiversity impacts of the proposal. No trees are proposed to be removed as part of the relocation of bus stop #94. Furthermore, the proposed locations of bus shelters in the REF are indicative only and subject to council approval.
Council will be responsible for coordinating the works associated with bus stop infrastructure at the affected stops which can be undertaken to avoid any removal of trees.

The position and dimensions of new and relocated bus stops (and those existing stops subject to significant alteration as a result of the proposal) would be assessed against the requirements of AS 1428.1-2001 Design for Access and Mobility prior to becoming operational. A further safeguard has been included to address this in Chapter 7 (Environmental management) of this report. The provision of accessible bus stops is a shared responsibility between both council and Transport for NSW. Roads and Maritime would liaise directly with the relevant local council and Transport for NSW during implementation of the proposal to ensure that resulting bus stop infrastructure changes (ie. new or relocated bus stops and existing bus stops subject to significant alteration as a result of the proposal) have been considered against these requirements.

4.18.3 Project costs and compensation

Issue description

- All costs associated with relocation, removal or installation of a bus stop shall be borne by Roads and Maritime.
- Roads and Maritime shall compensate council for loss of revenue and fees incurred from the loss or relocation of an Adshel bus shelter unless an alternative is identified that is of a similar nature and agreed to by council's Property Manager.

Response

Roads and Maritime would pay for the costs associated with the necessary physical works required to any bus shelters, signage and plinths as a result of the proposal, however is not responsible for any costs associated with potential losses in revenue from any bus shelter changes – that is a separate matter to be addressed between the council and Adshel.
5 Changes to the proposal

5.1 Overview

Following consideration of submissions eleven key changes to the proposal are now proposed. Table 5-1 below provides a summary of the proposed changes to the original proposal as a result of the public display and has taken into consideration feedback from the local community and Canada Bay Council as described in the earlier chapters of this report.

The concept drawings for the revised proposal are provided in Appendix C.
### Table 5-1 Changes made to the proposal following the submissions period

<table>
<thead>
<tr>
<th>Ref#</th>
<th>Location</th>
<th>Original proposal</th>
<th>Changes to the proposal</th>
</tr>
</thead>
<tbody>
<tr>
<td>#35</td>
<td>Lane Cove Road before Quarry Road, Ryde (stop 2112234)</td>
<td>Remove bus stop 2112234. Convert existing bus zone to No Parking.</td>
<td>The existing bus stop will be retained at its current location. It will pair with bus stop #36 which is now proposed to be retained and relocated about 30 metres south of its current location.</td>
</tr>
<tr>
<td>#36</td>
<td>Lane Cove Road after Quarry Road, Ryde (stop 211263)</td>
<td>Remove bus stop 211263. Convert existing bus zone to No Parking.</td>
<td>The existing bus stop will be retained and relocated about 30 metres south of its current location. The bus stop will be retained as it is a pair with bus stop #35 (now proposed to be retained) and is used by more customers than other bus stops nearby. The bus stop is proposed to be relocated due to existing safety concerns with the current bus stop location being situated too close to a slip lane. The proposed relocation would involve the relocation of bus signage, TGSI and plinth. The existing bus seat will be removed and potentially relocated to the new location by Council. This proposed change is assessed in Chapter 6 (Additional assessment) of this report.</td>
</tr>
<tr>
<td>#78</td>
<td>Wellbank Street near Concord Road, Concord (stop 2137115)</td>
<td>Extend bus zone by relocating signage to about three metres to the east and about five metres to the west. Remove two public garden beds with juvenile Tuckaroo (<em>Cupaniopsis anacardioides</em>) trees. The extension would be into existing No Stopping and No Parking zones and therefore there would be no loss of parking.</td>
<td>The extension of bus stop #78 will be modified to retain two public garden beds with juvenile Tuckaroo (<em>Cupaniopsis anacardioides</em>) trees (previously proposed to be removed in the REF). Changes to bus stop #78 will now only require modifying existing bus stop signage. The proposed change is presented in Appendix C.</td>
</tr>
<tr>
<td>#87</td>
<td>Majors Bay Road near Gallipoli Street, Concord (stop 213780)</td>
<td>Relocate stop #87 50 metres to the south, to be on the exit of the roundabout. Convert existing bus stop to parking (gain of two car spaces). Install infrastructure at new location including concrete slab, shelter, bin, TGSI and signage. Loss of four car parking spaces at new location and reinstatement of two car parking spaces at current location equating to a net loss of two car spaces for this change.</td>
<td>The existing bus stop will be retained at its current location. The retention of this bus stop is for safety reasons.</td>
</tr>
<tr>
<td>#96</td>
<td>Burwood Road near Stanley Street, Concord (stop 213726)</td>
<td>Remove bus stop #96. Convert existing bus zone to No Parking.</td>
<td>The existing bus stop will be retained at its current location. There are more customers using this bus stop during the school peak period and the local community raised concerns about the safety of school children should this bus stop be removed.</td>
</tr>
<tr>
<td>#</td>
<td>Location</td>
<td>Proposed Changes</td>
<td>Comments</td>
</tr>
<tr>
<td>-----</td>
<td>-------------------------------</td>
<td>----------------------------------------------------------------------------------------------------------</td>
<td>----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>#97</td>
<td>Burwood Road near Stanley Street, Concord (stop 213794)</td>
<td>Remove bus stop #97. Convert existing bus zone to No Parking.</td>
<td>The bus stop will be retained at its current location. There are more customers using this bus stop during the school peak period and the local community raised concerns about the safety of school children should this bus stop be removed.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>#100</td>
<td>Burwood Road near Moreton Street, Concord (stop 2137133)</td>
<td>No issues / opportunities identified at this location. Bus stop needs to be retained as it is used by multiple bus services (including local and suburban services).</td>
<td>Bus stop #100 will be relocated about 80 metres south of its current location to pair with bus stop #101 which is now proposed to be retained. The proposed relocation would involve the relocation of bus signage, TGSI and plinth. Relocation will also require the removal of two part time parking spaces. This proposed change is assessed in Chapter 6 (Additional assessment) of this report.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>#101</td>
<td>Burwood Road near Burton Street, Concord (stop 213724)</td>
<td>Remove bus stop #101. Convert existing bus zone to No Parking.</td>
<td>The bus stop will be retained at its current location. It will to pair with bus stop #100 which is now proposed to be retained and relocated with this bus stop.</td>
</tr>
<tr>
<td>#122</td>
<td>Burwood Road near Mitchell Street, Enfield (stop 213628)</td>
<td>Relocate bus stop #122 15 to 20 metres north. Install infrastructure at new location including signage, concrete slab, TGSI and seat. Loss of three car parking spaces.</td>
<td>The bus stop will be retained at its current location. The current bus shelter was installed last year and the bus stop services sight impaired users of the adjacent Vision Australia facility.</td>
</tr>
<tr>
<td>#144</td>
<td>New Illawarra Road near Ellerslie Road, Bexley North (stop 2207180)</td>
<td>Remove bus stop #144. Convert existing bus zone to No Stopping.</td>
<td>The bus stop will be retained at its current location. Bus stop #144 is highly used by seniors and pensioners of the adjacent aged care facility.</td>
</tr>
<tr>
<td>------</td>
<td>---------------------------------------------------------------</td>
<td>----------------------------------------------------------------</td>
<td>--------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>#145</td>
<td>New Illawarra Road near Tomkins Street, Bexley North (stop 2207181 / 2207151)</td>
<td>Remove bus stop #145. Convert existing bus zone to parking (gain of two spaces).</td>
<td>The bus stop will be retained at its current location. Bus stop #145 is highly used by seniors and pensioners of the adjacent aged care facility.</td>
</tr>
</tbody>
</table>
The following chapter provides an assessment of the proposed relocation of bus stops #100 and #36 as identified in the Chapter 5 (Changes to the proposal) which were not assessed under the original proposal in the REF.

