Mr Paul Robilliard  
Director  
Housing Land Release  
Department of Planning and Environment  
GPO Box 39  
SYDNEY NSW 2001  

DRAFT RIVERSTONE EAST PRECINCT PLAN

Dear Mr Robilliard

Thank you for your letter of 12 August 2015 requesting comment on the Stage 1 of the Riverstone East Precinct exhibition.

The key issues are advised as:

1. The depiction of the North West Transport Corridor in the draft Indicative Layout Plan is noted and has been confirmed as correctly located.

2. Changes to the precinct road layout to permit better access by bus services are proposed.

3. A standard collector road width of twenty metres in line with Blacktown City Council best practice is recommended to allow incorporation of wider shared paths, bus stops and transport infrastructure.

4. The residential land adjacent to the Metro Rail Facility should contain appropriate planning controls to mitigate the impact of noise from the facility.

The above issues and other matters are discussed in more detail in the attached annexure.

Roads and Maritime Services may provide a separate response.

The TfNSW contact for this matter is Tim Dewey, Senior Transport Planner who may be contacted on 8202-2188 or Tim.Dewey@transport.nsw.gov.au

Yours sincerely,

Simon Hunter  
Executive Director  
Transport Strategy
Introduction

The Riverstone East Precinct Exhibition Material has been considered, comments follow:

Riverstone East Precinct Exhibited Documents

Document 1 – Indicative Layout Plan (ILP)

- **Issue**: The transport corridor is noted and it has been checked by TfNSW to confirm it is correctly located.

- **Recommendation**: The transport corridor as shown in the draft ILP is carried over to the final ILP.

- **Issue**: The Metro Rail Facility is close to future residential development. The Development Control Plan (DCP) needs to consider noise mitigation in design and orientation of development. The Sydney Metro Northwest project will be incorporating noise mitigation as part of the rail facility.

- **Recommendation**: The Development Control Plan should consider the noise from the rail facility in the design and orientation of buildings in the higher density residential zone adjacent to the rail facility.
Document 2 – Riverstone East – North West Growth Centre – Draft SEPP Maps

Land Zoning Map

- **Issue:** It is considered that the proposed zone B6 is generally an appropriate zoning to adjoin the Metro Rail facility to the south which is zoned IN1.

- **Recommendation:** There is a need to ensure that a range of land uses are permitted in the B6 zone to achieve good integration of the rail facility transport and land use planning. These uses could include service stations, and fast food establishments. The Hills Growth Centre Precinct does have a B6 zoning so similar permissible uses would be appropriate.

- **Issue:** The location of the R3 (higher density residential) adjoining the rail facility to the east is also regarded as an appropriate zoning however it is regarded as a key issue that the residential buildings are designed and built to mitigate noise impacts.

- **Recommendation:** The precinct finalisation report commits to site specific noise mitigation measures in the R3 zone when the Development Control Plan is made.

Flood prone land map

- **Issue:** The flood prone land map includes a significant area along TfNSW land on Schofields Road adjacent to the Metro Rail Facility and which will require filling to facilitate extension of Hambledon Road.

- **Recommendation:** The precinct finalisation report commits to further discussion with TfNSW as to how flooding will be managed in this location having regard to the future land use in this location. This can be initiated closer to development application stage.

Height of buildings map

- **Issue:** The height of buildings map omits the B4 zoned sites on TfNSW land that are split across Area 20 adjacent to the Cudgegong Local Centre.

- **Recommendation:** That discussion is initiated with TfNSW prior to the completion of the finalisation report to determine an appropriate height limit in the B4 zone.

Document 2 – Appendix A Strategic and Statutory Frameworks

Section 3 Draft North West Sub-Regional Strategy

- **Issue:** The section references a December 2007 document titled *Draft North West Sub-Regional Strategy*.

- **Recommendation:** The reference should be updated to the current sub-regional strategies in particular the draft Priorities for West Central Sub-Region which includes the Blacktown Local Government Area and has a different set of priorities.
Section 4 North West Growth Centre Structure Plan

- **Issue:** This section references the North West Growth Centre Structure Plan and notes that it was first prepared in 2005.

