GTAconsultants

# Former Ashfield Local Government Area Traffic Management Strategy

**Client //** Inner West Council
**Office //** NSW
**Reference //** 16S1135000
**Date //** 27/03/17

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**Quality Record**

| Issue | Date | Description | Prepared By | Checked By | Approved By | Signed |
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# Executive Summary

## Overview

In October 2015, GTA Consultants was engaged by Ashfield Council (now Inner West Council) to prepare the Ashfield Traffic Management Strategy (ATMS). The purpose of the ATMS is to develop a strategic framework and action plan for the safe and convenient movement of vehicular traffic across the former Ashfield Local Government Area.

The ATMS builds on current State and Council transport directives, but is primarily focused on how vehicular traffic should be safely and efficiently managed on the local road network (i.e. roads under Council control).

In this regard, the ATMS provides the following key outputs, which are provided thereafter:

- Outline of the current State and Council transport themes affecting the local road network in Ashfield, and current best practice approaches to proactively manage it
- Review and update of the road network hierarchy, and setting out the desired transport environments for each local road type
- Identification of discontinuities between the current and desired operation of the local road network based on the updated road network hierarchy and desired transport environments
- Action plan setting out recommended treatments and costings[1] (over and above what already exists) to be implemented over the next 10 years
- Concept level designs of the typical treatment types proposed

[1] Broad level or initial feasibility planning construction cost estimates prepared by GTA Consultants must not be relied upon for quoting, budgeting or construction purposes. More detailed estimates can only be prepared from detailed civil engineering design drawings and require the services of a qualified quantity surveyor.

## State & Council Transport Directives

**Table E.1: Transport Policy Review: Summary of Themes**

| Theme | Application to the Ashfield Transport Network |
|---|---|
| **Land Use Integration** | Transport infrastructure and movement networks should align with existing and respond to future land use, efficiently connect activity centres and support the community's desired lifestyle. This requires a collaborative approach across a wide range of public and private stakeholders. |
| **Transport Choice** | Transport choice means that there are viable and attractive modal options, such as walking, cycling, public transport and private vehicles, for individuals to access their given destinations. Transport choice is also intrinsically linked to urban form, in what facilities, services and mode types are provided and most suited to urban areas. |
| **Travel Behaviour** | The comparative performance (perceived and/or actual) and level of access of each transport choice available to users for their given transport needs dictates their travel behaviour. In order to achieve a desired change in current transport behaviour, it is considered most effective when both the associated benefits and barriers with the various transport choices are changed, so as to encourage the more desired behaviours. |
| **Road Space Management** | Within most urban environments there is only a limited amount of road space. The management of this space aims to move people in the most efficient and safe manner possible, while providing local access and desired levels of amenity to the community. The approach to managing road space should be dependent on the function of the road and the proximate site conditions. However, with increased development and the resulting number of trips expected, more space efficient modes of transport will be required to move more people within the same road space. |
| **Sustainability** | Private vehicle travel is a significant contributor to greenhouse gases and other environmentally detrimental emissions. This provides an impetus for advocating and promoting more sustainable travel modes, such as active and public transport, in the preparation of the ATMS. |
| **Access, Equity, Diversity and Social Inclusion** | The transport network must be accessible to, and service the needs of a diverse range of users, from young children to the elderly ('8-80' planning), the mobility and sensory impaired, and for all socio-economic groups. Certain user groups are prone to transport disadvantage particularly if not provided access to transport services that suit their needs and abilities (both monetary and physically). As such, a lack of transport choice and access can contribute toward social exclusion and be a barrier to employment opportunities. |
| **Healthy Cities Promote Safe Walking & Cycling** | 'There is a common and growing understanding of the causal link between good urban and transport system design that promotes safe walking and cycling, efficient public transport, and a healthy community in terms of both physical and mental health.' Council policy is very much in support of developing and promoting walking and cycling for a number of reasons, including health and wellbeing. As such, these modes should always be considered and be provided suitable priority within the Ashfield transport network. |
| **Liveable Streets** | In urban environments, there is a strong theme of creating streets for people, rather than roads for cars. This does not necessarily mean banishing cars entirely, but rather it involves reorganising suitable spaces and designing to create a place for people to interact, rather than a space designed with a focus on movement of vehicles and services. Such spaces are expected to be included as part of the Ashfield Pedestrian Access Mobility Plan, which is currently being developed.<br>Further guidance on the development and design of such spaces in Ashfield can be gained through the following documents:<br>○ Creating Healthy Neighbourhoods (NSW)<br>○ Healthy by Design – a planner's guide to environments for active living (Heart Foundation)<br>○ Active Living Impact Checklist (ACT)<br>○ Streets for People (SA) |

## Best Practice Traffic Management Approaches

**Table E.2: Best Practice Traffic Management Approaches Summary**

| Practice | Description |
|---|---|
| What is LATM? | Local Area Traffic Management (LATM) is concerned with the planning and management of road space on local and collector roads which are the primary responsibility of local government. LATM looks to modify driver behaviour by utilising both 'direct' physical and managerial influences on vehicle operation, and 'indirectly' influencing driver perceptions of what is appropriate behaviour in a given street. |
| LATM Precinct Approach | LATM should be applied in an area-wide fashion. As such, it is important to understand what a local traffic area is, to determine the extent of LATM treatment areas. The Austroads Guide to Traffic Management Part 8: LATM (2008) defines local traffic areas as follows:<br>*"An urban area containing local and collector roads bounded by arterial and sub-arterial roads or other limiting features."*<br>However, in applying an LATM area-wide approach in Ashfield, it is also important to understand the function of local roads within the wider transport network, as well as the integration with land use. |
| Transport Function | The transport network is made up of a number of differing types of facilities with varying purposes. One of the main functional aspects that should be considered, regardless of the mode(s) being supported, is the continuum across which they provide a "link" or "place" function. These terms have been developed by Professor Peter Jones (Centre for Transport Studies, UCL, London), and he outlines the following characteristics with their functionality:<br>○ "Links" are movement conduits that have design objectives to save time, such as Parramatta Road.<br>○ "Places" are destinations in their own right and have design objectives to spend time, such as with the proposed Public Domain Upgrade of the Ashfield Town Centre[2].<br>When appropriately applied and integrated with land use, the balancing of "link" and "place" functions help form an orderly, efficient and supportive road network for the community. However, the design standards and user types/ activities vary significantly between achieving these two functions, especially in relation to modal priority and supportive speed environment. |
| Speed Environment | The speed environment in local streets is an important management factor, as it balances travel time, safety, amenity and attractiveness for road users, especially vulnerable ones (pedestrians and cyclists). Moreover, road safety considerations are more regularly becoming the determining factor in speed environment selection for 'place' based roads. With the current shift in road safety towards achieving a Safe System approach (aims to provide a road environment where it is not possible for fatal or serious injuries to occur even though road users are expected to make mistakes[3]), the following speed environments are being progressively moved towards:<br>○ Pedestrians (or cyclists) could be potentially struck by vehicles = 20km/h to 30km/h<br>○ Motorcyclists could be struck by vehicles = 20km/h to 30km/h<br>○ Vehicles could have a side impact with a pole or tree = 30km/h to 40km/h<br>○ Vehicles could have a side impact with another vehicle = 50km/h<br>○ A head-on vehicle to vehicle (of equal mass) crash could occur = 70km/h |
| Modal Prioritisation | As part of an orderly approach to transport planning, the identification of modal priorities along each road corridor is considered to be a best practice approach to achieving a balanced and integrated transport system.<br>One current and relevant version of such an approach nationally is the VicRoads SmartRoads Network Operating Plans[4], which identify and prioritise strategic traffic, freight, tram, bus, bicycle and pedestrian routes across the metropolitan Melbourne arterial road network.<br>Where more than one mode is prioritised along a given road corridor and there is insufficient road width to accommodate suitable separated facilities for each of the modes, then the most vulnerable road users should have priority and (where practical and able to be suitably achieved by Council), the others be subservient to its user needs. |

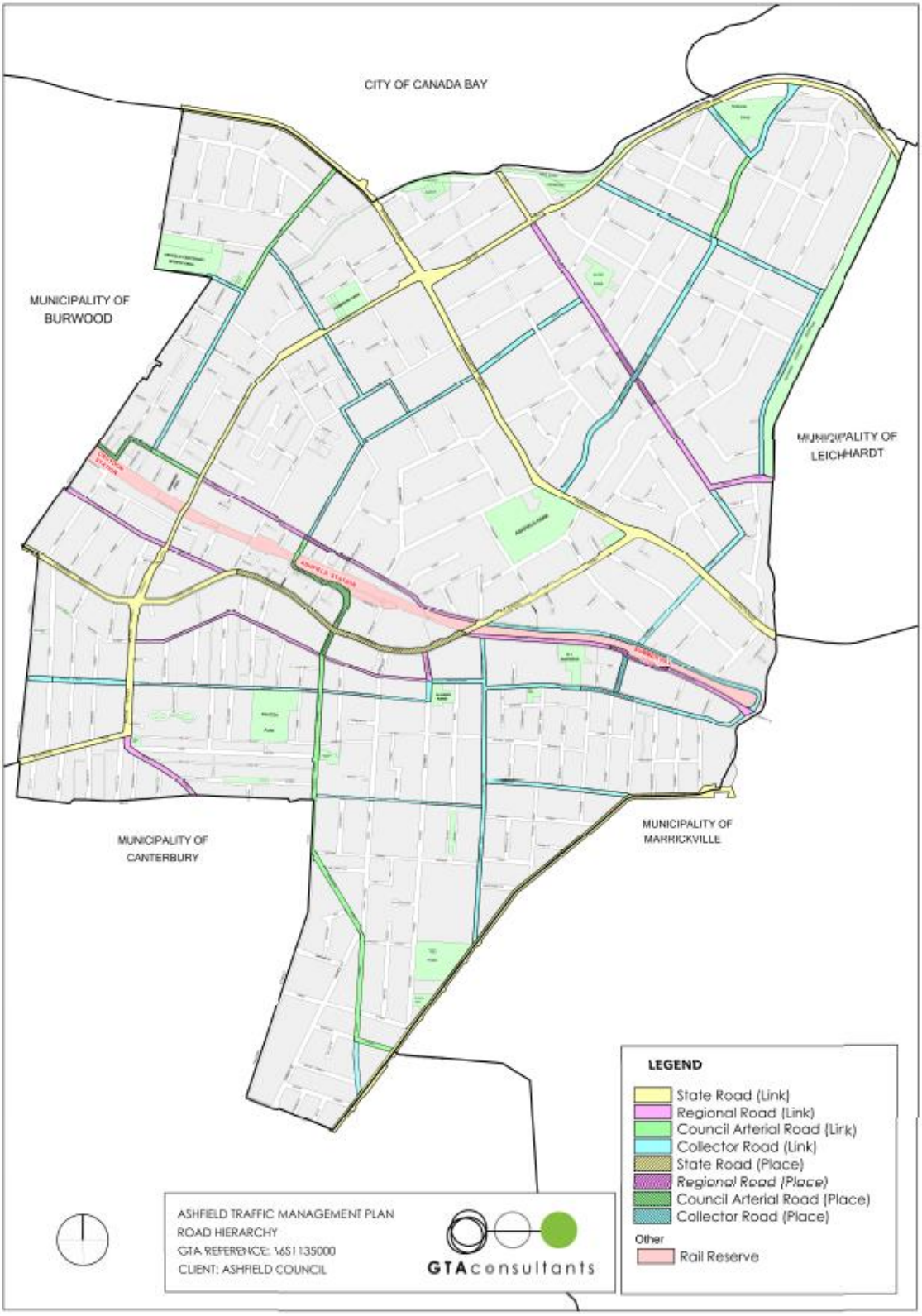
2 Refer to http://www.ashfield.nsw.gov.au/page/revitalising_ashfield_town_centre.html

3 Refer to https://infrastructure.gov.au/roads/safety/national_road_safety_strategy/

4 Refer to https://www.vicroads.vic.gov.au/traffic-and-road-use/traffic-management/smartroads

## Updated Road Network Hierarchy

**Figure E.1: Updated Road Network Hierarchy Plan**



## Desired Transport Environments by Road Type

**Table E.3: Summary of Key Elements by Road Type**

| Road Type | Responsibility | Function | Traffic Volume [1] | Speed Environment | On-Street Parking | Pedestrian Facilities | Public Transport (Bus) Facilities | Traffic Composition [2] |
|---|---|---|---|---|---|---|---|---|
| State | RMS | Link | >6,000vpd | 60km/h or greater | Limited – at least during peak periods (clearways) | Footpaths on each side of road within road reserves | Bus lanes, or at least bays should minimise impact on through traffic lanes. | All vehicle types permitted |
| | | Place | | 40km/h or less | Short term parking during business/ high activity hours | Full wide footpaths on each side of road and regular controlled crossing facilities | Mixed conditions with built-out stops | |
| Regional | RMS/Council | Link | >6,000vpd | 50km/h or greater | Unlimited, except new intersections to support their operation as required | Footpaths on each side of road within road reserves | Bus lanes, or at least bays should minimise impact on through traffic lanes. | All vehicle types permitted |
| | | Place | | 40km/h or less | Short term parking during business / high activity hours | Full wide footpaths on each side of road and regular controlled crossing facilities | Mixed conditions with built-out stops | |
| Council Arterial | Council | Link | >6,000vpd | 50km/h or greater | Unlimited, except new intersections to support their operation as required | Footpaths on each side of road within road reserves | Bus lanes, or at least bays should minimise impact on through traffic lanes. | Generally up to and included 12.5m long heavy rigid vehicles but heavy vehicles shouldn't exceed 10% of all vehicles |
| | | Place | | 40km/h or less | Short term parking during business/ high activity hours | Full wide footpaths on each side of road and regular controlled crossing facilities | Mixed conditions with built-out stops | |
| Collector | Council | Link | 3,000vpd to 6,000vpd | 50km/h or greater | Unlimited, except new intersections to support their operation as required | Footpaths on each side of road within road reserves | Bays to minimise impact on through traffic lanes | Generally up to and included 12.5m long heavy rigid vehicles, but heavy vehicles shouldn't exceed 5% of all vehicles |
| | | Place | | 40km/h or less | Short term parking during business / high activity hours | Full wide footpaths on each side of road and regular controlled crossing facilities | Mixed conditions with built-out stops | |
| Local | Council | Place | <3,000vpd | 40km/h or less | Related to abutting land use | Footpaths on each side of road and regular crossing facilities | Mixed conditions with built-out stops | Restricted access by heavy vehicles, so heavy vehicles shouldn't exceed 3% of all vehicles |

[1] Based on guidance taken from Section 4.3 of the RTA (now RMS) Guide to Traffic Generating Developments and Section 3 of Street Design Guidelines for Landcom Projects

**Table E.4: Local Road Network Projects & Treatments**

| Item No. | Location | Road Type | Issue(s) | Treatment(s) [1] | Costing |
|---|---|---|---|---|---|
| 1 | Alt Street | Local/ Collector (Link) | ○ 85th percentile speed of 58km/h<br>○ crashes mainly relating to loss of control on straights | Investigate raised speed tables on Alt Street over the intersections with Henry Street, Julia Street, Church Street, Charlotte Street and John Street.<br>Raise the existing marked zebra crossing to the south of Albert Parade | $160,000 - $225,000 |
| 2 | Bay Street | Local | ○ 85th percentile speed of 57km/h<br>○ crashes mainly relating to vehicles from adjacent directions at intersections | Investigate a splitter island on Bay Street on approach to Croydon Road with an entry threshold treatment [2].<br>Investigate a raised speed table on Bay Street over its intersection Byron Street.<br>Narrow the lane widths on the Bay Street approach to the roundabout with Lang Street through mountable kerb build-outs. | $60,000 - $80,000 |
| 3 | Byron Street | Local | ○ 85th percentile speed of 52km/h | Refer to Bay Street treatments for intersection with Bryon Street. | Refer to Item 2 |
| 4 | Chandos Street | Local | ○ 85th percentile speed of 53km/h<br>○ crashes mainly relating to vehicles from adjacent directions at intersections, and loss of control on straights and at bends | Investigate centre and edge lines along its length.<br>Refer to Orpington Street for intersection treatments on Chandos Street. | $306,000 - $428,000 |
| 5 | Church Street between Lang Street and Croydon Road | Local | ○ 85th percentile speed of 57km/h | Investigate a splitter island on Church Street on approach to Croydon Road with an entry threshold treatment.<br>Investigate seed humps outside houses #93 and the Bowling Club.<br>Investigate a splitter island on Church Street on approach to Lang Street with an entry threshold treatment. | $38,000 - $50,000 |
| 6 | Dalmar Street | Local | ○ 85th percentile speed of 56km/h | Investigate a roundabout at the intersection between Dalmar Street and Scott Street | $140,000 - $195,000 |
| 7 | Dobroyd Parade | Local | ○ rat-running between Waratah Street and Boomerang Street | Close the road at its intersection with Waratah Street | $25,000 - $35,000 |
| 8 | Dougan Street | Local | ○ 85th percentile speed of 52km/h | Investigate a splitter island on Dougan Street on approach to Milton Street with an entry threshold treatment. | $19,000 - $26,000 |
| 9 | Edward Street | Local | ○ 85th percentile speed of 56km/h | As part of the Flour Mill development a roundabout will be located at the Edward Street/ Smith Street intersection and signalise the Edward Street/ Old Canterbury Road intersection.<br>Investigate a raised speed table on Edward Street over its intersection Wellesley Street. | $31,000 - $43,000 (for raised table only – Flour Mill development covers other treatments) |

| Item No. | Location | Road Type | Issue(s) | Treatment(s) [1] | Costing |
|---|---|---|---|---|---|
| 10 | Haberfield Road | Local | ○ crashes mainly relating to vehicles from adjacent directions at intersection with Stanton Road | Investigate a roundabout at the intersection between Haberfield Road and Stanton Road | $95,000 - $176,000 |
| 11 | Hanks Street | Local | ○ crashes mainly relating to vehicles from adjacent directions at intersections | Convert the speed hump on Hanks Road between Queen Street and Old Canterbury Road to a speed table.<br>Increase the size of the central mountable islands of the two roundabouts on Hanks Street where it intersects with Queen Street and Hardy Street.<br>Investigate a splitter island on Hanks Street on approach to Holden Street with an entry threshold treatment. | $35,000 - $49,000 |
| 12 | Hardie Avenue | Local | ○ Resident complaints about pedestrian / car conflict | Raise each of the existing marked zebra crossings along Hardie Avenue. | $8,000 - $11,000 |
| 13 | Hardy Street | Local | ○ 85th percentile speed of 57km/h<br>○ crashes mainly relating to vehicles from adjacent directions at intersections, and U-turn and parking manoeuvres | Investigate mid-block speed humps on Hardy Street between Ashford Street/ Hanks Street, Griffiths Street/ Mount Street and Watkin Street/ Princess Street<br>Investigate a splitter island on Griffiths Street on approach to Hardy Street with an entry threshold treatment.<br>Refer to Hanks Street and Armstrong Street for intersection treatments on Hardy Street. | $34,000 - $48,000 |
| 14 | Hawthorne Parade | Local / Collector (Links) | ○ 85th percentile speed of 51km/h<br>○ crashes mainly relating to vehicles from the opposing direction at the intersection with Lord Street | Investigate speed cushions within the existing four pinch points.<br>Refer to Lord Street for intersection treatment with Hawthorne Parade. | $11,000 - $19,000 |
| 15 | Henson Street | Local | ○ crashes mainly relating to vehicles from adjacent directions at the roundabout with Junction Road | Investigate speed cushions on each approach to the Henson Street/ Junction Road roundabout. | $2,500 - $4,000 |
| 16 | Henry Street | Local | ○ 85th percentile speed of 53km/h | Investigate splitter islands on Henry Street on both approaches to Frederick Street with raised entry threshold treatments. | $32,000 - $42,000 |