### 6.1 Description of proposed new bus stop relocations

#### 6.1.1 Bus stop #36 (TSN#211263), Lane Cove Road after Quarry Road, Lane Cove

*Table 6-1* provides a summary of the justification for the relocation of bus stop #36. The proposed relocation is shown on *Figure 6-* and the resulting works required to relocate this bus stop.

<table>
<thead>
<tr>
<th>Ref#</th>
<th>Location</th>
<th>Identified bus stop issues / adjustments</th>
<th>Proposed action</th>
</tr>
</thead>
<tbody>
<tr>
<td>#36</td>
<td>Lane Cove Road after Quarry Road, Ryde (TSN #211263)</td>
<td>Following a review of the issues raised by council and the local community, Roads and Maritime and Transport for NSW have agreed that a number of bus stops needed to be retained to minimise impacts on the local community, in particular seniors/pensioners, children and concession card holders. The proposed changes are detailed in Chapter 5 (Changes to the proposal). The bus stop will be relocated about 30 metres south of the existing bus stop location being situated too close to a slip lane. The bus stop will be retained as it is a pair with bus stop #35 and is used by more customers than other bus stops nearby.</td>
<td>Bus stop #36 is now proposed to be relocated near its existing location approximately 30 metres south away from the slip lane. The relocation would involve the relocation of bus signage, TGSI and a plinth. There is space available for a seat to be installed in this new location to replace the seat provided at the existing bus stop location (subject to confirmation by council). No changes to parking are required as there is currently no parking permitted in this location. Additional consultation with affected residents was undertaken on 24 October 2017 by Roads and Maritime to speak with residents about the new proposed actions to bus stop #36. Affected residents were generally welcoming of the new proposed actions to relocate bus stop #36.</td>
</tr>
</tbody>
</table>

Further details on the construction methodologies are provided in Chapter 3 (Description of the proposal) in the REF.
Figure 6-1 Proposed relocation of bus stop #36 (source: Bitzios concept design)
6.1.2  Bus stop #100 (TSN#2137133), Burwood Road near Moreton Street, Concord

Table 6-2 provides a summary of the justification for the relocation of bus stop #100 and the resulting works required to relocate this bus stop. The proposed relocation is shown on Figure 6-.

Table 6-2 Proposed works at bus stop #100

<table>
<thead>
<tr>
<th>Ref#</th>
<th>Location</th>
<th>Identified bus stop issues / adjustments</th>
<th>Proposed action</th>
</tr>
</thead>
<tbody>
<tr>
<td>#100</td>
<td>Burwood Road near Moreton Street, Concord (TSN #2137133)</td>
<td>Following a review of the issues raised by council and the local community, Roads and Maritime and Transport for NSW have agreed that a number of bus stops needed to be retained to minimise impacts on the local community, in particular seniors/pensioners, children and concession card holders. The proposed changes are detailed in Chapter 5 (Changes to the proposal). Bus stop #101 is now proposed to be retained at its current location, however, it would no longer have a corresponding bus stop across the road as bus stop #102 would be removed. Given this, there is it is proposed to relocate bus stop #100 to pair it with bus stop #101.</td>
<td>Bus stop #100 would be relocated around 80 metres south to be paired with bus stop #101 which is being retained. The relocation would involve the relocation of bus signage, TGSI and a plinth and the loss of two part time parking spaces.</td>
</tr>
</tbody>
</table>

Further details on the construction methodologies are provided in Chapter 3 (Description of the proposal) in the REF.
Figure 6-2 Proposed relocation of bus stop #100 (source: Bitzios concept design)

Bus Priority Infrastructure Program On-time running improvements Hurstville to Macquarie Park via Burwood Corridor

Submissions Report
6.2 Environmental assessment

Table 6 detail the potential environmental impacts of the relocation of bus stops #36 and #100 on the environmental aspects described in the REF. Additional management and mitigation measures have been recommended where required.
### Table 6-3 Environmental impact assessment – relocation of bus stops #36 and #100

<table>
<thead>
<tr>
<th>Environmental aspect</th>
<th>Existing environment</th>
<th>Potential impacts</th>
<th>Additional management and mitigation measures</th>
</tr>
</thead>
<tbody>
<tr>
<td>Socio economic</td>
<td>Refer to section 6.3 of this report.</td>
<td>Refer to section 6.3 of this report.</td>
<td>Refer to section 6.3 of this report.</td>
</tr>
<tr>
<td>Biodiversity</td>
<td>The sites are a highly urbanised environment, and do not include remnant native vegetation. There are no trees along the road verge.</td>
<td>There would be no biodiversity impacts.</td>
<td>No additional management and mitigation measures from those identified in the REF are required.</td>
</tr>
<tr>
<td>Visual amenity</td>
<td>The visual impact has been assessed in accordance with the Guidelines for landscape character and visual impact assessment (Roads and Maritime Services, 2013) as described in section 6.3 (Visual amenity) of the REF. The proposal sites have been assessed as low sensitivity as it occurs in an urban context with adjacent commercial businesses such as a service station (bus stop #100), residential housing and Lane Cove Road (bus stop #36).</td>
<td>Due to the low sensitivity of the area and small scale of works (i.e. relocation of a bus sign), there would be negligible magnitude and visual impact associated with the bus stop relocation.</td>
<td>No additional management and mitigation measures from those identified in the REF are required.</td>
</tr>
</tbody>
</table>
Noise and vibration

Existing noise in the area is dominated by road traffic and aircraft noise. Sensitive receivers include residences. The nearest receivers are located approximately five metres from the proposed bus stop.

