

## Relevant Information for Council

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**FILE:** X034672.001 **DATE:** 16 September 2022

**TO:** Lord Mayor and Councillors

**FROM:** Kim Woodbury, Chief Operating Officer

**THROUGH:** Monica Barone, Chief Executive Officer

**SUBJECT:** Information Relevant To Item 9.3 – Project Scope – Rosebery Quietway

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### For Noting

This memo is for the information of the Lord Mayor and Councillors.

### Purpose

To provide further information on the proposed traffic calming and landscaping ("Quietway") in Rosebery.

### Background

At the meeting of the Transport, Heritage, Environment and Planning Committee on 12 September 2022, further information was sought on:

#### Road Safety Speeds

A typical stopping distance when travelling at 30 km/h on a reasonable road surface is 19 metres, while at the slightly faster speed of 40 km/h, the stopping distance increases to 27 metres. In a crash between a car and a pedestrian, there is a 90 per cent chance that a pedestrian will survive at 30 km/h, 60 per cent chance at 40 km/h, and a 10 per cent chance at 50 km/h. Figures from the Transport for NSW Centre for Road Safety are shown at Attachment A.

## **Rosebery Local Area Traffic Management**

The Rosebery LATM (Local Area Traffic Management Plan) was established in the 1990s and has informed the implementation of roundabouts, speed platforms, truck weight limits and kerb extensions since then. The LATM has been delivered and added to over the years as the area has evolved.

There are currently no plans as part of this project to undertake pedestrian safety improvements for Hayes Road and Mentmore Avenue intersection. However, the City can investigate this separately as part of our ongoing improvements to walking in the City of Sydney.

## **Resident and Visitor Parking**

There have not been previous requests for timed parking or resident parking in Primrose Avenue.

Residents can request introduction of timed parking or a resident parking scheme by emailing [council@cityofsydney.nsw.gov.au](mailto:council@cityofsydney.nsw.gov.au). This is best done after talking with neighbours and should list the supportive residents.

Residents can check their eligibility for resident parking at: <https://www.cityofsydney.nsw.gov.au/transport-parking/apply-residential-parking-permit>. Note that only eligible buildings that do not have any onsite parking can apply for up to two permits. It is unlikely that residents on Primrose Avenue would be eligible.

Timed parking, for example the introduction of two hour parking alongside Turrawul Park, would deter long term parking for boats or other vehicles, making more spaces available for visitors.

## **Tree Planting and Garden Beds**

Routine maintenance occurs at least once a quarter. The City's Streetscape maintenance team also reviews and assess any requests from the public and/or the City's traffic operations team for additional services or changes.

Some of the beds in Primrose Ave were last pruned and maintained on 19 August 2022 with more scheduled in the near future.

The plants selected for the proposed new garden beds will be lower maintenance species.

## **Road Safety Audit**

The Road Safety Audit undertaken for the Quietway is shown at Attachment B.

**Memo from Kim Woodbury, Chief Operating Officer**

Prepared by: Stephen Smith, Design Manager

**Attachments**

**Attachment A.** Figures from the Transport for NSW Centre for Road Safety

**Attachment B.** Road Safety Audit – Rosebery Quietway

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Approved

A handwritten signature in black ink, appearing to read 'P.M. Barone', with a long horizontal flourish extending to the right.