| Item No. | Location | Road Type | Issue(s) | Treatment(s) [1] | Costing |
|---|---|---|---|---|---|
| 17 | Holden Street between Armstrong Street and Princes Street | Local | ○ crashes mainly relating to a loss of control on straights and at bends | Investigate speed cushions on the south approach to the Holden Street/ Armstrong Street roundabout.<br>Investigate mid-block speed humps on Holden Street at the bend to the north of Fifth Street and between Third Street and Forth Street.<br>Investigate an entry threshold treatment to the 40km/h school zone that includes central island, kerb buildouts and speed cushions on Holden Street to the south of Second Street.<br>Investigate a raised zebra crossing on Holden Street aligned with the path along the northern boundary of Canterbury Park.<br>Investigate speed cushions on the northern approach to the Holden Street/ Princes Street roundabout. | $36,000 - $50,000 |
| 18 | John Street | Local | ○ 85th percentile speed of 58km/h<br>○ crashes mainly relating to a loss of control on straights | Investigate splitter islands on John Street on both approaches to Frederick Street and to Croydon Street, each with entry threshold treatments. | $55,000 - $84,000 |
| 19 | Knox Street | Local | ○ crashes mainly relating to U-turn and parking manoeuvres near Liverpool Road | Investigate a raised central median between Liverpool Road and first property access point. | $12,000 - $16,000 |
| 20 | Learmouth Street | Local | ○ Rat-running between Waratah Street and Boomerang Street | Restrict right-out and left-in movements at its intersection with Boomerang Street, i.e. only support bus movements | $15,000 - $21,000 |
| 21 | Lord Street | Local | ○ Resident complaints about safety of intersections at either end of the road | Investigate splitter islands on Lord Street on approaches to Hawthorne Parade and Sloane Street / Ramsay Street. | $22,000 - $32,000 |
| 22 | Martin Street | Local | ○ 85th percentile speed of 52km/h | Investigate mid-block speed hump on Martin Street between Alt Street and Empire Street. | $4,500 - $8,000 |
| 23 | Northcote Street | Local | ○ 85th percentile speed of 52km/h<br>○ Resident complaints about accessing Ramsay Street | Investigate speed hump on Northcote Street to the west of Ash Lane. | $4,200 - $8,000 |
| 24 | Orpington Street | Local | ○ crashes mainly relating to U-turn and parking manoeuvres at the intersections with Chandos Street and Pembroke Street | Investigate a roundabout at the Orpington Street/ Chandos Street intersection.<br>Investigate raised speed table on Orpington Street between Pembroke Street and Loftus Street. | $220,000 - $286,000 |
| 25 | Palace Street | Local | ○ several crashes at intersection with Milton Street (Regional Road) | Investigate splitter island on Palace Street on approach to Milton Street. | $12,000 - $16,000 |
| 26 | Pembroke Street | Local | ○ 85th percentile speed of 58km/h<br>○ crashes mainly relating to a loss of control on straights | Investigate raised speed table over the intersection between Pembroke Street/ Ormond Street.<br>Investigate a mid-block speed hump on Pembroke Street between Orpington Street and Ormond Street. | $35,000 - $59,000 |

| Item No. | Location | Road Type | Issue(s) | Treatment(s) [1] | Costing |
|---|---|---|---|---|---|
| 27 | Queen Street between Liverpool Street and Armstrong Street | Local | ○ 85th percentile speed of 53km/h<br>○ crashes mainly relating to vehicles from adjacent directions at intersections | Investigate speed cushions within the existing four pinch points (includes the pedestrian refuge – speed cushion on each approach to the crossing point).<br>Refer to Armstrong Street and Clissold Street for intersection treatments with Queen Street. | $7,000 - $10,000 |
| 28 | Robert Street | Local | ○ crashes mainly relating to vehicles from adjacent directions at the intersection with Victoria Street | Investigate speed cushions on each approach to the Robert Street/ Victoria Street roundabout. | $2,100 - $3,000 |
| 29 | Service Avenue | Local | ○ 85th percentile speed of 56km/h | Investigate threshold treatments on Service Avenue on approach to Harland Street and Hanks Street | $11,000 - $16,000 |
| 30 | St Davids Road | Local | ○ 85th percentile speed of 57km/h<br>○ Resident complaints about safety in accessing Parramatta Road | Investigate an entry threshold treatment on St Davids Road on approach to Parramatta Road.<br>Investigate a mid-block speed hump to the southwest of the back-to-back bends.<br>Investigate speed cushions on the St Davids Road approaches to the Ramsay Street/ St Davids Road roundabout. | $32,000 - $41,000 |
| 31 | Stanton Street | Local | ○ resident complaints about speeding vehicles | Refer to Haberfield Road for intersection treatment with Stanton Street. | Refer to Item 10 |
| 32 | Victoria Street, between Arthur Street and Old Canterbury Road | Local | ○ 85th percentile speed of 58km/h<br>○ crashes mainly relating to U-turn and parking manoeuvres | Investigate speed cushions on each approach of the Victoria Street/ Robert Street roundabout.<br>Refer to Clissold Street for intersection treatment with Victoria Street.<br>Investigate entry threshold treatments to 40km/h school zone that includes central island, kerb buildouts and speed cushions on Victoria Street to the south of Seaview Street.<br>Investigate central island, kerb buildouts and speed cushions on Victoria Street on the south approach to Harland Street. | $31,000 - $44,000 |
| 33 | Watsons Avenue | Local | ○ 85th percentile speed of 55km/h | Investigate a traffic island on Watsons Avenue on approach to Georges River Road to restrict access to left-out only from Watsons Avenue. | $9,000 - $13,000 |
| 34 | Wolseley Street | Local | ○ 85th percentile speed of 59km/h | Investigate mid-block speed hump on Wolseley Street between Ramsay Street/ Ash Lane and Ash Lane/ Cove Street. | $11,000 - $16,000 |
| 35 | Arthur Street | Collector (Link) | ○ crashes mainly relating to vehicles from adjacent directions at intersections | Upgrade the existing six speed humps on Arthur Street to speed tables.<br>Investigate speed cushions on each approach of the Arthur Street/ Queen Street roundabout.<br>Investigate speed table on Arthur Street to the east of Joseph Street. | $60,000 - $76,000 |

| Item No. | Location | Road Type | Issue(s) | Treatment(s) [1] | Costing |
|---|---|---|---|---|---|
| 36 | Bland Street | Collector (Link) | ○ 85th percentile speed of 52km/h<br>○ crashes mainly relating to vehicles from adjacent directions at intersections<br>○ traffic congestion and queuing | Investigate kerb build-outs on Charlotte Street to bring the hold line on Bland Street forward to improve sight lines. Also, investigate speed cushions on the Bland Street approaches to Charlotte Street.<br>Investigate speed cushions on the Bland Street approaches to Julia Street and Denman Avenue.<br>In collaboration with RMS, undertake an operational and layout review of the signalised intersections with Elizabeth Street and Parramatta Road. | $35,000 - $53,000 |
| 37 | Boomerang Street between Mortley Avenue and City West Road | Collector (Link) | ○ 85th percentile speed of 55km/h | Investigate speed cushions on Boomerang Street at the southern end of the one-way section and in each direction to the north of Crescent Street. | $2,500 - $4,000 |
| 38 | Church Street between Croydon Road and Alt Street | Collector (Link) | ○ crashes mainly relating to vehicles from opposing direction | Investigate a raised central island on Church Street at its intersection with Croydon Street, and a speed cushion on the approach side only.<br>Investigate mid-block speed hump on Church Street between Croydon Street/ Knocklayde Street, Lucy Street/ Frederick Street and Tawa Street/ Alt Street. | $35,000 - $48,000 |
| 39 | Clissold Street | Collector (Link) | ○ crashes mainly relating to vehicles from adjacent directions at intersections<br>○ limited cross-sectional width | Investigate the potential to convert the length of Clissold Street to a one-way road in the westbound direction through modified signage and linemarking. Also convert the length of Seaview Street to a one-way road in the eastbound direction, so a pair of opposite one-way streets exist to support movements in each direction.<br>The conversion of the road to a one-way road will require the bus stops on the northern side of the road to be relocated to another road. This will need to be investigated and coordinated with TfNSW.<br>Investigate an entry threshold treatment to 40km/h school zone that includes kerb build-outs and a speed cushion on Clissold Street and Seaview Street at their intersections with Prospect Road.<br>Install a raised central island on the south approach to the Tintern Road/ Clissold Street intersection.<br>Install speed cushions on Clissold Street and Seaview Street on each approach to intersections with Victoria Street and Queen Street.<br>Install kerb build-outs and a speed cushion on Clissold Street at its intersection with Holden Street. | $90,000 - $120,000 |

| Item No. | Location | Road Type | Issue(s) | Treatment(s) [1] | Costing |
|---|---|---|---|---|---|
| 40 | Croydon Street between Queen Street and Elizabeth Street | Collector (Link) | ○ crashes mainly relating to vehicles from adjacent directions at intersections | Investigate speed cushions on Croydon Street on approach to intersections with Elizabeth Street, Anthony Street, Kenilworth Street and Queen Street. | $2,500 - $4,000 |
| 41 | Dalhousie Street | Collector (Link and Place) | ○ crashes mainly relating to pedestrians, and U-turn and parking manoeuvres | Investigate speed cushions on Dalhousie Street in each direction north of Winchcombe Avenue and south of Dickson Street. | $1,000 - $2,000 |
| 42 | Elizabeth Street | Collector (Link and Place) | ○ crashes mainly relating to a loss of control on straights | Raise the existing zebra crossing on Elizabeth Street to the east of Etonville Parade.<br>Investigate a speed hump on Elizabeth Street between Railway Street and Hordern Parade. | $14,000 - $18,000 |
| 43 | Grosvenor Crescent | Collector (Link and Place) | ○ crashes mainly relating to a loss of control on straights<br>○ complaints from residents about speeding vehicles | Investigate centre line and edge lines along entire length.<br>Investigate pairs of speed cushions at 100m centres along entire length, except where the raised speed tables proximate to Sloane Street already exist. | $28,000 - $38,000 |
| 44 | Junction Road | Collector (Link) | ○ resident complaints about speeding vehicles | Raise the existing zebra crossing on Junction Road to the west of Moonbie Street. | $8,500 - $11,000 |
| 45 | Prospect Road | Collector (Link) | ○ crashes mainly relating to a loss of control on straights | Investigate a central raised island on Prospect Road at its intersection with Carlton Crescent.<br>Investigate speed cushions in each direction on approach to the pedestrian refuge on Prospect Road between Norton Street and Smith Street. | $35,000 - $51,000 |
| 46 | Queen Street | Collector (Link) | ○ crashes mainly relating to a loss of control on straights | Increase the size of the central mountable islands of the two roundabouts on Queen Street where it intersects with Hanks Street and Griffiths Street.<br>Refer to Armstrong Street for intersection treatment with Queen Street. | $25,000 - $39,000 |
| 47 | Sloane Street | Collector (Link) | ○ crashes mainly relating to U-turn and parking manoeuvres | Investigate speed cushions in each direction adjacent to the southern island of the pedestrian refuge located to the south of Load Street. | $1,800 - $3,000 |

| Item No. | Location | Road Type | Issue(s) | Treatment(s) [1] | Costing |
|---|---|---|---|---|---|
| 48 | Smith Street | Collector (Link and Place) | ○ crashes mainly relating to vehicles from adjacent directions at intersections and hitting objects / parked cars on the road | Investigate a raised central island on Edward Street at its intersection with Smith Street.<br>Investigate speed cushions in each direction between Fleet Street and Spencer Street.<br>Investigate speed cushions on each approach of the Smith Street/ Henson Street roundabout.<br>In a raised central island on Smith Street at its intersection with Holden Street. | $37,000 - $50,000 |
| 49 | Waratah Street between Boomerang Street and Hawthorne Parade | Collector (Link) | ○ 85th percentile speed of 57km/h<br>○ crashes mainly relating to a loss of control on straights | Investigate speed cushions on each approach of the Waratah Street/ Dalhousie Street roundabout. | $1,800 - $3,000 |
| 50 | Brown Street | Council Arterial Road (Place) | ○ crashes mainly relating to pedestrians<br>○ traffic congestion and queuing | In collaboration with RMS, undertake an operational and layout review of the signalised intersections with Elizabeth Street and Hercules Street, with a specific focus on pedestrian safety and level of service.<br>Investigate raised central islands on Brown Street on approach to the public basement car parking facility on the bend and investigate speed cushions in each direction on approach to the bend. | $50,000 - $70,000 |
| 51 | Edwin Street North | Council Arterial Road (Place) | ○ crashes mainly relating to U-turn and parking manoeuvres<br>○ Traffic congestion and queuing | Consider signalising the Elizabeth Street / Edwin Street North intersection.<br>Advocate to RMS and Burwood Council to signalise the Meta Street / Hennessy Street and Young Street intersection. | $250,000 - $286,000 (only for the Elizabeth Street/ Edwin Street North intersection) |
| 52 | Armstrong Street | Council Arterial Road (Link) | ○ crashes mainly relating to vehicles from adjacent directions at intersections<br>○ review the proposed roundabout design for the Armstrong Street/ Queen Street/ Hardy Street intersection, especially in terms of pedestrian safety and child accessing the Yeo Park Public Infants School and Trinity Grammar School to the east | It is understood that a roundabout design is not able to be accommodated at this intersection due to drainage and property access constraints. As such, raised standard flat top speed humps are proposed on the northwest (Armstrong Street) and south (Queen Street) approaches to the intersection.<br>However, the intersection will remain very large and provide a poor level of pedestrian safety, even though approaching pedestrian on the priority approaches will be reduced. As such, building out the southwest corner between Hardy Street and Queen Street, and providing raised median refuge facilities for pedestrians along the north-south and east-west desirelines should be investigated. | $45,000 - $60,000 |

| Item No. | Location | Road Type | Issue(s) | Treatment(s) [1] | Costing |
|---|---|---|---|---|---|
| 53 | Boomerang Street between Waratah Street and Mortley Avenue | Council Arterial Road (Link) | ○ traffic congestion and queuing<br>○ resident compliant about speeding vehicles | Investigate a roundabout at the Boomerang Street/ Mortley Avenue intersection.<br>Investigate speed cushions in each direction within the existing pinch point outside 22 Boomerang Street. | $140,000 - $178,000 |
| 54 | Croydon Road between Queen Street and Parramatta Road | Council Arterial Road (Link) | ○ crashes mainly relating to vehicles from adjacent directions at intersections | Investigate raised central islands on Bay Street and Dalmar Street at their intersections with Croydon Road. | $12,000 - $16,000 |
| 55 | Griffiths Street | Council Arterial Road (Link) | ○ traffic congestion and queuing | In collaboration with RMS, undertake an operational and layout review of the signalised intersections with Canterbury Road. | $35,000 - $52,000 |
| 56 | Holden Street between Liverpool Road and Seaview Street | Council Arterial Road (Link) | ○ crashes mainly relating to pedestrians<br>○ traffic congestion and queuing | In collaboration with RMS, undertake an operational and layout review of the signalised intersections with Norton Street and Arthur Street.<br>Investigate central painted median and edge lines over length between Arthur Street and Park Avenue.<br>In collaboration with Canterbury Council, investigate central raised median on Trevenar Street at its intersection with Holden Street.<br>Increase the size of the central mountable island of the roundabout between Queen Street/ Armstrong Street/ Seaview Street. | $70,000 - $96,000 |
| 57 | All local and collector roads in residential areas | All Local and Collector Roads with residential frontages | ○ resident complaints about heavy vehicles impacting amenity in residential areas | Provide signage as part of the Light Traffic Thoroughfare Scheme to restrict the use of heavy vehicles (less than 3 tonne permitted) in local and collector roads that have residential frontages. | No specific cost identified |
| 58 | All roads providing a 'Place' function | All 'Place' Roads | ○ achieve an 85th percentile speed of 40km/h or less to support vulnerable road users<br>○ provision of safe and connected facilities for vulnerable road users to access and move within activity centres | Investigate as part of the Ashfield Pedestrian Access Mobility Plan and Bike Plan to achieve suitable speed environments and facilities to support and encourage the use of active transport modes, including as part of multi-modal trips. | Covered under the Ashfield Pedestrian Access Mobility Plan and Bike Plan |

| Item No. | Location | Road Type | Issue(s) | Treatment(s) [1] | Costing |
|---|---|---|---|---|---|
| 59 | Regional and State Roads providing a 'Place' function | Regional and State 'Place' Roads | ○ crashes mainly relating to vehicles from adjacent directions at intersections and vehicles travelling the same direction | Lobby for and in collaboration with RMS undertake crash reduction corridor studies for the Regional and State Roads in Ashfield providing a Place function – ideally leading to the implementation of such designs as proposed as part of the Ashfield Town Centre Public Domain Project. | No specific cost identified |
| 60 | Regional and State Roads providing a 'Link' function | Regional and State 'Link' Roads | ○ high levels of traffic congestion and queuing | Lobby for and in collaboration with RMS undertake operational route corridor studies for the Regional and State Roads in Ashfield providing a Place function – ideally leading to the completion of such activities as the Pinch Point Study indicated in the NSW Long Term Transport Master Plan for Liverpool Road. | No specific cost identified |

[1] Broad level or initial feasibility planning construction cost estimates prepared by GTA Consultants must not be relied upon for quoting, budgeting or construction purposes. More detailed estimates can only be prepared from detailed civil engineering design drawings and require the services of a qualified quantity surveyor.

[2] Entry threshold treatments would ideally be raised to maximise speed reduction. However, it is noted that RMS TDT 2013/05 for continuous footpath treatments (i.e. a raised threshold treatment at an intersection) are suitable on side roads where up to 45 vehicle turning movements occur in a peak hour. Where volumes are above 45 vehicles in a peak hour, the entry threshold treatment should be an at-grade treatment that uses a tactile surface treatment over the same extent.

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# 1. Introduction



## 1.1 Background

In October 2015, GTA Consultants (GTA) was engaged by Ashfield Council (now Inner West Council) to prepare the Ashfield Traffic Management Strategy (ATMS). The purpose of the ATMS is to develop a strategic framework and action plan for the safe and convenient movement of vehicular traffic across the former Ashfield Local Government Area (LGA).

The ATMS builds on current State and Council transport directives, but is primarily focused on how vehicular traffic should be safely and efficiently managed on the local road network (i.e. roads under Council control). Moreover, it provides Council with a systematic and comprehensive approach to the planning of the local road network and how to suitably address safety, mobility and amenity issues as they arise.

## 1.2 Project Context

Traditionally, the approach to planning and developing the road network has been focused on the implementation of infrastructure and services to cater for expected future repeatable vehicular use. However, it is recognised that within local streets and communities there are a number of other desirable outcomes, such as amenity, safety, sustainability, mode choice, social interaction, inclusion, health and wellbeing.