The Roads and Maritime *Construction Noise and Vibration Guideline* (Roads and Maritime Services, 2016) and associated *Construction Noise Estimator* were used to determine the potential for construction noise impacts at the nearest residential receivers as described in section 6.4 (Noise and vibration) of the REF.

**Construction**

Due to the proximity of receivers, noise management levels are likely to be exceeded for the nearest residential and commercial receivers. Construction noise is summarised in the table below.

<table>
<thead>
<tr>
<th>Ref#</th>
<th>Location</th>
<th>Receiver distance (metres)</th>
<th>NML</th>
<th>Prediction L_{Aeq 15min} dBA</th>
<th>Exceedance above NMLA (standard hours)</th>
</tr>
</thead>
<tbody>
<tr>
<td>#36</td>
<td>Lane Cove Road after Quarry Road, Ryde</td>
<td>5</td>
<td>60</td>
<td>97</td>
<td>37</td>
</tr>
<tr>
<td>#100</td>
<td>Burwood Road near Burton Road, Concord</td>
<td>5</td>
<td>60</td>
<td>97</td>
<td>37</td>
</tr>
</tbody>
</table>

Having regard to the types of equipment that could be used and the typical distance to nearby buildings, vibration is not expected to be an issue in terms of both structural damage and human response.

The Transport for NSW *Construction Noise Strategy* (Transport for NSW, 2012) sets out minimum working distances for vibration intensive plant to avoid building damage and human response. These are summarised below.

No additional management and mitigation measures from those identified in the REF are required.
<table>
<thead>
<tr>
<th>Plant Item</th>
<th>Rating / Description</th>
<th>Safe Working Distance</th>
<th>Human Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jackhammer</td>
<td>Hand held</td>
<td>1 m (nominal)</td>
<td>Avoid contact w/structure</td>
</tr>
</tbody>
</table>

**Operation**

The proposal would not result in changes to road geometry, traffic volumes or traffic mix and therefore a change in operational road traffic noise is not expected. The proposal would not introduce new sources of vibration during operation and therefore vibration impacts are not expected.

**Non-Aboriginal heritage**

A search of the NSW State Heritage Inventory was undertaken for the Canada Bay LGA as detailed in section 6.5 (Non-Aboriginal heritage) of the REF. There are no recorded heritage items at or adjacent to the proposal site. Therefore, there would be no non-Aboriginal heritage impacts. No additional management and mitigation measures from those identified in the REF are required.

**Aboriginal heritage**

The proposal site has been highly disturbed by urban development, road construction and the utilities placement. Aboriginal cultural heritage impacts are unlikely to be any Aboriginal heritage impacts. No additional management and mitigation measures from those identified in the REF are required.
<table>
<thead>
<tr>
<th>Category</th>
<th>Description</th>
<th>Impacts</th>
<th>Additional Management and Mitigation Measures</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water Quality</td>
<td>The closest water way is a drainage line 500 metres away. This drains into Parramatta River one kilometre away.</td>
<td>There would be no additional water quality impacts from those already assessed in the REF in section 6.7 (Water quality).</td>
<td>No additional management and mitigation measures from those identified in the REF are required.</td>
</tr>
<tr>
<td>Air quality</td>
<td>The main influence on air quality at the proposal sites is road traffic. The nearest Environment Protection Authority air quality monitoring site is in Beaman Park at Earlwood. Table 6-11 in the REF displays recorded air quality in the area.</td>
<td>There would be no additional air quality impacts from those already assessed in the REF in section 6.8 (Air quality).</td>
<td>No additional management and mitigation measures from those identified in the REF are required.</td>
</tr>
<tr>
<td>Traffic and transport</td>
<td>Burwood Road is an unclassified regional road (7047 and 7321) that provides a north-south link between Concord and the Cooks River at Croydon Park, via the Burwood retail / commercial centre.</td>
<td>There would be no additional traffic and transport impacts from those already assessed in the REF in section 6.9 (Traffic and transport).</td>
<td>No additional management and mitigation measures from those identified in the REF are required.</td>
</tr>
</tbody>
</table>
### Hazards and risks

Potential hazards and risks are described in Section 6.10 (Hazards and risks) of the REF. There are no additional hazards and risks associated with the relocation of bus stops #100 and #36. The relocation of bus stop #36 would result in a reduction of road hazard and risks in this location as its new location would be clear of the existing slip lane at the intersection of Lane Cove Road and Quarry Road which is a current safety concern.

### Waste minimisation and management

Transport for NSW and Roads and Maritime are committed to ensuring the responsible management of unavoidable waste and promotes the reuse of such waste in accordance with the resource management hierarchy principles outlined in the *Waste Avoidance and Resource Recovery Act 2001*. Further details are provided in section 6.11 (Waste minimisation and management) of the REF. There would be no additional waste impacts from those already assessed in section 6.11 (Waste minimisation and management) of the REF.

### Cumulative impacts

A discussion of potential cumulative impacts is discussed in Section 6.12 (Cumulative impacts) of the REF. There are no additional potential cumulative impacts associated with the relocation of bus stops #100 and #36.
6.3 Socio-economic

6.3.1 Existing environment

Bus stop #36

The proposal site occurs in an urban context on Lane Cove Road in Ryde (refer to Figure 6- and Figure 6-). The immediate area is residential with some commercial businesses and a church.

There are a number of existing bus stops near the proposed location of bus stop #36. They include:

- Lane Cove Road near Quarry Road (bus stop #35). This bus stop, located across the road, is now proposed to be retained as a northbound pair to bus stop #36.
- Lane Cove Road after Tunks Street (bus stop #37). This northbound bus stop is located about 155 metres south of bus stop #36 and is being retained.
- Lane Cove Road near Dobson Crescent (bus stop #38). This southbound bus stop about is about 175 metres to the south and is being retained.
- Lane Cove Road near Myra Avenue (bus stop #39). This southbound bus stop is about 415 metres to the south and is being retained.
- Byron Park, Lane Cove Road (bus stop #34). This southbound bus stop is about 500 metres to the north and is being retained.