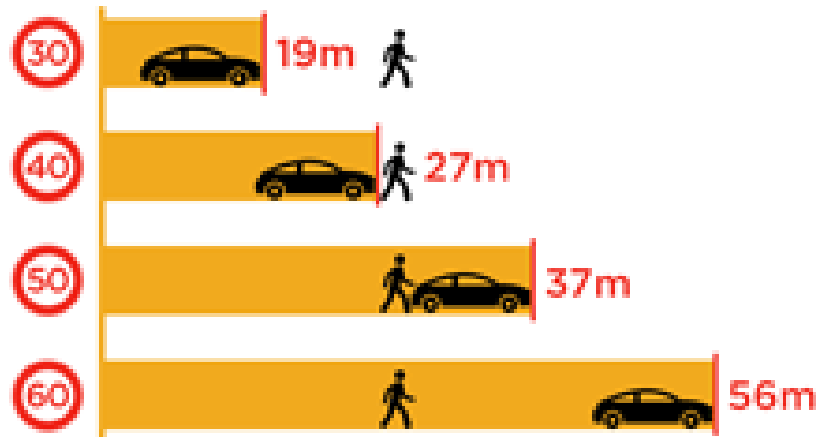
**MONICA BARONE**

Chief Executive Officer

# **Attachment A**

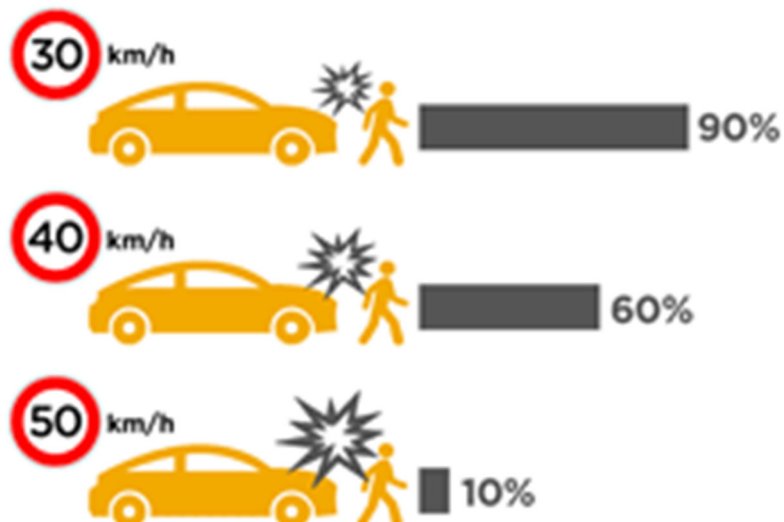
**Centre for Road Safety – Figures Relating to  
Speed vs Safety**

## The faster you go, the longer it takes to stop



\*Typical stopping distances when driving  
on a reasonable road surface

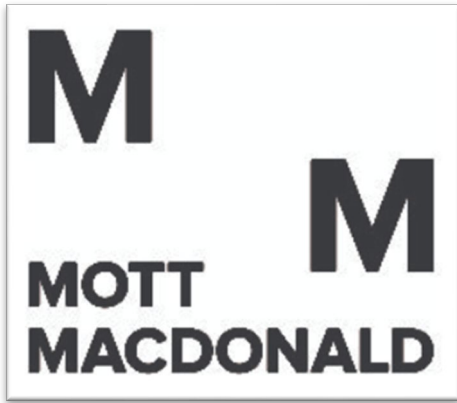
## Chance of survival for a pedestrian being hit by a car



\*Based on young adult pedestrians

# **Attachment B**

**Road Safety Audit – Rosebery Quietway**



## **Primrose Avenue Cycleway**

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### **Strategic Design Stage Road Safety Audit Report**

February 2022



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# 1. Introduction

## 1.1 Background

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The City of Sydney's planned strategic bike network identified Dunning Avenue as the north-south regional route providing a connection between routes in Green Square and the adjacent Bayside Local Government Area.

A pop-up cycleway was installed along each side of Dunning Avenue between Gardeners Road and Hansard Street in 2020 as part of the NSW Government's COVID transport response. The City investigated a design for a two-way separated cycleway along Dunning Avenue to replace the pop-up cycleway however, due to the design requirements at intersections that require kerb realignment and drainage works, the estimated cost of the two-way cycleway along Dunning Avenue was considered to be a risk to the City's Bike Network Delivery program.

Subsequently, the City conducted a route assessment to identify a suitable alternate route to Dunning Avenue to serve as the major north-south Bike Network connection. The alternative route was identified as travelling along Spring Street (south of the Epsom Road cycleway) and continuing along Primrose Avenue to Gardeners Road – refer to *Figure 1* following.