It is also understood the State Government is looking to accommodate the majority of the expected future population growth within existing built-up urban environments that are proximate to mass transport services, such as the 'Urban Renewal Corridors' identified in 'A Plan for Growing Sydney'[5] that extend through the former Ashfield LGA (i.e. associated with Parramatta Road and North West Rail Link). This will require more sustainable and efficient use of the finite transport network space to service the additional trip demands as the intensification of land use occurs (noting however that intensification and increased diversity of land use is also likely to decrease the need and/or length of some journey types).

Currently, the majority of trips in and through Ashfield are undertaken by private motor car, which represents the least sustainable and space efficient transport mode. Given the level of development in and surrounding Ashfield, and its geographical context within the inner west of Sydney, there are already significant levels of congestion on some corridors of the road network.

It is expected that increasing levels of congestion will facilitate a shift away from the use of private motor cars to more sustainable and space efficient transport modes as they become more attractive from a travel time perspective. Additionally, the transport and land use integration of new development will further promote opportunities for sustainable transport choices. However, whilst the proportion of car use may be falling in some areas, it is expected that private car use will remain a dominant form of transport in many areas and likely result in additional traffic volumes needing to be accommodated by the road network.

This will place further stress on those roads that provide a transport function (i.e. arterial and collector road network), and potentially increase intrusion to the local road network where travel time savings may be achieved ('rat-running').

[5] Refer to http://www.planning.nsw.gov.au/en/Plans-for-Your-Area/Sydney/A-Plan-for-Growing-Sydney

As such, a balanced and evidence based approach to defining and maintaining the function of the local road network is expected as part of the ATMS. This will help articulate to the community what the process is in addressing and prioritising local traffic management issues. It will also be consistent with broader transport network requirements, and form a basis for Council to guide future development and input to State Government transport initiatives affecting Ashfield.

## 1.3 Council's Role in Transport Planning

Councils in New South Wales generally have a role to play in the provision of a range of traffic and transport infrastructure and services, such as:

- roads, footpaths and cycling networks (including parking facilities)
- working with relevant state authorities to improve the overall transport network
- community transport (i.e. youth and aged transportation services).

Council also has an important part to play in its role as Planning Authority, in ensuring that new development is appropriately planned, and that relevant services are accessible by a range of transport modes, such as walking and cycling. Council usually shares this responsibility with state government departments and agencies such as Road and Maritime Service (RMS), Transport for New South Wales (TfNSW) and Department of Planning and Environment.

An integrated approach between all levels of government is essential in addressing transport and land use issues.

## 1.4 State Government Role

The New South Wales Government holds responsibility for the planning, implementation and operation of the public transport and arterial road networks, as well as setting out the overall vision, objectives and decision-making principles for the overall transport system. Local Councils are expected to align with the relevant over-arching State planning and policy frameworks, as indicated through the Integrated Planning and Report Framework[6]. While this is the case, the Integrated Planning and Report Framework also indicates that the *"difference lies in how each community responds to these needs [a safe, healthy and pleasant place to live, a sustainable environment, opportunities for social interaction, opportunities for education and employment, and reliable infrastructure]"*.

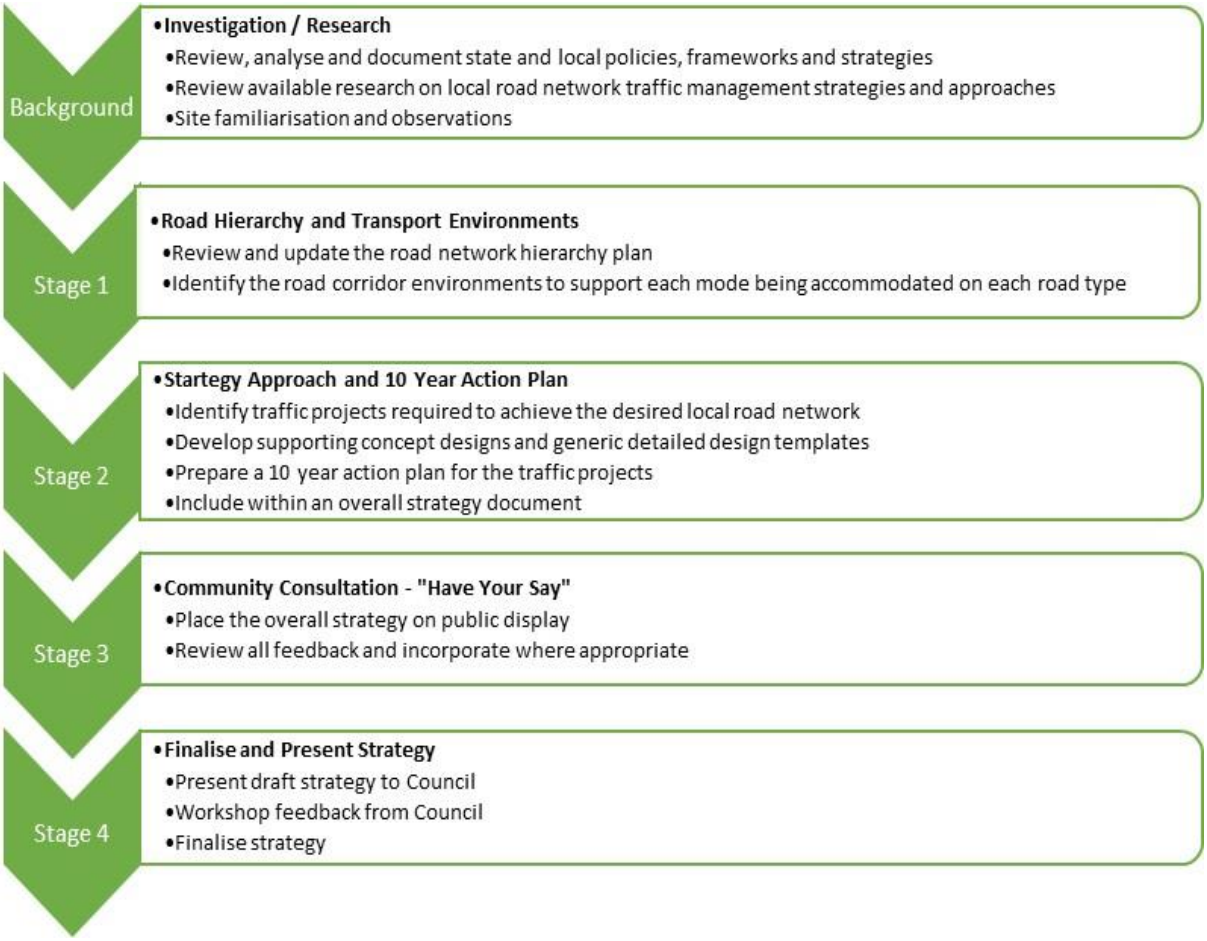
An effective partnership with State Government is one that promotes an open exchange of information, sharing of resources and buy-in from all parties to a shared vision for the transport network and agreement on the most effective means of planning and delivery. In this regard, Government departments and agencies are being provided an opportunity to provide feedback on the ATMS, which should help maximise the implementation success of the proposed outcomes.

[6] Refer to: https://www.olg.nsw.gov.au/councils/integrated-planning-and-reporting/framework

## 1.5 Scope & Methodology

The scope and methodology for the overall project is generally outlined in Figure 1.1.

**Figure 1.1: Project Scope & Methodology**



# 2. Background Investigations/ Research



## 2.1 Preamble

In order to gain an understanding of the current transport issues and opportunities that are shaping Ashfield today and into the future, GTA has reviewed various background material.

In this regard, material relating to the following background topics have been reviewed and the associated information summarised in this section of the report:

i current strategic transport context
ii best practice local road management approaches
iii baseline transport conditions (i.e. existing and anticipated conditions)

## 2.2 Strategic Transport Context

In order to understand and outline what the desired local road network should be within the former Ashfield LGA, and to provide the necessary context and justification for the development of the ATMS, a broad policy review has been undertaken. This included a review of the following state and local documents:

- NSW: Local Government Integrated Planning and Reporting
- NSW: A Plan for Growing Sydney (2014)
- NSW Long Term Transport Master Plan (2012)
- NSW Bike Plan (2010)
- GreenWay Active Transport Strategy (2012)
- GreenWay Missing Links Report (draft, 2015)
- Ashfield Traffic Management Plan (2002)
- Ashfield Bike Plan (in progress)
- Ashfield Pedestrian Access Mobility Plan (draft)

Our working knowledge and review of these documents, along with their relevance to the preparation of the ATMS, is documented within Appendix A of this report. Overarching commentary on the key policy directions and associated key transport planning principles are provided are summarised in Table 2.1.

**Table 2.1: Transport Policy Review: Summary of Themes**

| Theme | Application to the Ashfield Transport Network |
|---|---|
| **Land Use Integration** | Transport infrastructure and movement networks should align with existing and respond to future land use, efficiently connect activity centres and support the community's desired lifestyle. This requires a collaborative approach across a wide range of public and private stakeholders. |
| **Transport Choice** | Transport choice means that there are viable and attractive modal options, such as walking, cycling, public transport and private vehicles, for individuals to access their given destinations. Transport choice is also intrinsically linked to urban form, in what facilities, services and mode types are provided and most suited to urban areas. |
| **Travel Behaviour** | The comparative performance (perceived and/or actual) and level of access of each transport choice available to users for their given transport needs dictates their travel behaviour. In order to achieve a desired change in current transport behaviour, it is considered most effective when both the associated benefits and barriers with the various transport choices are changed, so as to encourage the more desired behaviours. |
| **Road Space Management** | Within most urban environments there is only a limited amount of road space. The management of this space aims to move people in the most efficient and safe manner possible, while providing local access and desired levels of amenity to the community. The approach to managing road space should be dependent on the function of the road and the proximate site conditions. However, with increased development and the resulting number of trips expected, more space efficient modes of transport will be required to move more people within the same road space. |
| **Sustainability** | Private vehicle travel is a significant contributor to greenhouse gases and other environmentally detrimental emissions. This provides an impetus for advocating and promoting more sustainable travel modes, such as active and public transport, in the preparation of the ATMS. |
| **Access, Equity, Diversity and Social Inclusion** | The transport network must be accessible to, and service the needs of a diverse range of users, from young children to the elderly ('8-80' planning), the mobility and sensory impaired, and for all socio-economic groups. Certain user groups are prone to transport disadvantage particularly if not provided access to transport services that suit their needs and abilities (both monetary and physically). As such, a lack of transport choice and access can contribute toward social exclusion and be a barrier to employment opportunities. |
| **Healthy Cities Promote Safe Walking & Cycling** | 'There is a common and growing understanding of the causal link between good urban and transport system design that promotes safe walking and cycling, efficient public transport, and a healthy community in terms of both physical and mental health.' Council policy is very much in support of developing and promoting walking and cycling for a number of reasons, including health and wellbeing. As such, these modes should always be considered and be provided suitable priority within the Ashfield transport network. |
| **Liveable Streets** | In urban environments, there is a strong theme of creating streets for people, rather than roads for cars. This does not necessarily mean banishing cars entirely, but rather it involves reorganising suitable spaces and designing to create a place for people to interact, rather than a space designed with a focus on movement of vehicles and services. Such spaces are expected to be included as part of the Ashfield Pedestrian Access Mobility Plan, which is currently being developed.<br>Further guidance on the development and design of such spaces in Ashfield can be gained through the following documents:<br>○ Creating Healthy Neighbourhoods (NSW)<br>○ Healthy by Design – a planner's guide to environments for active living (Heart Foundation)<br>○ Active Living Impact Checklist (ACT)<br>○ Streets for People (SA) |

## 2.3 Local Road Management Approaches

In developing the ATMS, it is important to give consideration to what current best practice is for the management and design of the local road network, which is under Council's control. As such, the key approaches based on relevant guidelines that are being utilised as part of developing the ATMS are summarised below.

## What is LATM?

Local Area Traffic Management (LATM) is concerned with the planning and management of road space on local and collector roads which are the primary responsibility of local government. LATM is often concerned with modifying streets and road networks which were originally designed in ways that are now no longer considered to be consistent with policy directives, surrounding conditions, best practice, and the needs of residents and users of a local area.

Moreover, LATM looks to modify driver behaviour by utilising both 'direct' physical and managerial influences on vehicle operation, and 'indirectly' influencing driver perceptions of what is appropriate behaviour in a given street.

The Austroads Guide to Traffic Management, Part 8 – Local Area Traffic Management (2008) defines the purpose of LATM as:

*"Local Area Traffic Management is concerned with the planning and management of road space usage within a local area, to reduce traffic volumes and speeds in local streets, to increase amenity and improve safety and access for residents, especially pedestrians and cyclists."*

## LATM Precinct Approach

The Austroads Guide on Local Area Traffic Management also indicates that LATM should be applied in an area-wide fashion. As such, it is important to understand what a local traffic area is, to determine the extent of LATM treatment areas. The Guide defines local traffic areas as follows:

*"An urban area containing local and collector roads bounded by arterial and sub-arterial roads or other limiting features."*

The local traffic area is shown graphically in Commentary 3 of the Austroads Guide to Traffic Management Part 8: LATM (2008).

In applying an LATM area-wide approach in Ashfield, it is also important to understand the function of local roads within the wider transport network, as well as the integration with land use. Many town centres exist along / around an arterial road like Liverpool Road, so the associated LATM area can be more appropriately related to land use at times, instead of just basing it on the road network classifications.

## Transport Function

The transport network is made up of a number of differing types of facilities with varying purposes. One of the main functional aspects that should be considered, regardless of the mode(s) being supported, is the continuum across which they provide a "link" or "place" function. These terms have been developed by Professor Peter Jones (Centre for Transport Studies, UCL, London), and he outlines the following characteristics with their functionality:

- "Links" are movement conduits that have design objectives to save time, such as Parramatta Road.
- "Places" are destinations in their own right and have design objectives to spend time, such as with the proposed Public Domain Upgrade of the Ashfield Town Centre[7].

When appropriately applied and integrated with land use, the balancing of "link" and "place" functions help form an orderly, efficient and supportive road network for the community.

[7] Refer to http://www.ashfield.nsw.gov.au/page/revitalising_ashfield_town_centre.html

However, the design standards and user types/ activities vary significantly between achieving these two functions, especially in relation to modal priority and supportive speed environment.

With local road networks that require long travel distances to access 'link' based roads (i.e. arterial and even collector roads), they can result in local drivers becoming frustrated and start performing localised rat-running. The Austroads Guide indicates that the maximum distance through the local road network that a driver should travel to access a 'link' based road is 400-500m.

The above considerations differ from historical transport approaches in that they recognise that streets contribute in more ways than just moving people; they also consider economic, environmental and social aspects that encourage people to interact and spend time.

### Speed Environment

The speed environment in local streets is an important management factor, as it balances travel time, safety, amenity and attractiveness for road users, especially vulnerable ones (pedestrians and cyclists). Moreover, road safety considerations are more regularly becoming the determining factor in speed environment selection for 'place' based roads. With the current shift in road safety towards achieving a Safe System approach (aims to provide a road environment where it is not possible for fatal or serious injuries to occur even though road users are expected to make mistakes[8]), the following speed environments are being progressively moved towards:

- Pedestrians (or cyclists) could be potentially struck by vehicles = 20km/h to 30km/h
- Motorcyclists could be struck by vehicles = 20km/h to 30km/h
- Vehicles could have a side impact with a pole or tree = 30km/h to 40km/h
- Vehicles could have a side impact with another vehicle = 50km/h
- A head-on vehicle to vehicle (of equal mass) crash could occur = 70km/h

In order to achieve a given speed environment, it is not a matter of just changing the speed limit signage, there also needs to be appropriate infrastructure that directly manages vehicle movements and helps influence them to travel at the desired travel speed.

For guidance on what level and spacing of traffic calming devices are required to achieve a desired operating speed along a local road, reference is made to the VicRoads Supplement to the Austroads Guide to Traffic Management Part 8: Local Area Traffic Management (2015), which provides the following table presented in Figure 2.1.

**Figure 2.1: Slow Point Speed and Length of Street between Slow Points**

| Speed at the Slow Point or Bend | Maximum length of street between slow points or bends to limit the target street speed to: | | |
|---|---|---|---|
| | 30 km/h | 40 km/h | 50 km/h |
| 20 km/h | 75 - 100 m | 100 - 140 m | 120 - 155 m |
| 25 km/h | 45 m | 80 m | 135 m |
| 30 km/h | | 65 m | 115 m |
| 35 km/h | | 50 m | 100 m |
| 40 km/h | | | 80 m |
| 45 km/h | | | 60 m |

***Note: a bend needs to be at least 60 degrees.***

Reference: Table 1 in the VicRoads Supplement to the Austroads Guide to Traffic Management Part 8: Local Area Traffic Management (2008), October 2015

[8] Refer to https://infrastructure.gov.au/roads/safety/national_road_safety_strategy/

## Modal Prioritisation

As part of an orderly approach to transport planning, the identification of modal priorities along each road corridor is considered to be a best practice approach to achieving a balanced and integrated transport system.

One current and relevant version of such an approach is the VicRoads SmartRoads Network Operating Plans[9], which identify and prioritise strategic traffic, freight, tram, bus, bicycle and pedestrian routes across the metropolitan Melbourne arterial road network.

Where more than one mode is prioritised along a given road corridor and there is insufficient road width to accommodate suitable separated facilities for each of the modes, then the most vulnerable road users should have priority and (where practical and able to be suitably achieved by Council), the others be subservient to its user needs. This can result in potential conflicts and an inability to accommodate all the proposed modal priorities within a given road reserve. In such instances, consideration should be given to the development of alternative routes for given modes, or changing the existing road conditions to achieve a more suitable environment.

[9] Refer to https://www.vicroads.vic.gov.au/traffic-and-road-use/traffic-management/smartroads

# 3. Baseline Transport Conditions



## 3.1 Former Ashfield Local Government Area

The former Ashfield LGA covers an area of approximately 8.3 km$^2$ and located just over 6km west of the Sydney CBD. The adjacent LGA's include Canada Bay to the north, Leichhardt to the east, Marrickville and Canterbury to the south, and Burwood to the west. As such, the former Ashfield LGA is located within an existing built-up urban environment with good proximity to employment, recreation, education, and entertainment opportunities, but also experiences significant through traffic volumes generally serviced by the State and Regional Roads.

The former Ashfield LGA and its context in the broader region is shown in Figure 3.1.

**Figure 3.1: Former Ashfield LGA Locality Plan**


Source: https://www.google.com/earth/

## 3.2 Pedestrians

Pedestrian infrastructure within Ashfield is well established, with the existing facilities generally summarised as follows:

- pedestrian footpaths provided on both sides of the majority of roads
- signalised pedestrian crossings on the majority of approaches to signalised intersections
- zebra crossings supporting key desire lines in activity centres
- signalised, zebra and/or school crossings on main frontages to schools.

It is understood that the Ashfield Pedestrian Access Mobility Plan has been finalised, which includes the Pedestrian Route Hierarchy Plan that was provided to inform the ATMS, as reproduced in Figure 3.2.