The bus stop would be located outside 85 and 87 Lane Cove Road, Ryde. These two properties are approximately five metres from the proposal site and are shown in Figure 6- and Figure 6-.

Further details on the existing environment are provided in Section 6.1 (Socio-economic) of the REF.
Bus Priority Infrastructure Program On-time running improvements Hurstville to Macquarie Park via Burwood Corridor Submissions Report

Figure 6-3 New location of bus stop #36

Figure 6-4 Relocation of bus stop #36 – residential properties at 85 and 87 Lane Cove Road fronting new bus stop location
**Bus stop #100**

The proposal site occurs in an urban context in Concord. The immediate area is residential with some commercial businesses.

There are a number of existing bus stops near the proposed location of bus stop #100. They include:

- Burwood Road near Gipps Street (bus stop #98). This southbound bus stop is about 175 metres north of existing bus stop #100 and is being retained.
- Burwood Road at Burton Street (bus stop #101). This northbound stop is about 84 metres south of existing bus stop #100 and is being retained.
- Burwood Road at Parramatta Road (bus stop #102). This southbound bus stop is about 200 metres south of existing bus stop #100 and is being removed.

The bus stop would be located outside 19 and 22 Burwood Road, Concord. These two properties are approximately five metres from the proposal site.

Further details on the existing environment are provided in Section 6.1 (Socio-economic) of the REF.

**6.3.2 Potential impacts**

**6.3.2.1 Construction**

General amenity impacts during construction of the proposal would be minor and temporary. There would be no additional construction impacts from those already assessed in section 6.1 (Socio-economic) of the REF.

**6.3.2.2 Operation**

**Bus stop #36**

*Accessibility*

Bus stop #36 would be relocated around 30 metres south from its current location at Lane Cove Road near Quarry Road. While this may increase the walking distance and result in reduced convenience for some people, the impacts are considered minor as the bus stop would only be relocated by around 30 metres. Furthermore, the distance to the preceding bus stop #34 would be 530 metres (currently 500 metres) and the distance to the following bus stop #38 would be 145 metres (currently 175 metres). This is considered acceptable based on Improving Transport Choice and Sydney's Bus Future guidelines explained in sections 1.1.3 and 1.1.4 of this report.

A review of the impact of the relocation of bus stop #36 on suburban and local services has been considered and presented below in *Table 6-1*.

*Table 6-4 Impact of relocation of bus stops #36 on suburban and local services*

<table>
<thead>
<tr>
<th>Stop Location #</th>
<th>Proposal</th>
<th>Potential impacts</th>
</tr>
</thead>
<tbody>
<tr>
<td>#36</td>
<td>Relocation of bus stop 211263</td>
<td>Limited impact. All services stop at the preceding and following bus stops.</td>
</tr>
</tbody>
</table>
Service reliability
With the proposal, users of buses along the route would benefit from improved service reliability and reduced journey times.

The relocation of the bus stop beyond the slip lane would improve the convenience and efficiency of travel for those needing to catch connecting buses.

Loss of parking
The relocation of the bus stop would not impact parking as currently no parking is currently permitted in the proposed bus stop location and no parking will be permitted in the existing bus stop location following relocation.

Business impacts
There are no businesses in the vicinity of the relocated bus stop.

Bus stop #100

Accessibility
Bus stop #100 would be relocated around 80 metres south from its current location at Burwood Road at Moreton Street to Burwood Road at Burton Street in Concord. While this may increase the walking distance and result in reduced convenience for some people, the impacts are considered minor as the bus stop would only be relocated by around 80 metres. Furthermore, the distance to the preceding bus stop #98 would be 250 metres (currently 170 metres) and the distance to the following bus stop #103 would be 250 metres to bus stop #104 (currently 200 metres to bus stop #102 being removed). This is considered acceptable based on Improving Transport Choice and Sydney’s Bus Future guidelines explained in sections 1.1.3 and 1.1.4 of this report.

A review of the impact of the relocation of bus stop #100 on suburban and local services was considered and presented below (Table 6-1).

Table 6-1 Impact of relocation of bus stop #100 on suburban and local services

<table>
<thead>
<tr>
<th>Stop Location #</th>
<th>Proposal</th>
<th>Potential impacts</th>
</tr>
</thead>
<tbody>
<tr>
<td>#100</td>
<td>Relocation of bus stop 2137133</td>
<td>Limited impact. All services stop at the preceding and following bus stops.</td>
</tr>
</tbody>
</table>

Service reliability
With the proposal, users of buses along the route would benefit from improved service reliability and reduced journey times.

The relocation of the bus stop to be opposite bus stop #101 would improve the convenience and efficiency of travel for those needing to catch connecting buses.

Loss of parking
The relocation of the bus stop would result in the removal of two parking spaces in the kerbside lane. Parking is currently only allowed in the kerbside lane between 9.30am and 3.30pm and between 6.30pm and 6.30am. There would be one additional parking space where the original bus stop is being decommissioned at Burwood Road at Moreton Street. Overall there would be a net loss of one parking space. The loss of parking could inconvenience adjacent residents and visitors.
but the impact is expected to be small in the context of the overall parking supply in the immediate vicinity.

**Business impacts**

There is only one local business in the vicinity of the proposed bus stop, a service station across Burwood Road from the bus stop. The potential impact this proposal may have on the business is summarised below (Table 6-).

**Table 6-6 Business impacts as a result of relocation of bus stop #100**

<table>
<thead>
<tr>
<th>Ref#</th>
<th>Location</th>
<th>Proposal</th>
<th>Affected business</th>
<th>Impacts/benefits</th>
</tr>
</thead>
<tbody>
<tr>
<td>#100</td>
<td>Burwood Road near Burton Street, Concord</td>
<td>Relocation of bus stop</td>
<td>Service station</td>
<td>Negligible impact. The service station is not expected to be a destination business for bus users, although there may be some passing trade.</td>
</tr>
</tbody>
</table>

**6.3.3 Management and mitigation measures**

No additional measures from those identified in section 6.1 (Socio-economic) of the REF are required as a result of these particular changes proposed.
The REF for the Bus Priority Infrastructure Program On-time running improvements Hurstville to Macquarie Park via Burwood Corridor identified the framework for environmental management, including safeguards and management measures that would be adopted to avoid or reduce environmental impacts (section 7.2 (Summary of safeguards and management measures) of the REF).