The project objectives are to:

- Create a safe bike network connection that could be comfortably used by a 12-year-old riding independently.
- Minimise the need for major civil works such as kerb realignment, impacts on underground or utilities.
- Prioritise footpath width for people walking and increase tree canopy on the street.
- Consider all road users and uses, including people walking and cycling, place, deliveries and servicing, people driving to destinations on the street, and through traffic.
- Determine functional specifications for a 'Quietway' including traffic speeds and volumes.
- Determine the fit-for-purpose treatments for the 'Quietway' facility type, to achieve low traffic speeds and low traffic volumes along the mixed traffic sections of the route.

This report details an independently undertaken strategic design stage road safety audit for the subject Project. The audit was undertaken by *Samsa Consulting Pty Ltd*, Transport Planning & Traffic Engineering Consultants. The report has been prepared for Mott McDonald as part of its design review and assessment.

## 1.2 Report Structure

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The remainder of this report is presented as follows:

**Chapter 2** describes details of the audit undertaken including the methodology, administration and documentation audited.

**Chapter 3** details the safety issues identified and audit findings.

**Chapter 4** provides a formal audit statement.

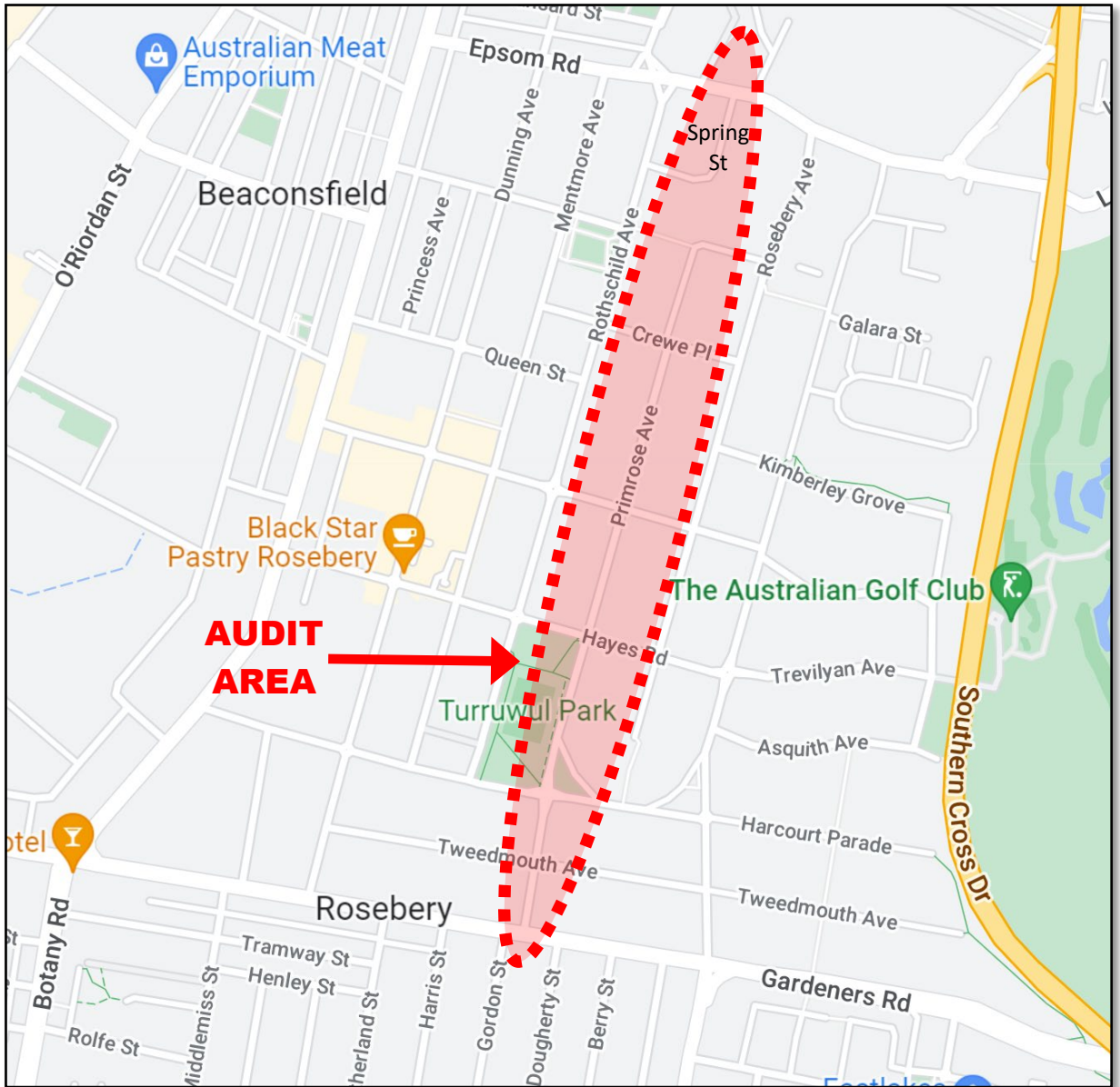


Figure 1: Audit Location

## 2. Audit Details

### 2.1 Audit Methodology

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A road safety audit is “... a formal examination of a future road or traffic project or an existing road, in which an independent, qualified team reports on the project's crash potential and safety performance” (Austroads 2009).

The strategic design stage audit followed a standard practice in identifying road safety related issues of the proposed project design. It involved a desktop assessment of relevant design documentation and other related project material as well as site inspections of the project area during day and night conditions.

Standard issues such as cycleway integration and connectivity, road network approach conditions, intersection layouts, sight distances, road alignment, and interaction with pedestrian facilities (amongst others) were assessed with respect to safety.

The scope of the audit is in accordance with the requirements in Austroads’ “*Guide to Road Safety, Part 6*” and is structured around prompt lists provided in that manual as well as RTA’s “*Accident Reduction Guide – Part 2: Road Safety Audits*”.