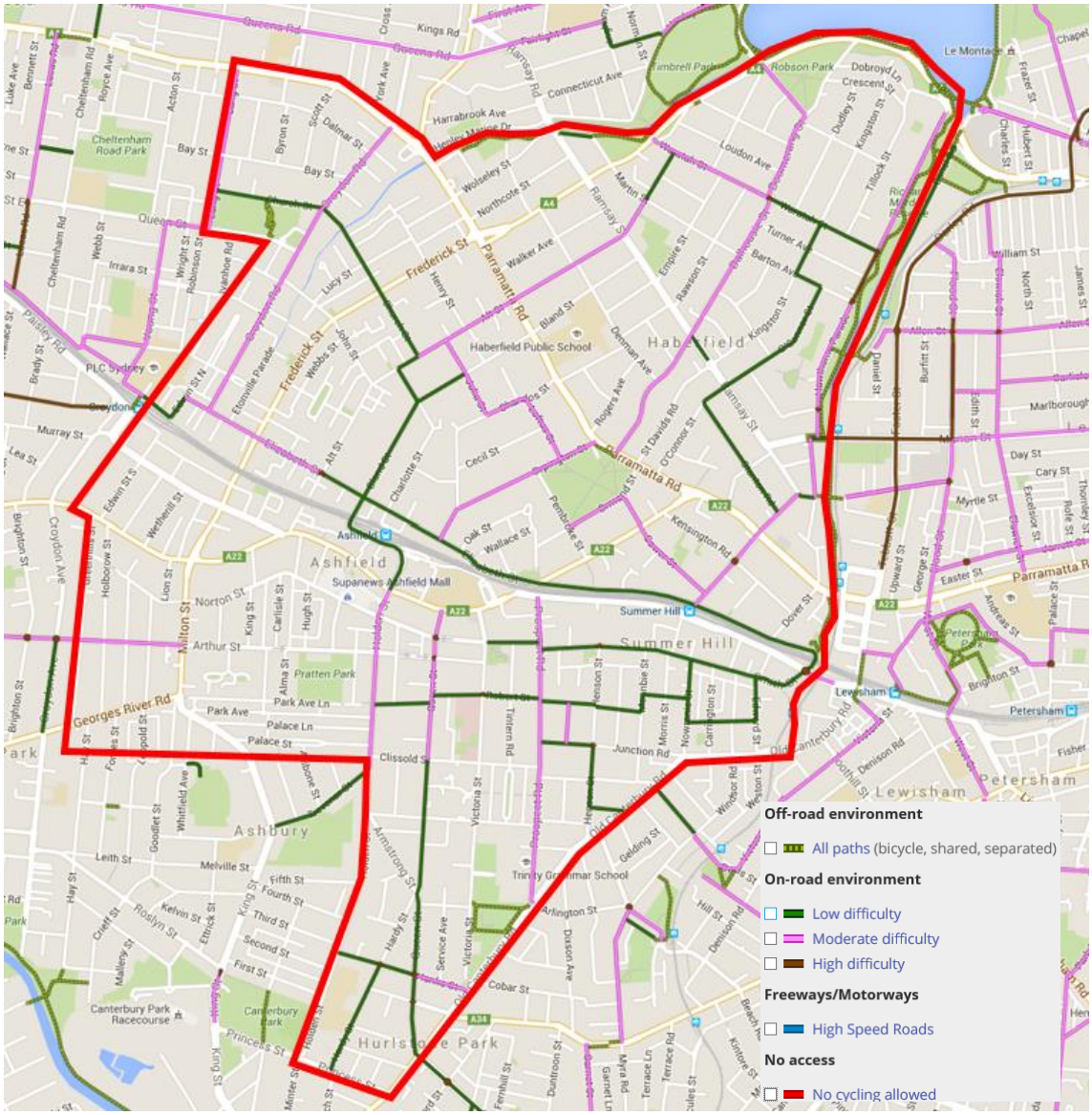
**Figure 3.2: Pedestrian Route Hierarchy Plan**


Source: Ashfield Pedestrian Access Mobility Plan, as provided by Inner West Council

### 3.2.1 Bicycles

There are numerous on-road and off-road bicycle facilities within and connecting Ashfield, some of which (such as the greenway shared paths) are of a high quality and attract a wide range of users. However, there are a number of missing links and existing facilities that would only be attractive to the more confident and experienced cyclists, such as the on-road bicycle lanes on collector and arterial roads that terminate before signalised intersections. However, there are also off-road shared paths which are able to be utilised by both pedestrians and cyclists. The existing bicycle facilities are shown in Figure 3.3.

**Figure 3.3: Ashfield Bicycle Network – Existing Facilities**




Source: http://www.rms.nsw.gov.au/roads/using-roads/bicycles/cyclewayfinder/index.html, accessed January 2016

### 3.2.2 Public Transport

Within Ashfield there is a train line (T2 Inner West) and some 16 bus services, which are shown in Figure 3.4. As such, Ashfield is considered to have good public transport coverage, with the majority of dwellings being within 800m of a train station and/or 400m of a bus stop. However, the comparative travel time, cost and integration of these services to car use (except potentially the train services when accessing the CBD), is reflective of the current mode splits.

**Figure 3.4: Ashfield Public Transport Network**

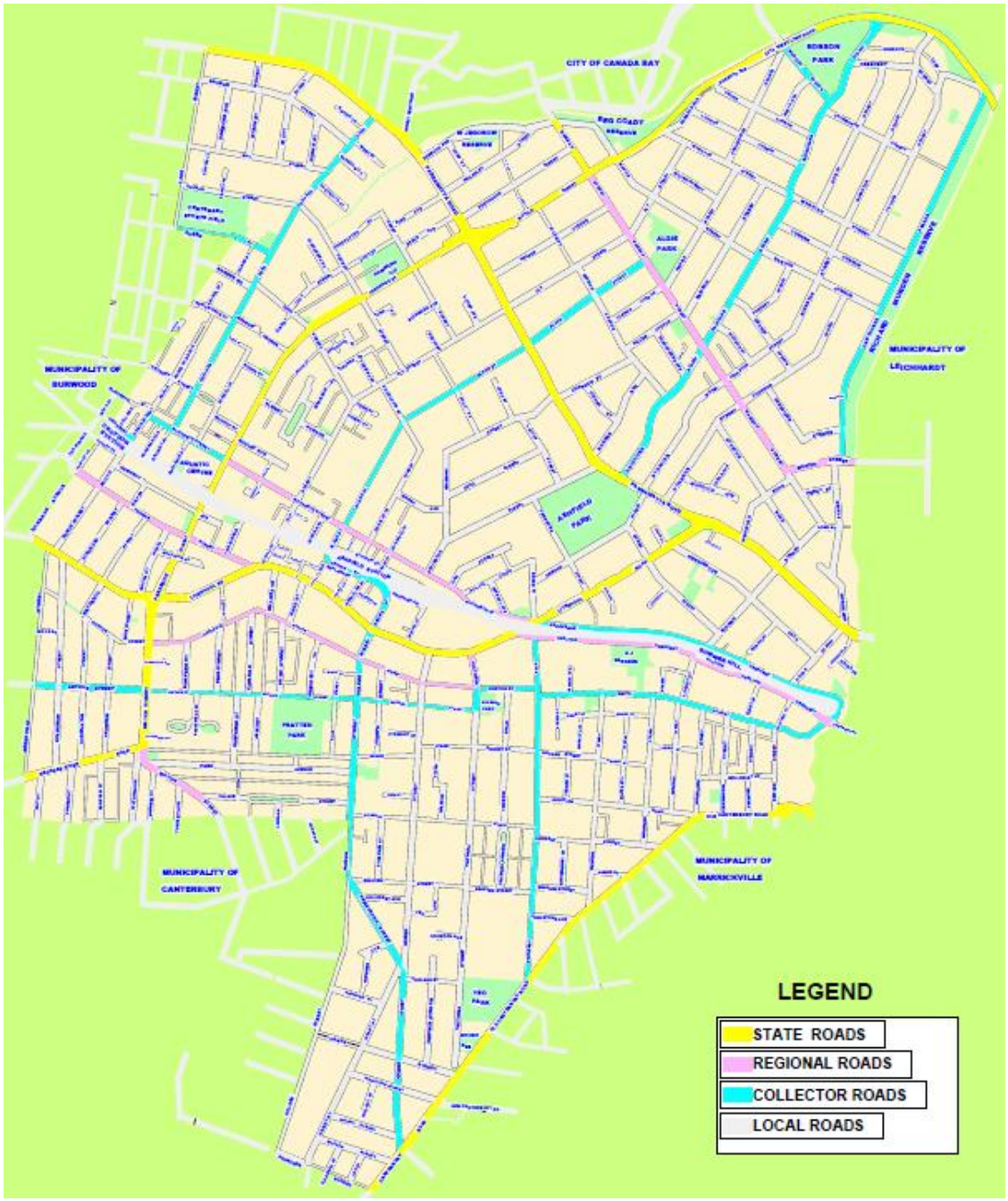

Source: http://www.sydneybuses.info/routes/Region_guide_South-2015.pdf

### 3.2.3 Road Network

#### Road Classifications

The current road network in Ashfield is shown in Figure 3.5, with each of the road classifications that make up the Ashfield Road Network are discussed below.

**Figure 3.5: Current Road Network**




Source: As provided by Inner West Council

**State Roads (RMS controlled)**

RMS defines[10] State Roads as being the following:

*"The State Road network (including the Auslink network) is formed by the primary network of principal traffic carrying and linking routes for the movement of people and goods within the urban centres of Sydney, Newcastle, Wollongong and Central Coast, and throughout the State."*

Within Ashfield, the following roads are currently categorised as State Roads:

- Parramatta Road (Greater Western Highway)
- Liverpool Street (Hume Highway)
- Frederick Street
- Milton Street
- Wattle Street
- Dobroyd Parade
- City West Link Road
- Old Canterbury Road
- Canterbury Road
- Georges River Road

**Regional Roads (RMS- Inner West Council shared responsibility)**

RMS defines[5] Regional Roads as being the following:

*"Regional Roads comprise the secondary network which together with State Roads provide for travel between smaller towns and districts and perform a sub arterial function within major urban centres."*

Within Ashfield, the following roads are currently categorised as Regional Roads:

- Ramsay Street
- Elizabeth Street
- Marion Street
- Thomas Street
- Norton Street
- Victoria Street
- Milton Street
- Carlton Crescent

**Collector Roads (Inner West Council controlled)**

Collector roads are lower capacity roads which serve to connect local streets to the arterial road network, as well as provide direct access to abutting properties (i.e. mixed function in the road network).

Within Ashfield, the following roads are currently categorised as Collector Roads:

- Croydon Road
- Queen Street
- Elizabeth Street
- Edwin Street
- Hennessy Street
- Mortley Avenue
- Boomerang Street
- Bland Street
- Dalhousie Street
- Hawthorn Parade
- Brown Street
- Grosvenor Crescent
- Holden Street
- Prospect Road
- Norton Street
- Smith Street
- Arthur Street
- Victoria Street
- Armstrong Street
- Queen Street

[10] As defined through http://www.rms.nsw.gov.au/business-industry/partners-suppliers/lgr/arrangements-councils/road-classification-review.html

**Local Roads (Inner West Council controlled)**

Local roads primarily serve the role of providing direct access to properties and typically promote lower speed and traffic volume environments. The local roads within Ashfield are all the other roads shown in Figure 3.5.

Based on Figure 3.5 and the above, the following is noted about the road network in Ashfield:

- generally built-out and evenly covers the municipality
- there are connections to the adjacent municipalities on all sides, except to the northeast corner where the LGA meets Iron Cove and Hawthorne Canal
- varying block extents between collector and arterial roads
- limited number of crossing points of the railway line that halves the municipality

## Road Speed Limits

The current speed limits within the former Ashfield LGA generally range between 40km/h and 60km/h, which is reflective of its urban environment.

However, it should be noted that speed limits are only part of what creates a suitable speed environment. There also needs to be appropriate infrastructure that directly manages vehicle movements and helps guide them to travel at the desired travel speed. Furthermore, consideration needs to be given to what speed environment is required to support and encourage vulnerable road users to share the space with vehicles, where a mixed environment exists. Guidance for the types of road environments where vulnerable road users and vehicles mix is provided in the following documents:

- Shared Zones – RMS TTD 2014/003 (July 2014)
- On-Road bicycle facilities – Figure 2.2 of the Cycling Aspects of Austroads Guides (2014).

## Existing Traffic Data

Council has provided a sample of their pneumatic tube count data. The count data includes results from as far back as 1997. As such, for the purposes of this review, only data from 2004 onwards has been considered.

The traffic data provided comprises the following:

- Operating Speed (85th percentile recorded speed)
- Daily Volume
- Heavy Vehicle Percentage

The provided traffic data has been used to help understand how the road network currently operates, in where they generally travel and at what speed. The understanding gained through this data has been supported through on-site observations and review of other relevant material presented in this section of the report.

## Future Traffic Volumes

It is expected that into the future the local road network traffic volume increases would generally be proportional to the level of development in Ashfield, which based on Ashfield's Development Contribution Plan (DCP), will be in the order of 80 dwellings per year. As such, there is expected to be relatively low increases in local road network traffic volumes.

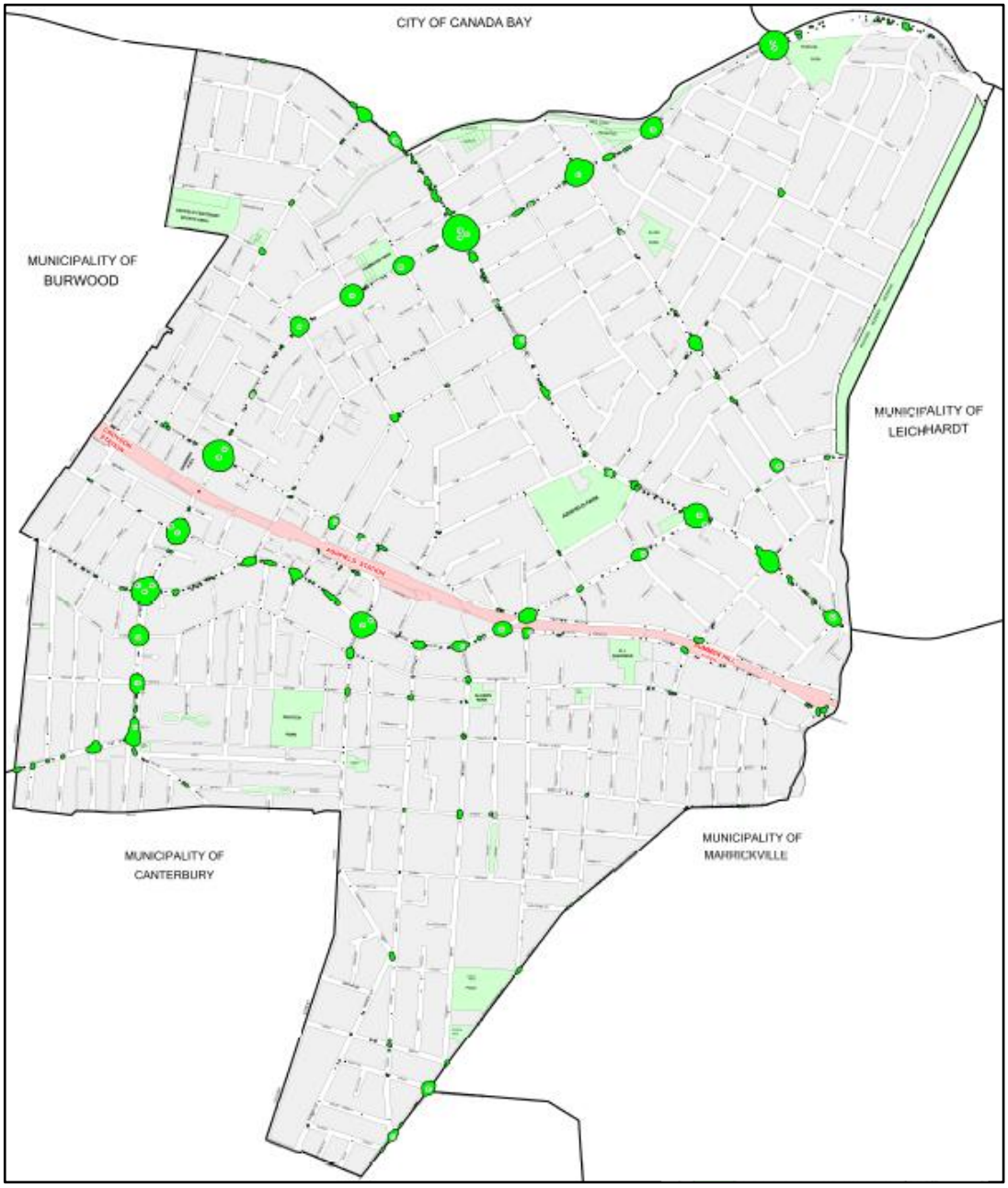
In terms of likely increases in traffic volumes on the State and Regional Roads into the future, they will generally relate to broader macro development levels, so could be significant. However, the WestConnex project will likely accommodate a substantial proportion of through traffic volumes, at least in the short to medium time horizon.

On the above basis, no significant change to the existing traffic volumes on the Ashfield road network is expected over the short to medium term.

### 3.2.4 Crash Data

Reported crash data for the roads and intersections of Ashfield has been provided by Council between 2005 and 2014 (inclusive), and is shown graphically in Figure 3.6.

**Figure 3.6: Ashfield LGA Crash Data Map – 2005 to 2014**




Source: Inner West Council GIS Data

Figure 3.6 indicates that the majority of recorded crashes have occurred at intersections along the arterial road network and/or within the various activity centres. There are also a number of other local routes that have a discernible number of crashes, including Alt Street, Arthur Street, Bland Street, Brown Street, Clissold Street, Croydon Road, Dalhousie Street, Grosvenor Crescent, Holden Street and Queen Street.

A summary of the crash data for each of the 10 years is set out in Table 3.1.

**Table 3.1: Crash Data Summary by Year**

| Year | Road Classification | | | | Total |
|---|---|---|---|---|---|
| | State | Regional | Collector | Local | |
| 2005 | 221 | 34 | 26 | 43 | 324 |
| 2006 | 177 | 30 | 25 | 35 | 267 |
| 2007 | 183 | 36 | 31 | 48 | 298 |
| 2008 | 165 | 29 | 21 | 36 | 251 |
| 2009 | 163 | 26 | 28 | 38 | 255 |
| 2010 | 141 | 42 | 32 | 36 | 251 |
| 2011 | 175 | 37 | 29 | 33 | 274 |
| 2012 | 164 | 23 | 35 | 29 | 251 |
| 2013 | 172 | 32 | 31 | 30 | 265 |
| 2014* | 79 | 5 | 17 | 14 | 115 |
| **Total** | **1,640** | **294** | **275** | **342** | **2,551** |

* Given the low total number of crashes in 2014 it is expected that not all reported crash data for the year has been provided.

Based on Table 3.1, the following is noted:

- Total crash numbers within the former Ashfield LGA are trending downwards but seem to have reached a plateau of about 250 reported accidents each year.
- Approximately 64% of all crashes occur on State Roads which are under RMS control.
- Crash numbers on the Local, Collector and Regional Roads have remained relatively consistent over the 10 year data period.

A summary of the crash data by severity is set out in Table 3.2.