- **Recommendation:** This section could be improved by referencing the 2010 update of the structure plan and also that Department of Planning and Environment is currently working with TfNSW and others to update the structure plan again.

- **Issue:** The public transport row would benefit by using the hierarchy of bus services used in the key strategic document being *Sydney’s Bus Future*.

- **Recommendation:** The section is updated to use the ‘Rapid’, ‘Suburban’ and ‘Local’ service typology when referring to bus services. It could also be improved by updating the references to the ‘North West Rail Link’ to Sydney Metro Northwest.

Section 5 North West Sector Bus Servicing Plan

- **Clarification:** The *North West Sector Bus Servicing Plan* was superseded by the December 2013 *Sydney’s Bus Future* which established the strategic framework for bus services in Metropolitan Sydney. The forthcoming *North West Growth Centre Structure Plan Review* will discuss bus routes through Riverstone East precinct in more detail. The *North West Sector Bus Servicing Plan* is an indicative guide to how bus services in Riverstone East may be established.

- **Recommendation:** Notation.

Document 3 – Riverstone East Precinct Transport Strategy

3.2.3 of Traffic Report - Garfield Road East

- **Issue:** In a Community Consultation Report in July 2015 Roads and Maritime confirmed the long term plan for Garfield Road East through Riverstone Town Centre is a grade separated rail crossing along the Garfield Road corridor at Riverstone.

- **Recommendation:** Notation.
3.5.2 Sydney Metro Northwest

- **Issue**: The study advises that five minute frequencies are proposed on Sydney Metro Northwest. The current advice on the Sydney Metro Northwest web site is that services will run every four minutes during peak.

- **Recommendation**: Notation.

4.2 – Street network and design

- **Issue**: The traffic report advises a preference for an 18 metre corridor width for collector roads. This is not supported and suggested as contrary to accepted best practice in Blacktown LGA as shown in the table below. A 20 metre corridor allows for wider lane widths, straightforward incorporation of wider shared paths which are beneficial for less experienced cyclists as well as bus stops, bus bays and other transport infrastructure.

**Figure**

A 20 metre collector road corridor could avoid the problems for bus services encountered at Stonecutters Drive in Colbee where a narrow road lane and kerbs on both sides prevents buses from being able to easily pass parked trucks leading to a delayed journey for passengers.
A 20 metre collector road reservation allows for the straightforward incorporation of shared paths, bus stops and other transport requirements that are difficult or unable to be achieved in an 18 metre reservation.

**Figure 2.9** Current Council design standard for residential collector street (typical section)

**Figure 2.10** Residential collector street with wider road reserve (typical section)

<table>
<thead>
<tr>
<th>Location</th>
<th>Collector Road Reserve</th>
<th>Reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>The Ponds</td>
<td>20m road reserve</td>
<td>Blacktown Development Control Plan Part M The Ponds page 21</td>
</tr>
<tr>
<td>Stonecutters Ridge</td>
<td>19.3m road reserve (Residential Collector with wider reserve)</td>
<td>Blacktown Development Control Plan Part L Stonecutters Ridge page 21</td>
</tr>
<tr>
<td>Ropes Creek</td>
<td>19.3 to 20 meter road reserve</td>
<td>Precinct Plan and Development Control Strategy Ropes Creek Page 49</td>
</tr>
</tbody>
</table>

**Recommendation:** Incorporation of a 20 metres corridor width for collector roads in line with best practice in the remainder of Blacktown Local Government Area.
4.6.2 Cycling

- **Issues:**
  
  - For reference, the most current version of the NSW Bicycle is dated 2005.
  
  - Recommend referencing the TfNSW Sydney’s Cycling Future report, which was published in 2013 and presents a new direction in the way we plan, prioritise and provide for cycling in Sydney.
  
  - Not all off-road cycling facilities are, or should be considered, shared paths. A separated cycling facility may either bike path or shared path, and there are Austroads guidelines that describe how be to make that determination.
  