An audit commencement meeting was held with Mott McDonald’s Project Manager where background information on the design development was discussed.

The design desktop audit was undertaken between Tuesday 22 February and Wednesday 23 February 2022. An audit exit meeting was held at the completion of the road safety audit report.

### 2.2 Audit Administration

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Mott McDonald Infrastructure Advisor: Campbell Chesworth

Mott McDonald Project Manager: Naqiya Hassanali

Road Safety Auditors: Alan Samsa (*TfNSW Accredited Level 3 Lead Road Safety Auditor*)  
(Auditor ID: RSA-02-0056)

Carolyn Samsa (*TfNSW Accredited Level 3 Lead Road Safety Auditor*)  
(Auditor ID: RSA-02-0585)

### 2.3 References & Documentation Audited

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- Austroads “*Cycling Aspects of Austroads Guides*”, March 2011
- Austroads “*Guide to Road Design Part 3: Geometric Design (Edition 3.3)*”, April 2020
- Austroads “*Guide to Road Design Part 4: Intersections and Crossings – General*”, 2017
- Austroads “*Guide to Road Design Part 4A: Unsignalised and Signalised Intersections*”, October 2017
- Austroads “*Guide to Road Design Part 6A: Paths for Walking and Cycling*”, June 2017
- Austroads “*Guide to Road Safety, Part 6: Road Safety Audit (Edition 6.0)*”, January 2022
- Austroads “*Guide to Traffic Engineering Practice: Part 13 – Pedestrians*”, 1995

- RTA “*Accident Reduction Guide – Part 2: Road Safety Audits*”, 2005
- RTA “*Road Safety Audit Technical Direction TD2003/RS03, Version 2*”, August 2005
- RTA “*Delineation Guidelines: Parts 1 to 19 & Appendices A & B*”, assorted dates
- RTA “*Guidelines for Road Safety Audit Practices – Part 1: Road Safety Audit*”, July 2011
- Standards Australia “*AS 1742.1 – 2003: Manual of uniform traffic control devices, Part 1: General introduction and index of signs*”, 2003
- Mott McDonald “*Primrose Avenue: Concept Design Cycle Path – General Arrangement (Drawing no’s 426193-MMD-SK-XX-DR-C-0020 to 0027)*”, 1/02/2022
- Mott McDonald “*Primrose Avenue: Concept Design Cycle Path – Road Typical Sections (Drawing no’s 426193-MMD-SK-XX-DR-C-0028 to 0029)*”, 1/02/2022

### 3. Project Audit

The audit of the Project’s design focussed on providing an independent identification of potential safety hazards, regardless of current practices, standards and operations, to allow Mott McDonald to identify remedial measures as part of its strategic design development.