**Table 3.2: Crash Data Summary by Summary**

| Year | Road Classification | | | | Total |
|---|---|---|---|---|---|
| | State | Regional | Collector | Local | |
| Fatal | 11 | 2 | 0 | 1 | 14 |
| Injury | 752 | 145 | 127 | 128 | 1,153 |
| Non-Casualty | 877 | 147 | 148 | 213 | 1,386 |
| **Total** | **1,640** | **294** | **275** | **342** | **2,551** |

Based on Table 3.2, the following is noted:

- There have only been 14 fatal crashes (1% of all crashes) within Ashfield over the last 10 years and only one of them did not occur on an arterial road (i.e. one on a local road).
- 45% and 54% of crashes were injury and non-casualty respectively, and this split is generally consistent for each road type.

A summary of the crash data by crash type (based on their RUM Code Category[11]) is set out in Table 3.3.

**Table 3.3: Crash Data Summary by RUM Code Category**

| RUM Code Category | Road Classification | | | | Total |
|---|---|---|---|---|---|
| | State | Regional | Collector | Local | |
| Pedestrians | 118 | 25 | 37 | 22 | 203 |
| Vehicle – Adjacent Direction (intersections only) | 199 | 107 | 79 | 87 | 473 |
| Vehicles – Opposing Direction | 261 | 30 | 20 | 23 | 334 |
| Vehicles - Same Direction | 763 | 54 | 24 | 21 | 862 |
| Manoeuvring | 58 | 15 | 22 | 60 | 155 |
| Overtaking | 2 | 2 | 3 | 3 | 10 |
| On Path | 37 | 9 | 10 | 7 | 63 |
| Off Path, On Straight | 136 | 34 | 66 | 90 | 326 |
| Off Path – On Curve or Turning | 61 | 15 | 13 | 23 | 112 |
| Miscellaneous | 5 | 3 | 1 | 6 | 15 |
| **Total** | **1,640** | **294** | **275** | **342** | **2,551** |

Based on Table 3.3, the following is noted:

- The most prominent crash type involves vehicles travelling the same direction (i.e. rear-end and side swipes) with a total of 862 crashes (or 34% of all crashes), noting the majority (89%) of these crashes occurred on State Roads.
- The most proponent crash types on Regional and Collector Roads (second most prominent on Local Roads) were adjacent direction crashes at intersection, which is reflective of the lower movement control on these roads compared to the signalised control intersections that are generally provided along State Roads.
- The most prominent crash type on Local Roads were where vehicles loss control on straight sections of road.

[11] The Road User Movement (RUM) Code is what is used to describe the first impact type that occurred during a recorded crash. The various codes are grouped number a number of categories, which has been used to summarise the Ashfield LGA crash data. For details on the RUM codes and categories, refer to Appendix A of Definitions and noted to support road crash data (TfNSW).

# 4. Road Hierarchy & Environments



## 4.1 Overview

A systematic and strategic approach to the planning of the road network is critical to be able to respond to observed issues, and ensure that the fine grain detail of the transport system is consistent with its defined strategic intent.

While the focus of the ATMS is on vehicular traffic, consideration has been given to alternative transport modes (particularly road network integration). However, a more detailed understanding of specific facilities and how they will be implemented/ integrated is expected to occur following completion of the associated modal strategies.

On this basis, the road network hierarchy has been reviewed and updated, and the desired transport environments for each road type identified, based on the background investigations/ research set out in Section 2 and understanding of the baseline transport conditions set out in Section 3. The proposed road network hierarchy and desired transport environments should be considered to be 'live' and updated as the associated modal strategies are refined, as well as based on collaborative engagement with various other public and private stakeholders.

## 4.2 Road Classifications

The current road classifications that exist within the former Ashfield Council area are the following:

- State Roads (RMS controlled)
- Regional Roads (RMS- Inner West Council shared responsibility)
- Collector Roads (Inner West Council controlled)
- Local Roads (Inner West Council controlled).

The above road classifications necessarily give consideration to their integration with the abutting land uses, 'link' or 'place' functions and consideration of all transport modes. Also, it has been noted that there are Inner West Council controlled roads that accommodate more than 6,000 vehicles per day, which are considered to be significant and warrant a higher classification than collector roads.

On this basis, the below road classifications are proposed, along with general discussion on their provision in Ashfield and reasoning for road classification changes.

**State Roads**

The former Ashfield Council area has a reasonably good level of servicing from State Roads. However, their function in the area varies, with Parramatta Road being a major through route and barrier to local east-west trips, when Liverpool Road essentially forms the main street of Ashfield, servicing local retail and commercial trips. In this regard, there are considered to be State Roads in Ashfield that perform 'link' and 'place' functions. As such, the following State Road types are proposed:

- State Roads – Link Function
- State Roads – Place Function.

**Regional Roads**

Regional Roads in the former Ashfield Council area generally run parallel to and support the State Roads (such as Norton Street) or provide key connections between the State Roads (such as Elizabeth Street). The only Regional Road that does not appear to be doing this and carrying significant traffic volumes is Thomas Street, which is considered to operate more as a collector road.

While the majority of the Regional Roads in Ashfield are providing a 'link' function, there are major trip generators abutting them that, at least over a localised block length (i.e. such as school frontages), provide a 'place' function.

As such, the following Regional Road types are proposed:

- Regional Roads – Link Function
- Regional Roads – Place Function.

**Council Arterial Roads**

The following collector roads within the former Ashfield Council area are operating in a similar function to the Regional Roads, but in a local context (i.e. do not provide travel between smaller towns and districts):

- Boomerang Street between Waratah Street and Mortley Avenue
- Elizabeth Street, Edwin Street North and Hennessy Street between Frederick Street and Meta Street
- Griffiths Street, Queen Street, Armstrong Street, Holden Street and Bland Street between Old Canterbury Road and Elizabeth Street
- Northern Half of Croydon Street, between Queen Street and Parramatta Road.

Where collector roads are functioning as Regional Roads, they are either the only collector road within a few blocks, such as Armstrong and Holden Street, or are a continuation of a Regional Road route, such as Elizabeth Street. At this time, none of the collector roads accommodating more than 6,000 vehicles per day are providing a 'place' function, however this may eventuate in the future.

As such, these Council arterial roads are generally performing a 'link' function, and are proposed to form a new road type within the road network hierarchy plan.

**Collector Roads**

The majority of the collector road network within the former Ashfield Council area is fairly well defined and generally provide a 'link' function, except where there are major trip generators abutting them and provide a 'place' function. However, mainly due to the current spacing of the arterial and collector roads, the following local roads are operating in a similar function to 'link' based collector roads:

- Church Street, Alt Street, and Julia Street in the northbound and Charlotte Street in the southbound direction, between Croydon Road and Bland Street
- Clissold Street between Holden Street and Prospect Street
- Griffiths Street between Queen Street and Old Canterbury Road
- Junction Road between Prospect Street and Old Canterbury Road
- Ramsay Street and Sloane Street between Marion Street and Grosvenor Crescent
- Waratah Street between Hawthorne Parade and City West Link Road.

Where local roads are functioning as collector roads, they are either providing the only local through route within a few blocks, such as Waratah Street, Church Street, Clissold Street and Junction Road, or are a continuation of an existing through route, such as Ramsay Street/ Sloane Street and Griffiths Street.

It should be noted that Clissold Street has a cross-section that does not support two-way traffic flows along its length due to kerbside parking on both sides of the road in locations, which reduces the available width to one lane. This issue will be considered further in subsequent sections.

It is also understood that Mortley Avenue will be closed as part of the WestConnex project. At this time, Mortley Avenue will likely operate as a local road, and the road hierarchy plan should be updated accordingly. However, until the road is closed, it will continue to operate as a collector road.

As such, the following collector road types are proposed:

- Collector Roads – Link Function
- Collector Roads – Place Function.

**Local Roads**

The remaining roads within the former Ashfield Council area are local roads. These will generally provide a place function and do not support high through traffic volumes. The speed environments should be reflective of the level of vulnerable road users trying to be accommodated. The use of Shared Zones or mixed spaces should be supported where pedestrian volumes are high on local roads.

## 4.3 Transport Corridor Environments

Given the above discussion, background investigations/ research set out in Section 2 and an understanding of the baseline transport conditions set out in Section 3, Table 4.1 has been prepared to summarise the key elements of the proposed road types that are recommended for the former Ashfield LGA road network.

**Table 4.1: Summary of Key Elements by Road Type**

| Road Type | Responsibility | Function | Traffic Volume [1] | Speed Environment | On-Street Parking | Pedestrian Facilities | Public Transport (Bus) Facilities | Traffic Composition [2] |
|---|---|---|---|---|---|---|---|---|
| State | RMS | Link | >6,000vpd | 60km/h or greater | Limited – at least during peak periods (clearways) | Footpaths on each side of road within road reserves | Bus lanes, or at least bays should minimise impact on through traffic lanes. | All vehicle types permitted |
| | | Place | | 40km/h or less | Short term parking during business/ high activity hours | Full wide footpaths on each side of road and regular controlled crossing facilities | Mixed conditions with built-out stops | |
| Regional | RMS/Council | Link | >6,000vpd | 50km/h or greater | Unlimited, except new intersections to support their operation as required | Footpaths on each side of road within road reserves | Bus lanes, or at least bays should minimise impact on through traffic lanes. | All vehicle types permitted |
| | | Place | | 40km/h or less | Short term parking during business / high activity hours | Full wide footpaths on each side of road and regular controlled crossing facilities | Mixed conditions with built-out stops | |
| Council Arterial | Council | Link | >6,000vpd | 50km/h or greater | Unlimited, except new intersections to support their operation as required | Footpaths on each side of road within road reserves | Bus lanes, or at least bays should minimise impact on through traffic lanes. | Generally up to and included 12.5m long heavy rigid vehicles but heavy vehicles shouldn't exceed 10% of all vehicles |
| | | Place | | 40km/h or less | Short term parking during business/ high activity hours | Full wide footpaths on each side of road and regular controlled crossing facilities | Mixed conditions with built-out stops | |
| Collector | Council | Link | 3,000vpd to 6,000vpd | 50km/h or greater | Unlimited, except new intersections to support their operation as required | Footpaths on each side of road within road reserves | Bays to minimise impact on through traffic lanes | Generally up to and included 12.5m long heavy rigid vehicles, but heavy vehicles shouldn't exceed 5% of all vehicles |
| | | Place | | 40km/h or less | Short term parking during business/ high activity hours | Full wide footpaths on each side of road and regular controlled crossing facilities | Mixed conditions with built-out stops | |
| Local | Council | Place | <3,000vpd | 40km/h or less | Related to abutting land use | Footpaths on each side of road and regular crossing facilities | Mixed conditions with built-out stops | Restricted access by heavy vehicles, so heavy vehicles shouldn't exceed 3% of all vehicles |

[2] Based on guidance taken from Section 4.3 of the RTA (now RMS) Guide to Traffic Generating Developments and Section 3 of Street Design Guidelines for Landcom Projects

[3] Specific land use and road network consideration may result in variations to what traffic composition is supported by each road, especially in terms of accessing industrial and commercial land uses, and public transport services.

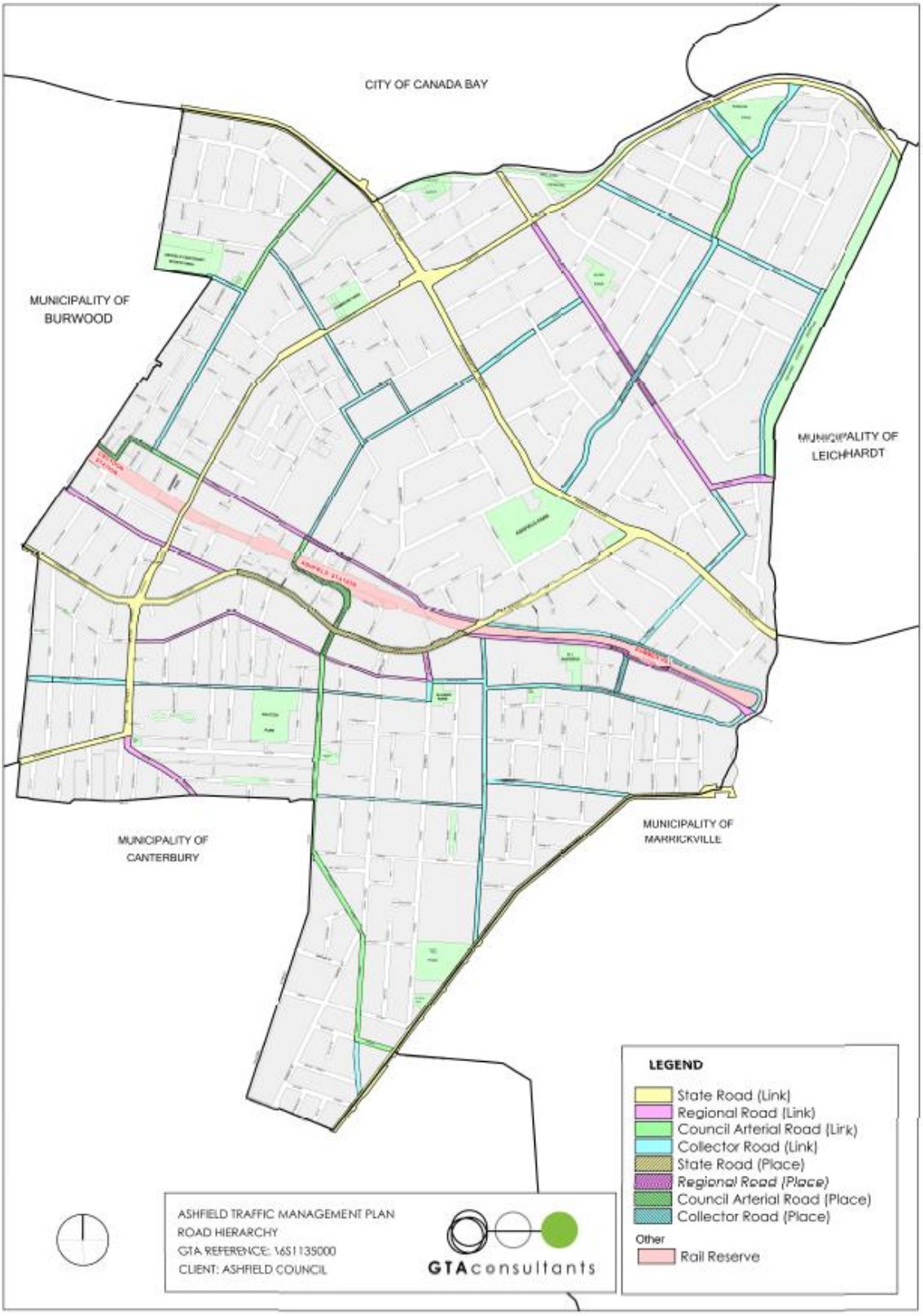
## 4.4 Road Hierarchy Review Process

The general steps undertaken to review, inform and update the road network hierarchy plan are outlined as follows:

- Review and update road classifications based on the proposed road types and their key elements, context in the network, abutting land uses and traffic data provided by Council.
- Consider the current designs provided for the WestConnex project and Summer Hill Flour Mill development proposal.
- Review the draft pedestrian route hierarchy plan, which is generally reflective of the pedestrian activity generated by the abutting land uses.
- Review the bicycle plan to confirm the suitability and type of the proposed facilities against Figure 2.2 of the Cycling Aspects of Austroads Guides (2014). It is noted that a number of the existing proposed routes would not be able to feasibly accommodate the facility types recommended in Figure 2.2 of the Cycling Aspects of Austroads Guides (2014). It is understood that the bicycle plan is currently be reviewed, and the ATMS is expected to form an input to this process, so bicycle facilities have not been considered further at this time.
- Overlay the current public transport routes on the updated road classifications and bicycle network facilities, and refine the resulting network plan to resolve modal conflicts and missing links. It is expected that as part of the ATMS, TfNSW will be provided with an opportunity to comment on their current service routes in the context of the proposed road network hierarchy plan.

The resultant road network hierarchy plan is provided in Appendix B and reproduced in Figure 4.1.

**Figure 4.1: Revised Road Network Hierarchy Plan**



# 5. Local Road Network Projects



## 5.1 Preamble

Broadly speaking, road authorities are always looking to improve the road network based on their available funding sources and the implementation feasibility of given initiatives. Moreover, Inner West Council appreciates that the local road network they manage is not 'perfect', hence the need for the development of the ATMS. Also, it cannot be expected that through the implementation of all proposed initiatives in the ATMS that it will be. Rather, the ATMS looks to help guide Council's forwards works program to achieve the safest and most efficient local road network with the available funding through proposed initiatives to change user behaviour and the implementation of supporting infrastructure.

Local road network initiatives have been identified in the ATMS by applying the updated road network hierarchy and desired transport environments against the existing conditions and known future changes, to highlight discontinuities between the current and desired operation.

## 5.2 Identification of Local Road Network Projects

The process/ inputs used to identify potential local road network projects is broadly set out as follows, with the results of the associated activities provided thereafter:

- Review the provided traffic speed data to identify those that are not consistent with those provided in the revised road network hierarchy for their associated road type (daily traffic volumes and heavy vehicle proportions have already been considered in developing the updated road network hierarchy plan, noting there is limited cross-sectional width issues with Clissold Street).
- Review of the crash data to identify locations with crash clusters/ trends that are considered able to be treated to improve the level of safety and reduce the potential of the identified crash types from occurring.
- Collate/ identify locations where significant congestion and queuing currently occurs and/or is expected to occur in the near future.
- Based on the implementation activities associated with the Ashfield Traffic Management Plan (2002) identify those projects that are still outstanding and consider against the updated road network hierarchy and desired transport environments.
- Consider Council meeting minutes and documentation prepared by the Ashfield Traffic Committee of known local road network issues.
- Publicly display the list of proposed local road network projects for comment.

It should be noted that the above process has been used to identify a list of local road network projects and what key considerations need to be made to appropriately treat them. Recommended treatments are presented in Section 5.2.6.

### 5.2.1 Traffic Speed Data Review

#### Local Roads

Based on the provided traffic speed data, the following local roads currently have recorded 85th percentile speeds above 50km/h, which not only exceeds the desired environmental speed of up to 40km/h, but exceeds the posted speed limit of 50km/h (unless in a school zone):

- Alt Street between Henry Street and Ramsay Street
- Bay Street
- Byron Street
- Chandos Street
- Church Street between Lang Street and Croydon Road
- Dalmar Street
- Dougan Street
- Dudley Street
- Edward Street
- Hardy Street
- Hawthorne Parade between Waratah Street and Dobroyd Parade
- Henry Street
- John Street
- Martin Street
- Northcote Street
- Pembroke Street
- Queen Street between Liverpool Street and Armstrong Street
- Service Avenue
- St Davids Road
- Tilllock Street
- Victoria Street, except between Arthur Street and Liverpool Road (as it is a Collector and Council Arterial Road)
- Watsons Avenue
- Wolseley Street

#### Collector Roads

Based on the provided traffic speed data, the following collector roads currently have recorded 85th percentile speeds above 50km/h, which exceeds both the desired environmental speed and posted speed limit of 50km/h (unless in a school zone):

- Bland Street
- Boomerang Street between Mortley Avenue and City West Road
- Hawthorne Parade between Waratah Street and Marion Street
- Holden Street between Norton Street and Armstrong Street
- Waratah Street between Boomerang Street and Hawthorne Parade

#### Other Road Types

High 85th percentile speeds recorded on the other road types are generally more acceptable due to their design, such as on Regional and State Roads, or generally not achievable due to the high traffic volumes and congestion, such as on Council Arterial Roads.