After consideration of the issues raised in the public submissions and changes to the proposal, the safeguard and management measures contained in the REF are considered adequate with the exception of one further safeguard to be incorporated into the proposal as described in section 7.2 and Table 7-1 below.

Should the proposal proceed, environmental management will be guided by the framework and measures outlined below.

### 7.1 Environmental management plans (or system)

A number of safeguards and management measures have been identified in order to minimise adverse environmental impacts, including social impacts, which could potentially arise as a result of the proposal. Should the proposal proceed, these management measures would be incorporated into the detailed design and applied during the construction and operation of the proposal.

A Project Environmental Management Plan (PEMP) and a Construction Environmental Management Plan (CEMP) will be prepared to describe safeguards and management measures identified. The PEMP and CEMP will provide a framework for establishing how these measures will be implemented and who would be responsible for their implementation.

The PEMP and CEMP will be prepared prior to construction of the proposal and must be reviewed and certified by environment staff, Sydney region, prior to the commencement of any on-site works. The CEMP will be a working document, subject to ongoing change and updated as necessary to respond to specific requirements. The PEMP and CEMP would be developed in accordance with the specifications set out in QA Specification G36 – Environmental Protection (Management System), QA Specification G38 – Soil and Water Management (Soil and Water Plan), QA Specification G40 – Clearing and Grubbing and QA Specification G10 - Traffic Management.

### 7.2 Summary of safeguards and management measures

The review of environmental factors for the Bus Priority Program On-time running improvements Hurstville to Macquarie Park via Burwood Corridor identified a range of environmental outcomes and management measures that would be required to avoid or reduce the environmental impacts.

After consideration of the issues raised in the public submissions, the environmental management measures for the project (refer to Chapter 7 (Environmental management) of the REF) are considered adequate, with the exception of one further safeguard to be incorporated into the proposal as a result of the submissions period (SOE6) which is outlined in bold in Table 7-1. Should the project proceed, the environmental management measures in Table 7-1 will guide the subsequent phases of the Bus Priority Program On-time running improvements Hurstville to Macquarie Park via Burwood Corridor project.
### Table 7-1 Summary of environmental safeguards and management measures

<table>
<thead>
<tr>
<th>No.</th>
<th>Impact</th>
<th>Environmental safeguards</th>
<th>Responsibility</th>
<th>Timing</th>
</tr>
</thead>
</table>
| GEN1| General - minimise environmental impacts during construction | A CEMP will be prepared and submitted for review and endorsement of the Roads and Maritime Environment Manager prior to commencement of the activity. As a minimum, the CEMP will address the following:  
• any requirements associated with statutory approvals  
• details of how the project will implement the identified safeguards outlined in the REF  
• issue-specific environmental management plans  
• roles and responsibilities  
• communication requirements  
• induction and training requirements  
• procedures for monitoring and evaluating environmental performance, and for corrective action  
• reporting requirements and record-keeping  
• procedures for emergency and incident management  
• procedures for audit and review.  
The endorsed CEMP will be implemented during the undertaking of the activity. | Contractor / Roads and Maritime | Pre-construction / detailed design |
| GEN2| General - notification                           | All businesses, residential properties and other key stakeholders (e.g., schools, local councils) affected by the activity will be notified at least five days prior to commencement of the activity. The notification letter will include (as a minimum):  
• Contact name and phone number  
• Working hours and proposed construction period  
• Complaints process. | Contractor Roads and Maritime | Pre-construction |
<p>| GEN3| General – environmental awareness               | All personnel working on site will receive training to ensure awareness of environment protection requirements to be implemented during the project. This will include up-front site induction and regular &quot;toolbox&quot; style briefings. | Contractor Roads and Maritime | Pre-construction / detailed design |</p>
<table>
<thead>
<tr>
<th>No.</th>
<th>Impact</th>
<th>Environmental safeguards</th>
<th>Responsibility</th>
<th>Timing</th>
</tr>
</thead>
<tbody>
<tr>
<td>GEN4</td>
<td>General - notification</td>
<td>The Roads and Maritime Services Project Manager must notify the Roads and Maritime Regional Environmental Officer at least five working days prior to commencement of works.</td>
<td>Roads and Maritime</td>
<td>Pre-construction</td>
</tr>
<tr>
<td>SOE1</td>
<td>Socio-economic - communication</td>
<td>A Communication Plan will be prepared and included in the CEMP. The Communication Plan will include (as a minimum): • Requirements to provide details and timing of proposed activities to affected residents, • Contact name and number for complaints • Procedure to notify adjacent land users for changed conditions during the construction period such as traffic, pedestrian or driveway access. The communication plan will be prepared in accordance with G36 requirements and the Roads and Maritime Community Engagement and Communications Manual (2012).</td>
<td>Contractor</td>
<td>Detailed design / pre-construction</td>
</tr>
<tr>
<td>SOE2</td>
<td>Socio-economic - complaints</td>
<td>A complaints handling procedure and register would be included in the CEMP and maintained for the duration of the project. The environmental awareness training is to include (as a minimum): • Environmentally sensitive locations and/or no go zones • Requirement to report and the process for reporting environmental issues on site • Requirement to report and the process for reporting damaged environmental controls • Erosion and sediment control • Incident management process • Site staff environmental responsibilities.</td>
<td>Contractor</td>
<td>Pre-construction / construction</td>
</tr>
<tr>
<td>SOE3</td>
<td>Socio-economic – interruptions to utility services</td>
<td>In the event that utilities relocation would be required, residents would be informed prior to any interruptions to utility services that may be experienced as a result of utilities relocation.</td>
<td>Contractor</td>
<td>Pre-construction / construction</td>
</tr>
<tr>
<td>No.</td>
<td>Impact</td>
<td>Environmental safeguards</td>
<td>Responsibility</td>
<td>Timing</td>
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</tr>
<tr>
<td>SOE4</td>
<td>Socio-economic – access</td>
<td>Road users, pedestrians and cyclists would be informed of changed conditions, including likely disruptions to access during construction.</td>
<td>Contractor</td>
<td>Pre-construction / construction</td>
</tr>
<tr>
<td>SOE5</td>
<td>Socio-economic – access</td>
<td>Access to residences, businesses and retained bus stops will be maintained during construction.</td>
<td>Contractor</td>
<td>Construction</td>
</tr>
<tr>
<td>SOE6</td>
<td>Socio-economic – access and mobility</td>
<td>The position, design and dimensions of new and relocated bus stops (and those existing stops subject to significant alteration as a result of the proposal) would be assessed by a suitably qualified person against the requirements of AS 1428.1-2001 <em>Design for Access and Mobility</em> (and any other associated relevant standards for bus stops as applicable). If site conditions preclude full compliance with AS 1428.1-2001, a design review will be conducted to ensure all practicable measures are implemented to address access and mobility requirements.</td>
<td>Roads and Maritime Contractor</td>
<td>Pre-construction / detailed design</td>
</tr>
<tr>
<td>BIO1</td>
<td>Unexpected threatened species impact</td>
<td>If unexpected threatened flora or fauna are discovered, works would stop immediately and the Roads and Maritime Unexpected Threatened Species Find Procedure, identified in the Roads and Maritime Biodiversity Guidelines (Roads and Traffic Authority, 2011) will be implemented.</td>
<td>Contractor</td>
<td>Pre-construction / construction</td>
</tr>
<tr>
<td>BIO2</td>
<td>Impacts to fauna</td>
<td>Prior to removal, trees will be checked for nesting birds and arboreal mammals. If present, fauna would be relocated by a qualified wildlife handler.</td>
<td>Contractor</td>
<td>Construction</td>
</tr>
<tr>
<td>VIS1</td>
<td>Loss of street trees - landscape character / visual amenity</td>
<td>Opportunities to provide replacement tree plantings (Lane Cove Road, Wellbank Street) or otherwise mitigate streetscape impacts will be explored in consultation with the relevant local council.</td>
<td>Transport for NSW / Roads and Maritime</td>
<td>Pre-construction</td>
</tr>
<tr>
<td>VIS2</td>
<td>Construction related visual impacts</td>
<td>The work site would be left in a tidy manner at the end of each work day.</td>
<td>Contractor</td>
<td>Construction</td>
</tr>
</tbody>
</table>