In categorising and prioritising identified safety issues, a risk assessment process was adopted. Risk assessment is the overall process of risk identification, analysis and evaluation. Preliminary risk ratings for each identified issue are assessed based on subjective professional judgement by the Road Safety Audit team with guidance from *Section 10.5* of Austroads “*Guide to Road Safety, Part 6: Road Safety Audit*”. The Austroads’ document provides an indication of the level of risk and what response may be appropriate. The identified road safety issue is first categorised based on its likely frequency of occurrence and severity (‘likelihood’ and ‘consequence’ of crash potential) – refer to *Figures 3.1* and *3.2* below (extracted from the Austroads’ document).

| Crash frequency | Description                                       |
|-----------------|---|
| Frequent (F)    | Once or more per week                             |
| Probable (P)    | Once or more per year but less than once per week |
| Occasional (O)  | Once every five to ten years                      |
| Improbable (I)  | Less than once every ten years                    |

| Severity         | Description                                   | Examples  |
|------------------|---|---|
| Catastrophic (C) | Likely multiple deaths                        | <ul style="list-style-type: none"> <li>High-speed, multi-vehicle crash on a freeway</li> <li>Car runs into crowded bus stop</li> <li>Bus and petrol tanker collide</li> <li>Collapse of a bridge or tunnel</li> </ul>                             |
| Serious (S)      | Likely death or serious injury                | <ul style="list-style-type: none"> <li>High or medium-speed vehicle / vehicle collision</li> <li>High or medium-speed collision with a fixed roadside object</li> <li>Pedestrian struck at high speed</li> <li>Cyclist is hit by a car</li> </ul> |
| Minor (M)        | Likely minor injury                           | <ul style="list-style-type: none"> <li>Some low-speed vehicle collisions</li> <li>Cyclist falls from bicycle at low speed</li> <li>Left-turn rear-end crash in a slip lane</li> </ul>   |
| Limited (L)      | Likely trivial injury or property damage only | <ul style="list-style-type: none"> <li>Some low speed collisions</li> <li>Pedestrian walks into object (no head injury)</li> <li>Car reverses into post</li> </ul>  |

An appropriate risk rating is then selected from the risk categories in the risk matrix with a preferred treatment approach for each risk rating (refer to *Figures 3.3* and *3.4* below, both extracted from Austroads).

|                  | <b>Frequent (F)</b> | <b>Probable (P)</b> | <b>Occasional (O)</b> | <b>Improbable (I)</b> |
|------------------|---------------------|---------------------|-----------------------|-----------------------|
| Catastrophic (C) | Intolerable (I)     | Intolerable (I)     | Intolerable (I)       | High (H)              |
| Serious (S)      | Intolerable (I)     | Intolerable (I)     | High (H)              | Medium (M)            |
| Minor (M)        | Intolerable (I)     | High (H)            | Medium (M)            | Low (L)               |
| Limited (L)      | High (H)            | Medium (M)          | Low (L)               | Low (L)               |

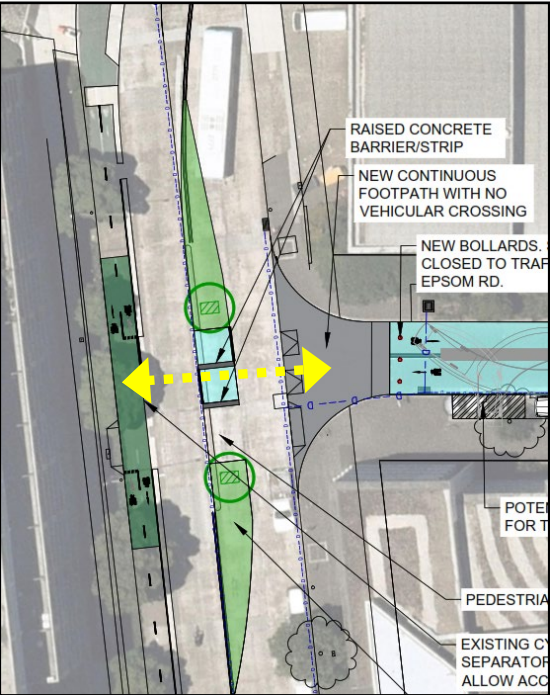
| <b>Risk</b>     | <b>Suggested treatment approach</b>  |
|-----------------|--|
| Intolerable (I) | Must be corrected  |
| High (H)        | Should be corrected or the risk significantly reduced, even if the treatment cost is high              |
| Medium (M)      | Should be corrected or the risk significantly reduced, if the treatment cost is moderate, but not high |
| Low (L)         | Should be corrected or the risk reduced, if the treatment cost is low                                  |