However, 85th percentile speeds recorded on roads that provide a 'place' function should be considered, and while the provided traffic speed data is insufficient to indicate what they are, they should be considered further as part of the Ashfield Pedestrian Access Mobility Plan that is currently being prepared, but noted as a project in the ATMS.

### 5.2.2 Crash Data Review

#### Local Roads

Based on the provided crash data, the following local roads have at least five recorded crashes over the associated 10 year period:

- Alt Street - main crash type relating to loss of control crashes on the straight
- Bay Street - main crash type relating to vehicles from adjacent directions at intersections
- Chandos Street - main crash types relating to vehicles from adjacent directions at intersections, and loss of control on straights and at bends
- Church Street - main crash type relating to vehicles from opposing direction
- Haberfield Road - main crash type relating to vehicles from adjacent directions at intersection with Stanton Road
- Hanks Street - main crash type relating to vehicles from adjacent directions at intersections
- Hardy Street - main crash types relating to vehicles from adjacent directions at intersections, and U-turn and parking manoeuvres
- Hawthorne Parade - main crash type relating to vehicles from the opposing direction at the intersection with Lord Street
- Henson Street - main crash type relating to vehicles from adjacent directions at the roundabout with Junction Road
- Holden Street - main crash types relating to a loss of control on straights and at bends
- John Street - main crash type relating to a loss of control on straights
- Knox Street - main crash type relating to U-turn and parking manoeuvres proximate to Liverpool Road
- Orpington Street - main crash type relating to U-turn and parking manoeuvres at the intersections with Chandos Street and Pembroke Street
- Pembroke Street - main crash type relating to a loss of control on straights
- Queen Street - main crash type relating to vehicles from adjacent directions at intersections
- Robert Street - main crash type relating to vehicles from adjacent directions at the intersection with Victoria Street
- Victoria Street - main crash type relating to U-turn and parking manoeuvres

#### Collector Roads

Based on the provided crash data, the following collector roads have at least 10 recorded crashes over the associated 10 year period:

- Arthur Street - main crash type relating to vehicles from adjacent directions at intersections
- Bland Street - main crash type relating to vehicles from adjacent directions at intersections
- Clissold Street - main crash type relating to vehicles from adjacent directions at intersections
- Croydon Street - main crash type relating to vehicles from adjacent directions at intersections
- Dalhousie Street - main crash types relate to pedestrians, and U-turn and parking manoeuvres
- Elizabeth Street - main crash type relating to a loss of control on straights
- Grosvenor Crescent - main crash type relating to a loss of control on straights

- Prospect Road - main crash type relating to a loss of control on straights
- Queen Street - main crash type relating to a loss of control on straights
- Sloane Street - main crash type relating to U-turn and parking manoeuvres
- Smith Street - main crash types relating to vehicles from adjacent directions at intersections and hitting objects / parked cars on the road
- Waratah Street - main crash type relating to a loss of control on straights

#### Council Arterial Roads

Based on the provided crash data, the following Council Arterial Roads have at least 10 recorded crashes over the associated 10 year period:

- Armstrong Street - main crash type relating to vehicles from adjacent directions at intersections
- Brown Street - main crash type involves pedestrians
- Croydon Road - main crash type relating to vehicles from adjacent directions at intersections
- Edwin Street - main crash type relating to U-turn and parking manoeuvres
- Holden Street - main crash type involves pedestrians

#### Other Road Types

High numbers of crashes are recorded on all of the Regional and State Roads in Ashfield, and as indicated in Table 3.3, the main crash types relate to vehicles from adjacent directions at intersections and vehicles travelling the same direction, respectively.

It is not generally within Council's control or budgets to address these crash issues on the Regional and State Roads. However, it is recommended that they be investigated further through crash reduction corridor studies that are undertaken in collaboration with RMS, as they will ultimately approve and fund any treatments.

Where Council does have more input and potential funding requirements is around the provision of bicycle and pedestrian facilities within the activity centres (i.e. within the road corridor sections that provide a 'place' function). The specific treatments are expected to be identified through the respective modal strategies that are currently being developed, but noted as a project in the ATMS.

### 5.2.3 Significant Congestion & Queuing Locations

The majority of the traffic congestion and queuing in Ashfield occurs on or accessing the Regional and State Roads. While it is not generally within Council's control or budgets to address congestion and queuing issues on the Regional and State Roads, it is recommended that operational route corridor studies be undertaken in collaboration with RMS, as they will ultimately approve and fund any treatments. It is noted that this is already planned for Liverpool Road (Hume Highway), as indicated in the NSW Long Term Transport Master Plan (2012).

The other locations where to a lesser extent congestion and queuing occurs is on the Council Arterial Roads. With the Council Arterial Roads, the following is recommended:

- Griffiths Street, Queen Street, Armstrong Street, Holden Street and Bland Street (between Old Canterbury Road and Elizabeth Street):
  - operational and layout reviews of the signalised intersections should be undertaken
  - consider increased 'No Stopping' parking restrictions during peak commute times on approach to signalised intersections.

- Elizabeth Street, Edwin Street North and Hennessy Street (between Frederick Street and Meta Street):
  - consider signalising the Elizabeth Street/ Edwin Street North intersection
  - advocate to RMS and Burwood Council to signalise the Meta Street/ Hennessy Street and Young Street intersection.
- Boomerang Street (between Waratah Street and Mortley Avenue):
  - install a roundabout at the Boomerang Street/ Mortley Avenue intersection.

### 5.2.4 Outstanding Initiatives from Traffic Management Plan (2002)

The list of outstanding and broadly supported local road network initiatives from the Ashfield Traffic Management Plan (2002) are listed as follows:

- Church Street, Croydon (outside houses #93 & #95, and Bowling Club) – traffic calming measures to slow traffic (speed humps supported by residents to minimise parking loss).
- Alt Street at John Street, Ashfield – central median islands to slow through traffic on the bend along Alt Street, and turning traffic into and out of John Street.
- Arthur Street, Ashfield - traffic calming measures to slow traffic (repair/ upgrade existing speed humps to speed tables to minimise parking loss).
- Milton Street/ Palace Street intersection, Ashfield – improve intersection safety for turning movements, but not increase attractiveness of Palace Street.
- Holden Street, Ashfield – traffic calming along section between Arthur Street and Armstrong Street.
- Clissold Street, Ashfield – improve cross-sectional operation as it is difficult for two-way movements to be accommodated (noting it is a bus route).
- Junction Road at Teakle Street, Summer Hill - traffic calming measures to slow traffic (kerbside island treatment already in place on Junction Street at Bartlett Street).
- Junction Road/ Morris Street intersection, Summer Hill - traffic calming measures to slow traffic (concern with use of blisters/ build-outs due to parking loss and conflict between deflected vehicles).
- Grosvenor Crescent, Summer Hill - traffic calming measures to slow traffic.
- Boomerang Street (north of Crescent Street), Haberfield - traffic calming measures to slow traffic.
- Church Street/ Croydon Road intersection, Croydon – improve intersection safety (visibility) for turning movements (roundabout supported in-principle but significant design challenges exist without land acquisition – alternate option of a right-turn bay).

### 5.2.5 Ashfield Traffic Committee Recommendations

The Ashfield Traffic Committee has provided Council meeting minutes and summary documents listing a number of projects to be considered. Those that relate to potential local road network projects under the ATMS are listed as follows:

- Request that a speed hump be located outside 22 Boomerang Street (one was previously located there but removed due to a resident complaining.
- Rat running issue considered to exist along Henry Street, with specific safety concern given the Infants' Home child care centre located at #17 Henry Street.
- Provide signage as part of the Light Traffic Thoroughfare Scheme to restrict heavy vehicles (less than 3 tonne permitted) on local and collector roads in residential areas.
- Make the length of Hardie Avenue a 10km/h shared zone.

- Install "Keep Clear" signage and linemarking on Ramsay Street to support access out of Northcote Street.
- Change give way control to stop control at the Alt Street/ Charlotte Street intersection.
- Improve intersection layouts between Ramsay Street/ Sloane Street/ Lord Street and Hawthorne Parade/ Lord Street.
- Review the proposed roundabout design for the Armstrong Street/ Queen Street/ Hardy Street intersection, especially in terms of pedestrian safety and children accessing the Yeo Park Public School and Trinity Grammar School to the east.
- Half road closure of St David's Road – exit only to Parramatta Road.
- Investigate traffic issues in Alt Street, Bland Street, Boomerang Street, Chandos Street, Church Street, Dalmar Street, Haberfield Road, Stanton Road, Watson Avenue and Waratah Street.

### 5.2.6 Public Consultation

The proposed list of local road network projects was placed on public exhibition for comment over a one month period ending 18 May 2016. The feedback received has was collated within a consultation report, which is included in Appendix C. The only change to the proposed local road network projects was to delete the speed hump outside 95 Church Street in Croydon, as there is also one proposed in close proximity at 93 Church Street.

## 5.3 Treatment of Local Road Network Projects

The broad treatment approaches to achieve the desired transport environments for the various local road types that make up the updated road network hierarchy are presented in Table 5.1.

**Table 5.1: Local Road Treatment Approaches**

| Road Types | Treatment Approach |
|---|---|
| Local | Traffic calming devices that achieve a low operating speed through direct physical measures, such as speed humps and tables |
| Collector | Traffic calming devices the achieve a moderately low operating speed through partial or indirect physical measures, such as speed cushions, raised islands and kerb build outs |
| Council Arterial | Generally experience high traffic volumes and are general congested, so operating speed is low, so specific crash trends addressed, which are often focused on intersections |
| State / Regional | No specific treatments proposed as they are RMS controlled, however improved levels of access and service desired, especially through the signalised intersections along them |

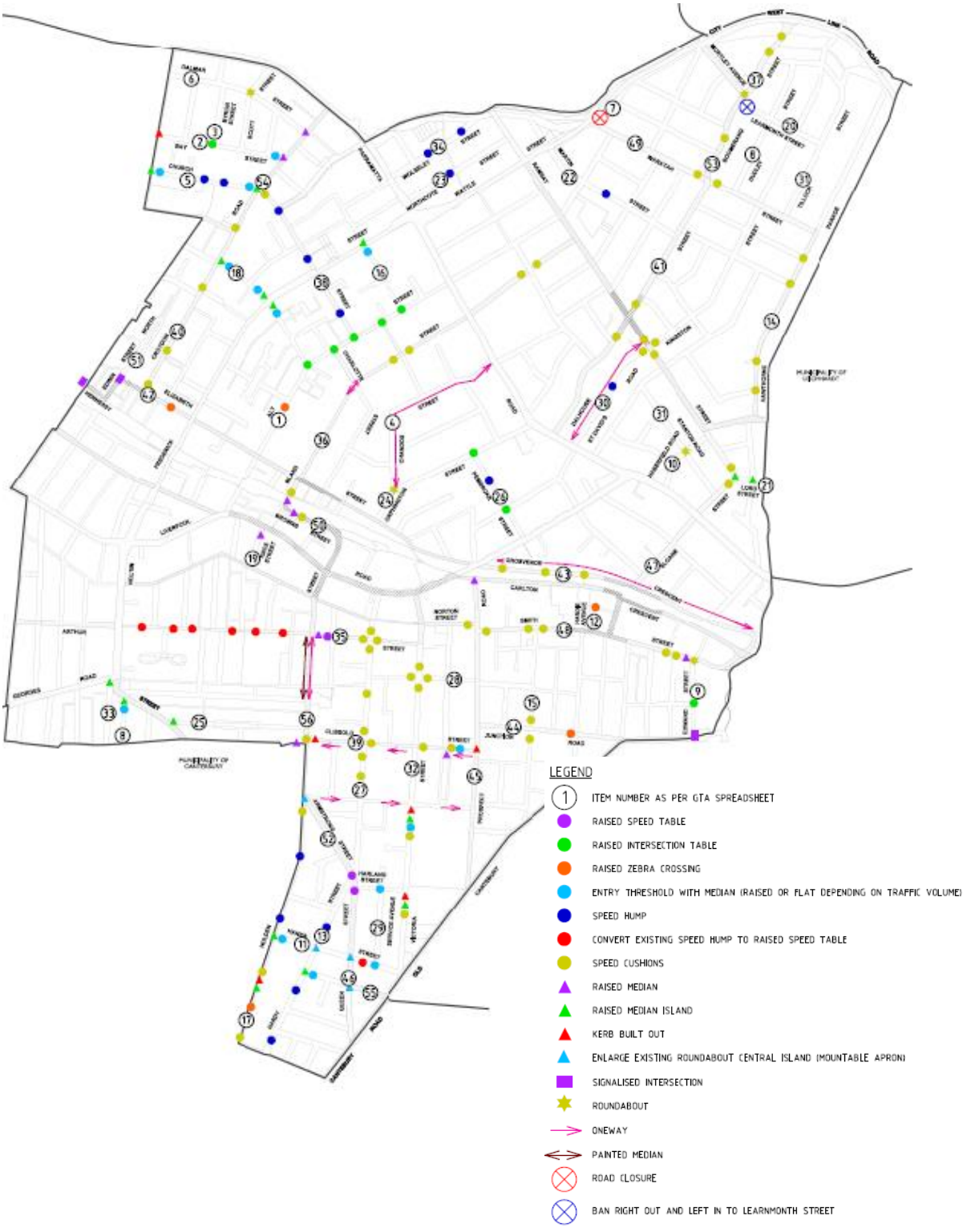
The above broad treatment approaches have been applied to each of the local road network projects to identify the recommended treatments and costings[12] (over and above what already exists) to be implemented over the next 10 years.

The resulting projects are graphically shown in Figure 5.1 (copy also provided in Appendix D) and listed in Table 5.2.

For those local roads that already have some traffic calming measures in place, the items have been greyed in Table 5.2. With this it is noted that more of the collector and Council arterial roads already have such measures, while local roads do not. Should this continue then increased rat-running on local roads could be expected.

[12] Broad level or initial feasibility planning construction cost estimates prepared by GTA Consultants must not be relied upon for quoting, budgeting or construction purposes. More detailed estimates can only be prepared from detailed civil engineering design drawings and require the services of a qualified quantity surveyor.

**Figure 5.1: Local Road Network Projects**




In support of the proposed local road network projects, a set of concept level designs is provided in Appendix E. These outline generic concept designs for the common treatment types, as well as several concept designs for locations where more site specific treatments are required.

**Table 5.2: Local Road Network Projects & Treatments**

| Item No. | Location | Road Type | Issue(s) | Treatment(s) [1] | Costing |
|---|---|---|---|---|---|
| 1 | Alt Street | Local/ Collector (Link) | ○ 85th percentile speed of 58km/h<br>○ crashes mainly relating to loss of control on straights | Investigate raised speed tables on Alt Street over the intersections with Henry Street, Julia Street, Church Street, Charlotte Street and John Street.<br>Raise the existing marked zebra crossing to the south of Albert Parade | $160,000 - $225,000 |
| 2 | Bay Street | Local | ○ 85th percentile speed of 57km/h<br>○ crashes mainly relating to vehicles from adjacent directions at intersections | Investigate a splitter island on Bay Street on approach to Croydon Road with an entry threshold treatment [2].<br>Investigate a raised speed table on Bay Street over its intersection Byron Street.<br>Narrow the lane widths on the Bay Street approach to the roundabout with Lang Street through mountable kerb build-outs. | $60,000 - $80,000 |
| 3 | Byron Street | Local | ○ 85th percentile speed of 52km/h | Refer to Bay Street treatments for intersection with Bryon Street. | Refer to Item 2 |
| 4 | Chandos Street | Local | ○ 85th percentile speed of 53km/h<br>○ crashes mainly relating to vehicles from adjacent directions at intersections, and loss of control on straights and at bends | Investigate centre and edge lines along its length.<br>Refer to Orpington Street for intersection treatments on Chandos Street. | $306,000 - $428,000 |
| 5 | Church Street between Lang Street and Croydon Road | Local | ○ 85th percentile speed of 57km/h | Investigate a splitter island on Church Street on approach to Croydon Road with an entry threshold treatment.<br>Investigate seed humps outside houses #93 and the Bowling Club.<br>Investigate a splitter island on Church Street on approach to Lang Street with an entry threshold treatment. | $42,000 - $58,000 |
| 6 | Dalmar Street | Local | ○ 85th percentile speed of 56km/h | Investigate a roundabout at the intersection between Dalmar Street and Scott Street | $140,000 - $195,000 |
| 7 | Dobroyd Parade | Local | ○ rat-running between Waratah Street and Boomerang Street | Close the road at its intersection with Waratah Street | $25,000 - $35,000 |
| 8 | Dougan Street | Local | ○ 85th percentile speed of 52km/h | Investigate a splitter island on Dougan Street on approach to Milton Street with an entry threshold treatment. | $19,000 - $26,000 |
| 9 | Edward Street | Local | ○ 85th percentile speed of 56km/h | As part of the Flour Mill development a roundabout will be located at the Edward Street/ Smith Street intersection and signalise the Edward Street/ Old Canterbury Road intersection.<br>Investigate a raised speed table on Edward Street over its intersection Wellesley Street. | $31,000 - $43,000 (for raised table only – Flour Mill development covers other treatments) |
| 10 | Haberfield Road | Local | ○ crashes mainly relating to vehicles from adjacent directions at intersection with Stanton Road | Investigate a roundabout at the intersection between Haberfield Road and Stanton Road | $95,000 - $176,000 |

| Item No. | Location | Road Type | Issue(s) | Treatment(s) [1] | Costing |
|---|---|---|---|---|---|
| 11 | Hanks Street | Local | ○ crashes mainly relating to vehicles from adjacent directions at intersections | Convert the speed hump on Hanks Road between Queen Street and Old Canterbury Road to a speed table.<br>Increase the size of the central mountable islands of the two roundabouts on Hanks Street where it intersects with Queen Street and Hardy Street.<br>Investigate a splitter island on Hanks Street on approach to Holden Street with an entry threshold treatment. | $35,000 - $49,000 |
| 12 | Hardie Avenue | Local | ○ Resident complaints about pedestrian / car conflict | Raise each of the existing marked zebra crossings along Hardie Avenue. | $8,000 - $11,000 |
| 13 | Hardy Street | Local | ○ 85th percentile speed of 57km/h<br>○ crashes mainly relating to vehicles from adjacent directions at intersections, and U-turn and parking manoeuvres | Investigate mid-block speed humps on Hardy Street between Ashford Street / Hanks Street, Griffiths Street/ Mount Street and Watkin Street/ Princess Street<br>Investigate a splitter island on Griffiths Street on approach to Hardy Street with an entry threshold treatment.<br>Refer to Hanks Street and Armstrong Street for intersection treatments on Hardy Street. | $34,000 - $48,000 |
| 14 | Hawthorne Parade | Local / Collector (Links) | ○ 85th percentile speed of 51km/h<br>○ crashes mainly relating to vehicles from the opposing direction at the intersection with Lord Street | Investigate speed cushions within the existing four pinch points.<br>Refer to Lord Street for intersection treatment with Hawthorne Parade. | $11,000 - $19,000 |
| 15 | Henson Street | Local | ○ crashes mainly relating to vehicles from adjacent directions at the roundabout with Junction Road | Investigate speed cushions on each approach to the Henson Street/ Junction Road roundabout. | $2,500 - $4,000 |
| 16 | Henry Street | Local | ○ 85th percentile speed of 53km/h | Investigate splitter islands on Henry Street on both approaches to Frederick Street with raised entry threshold treatments. | $32,000 - $42,000 |
| 17 | Holden Street between Armstrong Street and Princes Street | Local | ○ crashes mainly relating to a loss of control on straights and at bends | Investigate speed cushions on the south approach to the Holden Street/ Armstrong Street roundabout.<br>Investigate mid-block speed humps on Holden Street at the bend to the north of Fifth Street and between Third Street and Forth Street.<br>Investigate an entry threshold treatment to the 40km/h school zone that includes central island, kerb buildouts and speed cushions on Holden Street to the south of Second Street.<br>Investigate a raised zebra crossing on Holden Street aligned with the path along the northern boundary of Canterbury Park.<br>Investigate speed cushions on the northern approach to the Holden Street/ Princes Street roundabout. | $36,000 - $50,000 |