  - The first paragraph on page 25 is potentially misleading, particularly with the reference to Figure 17 on the page 24 and may need modification. The physical separation of cyclists from motor vehicles on to a bike path or shared path is recommended on local and collector roads that have traffic volumes of more than 5000 vehicles per day on a 60 km/h road. The 10,000 vehicles per day reference are appropriate for roads with posted speed of 40 km/h. Since most roads are likely to be sign posted above 40 km/h reference to the 60 km/h standard would seem appropriate. Additionally, Austroads suggests that road authorities should aim to comply with the guidance (provided in Figure 17), particularly in greenfield situations,
  
  - Make reference to relevant Austroads Guidelines as well as Roads and Maritime Services standards, since both are commonly used in road design. The Cycling Aspects of Austroads Guides (2014) contains information that relates to the planning, design and traffic management of cycling facilities and is sourced from Austroads Guides, primarily the Guide to Road Design, the Guide to Traffic Management and the Guide to Road Safety. The document is intended as a guide for engineers, planners and designers involved in the planning, design, construction and management of cycling facilities. Throughout the document practitioners are referred to relevant Austroads Guides for additional information.

- **Recommendations:** Notation and incorporation in the finalisation report.

5.4 Traffic Lights within the Riverstone East Precinct

- **Issues**
  
  - The installation of any new traffic signals within the precinct including the proposed Tallawong Road signalised access point is dependent on the proponent satisfactorily demonstrating that general warrants in accordance with Roads and Maritime requirements for Traffic Signal Design – Section 2 warrants can be met.
Access points and the means of traffic control at those access points will need to be discussed and agreed with Roads and Maritime Services and Blacktown City Council.

- **Recommendation**: The finalisation report incorporates a table demonstrating that the intersections proposed for signalisation meet the traffic flow requirements outlined in the Roads and Maritime Services publication *Traffic signal design – Section 2 Warrants*. The finalisation report should also reference the need for Roads and Maritime approval under the Roads Act for the installation of new signals.

### 4.6 Guntawong Road

- **Issues**
  - The determination to retain Guntawong Road as part of the wider traffic network as a ‘release valve’ for traffic travelling between Riverstone East and Windsor Road is supported.
  - Based on the traffic flows presented in the Traffic Report Guntawong Road will be an important Collector Road.
  - The suggestion to narrow Guntawong Road to two lanes through the regional park is not supported. Due to the higher projected traffic flows it is important to maintain flexibility for future operations should the need arise.
  - TfNSW would be pleased to discuss a cross section that complements the land uses through the Rouse Hill Regional Park using a twenty metre road collector road reservation.

- **Recommendation**: Notation and incorporation in the finalisation report.

### 5.4 Transport for NSW residual lands

- **Issue**
  - The proposal to service the TfNSW residual lands as a left-in, left-out arrangement from Schofields Road and as an all movement access from Tallawong Road is noted.

- **Recommendation**
  - The finalisation report should note that the final access arrangements by the ultimate developer of the residual land will need to involve detailed discussion with Roads and Maritime Services to develop and agree an optimal arrangement.
5.7 Intersection capacity analysis

- Issues
  
  o The provision of bus priority lanes at five intersections listed in the table below is supported. However on some approaches the length of the priority lane is shorter than the predicted maximum peak period queue length. This makes the priority lane ineffective when it is most needed to ensure that on-time running is maintained, i.e. during peak periods.

  o Based on the information provided in the SIDRA analysis (see also Table of bus priority lanes on following page) it appears:
    
    ▪ For the Windsor and Mt Carmel Road Intersection (Windsor Road North approach) the bus lane should be extended to 85 metres.
    ▪ For the Windsor and Mt Carmel Road Intersection (Windsor Road South approach) the bus lane should be extended to 128 metres.
    ▪ For the Windsor and Garfield Road (Windsor Road East approach) a bus lane length of 250 metres should be agreed.
    ▪ Bus priority is included on all legs of Garfield Road and Clark Street.
    ▪ Bus priority is included on both directions in Clarke Street in particular at the intersection with Windsor Road and Schofields Road.

  o The Table on the following page details this issue. Further, bus priority should be considered on the Garfield Road and Clarke Street intersection. Bus priority on the legs on the Clark Street intersection travelling south from Windsor Road and travelling North from Schofields Road are particularly important to consider.