This report may provide recommendations about possible remedial measures in response to identified deficiencies. Any remedial actions recommended are based on current standards and practices. However, it should be noted that it is ultimately the responsibility of Mott McDonald and the relevant road authority to determine how to respond to each identified safety deficiency.

The audit of the strategic design identified a number of potential road safety issues. The safety audit process requires that the safety issues identified during an audit be acknowledged by the Audit Team and accordingly responded to by Mott McDonald. The issues are characterised according to their risk, and detailed in *Table 3.1* following.

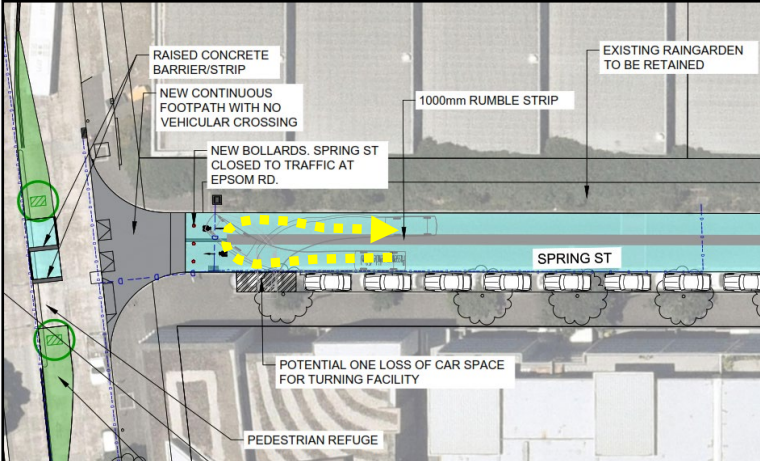
It should be noted that not all road safety issues identified may necessarily be within the scope of the project design area. This is because while the scope of the audit is generally within the project area described earlier, to complete a full audit of the project, the approaches and transitions to the project area were also audited to identify potential safety issues that may affect road safety within the project road sections. Therefore, some road safety issues that are outside the project design area may be the responsibility of the relevant controlling road authority.


Table 3.1: Identified Safety Issues

|     |   |             |                        |           | <i>For completion by Mott McDonald</i>  |  |
|-----|---|-------------|------------------------|-----------|---|--|
| No. | Description of Road Safety Issue  | Risk Rating | Road Safety Category   | Action by | Response  |  |
| 1.  | <p>At the northern end of the cycleway section, the connection between Spring Street and the on-road, east-west cycle lane along the northern side of Epsom Road is uncontrolled – it is unclear how cyclists and pedestrians would safely cross Epsom Road at this location, albeit with a central refuge area.</p>  | Medium      | Cyclist infrastructure | CoS       | <p>Transport for NSW have rejected a signalised crossing due to concerns about proximity of other signals, and rejected a priority pedestrian/bike crossing due to possible impacts on traffic.</p> <p>TfNSW advised that people can walk to the nearest signalised crossing to cross. In light of this being raised as a safety issue, we can ask Transport for NSW if they want to reconsider their position.</p> |  |