| Item No. | Location | Road Type | Issue(s) | Treatment(s) [1] | Costing |
|---|---|---|---|---|---|
| 18 | John Street | Local | ○ 85th percentile speed of 58km/h<br>○ crashes mainly relating to a loss of control on straights | Investigate splitter islands on John Street on both approaches to Frederick Street and to Croydon Street, each with entry threshold treatments. | $55,000 - $84,000 |
| 19 | Knox Street | Local | ○ crashes mainly relating to U-turn and parking manoeuvres near Liverpool Road | Investigate a raised central median between Liverpool Road and first property access point. | $12,000 - $16,000 |
| 20 | Learmouth Street | Local | ○ rat-running between Waratah Street and Boomerang Street | Restrict right-out and left-in movements at its intersection with Boomerang Street, i.e. only support bus movements | $15,000 - $21,000 |
| 21 | Lord Street | Local | ○ resident complaints about safety of intersections at either end of the road | Investigate splitter islands on Lord Street on approaches to Hawthorne Parade and Sloane Street / Ramsay Street. | $22,000 - $32,000 |
| 22 | Martin Street | Local | ○ 85th percentile speed of 52km/h | Investigate mid-block speed hump on Martin Street between Alt Street and Empire Street. | $4,500 - $8,000 |
| 23 | Northcote Street | Local | ○ 85th percentile speed of 52km/h<br>○ resident complaints about accessing Ramsay Street | Investigate speed hump on Northcote Street to the west of Ash Lane. | $4,200 - $8,000 |
| 24 | Orpington Street | Local | ○ crashes mainly relating to U-turn and parking manoeuvres at the intersections with Chandos Street and Pembroke Street | Investigate a roundabout at the Orpington Street/ Chandos Street intersection.<br>Investigate raised speed table on Orpington Street between Pembroke Street and Loftus Street. | $220,000 - $286,000 |
| 25 | Palace Street | Local | ○ several crashes at intersection with Milton Street (Regional Road) | Investigate splitter island on Palace Street on approach to Milton Street. | $12,000 - $16,000 |
| 26 | Pembroke Street | Local | ○ 85th percentile speed of 58km/h<br>○ crashes mainly relating to a loss of control on straights | Investigate raised speed table over the intersection between Pembroke Street/ Ormond Street.<br>Investigate a mid-block speed hump on Pembroke Street between Orpington Street and Ormond Street. | $35,000 - $59,000 |
| 27 | Queen Street between Liverpool Street and Armstrong Street | Local | ○ 85th percentile speed of 53km/h<br>○ crashes mainly relating to vehicles from adjacent directions at intersections | Investigate speed cushions within the existing four pinch points (includes the pedestrian refuge – speed cushion on each approach to the crossing point).<br>Refer to Armstrong Street and Clissold Street for intersection treatments with Queen Street. | $7,000 - $10,000 |
| 28 | Robert Street | Local | ○ crashes mainly relating to vehicles from adjacent directions at the intersection with Victoria Street | Investigate speed cushions on each approach to the Robert Street/ Victoria Street roundabout. | $2,100 - $3,000 |
| 29 | Service Avenue | Local | ○ 85th percentile speed of 56km/h | Investigate threshold treatments on Service Avenue on approach to Harland Street and Hanks Street | $11,000 - $16,000 |

| Item No. | Location | Road Type | Issue(s) | Treatment(s) [1] | Costing |
|---|---|---|---|---|---|
| 30 | St Davids Road | Local | ○ 85th percentile speed of 57km/h<br>○ resident complaints about safety in accessing Parramatta Road | Investigate an entry threshold treatment on St Davids Road on approach to Parramatta Road.<br>Investigate a mid-block speed hump to the southwest of the back-to-back bends.<br>Investigate speed cushions on the St Davids Road approaches to the Ramsay Street/ St Davids Road roundabout. | $32,000 - $41,000 |
| 31 | Stanton Street | Local | ○ resident complaints about speeding vehicles | Refer to Haberfield Road for intersection treatment with Stanton Street. | Refer to Item 10 |
| 32 | Victoria Street, between Arthur Street and Old Canterbury Road | Local | ○ 85th percentile speed of 58km/h<br>○ crashes mainly relating to U-turn and parking manoeuvres | Investigate speed cushions on each approach of the Victoria Street/ Robert Street roundabout.<br>Refer to Clissold Street for intersection treatment with Victoria Street.<br>Investigate entry threshold treatments to 40km/h school zone that includes central island, kerb buildouts and speed cushions on Victoria Street to the south of Seaview Street.<br>Investigate central island, kerb buildouts and speed cushions on Victoria Street on the south approach to Harland Street. | $31,000 - $44,000 |
| 33 | Watsons Avenue | Local | ○ 85th percentile speed of 55km/h | Investigate a traffic island on Watsons Avenue on approach to Georges River Road to restrict access to left-out only from Watsons Avenue. | $9,000 - $13,000 |
| 34 | Wolseley Street | Local | ○ 85th percentile speed of 59km/h | Investigate mid-block speed hump on Wolseley Street between Ramsay Street/ Ash Lane and Ash Lane/ Cove Street. | $11,000 - $16,000 |
| 35 | Arthur Street | Collector (Link) | ○ crashes mainly relating to vehicles from adjacent directions at intersections | Upgrade the existing six speed humps on Arthur Street to speed tables.<br>Investigate speed cushions on each approach of the Arthur Street/ Queen Street roundabout.<br>Investigate speed table on Arthur Street to the east of Joseph Street. | $60,000 - $76,000 |
| 36 | Bland Street | Collector (Link) | ○ 85th percentile speed of 52km/h<br>○ crashes mainly relating to vehicles from adjacent directions at intersections<br>○ traffic congestion and queuing | Investigate kerb build-outs on Charlotte Street to bring the hold line on Bland Street forward to improve sight lines. Also, investigate speed cushions on the Bland Street approaches to Charlotte Street.<br>Investigate speed cushions on the Bland Street approaches to Julia Street and Denman Avenue.<br>In collaboration with RMS, undertake an operational and layout review of the signalised intersections with Elizabeth Street and Parramatta Road. | $35,000 - $53,000 |
| 37 | Boomerang Street between Mortley Avenue and City West Road | Collector (Link) | ○ 85th percentile speed of 55km/h | Investigate speed cushions on Boomerang Street at the southern end of the one-way section and in each direction to the north of Crescent Street. | $2,500 - $4,000 |

| Item No. | Location | Road Type | Issue(s) | Treatment(s) [1] | Costing |
|---|---|---|---|---|---|
| 38 | Church Street between Croydon Road and Alt Street | Collector (Link) | ○ crashes mainly relating to vehicles from opposing direction | Investigate a raised central island on Church Street at its intersection with Croydon Street, and a speed cushion on the approach side only.<br>Investigate mid-block speed hump on Church Street between Croydon Street/ Knocklayde Street, Lucy Street/ Frederick Street and Tawa Street/ Alt Street. | $35,000 - $48,000 |
| 39 | Clissold Street | Collector (Link) | ○ crashes mainly relating to vehicles from adjacent directions at intersections<br>○ limited cross-sectional width | Investigate the potential to convert the length of Clissold Street to a one-way road in the westbound direction through modified signage and linemarking. Also convert the length of Seaview Street to a one-way road in the eastbound direction, so a pair of opposite one-way streets exist to support movements in each direction.<br>The conversion of the road to a one-way road will require the bus stops on the northern side of the road to be relocated to another road. This will need to be investigated and coordinated with TfNSW.<br>Investigate an entry threshold treatment to 40km/h school zone that includes kerb build-outs and a speed cushion on Clissold Street and Seaview Street at their intersections with Prospect Road.<br>Install a raised central island on the south approach to the Tintern Road/ Clissold Street intersection.<br>Install speed cushions on Clissold Street and Seaview Street on each approach to intersections with Victoria Street and Queen Street.<br>Install kerb build-outs and a speed cushion on Clissold Street at its intersection with Holden Street. | $90,000 - $120,000 |
| 40 | Croydon Street between Queen Street and Elizabeth Street | Collector (Link) | ○ crashes mainly relating to vehicles from adjacent directions at intersections | Investigate speed cushions on Croydon Street on approach to intersections with Elizabeth Street, Anthony Street, Kenilworth Street and Queen Street. | $2,500 - $4,000 |
| 41 | Dalhousie Street | Collector (Link and Place) | ○ crashes mainly relating to pedestrians, and U-turn and parking manoeuvres | Investigate speed cushions on Dalhousie Street in each direction north of Winchcombe Avenue and south of Dickson Street. | $1,000 - $2,000 |
| 42 | Elizabeth Street | Collector (Link and Place) | ○ crashes mainly relating to a loss of control on straights | Raise the existing zebra crossing on Elizabeth Street to the east of Etonville Parade.<br>Investigate a speed hump on Elizabeth Street between Railway Street and Hordern Parade. | $14,000 - $18,000 |
| 43 | Grosvenor Crescent | Collector (Link and Place) | ○ crashes mainly relating to a loss of control on straights<br>○ complaints from residents about speeding vehicles | Investigate centre line and edge lines along entire length.<br>Investigate pairs of speed cushions at 100m centres along entire length, except where the raised speed tables proximate to Sloane Street already exist. | $28,000 - $38,000 |
| 44 | Junction Road | Collector (Link) | ○ resident complaints about speeding vehicles | Raise the existing zebra crossing on Junction Road to the west of Moonbie Street. | $8,500 - $11,000 |

| Item No. | Location | Road Type | Issue(s) | Treatment(s) [1] | Costing |
|---|---|---|---|---|---|
| 45 | Prospect Road | Collector (Link) | ○ crashes mainly relating to a loss of control on straights | Investigate a central raised island on Prospect Road at its intersection with Carlton Crescent.<br>Investigate speed cushions in each direction on approach to the pedestrian refuge on Prospect Road between Norton Street and Smith Street. | $35,000 - $51,000 |
| 46 | Queen Street | Collector (Link) | ○ crashes mainly relating to a loss of control on straights | Increase the size of the central mountable islands of the two roundabouts on Queen Street where it intersects with Hanks Street and Griffiths Street.<br>Refer to Armstrong Street for intersection treatment with Queen Street. | $25,000 - $39,000 |
| 47 | Sloane Street | Collector (Link) | ○ crashes mainly relating to U-turn and parking manoeuvres | Investigate speed cushions in each direction adjacent to the southern island of the pedestrian refuge located to the south of Load Street. | $1,800 - $3,000 |
| 48 | Smith Street | Collector (Link and Place) | ○ crashes mainly relating to vehicles from adjacent directions at intersections and hitting objects / parked cars on the road | Investigate a raised central island on Edward Street at its intersection with Smith Street.<br>Investigate speed cushions in each direction between Fleet Street and Spencer Street.<br>Investigate speed cushions on each approach of the Smith Street/ Henson Street roundabout.<br>In a raised central island on Smith Street at its intersection with Holden Street. | $37,000 - $50,000 |
| 49 | Waratah Street between Boomerang Street and Hawthorne Parade | Collector (Link) | ○ 85th percentile speed of 57km/h<br>○ crashes mainly relating to a loss of control on straights | Investigate speed cushions on each approach of the Waratah Street/ Dalhousie Street roundabout. | $1,800 - $3,000 |
| 50 | Brown Street | Council Arterial Road (Place) | ○ crashes mainly relating to pedestrians<br>○ traffic congestion and queuing | In collaboration with RMS, undertake an operational and layout review of the signalised intersections with Elizabeth Street and Hercules Street, with a specific focus on pedestrian safety and level of service.<br>Investigate raised central islands on Brown Street on approach to the public basement car parking facility on the bend and investigate speed cushions in each direction on approach to the bend. | $50,000 - $70,000 |
| 51 | Edwin Street North | Council Arterial Road (Place) | ○ crashes mainly relating to U-turn and parking manoeuvres<br>○ traffic congestion and queuing | Consider signalising the Elizabeth Street / Edwin Street North intersection.<br>Advocate to RMS and Burwood Council to signalise the Meta Street / Hennessy Street and Young Street intersection. | $250,000 - $286,000 (only for the Elizabeth Street/ Edwin Street North intersection) |

| Item No. | Location | Road Type | Issue(s) | Treatment(s) [1] | Costing |
|---|---|---|---|---|---|
| 52 | Armstrong Street | Council Arterial Road (Link) | ○ crashes mainly relating to vehicles from adjacent directions at intersections<br>○ review the proposed roundabout design for the Armstrong Street / Queen Street / Hardy Street intersection, especially in terms of pedestrian safety and child accessing the Yeo Park Public Infants School and Trinity Grammar School to the east | It is understood that a roundabout design is not able to be accommodated at this intersection due to drainage and property access constraints. As such, raised standard flat top speed humps are proposed on the northwest (Armstrong Street) and south (Queen Street) approaches to the intersection.<br>However, the intersection will remain very large and provide a poor level of pedestrian safety, even though approaching pedestrian on the priority approaches will be reduced. As such, building out the southwest corner between Hardy Street and Queen Street, and providing raised median refuge facilities for pedestrians along the north-south and east-west desire lines should be investigated. | $45,000 - $60,000 |
| 53 | Boomerang Street between Waratah Street and Mortley Avenue | Council Arterial Road (Link) | ○ traffic congestion and queuing<br>○ resident compliant about speeding vehicles | Investigate a roundabout at the Boomerang Street/ Mortley Avenue intersection.<br>Investigate speed cushions in each direction within the existing pinch point outside 22 Boomerang Street. | $140,000 - $178,000 |
| 54 | Croydon Road between Queen Street and Parramatta Road | Council Arterial Road (Link) | ○ crashes mainly relating to vehicles from adjacent directions at intersections | Investigate raised central islands on Bay Street and Dalmar Street at their intersections with Croydon Road. | $12,000 - $16,000 |
| 55 | Griffiths Street | Council Arterial Road (Link) | ○ traffic congestion and queuing | In collaboration with RMS, undertake an operational and layout review of the signalised intersections with Canterbury Road. | $35,000 - $52,000 |
| 56 | Holden Street between Liverpool Road and Seaview Street | Council Arterial Road (Link) | ○ crashes mainly relating to pedestrians<br>○ traffic congestion and queuing | In collaboration with RMS, undertake an operational and layout review of the signalised intersections with Norton Street and Arthur Street.<br>Investigate central painted median and edge lines over length between Arthur Street and Park Avenue.<br>In collaboration with Canterbury Council, investigate central raised median on Trevenar Street at its intersection with Holden Street.<br>Increase the size of the central mountable island of the roundabout between Queen Street/ Armstrong Street/ Seaview Street. | $70,000 - $96,000 |
| 57 | All local and collector roads in residential areas | All Local and Collector Roads with residential frontages | ○ resident complaints about heavy vehicles impacting amenity in residential areas | Provide signage as part of the Light Traffic Thoroughfare Scheme to restrict the use of heavy vehicles (less than 3 tonne permitted) in local and collector roads that have residential frontages. | No specific cost identified |
| 58 | All roads providing a 'Place' function | All 'Place' Roads | ○ achieve an 85th percentile speed of 40km/h or less to support vulnerable road users<br>○ provision of safe and connected facilities for vulnerable road users to access and move within activity centres | Investigate as part of the Ashfield Pedestrian Access Mobility Plan and Bike Plan to achieve suitable speed environments and facilities to support and encourage the use of active transport modes, including as part of multi-modal trips. | Covered under the Ashfield Pedestrian Access Mobility Plan and Bike Plan |

| Item No. | Location | Road Type | Issue(s) | Treatment(s) [1] | Costing |
|---|---|---|---|---|---|
| 59 | Regional and State Roads providing a 'Place' function | Regional and State 'Place' Roads | ○ crashes mainly relating to vehicles from adjacent directions at intersections and vehicles travelling the same direction | Lobby for and in collaboration with RMS undertake crash reduction corridor studies for the Regional and State Roads in Ashfield providing a Place function – ideally leading to the implementation of such designs as proposed as part of the Ashfield Town Centre Public Domain Project. | No specific cost identified |
| 60 | Regional and State Roads providing a 'Link' function | Regional and State 'Link' Roads | ○ high levels of traffic congestion and queuing | Lobby for and in collaboration with RMS undertake operational route corridor studies for the Regional and State Roads in Ashfield providing a Place function – ideally leading to the completion of such activities as the Pinch Point Study indicated in the NSW Long Term Transport Master Plan for Liverpool Road. | No specific cost identified |

[1] Broad level or initial feasibility planning construction cost estimates prepared by GTA Consultants must not be relied upon for quoting, budgeting or construction purposes. More detailed estimates can only be prepared from detailed civil engineering design drawings and require the services of a qualified quantity surveyor.

[2] Entry threshold treatments would ideally be raised to maximise speed reduction. However, it is noted that RMS TDT 2013/05 for continuous footpath treatments (i.e. a raised threshold treatment at an intersection) are suitable on side roads where up to 45 vehicle turning movements occur in a peak hour. Where volumes are above 45 vehicles in a peak hour, the entry threshold treatment should be an at-grade treatment that uses a tactile surface treatment over the same extent.

## 5.4 Detailed Design Templates

Based on the common treatment types that are indicated in the proposed local road network projects listed in Table 5.2, a set of detailed design templates has been developed and provided in Appendix F.

The purpose of the templates is to provide civil designers with sufficient information to apply the given treatments to typical existing conditions within Ashfield. As such, they are suitably generic to be able to be applied throughout the Ashfield road network, but provide sufficient detail to be used for detailed design purposes (i.e. they are not detailed designs themselves).