---

8 Now Roads and Maritime

Bus Priority Infrastructure Program On-time running improvements Hurstville to Macquarie Park via Burwood Corridor

Submissions Report
<table>
<thead>
<tr>
<th>No.</th>
<th>Impact</th>
<th>Environmental safeguards</th>
<th>Responsibility</th>
<th>Timing</th>
</tr>
</thead>
<tbody>
<tr>
<td>VIS3</td>
<td>Bus stop design</td>
<td>Bus stop signage and other infrastructure will comply with applicable Transport for NSW requirements and standards.</td>
<td>Transport for NSW / Roads and Maritime</td>
<td>Detailed design</td>
</tr>
</tbody>
</table>
| NVI1 | Construction noise and vibration   | A Construction Noise and Vibration Management Plan (CNVMP) would be prepared as part of the CEMP. This plan would include but not be limited to:  
  - A map indicating the locations of sensitive receivers including residential properties  
  - Management measures to minimise the potential noise impacts from the quantitative noise assessment (including implementation of EPA Interim Construction Noise Guideline (DECCW, 2009)  
  - A risk assessment to determine potential risk for activities likely to affect receivers  
  - Mitigation measures to avoid noise and vibration impacts during construction activities  
  - A process for assessing the performance of the implemented mitigation measures  
  - A process for documenting and resolving issues and complaints  
  - Identify in toolbox talks where noise and vibration management is required | Contractor            | Pre-construction / construction                                           |
<p>| NV2  | Construction noise and vibration - complaints | During work hours, a community liaison phone number and site contact would be provided to enable complaints to be received and responded to.                                                                                                                                                                                                   | Contractor            | Construction                         |
| NV3  | Construction noise and vibration - complaints | If deemed necessary, attended compliance noise and vibration monitoring would be undertaken upon receipt of a complaint. Monitoring would be reported as soon as possible. In the case that exceedances are detected, the situation would be reviewed in order to identify means to minimise the impacts to residences, the appropriate changes made and the NVMP updated accordingly. | Contractor            | Construction                         |</p>
<table>
<thead>
<tr>
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</tr>
</thead>
</table>
| NV4 | Construction noise and vibration - training | The environmental induction program will include specific noise and vibration issues awareness training including, but not limited to, the following:  
- Avoiding shouting and slamming doors  
- Where practical, operating machines at low speed or power and switching off when not being used rather than left idling for prolonged periods  
- Avoiding dropping materials from height and avoiding metal to metal contact on material. | Contractor         | Pre-construction / construction |
<p>| NV5 | Construction noise and vibration impacts    | Where feasible and reasonable, construction will be carried out during the standard daytime working hours. Work generating high noise and/or vibration levels will be scheduled during less sensitive time periods. | Contractor         | Construction      |
| NV6 | Construction noise and vibration impacts    | Quieter and less vibration emitting construction methods will be used where feasible and reasonable.        | Contractor         | Construction      |
| NV7 | Construction noise and vibration impacts    | The noise levels of plant and equipment must have operating Sound Power or Sound Pressure Levels compliant with the criteria in Appendix H of the <em>Construction Noise and Vibration Guideline</em> (Roads and Maritime Services, 2016). | Contractor         | Construction      |
| NV8 | Construction noise and vibration impacts    | Night time construction noise shall be limited to two consecutive nights. High noise generating works will be completed before 11:00pm. | Contractor         | Construction      |
| NAH1| Unexpected impacts on heritage values       | The <em>Standard Management Procedure: Unexpected Heritage Finds</em> (Roads and Maritime Services, 2015) is to be followed in the event of uncovering a potential heritage item. | Roads and Maritime Contractor | Construction |
| NAH2| Unexpected impacts on heritage values       | If unexpected heritage item/s, archaeological remains or potential relics are uncovered during the works, all works would cease in the vicinity of the material/ find and the <em>Standard Management Procedure: Unexpected Heritage Finds</em> (Roads and Maritime Services, 2015) would be followed. | Roads and Maritime Contractor | Construction |</p>
<table>
<thead>
<tr>
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</tr>
</thead>
<tbody>
<tr>
<td>NAH3</td>
<td>Inadvertent impacts on known heritage items and unexpected impacts on heritage values</td>
<td>Works would not occur and vehicles would not be parked within the dripline of the heritage listed “Ryde Bridge street trees (Ryde Bridge approach) – landscape” at location 51. The location and significance of these trees would be identified during inductions.</td>
<td>Contractor</td>
<td>Construction</td>
</tr>
</tbody>
</table>
| ABH1 | Disturbance of Aboriginal objects                                                           | • The Standard Management Procedure: Unexpected Heritage Finds (Roads and Maritime Services, 2015) will be followed in the event that an unknown or potential Aboriginal object/s, including skeletal remains, is found during construction.  
  • Work will only re-commence once the requirements of that procedure have been satisfied. | Roads and Maritime Contractor | Construction |
| WQU1 | Erosion and sedimentation                                                                   | • Erosion and sediment control measures will be implemented and maintained in accordance with Managing Urban Stormwater: Soils and Construction (Landcom, 2004) to:  
  • Minimise sediment moving off-site and sediment laden water entering any water course, drainage lines, or drain inlets.  
  • Reduce water velocity and capture sediment on site.  
  • Minimise the amount of material transported from site to surrounding pavement surfaces.  
  • Divert off site water around the site. | Contractor              | Construction |
<p>| WQU2 | Erosion and sedimentation                                                                   | Erosion and sedimentation controls are to be checked and maintained on a regular basis and after a rain event of 10 millimetres or greater (including clearing of sediment from behind barriers) and records kept and provided on request. | Contractor              | Construction |
| WQU3 | Erosion and sedimentation                                                                   | Any material transported onto pavements will be swept and removed at the end of each working shift and prior to rainfall. | Contractor              | Construction |</p>