- Recommendation: the finalisation report addresses these issues. TfNSW personnel would be available to be consulted prior to the release of the finalisation report if required.
### Table of bus priority lanes

<table>
<thead>
<tr>
<th>Intersection</th>
<th>Approach</th>
<th>Bus Priority Lane Length (metres)</th>
<th>Max Queue Length during peak periods (metres)</th>
<th>Length that bus lane needs to be extended (metres)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Winsor Road and Mt Carmel Road</td>
<td>Windsor Road (North)</td>
<td>45</td>
<td>85</td>
<td>40</td>
</tr>
<tr>
<td></td>
<td>Windsor Road (South)</td>
<td>45</td>
<td>128</td>
<td>83</td>
</tr>
<tr>
<td>Windsor Road and Garfield Road</td>
<td>Windsor Road (West)</td>
<td>100</td>
<td>79.9</td>
<td>Proposed lane is acceptable</td>
</tr>
<tr>
<td></td>
<td>Terry Road (North)</td>
<td>100</td>
<td>75.6</td>
<td>Proposed lane is acceptable</td>
</tr>
<tr>
<td></td>
<td>Windsor Road (East)</td>
<td>100</td>
<td>406.7</td>
<td>306.7m is the difference however 250 metres is judged to be acceptable. Precedent is 250 metre bus lane at the Epping/Delhi Road intersection</td>
</tr>
<tr>
<td>Windsor Road and Guntawong Road</td>
<td>Windsor Road (North)</td>
<td>100</td>
<td>188.3</td>
<td>88</td>
</tr>
<tr>
<td></td>
<td>Windsor Road (South)</td>
<td>100</td>
<td>240.9</td>
<td>140</td>
</tr>
<tr>
<td>Schofields and Hambledon</td>
<td>Schofields Road (West)</td>
<td>Not distinguishable but presumed to be 100</td>
<td>84.6</td>
<td>100 metre bus lane length needs to be confirmed.</td>
</tr>
<tr>
<td></td>
<td>Schofields Road (East)</td>
<td>Not distinguishable but presumed to be 100</td>
<td>70.9</td>
<td>Presumed bus lane length of 100 metres needs to be confirmed.</td>
</tr>
<tr>
<td>Schofields and Tallawong</td>
<td>Schofields Road (West)</td>
<td>Not distinguishable but presumed to be 100</td>
<td>91.9</td>
<td>Proposed bus lane length of 100 metres needs to be confirmed.</td>
</tr>
<tr>
<td></td>
<td>Schofields Road (East)</td>
<td>Not distinguishable but presumed to be 100</td>
<td>84.4</td>
<td>Proposed bus lane length of 100 metres needs to be confirmed.</td>
</tr>
</tbody>
</table>
6.1 Bus Servicing

- Issues

  - The commitment of 3.5 metre lane widths for bus routes at Section 6.12 of the Study is supported.
  
  - Cudgegong Road should be extended north to connect with Riverstone Road to support north-south bus operation.
  
  - Macquarie Road should be extended west to connect with Clarke St to support east-west bus operation or the proposed local road in this location between Clarke Street and Tallawong Road changed to Collector Road status.
  
  - All intersections of collector roads should be designed to support a 14.5m non-rear steer bus swept path.
  
  - 13 metre carriageways for collector roads are supported.
  
  - Appropriate pedestrian crossing facilities would need to be provided along the collector and sub-arterial roads to enable safe crossings for residents in the vicinity of bus stops. Intersection designs in the vicinity of the school and shops should carefully consider and facilitate pedestrian and bicycle crossings to make good the intention of providing safe and attractive local access by walking and cycling. This could include treatments such as signalised pedestrian crossings and pedestrian refuges. Further, any proposed traffic calming measures should be designed to minimise impact on bus operations.
  