For completion by Mott McDonald

| No. | Description of Road Safety Issue   | Risk Rating | Road Safety Category | Action by | Response  |
|-----|--|-------------|----------------------|-----------|---|
| 2.  | <p>The swept path turning area (approximately 8.4 m carriageway width including the lost parallel car parking space) at the northern end of Spring Street (ie. at the Epsom Road closure) would require even smaller cars to perform 'multi-point' turn manoeuvres to U-turn, which is particularly undesirable amongst any passing bicycle movements – it is desirable that U-turn movements can be undertaken in a single, swept path rather than using a 'multi-point' turn movement.</p>  | Medium      | Road alignment       | CoS       | <p>Traffic is lightly to be very light since there are no destinations on Spring Str.<br/>           Addition could be a “No through road” sign at Rothschild/Steadman to reduce the risk still further.<br/>           This issue will be addressed in the detailed design</p> |

|     |  |              |                      | <i>For completion by Mott McDonald</i> |  |
|-----|--|--------------|----------------------|--|--|
| No. | Description of Road Safety Issue   | Risk Rating  | Road Safety Category | Action by                              | Response   |
|     |  <p>Spring St looking northbound to proposed Epsom Rd closure</p>  |              |                      |  |  |
| 3.  | The issue of sun-glare during certain periods of the year may be applicable for the east-west side roads approaching the cycleway route, eg. Tweedmouth Avenue, Harcourt Parade, Hayes Road, Morley Avenue, Crewe Place, etc. Consequently, signage, traffic control devices and interacting road users may be difficult to suitably sight due to sun glare. | Low - Medium | Road alignment       |  | Existing and proposed tree planting mitigates risk                     |
| 4.  | It is unclear whether there are any reductions of on-street parking space numbers along Primrose Avenue where angled parking has replaced parallel parking – it is assumed that any reduction in on-street parking will not adversely impact (ie. significantly increase) vehicle circulation in the local area to find parking.                             | Note only    | -                    |  | On street parking remains the same amount, only differently configured |

|     |  |             |                      | <i>For completion by Mott McDonald</i> |  |
|-----|--|-------------|----------------------|--|--|
| No. | Description of Road Safety Issue   | Risk Rating | Road Safety Category | Action by                              | Response                                   |
| 5.  | <p>It is acknowledged that regulatory, directional and guidance signage as well as pavement markings have not yet been detailed. However, the following road closures and intersection priorities along the cycleway route will need to be particularly considered with respect to signage:</p> <ul style="list-style-type: none"> <li>• Spring Street road closure at Epsom Road including the Epsom Road westbound approach to Spring Street and 'no through road' for Stedman Street at Rothschild Avenue.</li> <li>• Primrose Avenue road closure at Gardeners Road including both Gardeners Road approaches to Primrose Avenue and 'no through road' for Primrose Avenue at Tweedmouth Avenue.</li> <li>• East-west intersection priorities amended to north-south intersection ('Quietway') priorities along Primrose Avenue at Crewe Place, Morley Avenue, Hayes Road and Tweedmouth Avenue.</li> </ul> | Note only   | -                    |  | Noted, will be included in Detailed Design |
| 6.  | It is assumed that the connecting cycleway section between Spring Street and Primrose Avenue will be provided in conjunction with the entire cycleway section between Epsom Road and Gardeners Road.   | Note only   | -                    |  | correct                                    |

## 4. Formal Audit Statement

This road safety audit has been undertaken by *Samsa Consulting Pty Ltd*, using the references and documentation detailed previously. Site inspections of the project area and adjacent road network were undertaken during both daylight and night conditions.

While the road safety audit may provide recommendations about possible remedial measures in response to identified road safety issues, it is ultimately the responsibility of Mott McDonald and the relevant road authority to determine how best to respond to each identified safety issue.

The audit has been undertaken for the sole purpose of identifying any safety-deficient features and road safety risks of the strategic design proposal. Every effort was made to ensure that all relevant road safety issues were considered and the findings are the opinion and judgement of the audit team.

\_\_\_\_\_ 23 February 2022

ALAN SAMSA

*TfNSW Accredited Road Safety Auditor: Level 3 Lead Auditor*  
(Auditor ID: RSA-02-0056)

\_\_\_\_\_ 23 February 2022

CAROLYN SAMSA

*TfNSW Accredited Road Safety Auditor: Level 3 Lead Auditor*  
(Auditor ID: RSA-02-0585)