<table>
<thead>
<tr>
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</tr>
</thead>
<tbody>
<tr>
<td>WQU4</td>
<td>Erosion and sedimentation</td>
<td>Erosion and sediment control measures are not to be removed until the works are complete or areas are stabilised.</td>
<td>Contractor</td>
<td>Construction</td>
</tr>
<tr>
<td>WQU5</td>
<td>Pollution from site runoff</td>
<td>Vehicle wash down and concrete washout will occur at a dedicated location offsite.</td>
<td>Contractor</td>
<td>Construction</td>
</tr>
<tr>
<td>WQU6</td>
<td>Spills</td>
<td>An emergency spill kit is to be kept on site at all times. All staff are to be made aware of the location of the spill kit and trained in its use. If a spill or incident occurs, the <em>Environmental Incident Classification and Management Procedure</em> (Roads and Maritime Services, 2015) is to be followed and the Roads and Maritime Contract Manager notified immediately.</td>
<td>Contractor</td>
<td>Construction</td>
</tr>
<tr>
<td>AQU1</td>
<td>Dust</td>
<td>Measures (including watering or covering exposed areas) will be used to minimise or prevent air pollution and dust, where necessary.</td>
<td>Contractor</td>
<td>Construction</td>
</tr>
<tr>
<td>AQU2</td>
<td>Dust and other emissions</td>
<td>Vehicles transporting waste or other materials that may produce odours or dust will be covered during transportation.</td>
<td>Contractor</td>
<td>Construction</td>
</tr>
<tr>
<td>AQU3</td>
<td>Other emissions</td>
<td>Works (including the spraying of paint and other materials) will not be carried out during strong winds or in weather conditions where high levels of dust or airborne particulates are likely. Plant and machinery will be turned off when not in use.</td>
<td>Contractor</td>
<td>Construction</td>
</tr>
<tr>
<td>AQU4</td>
<td>Dust and other emissions</td>
<td>Works (including the spraying of paint and other materials if required) will not be carried out during strong winds or in weather conditions where high levels of dust or airborne particulates are likely.</td>
<td>Contractor</td>
<td>Construction</td>
</tr>
<tr>
<td>AQU5</td>
<td>Dust and other emissions</td>
<td>Visual monitoring of air quality will be undertaken to verify the effectiveness of controls and enable early intervention.</td>
<td>Contractor</td>
<td>Construction</td>
</tr>
<tr>
<td>TTR1</td>
<td>Road safety and impacts to traffic flow.</td>
<td>A traffic management plan will be prepared and implemented in accordance with <em>Traffic control at worksites</em> (Roads and Traffic Authority, 2010).</td>
<td>Contractor</td>
<td>Construction</td>
</tr>
<tr>
<td>No.</td>
<td>Impact</td>
<td>Environmental safeguards</td>
<td>Responsibility</td>
<td>Timing</td>
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</tr>
<tr>
<td>TTR2</td>
<td>Property access</td>
<td>Vehicular property access would be maintained where possible including preschools, places of worship and all commercial premises.</td>
<td>Contractor</td>
<td>Construction</td>
</tr>
<tr>
<td>TTR3</td>
<td>Pedestrian and cyclist access</td>
<td>Pedestrian and cyclist access is to be maintained throughout construction. Provision of signposted outlining the pedestrians and cyclists diversion routes would be displayed during construction. There will be advance notification of any construction works that affect pedestrians and cyclists.</td>
<td>Contractor</td>
<td>Construction</td>
</tr>
<tr>
<td>TTR4</td>
<td>Bus stop access</td>
<td>Access for bus passengers to bus stops would be maintained during construction.</td>
<td>Contractor</td>
<td>Construction</td>
</tr>
<tr>
<td>HZR1</td>
<td>Construction hazards and risks</td>
<td>As part of the site specific CEMP, a Hazard and Risk Management Plan, including an emergency response plan, will be prepared. The plan will identify construction phase hazards and risks detail measures to mitigate those risks.</td>
<td>Contractor</td>
<td>Pre-construction</td>
</tr>
<tr>
<td>HZR2</td>
<td>Pedestrian safety</td>
<td>A safety review of all new bus stop locations will be conducted during the design phase to identify whether any additional pedestrian safety measures are required.</td>
<td>Roads and Maritime</td>
<td>Design</td>
</tr>
<tr>
<td>HZR3</td>
<td>Contamination</td>
<td>In the event that indications of contamination are encountered (known and unexpected, such as odorous or visually contaminated materials), work in the area would cease until a contamination assessment can be prepared to advise on the need for remediation or other action, as deemed appropriate.</td>
<td>Contractor</td>
<td>Construction</td>
</tr>
</tbody>
</table>
| WMM1 | Construction waste management | • The following resource management hierarchy principles will be followed:  
  • Avoid unnecessary resource consumption as a priority  
  • Avoidance would be followed by resource recovery (including reuse of materials, reprocessing, and recycling and energy recovery)  
  • Disposal would be undertaken as a last resort (in accordance with the *Waste Avoidance and Resource Recovery Act 2001*). | Roads and Maritime Contractor | Construction |
<table>
<thead>
<tr>
<th>No.</th>
<th>Impact</th>
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<th>Responsibility</th>
<th>Timing</th>
</tr>
</thead>
<tbody>
<tr>
<td>WMM2</td>
<td>Construction waste management</td>
<td>All wastes will be disposed of legally in accordance with their classification under the <em>Waste Classification Guidelines Part 1: Classifying Waste</em> (Department of Environment, Climate Change and Water, 2009)</td>
<td>Contractor</td>
<td>Construction</td>
</tr>
<tr>
<td>WMM3</td>
<td>Resource use</td>
<td>Procurement will endeavour to use materials and products with a recycled content where that material or product is cost and performance effective.</td>
<td>Roads and Maritime Contractor</td>
<td>Detailed design / pre-construction</td>
</tr>
<tr>
<td>WMM4</td>
<td>Waste tracking</td>
<td>Types of waste collected, amounts, date/time and details of disposal are to be recorded in a waste register.</td>
<td>Contractor</td>
<td>Pre-construction / construction</td>
</tr>
<tr>
<td>WMM5</td>
<td>Litter</td>
<td>Works sites would be maintained, kept free of rubbish and cleaned up at the end of each working day.</td>
<td>Contractor</td>
<td>Construction</td>
</tr>
<tr>
<td>WMM6</td>
<td>Waste disposal</td>
<td>Suitable waste disposal locations would be identified and used to dispose of litter and other wastes on-site. Suitable containers would be provided for waste collection.</td>
<td>Contractor</td>
<td>Pre-construction / construction</td>
</tr>
<tr>
<td>CUI1</td>
<td>Construction phase cumulative impacts</td>
<td>The CEMP will be revised to consider potential cumulative impacts from surrounding development activities as they become known. This will include a process to review and update mitigation measures as new work begins or complaints are received.</td>
<td>Contractor</td>
<td>Pre-construction / construction</td>
</tr>
</tbody>
</table>
7.3 Licensing and approvals