  - The future Development Control Plan should ensure that bus stops are located at approximate 400m spacing and also adjacent to community facilities.

- Recommendation

  - All collector road intersections should be designed at a minimum to accommodate the swept path requirements for a 14.5 metre rear steer bus.
  
  - Cudgegong Road should be extended north to connect with Riverstone Road to support north-south bus operation.
  
  - Macquarie Road should be extended west to connect with Clarke Street to support east-west bus operation or the proposed local road in this location (i.e. between Clarke Street and Tallawong Road) should be upgraded to Collector Road status.
  
  - Lanes should be wide enough for buses to be able to pass parked trucks (refer again section 4.1).
Bus priority should also be included on all legs of Clarke St/ Windsor Rd intersection.

All intersections should be designed to support a 14.5m non-rear steer bus swept path.

Bus priority should also be included on all legs of Clarke St/ Garfield Rd intersection.

Cudgegong Rd should be extended north to connect with Riverstone Rd to support north-south bus operation.

Macquarie Rd should be extended west to connect with Clarke St to support east-west bus operation or the proposed local road in this location between Clarke St and Tallawong Rd changed to Collector Rd.

**Intersection Control**
- Existing signalised intersection (retained)
- Existing signalised intersection (upgraded)
- New signalised intersection
- New roundabout

**Future Traffic Control**

Client: Department of Planning and Environment

Job Title: Riverstone East

Scale at A4: 1:25,000

Drawing No: 234374-00

For Issue: FI

Figure 23
6.3 Pedestrian and Cycling Network

- **Issues**
  - Cross reference Section 4.2, for an effective off road cycle network that is suitable for less experienced riders a general collector road width of 20 metres will be required.
  - This section would benefit from more detail and discussion as it is confined to the pedestrian network as it relates to sub-arterial and collectors roads. There is little description of the pedestrian and cycling network along the local roads, open space or along the riparian corridor. These should be included in more detail and shown on Figure 29 on page 55.
  - A more complete description of pedestrian network facilities and amenities should also be included.
  - Description of additional pedestrian and cyclist (priority) crossing at the village centre, schools, sports fields, mixed-use, high density residential areas, etc should be discussed.

- **Recommendation**: Notation and incorporation of these principles in the finalisation report.

Appendix A – Typical Road Cross Sections

- **Issues**:
  - Transit Boulevard – 2.5m shared path is a minimum requirement and may require additional width. The provision for cycling may require a separated bike path. A range of widths should be provided on dimensions.
  - Sub-Arterial Road – requires a 1.8m on road cycle facility on a 70km/h road with a traffic load of over 10,000 vehicles per day. This may conflict with the provisions discussed in Section 4.6.2 about the selection of the appropriate type of cycling facility.
  - Collector Road Cross Section has been discussed at Section 4.2 and a 20 metre corridor width recommended.
  - The range of widths should be shown on footpaths, shared/separated paths, cycling lanes, medians, parking lanes, travel lanes and verges. Widths may need to be adjusted to accommodate different requirements in different locations.
  - All street types should include a description for how cyclists are intended to use the street. Figure 4.5 does not show a cyclist. If the minimum requirement for a shared path is 2.5m then it must be assumed that a cyclist is on road. What type of on-road cycling facility is intended along local roads?
- All cross sections should show where cyclists are intended to be in the transport corridor.

- **Recommendation**: notation and incorporation of these principles in the finalisation report.

**Integrity of Roads and Maritime Services Road Reservations**

- **Issue**: Department of Planning and Environment is requested to ensure that the integrity of all existing Roads and Maritime reservations (an indicative map is provided shaded blue as indicated by the red circle on the attachment) this can then be reflected on the land zoning map.

- **Recommendation**: Department of Planning and Environment should consult with Roads and Maritime to confirm the identification of all land required for road widening purposes on the forthcoming zoning maps.