Where required, an applicable road occupancy licence would be in place prior to commencement of works.

No other specific licencing/approval requirements have been identified.
References


Transport for NSW (2014). *Bus Stop Location Guidelines Sydney Metropolitan Area*.

---

9 Now referred to as the ‘Department of Planning and Environment’
10 Now referred to as Roads and Maritime
11 Now referred to as Roads and Maritime
Appendix A

Bus stop information
<table>
<thead>
<tr>
<th>Bus Stop Ref #:</th>
<th>TSN</th>
<th>Direction</th>
<th>Bus Routes Using Stop</th>
<th>Existing Stop Location</th>
<th>Suburb</th>
<th>LGA</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>212226</td>
<td>SOUTHBOUND</td>
<td>292, 293, 551, M41</td>
<td>Culloden Rd near Waterloo Rd, Marsfield</td>
<td>MARSFIELD</td>
<td>RYDE</td>
</tr>
<tr>
<td>2</td>
<td>2113180</td>
<td>NORTHBOUND</td>
<td>292, 293, 551, M41</td>
<td>Culloden Rd near Waterloo Rd, Macquarie Park</td>
<td>MACQUARIE PARK</td>
<td>RYDE</td>
</tr>
<tr>
<td>3</td>
<td>212227</td>
<td>SOUTHBOUND</td>
<td>292, 293, 551, M41</td>
<td>Culloden Rd near Taranto Rd</td>
<td>MARSFIELD</td>
<td>RYDE</td>
</tr>
<tr>
<td>4</td>
<td>211332</td>
<td>NORTHBOUND</td>
<td>292, 293, 551, M41</td>
<td>Culloden Rd near Taranto Rd</td>
<td>MACQUARIE PARK</td>
<td>RYDE</td>
</tr>
<tr>
<td>5</td>
<td>211331</td>
<td>NORTHBOUND</td>
<td>292, 293, 551, M41</td>
<td>Culloden Rd near Talavera Rd, Macquarie Park</td>
<td>MACQUARIE PARK</td>
<td>RYDE</td>
</tr>
<tr>
<td>6</td>
<td>212228</td>
<td>SOUTHBOUND</td>
<td>292, 293, 551, M41</td>
<td>Culloden Rd near Talavera Rd, Marsfield</td>
<td>MARSFIELD</td>
<td>RYDE</td>
</tr>
<tr>
<td>Bus Stop</td>
<td>TSN</td>
<td>Direction</td>
<td>Bus Routes Using Stop</td>
<td>Existing Stop Location</td>
<td>Suburb</td>
<td>LGA</td>
</tr>
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</tr>
<tr>
<td>7</td>
<td>2113326</td>
<td>SOUTHBOUND</td>
<td>M41</td>
<td>Talavera Road near Christie Road</td>
<td>MACQUARIE PARK</td>
<td>RYDE</td>
</tr>
<tr>
<td>8</td>
<td>2113325</td>
<td>NORTHBOUND</td>
<td>M41</td>
<td>Talavera Road near Christie Road</td>
<td>MACQUARIE PARK</td>
<td>RYDE</td>
</tr>
<tr>
<td>9</td>
<td>2113322</td>
<td>SOUTHBOUND</td>
<td>611, 619, 621, 628, 651, 740</td>
<td>Talavera Rd before Herring Rd</td>
<td>MACQUARIE PARK</td>
<td>RYDE</td>
</tr>
<tr>
<td>10</td>
<td>211344</td>
<td>TERMINUS</td>
<td>458, 459, 545</td>
<td>Macquarie Centre Bus Interchange (Stand B)</td>
<td>MACQUARIE PARK</td>
<td>RYDE</td>
</tr>
<tr>
<td>11</td>
<td>2113319</td>
<td>NORTHBOUND</td>
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Bus Priority Program On-time running improvements Hurstville to Macquarie Park via Burwood Corridor Submissions Report
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Bus Priority Program On-time running improvements Hurstville to Macquarie Park via Burwood Corridor
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Bus Priority Program On-time running improvements Hurstville to Macquarie Park via Burwood Corridor
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## Appendix B

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