# Appendix A



## Policy Document Summaries

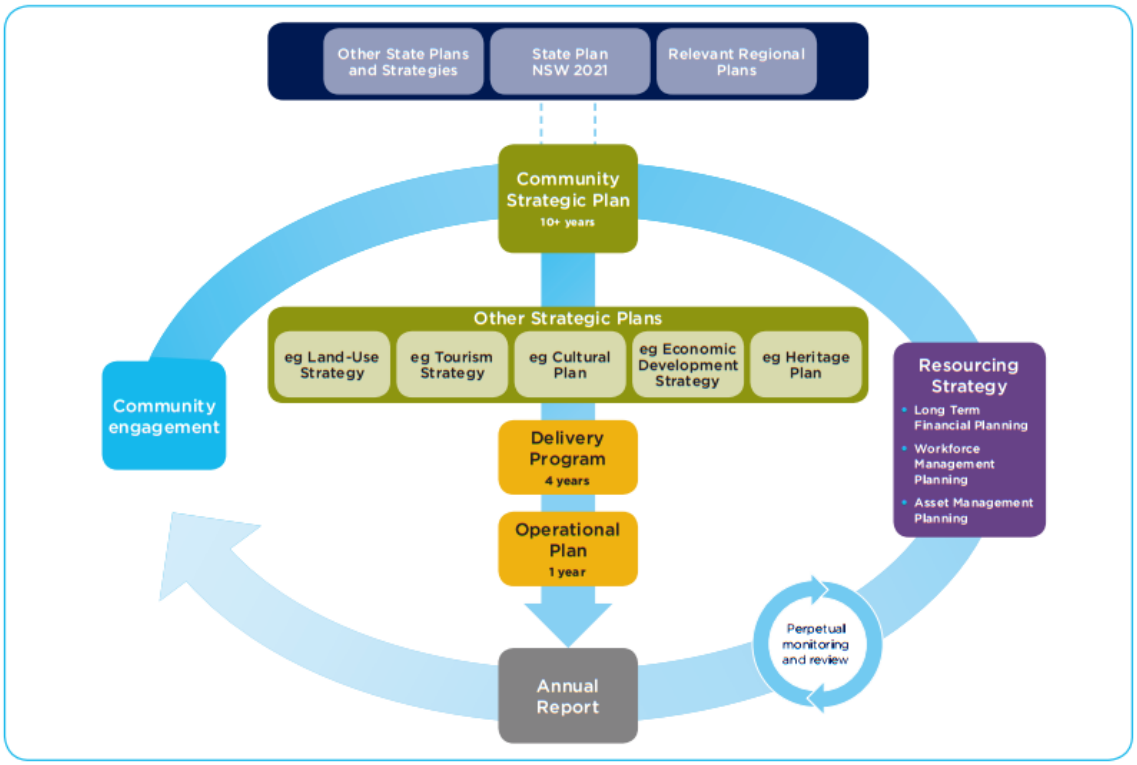
## A.1 State Policy Documents

### A.1.1 NSW: Local Government Integrated Planning and Reporting Guidelines

The NSW Local Government Integrated Planning and Reporting Guidelines provides councils with guidance in undertaking their planning and reporting in accordance with the *Local Government Act 1993* and the *Local Government (General) Regulation 2005*. The guidelines aim for councils in NSW to produce plans that are connected and comparable, ensuring councils achieve *"the maximum leverage from their efforts by planning holistically for the future"*.

Figure A.1 shows the indicative relationship between the various levels of government and planning documents to achieve an integrated planning and reporting system. Guidance in implementing such a framework is provided in greater detail in the supporting document, Integrated Planning and Reporting Manual, 2013.

**Figure A.1: Integrated Planning and Reporting framework**



### A.1.2 NSW: A Plan for Growing Sydney (2014)

A Plan for Growing Sydney (Sydney Metropolitan Strategy) is the NSW Government's 20 year plan for the Sydney Metropolitan Area. It provides direction for Sydney's productivity, environmental management, and liveability; and for the location of housing, employment, infrastructure and open space.

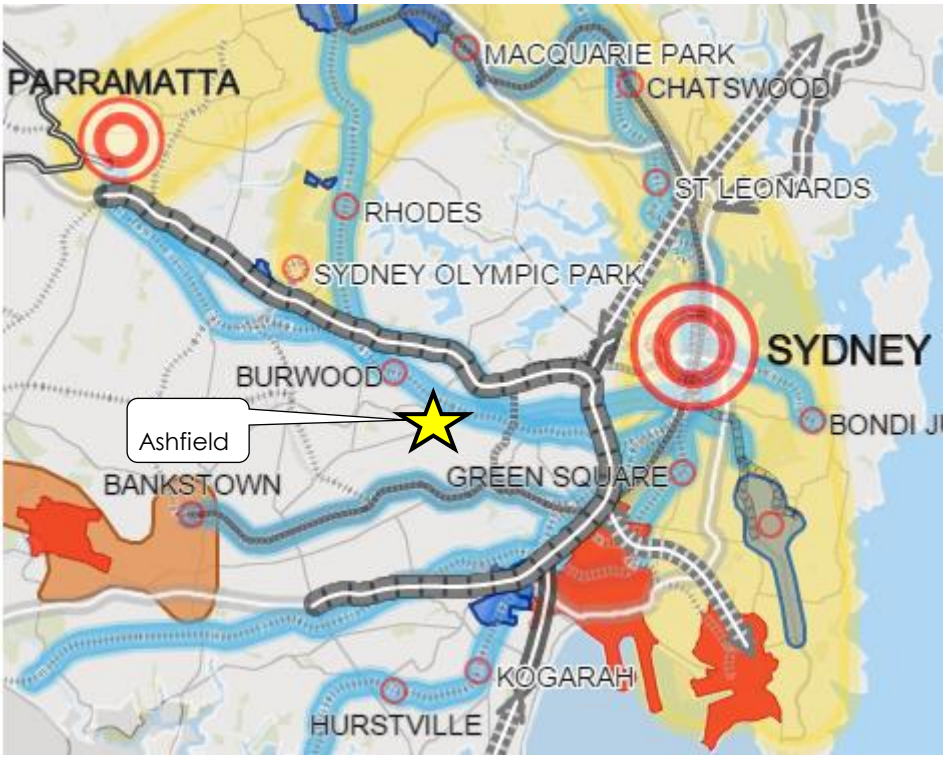
The NSW Government's vision for Sydney is: a strong global city, a great place to live. In order to achieve this vision, the Government has set the following four goals:

- A competitive economy with world-class services and transport
- A city of housing choice, with holes that meet our needs and lifestyles
- A great place to live with communities that are strong, healthy and well connected
- A sustainable and resilient city that protects the natural environment and has a balanced approach to the use of land and resources

Broadly speaking it can be expected that new housing will be located close to jobs, public transport, community facilities and services. Moreover, areas of increased population density is proposed to be matched with investment to support the desired lifestyle of the communities that occupy and use them.

More specifically to the former Ashfield LGA, increased housing density and diversification of housing types is expected to be provided along the Urban Renewal Corridors associated with Parramatta Road and North West Rail Link. The supporting transport infrastructure for the expected increased population densities along these corridors are the WestConnex motorway and increased train services on the existing rail network. All of which is shown in Figure A.2.

**Figure A.2: A Plan for Growing Sydney - Extract Centred on Ashfield**



### A.1.3 NSW Long Term Transport Master Plan (2012)

The NSW Long Term Transport Master Plan sets the framework for the NSW Government to deliver an integrated, modern transport system. The final version of the NSW Long Term Transport Master Plan was released in December 2012 and sets out 220 short, medium and long term actions to achieve the modern and integrated transport network required for NSW to prosper. These actions were identified based on the following overarching decision making framework elements:

- Integrate - integrating transport with land use planning
- Grow - identifying corridors of demand
- Modernise – defining the performance required from the transport network
- Manage – moving towards a connected and integrated system.

All transport modes are expected to be improved through this plan, however the only specific action for Ashfield is the alleviating of congestion along the Hume Highway.

### A.1.4 NSW Bike Plan (2010)

The NSW Bike Plan was prepared with input from various government agencies to support growth in bicycle usage and "help make NSW one of the world's best places to ride a bike". The plan outlines at least $5 million funding each year for regional cities and local councils to complete neighbourhood cycleway networks.

Generally speaking, the NSW Bike Plan lists the following actions:

- increase use of local cycleways
- provide information/ awareness of bicycle routes
- promote school and safe cycling programs
- promote, reinforce and enforce road user's awareness and responsibilities towards vulnerable road users
- promote the correct safety equipment for bike-riding
- promote combined travel by bicycle and public transport
- promote the installation and use of end-of-bike trip facilities at major destinations
- promote cycle tourism and organised community cycling events
- encourage local cycling-related small businesses
- facilitate partnerships of government, community and business stakeholders to deliver NSW Bike Plan actions
- ensure transport investment decisions are informed by the usage, costs and benefits of cycling
- seek the support of the Australian Government in promoting bike-riding.

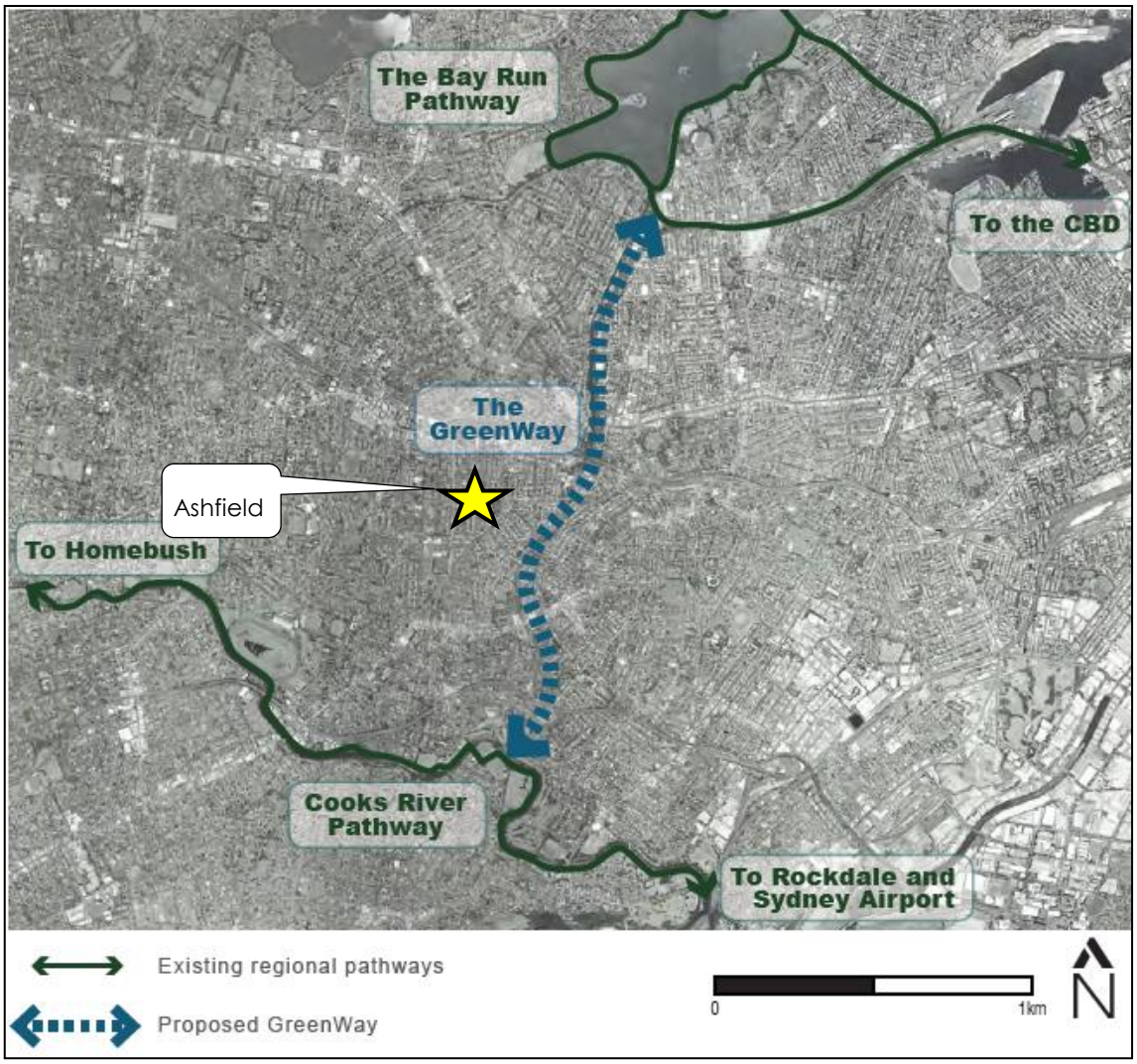
### A.1.5 GreenWay Active Transport Strategy (2012)

The GreenWay Active Transport Strategy and Action Plan (2012), builds on previous works that have been undertaken, such as the GreenWay Master Plan and Coordination Strategy (2009). The GreenWay is a shared path corridor that connects bicycle and walking paths from The Bay Run to the Cooks River Pathway as shown in Figure A.3. Adjacent to the GreenWay is the recently extended light rail line that runs from Central Station to Dulwich Hill.

The aim of the proposed GreenWay corridor is to *"enable a broader active transport culture, foster greater community engagement with the environment and increase patronage of the planned light rail extension"*.

The GreenWay includes a combination of off-road and on-road bicycle paths, safe walking paths that connect employment centres and green open spaces that provide a *"valuable habitat for native flora and fauna"*.

**Figure A.3: Greenway Corridor**




Source: AECOM (2012)

### A.1.6 GreenWay Missing Links Report (draft, 2015)

The Draft GreenWay Missing Links Report identifies the key links that need to be completed along the GreenWay Trail. The GreenWay Trail is a 5.8km long sustainable transport and urban environmental corridor connecting the Parramatta River at Iron Cove to the Cooks River at Earlwood. The corridor follows the route of the Inner West Light Rail and has a catchment of 48,000 people. A total of 2.6km (45%) of the trail is in place, with approximately 3.2km (55%) yet to be completed.

In addition to identifying the missing links in the trail, the report prioritises the development of these links, which has been informed by consultation with Transport for NSW, the former GreenWay Councils (Canterbury, Marrickville, Leichhardt and Ashfield) and the GreenWay Steering Committee. The report also identifies opportunities to improve three priority east-west feeder links to enhance the Greenway's connectivity to key east-west regional cycle routes and/or heavy rail stations/interchanges such as Dulwich Hill and Lewisham.

The report recognises that the estimated overall cost for the completion of the missing links is in the range of $5,600,000 to $8,150,000.

## A.2 Local Policy Documents

### A.2.1 Ashfield Traffic Management Plan (2002)

A review of the whole of the former Ashfield LGA was undertaken by Council based on the currently used local road network traffic management principles to develop a five year (rolling) traffic management plan. Many of the associated initiatives were implemented, but a number were not for various reasons, including non-support from the public, non-agreement from the Local Traffic Committee, non-agreement from the affected residents in the street and/or through additional investigations.

There are also a number of local road network initiatives that are broadly supported but have not been implemented for various reasons, including the need for more detailed examination and lack of funding.

A list of outstanding and broadly supported local road network initiatives are listed as follows:

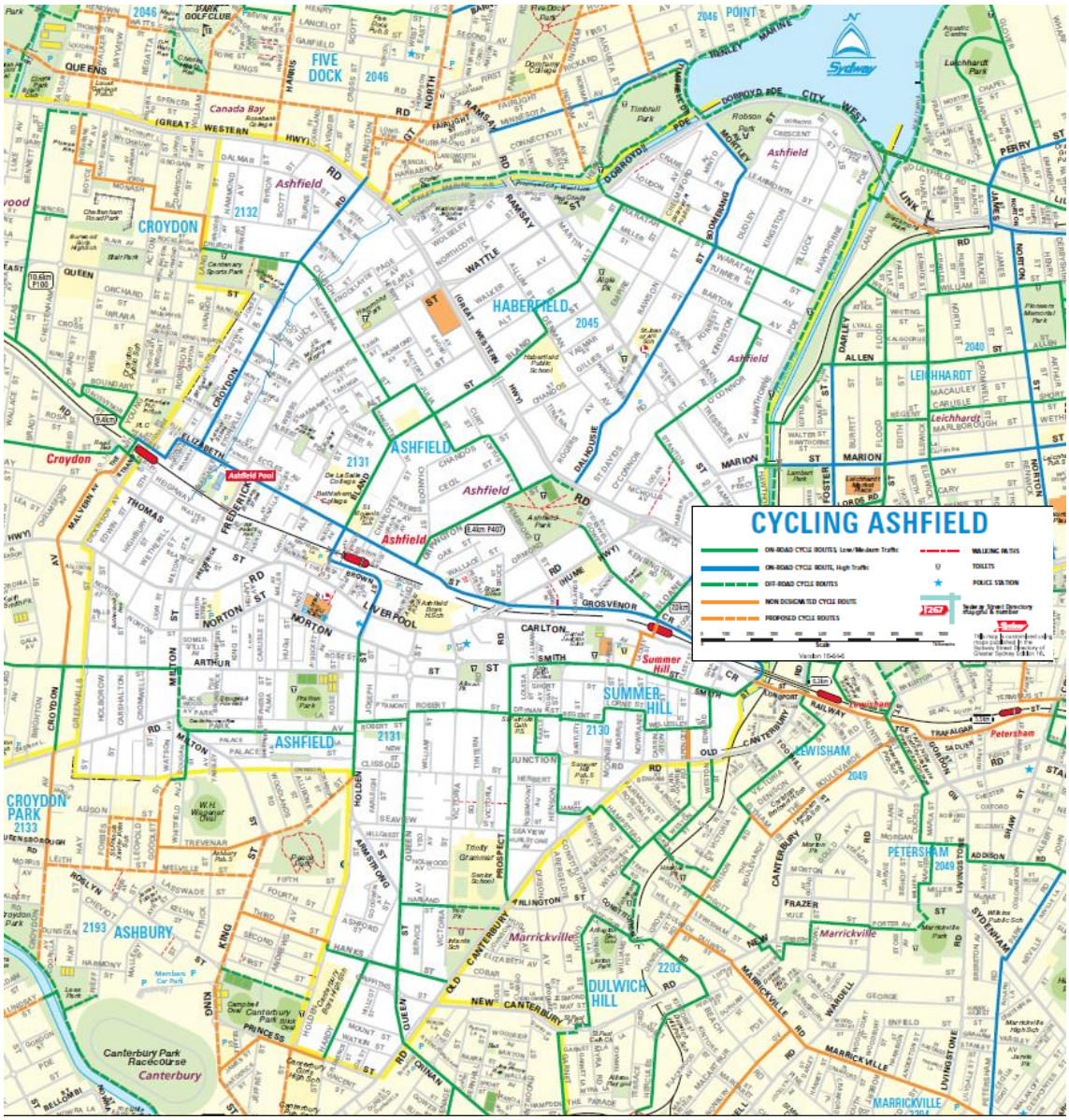
- Church Street, Croydon (outside houses #93 & #95, and Bowling Club) – traffic calming measures to slow traffic (speed humps supported by residents to minimise parking loss)
- Alt Street at John Street, Ashfield – central median islands to slow through traffic on the bend along Alt Street, and turning traffic into and out of John Street
- Arthur Street, Ashfield - traffic calming measures to slow traffic (repair / upgrade existing speed humps to speed tables to minimise parking loss)
- Milton Street/ Palace Street intersection, Ashfield – improve intersection safety for turning movements, but not increase attractiveness of Palace Street
- Holden Street, Ashfield – traffic calming along section between Arthur Street and Armstrong Street
- Seaview Street and Clissold Street, Ashfield – improve cross-sectional operation as it is difficult for two-way movements to be accommodated (noting it is a bus route)
- Junction Road at Teakle Street, Summer Hill - traffic calming measures to slow traffic (kerbside island treatment already in place on Junction Street at Bartlett Street)
- Junction Road / Morris Street intersection, Summer Hill - traffic calming measures to slow traffic (concern with use of blisters / build-outs due to parking loss and conflict between deflected vehicles)

- Grosvenor Crescent, Summerhill - traffic calming measures to slow traffic
- Boomerang Street (north of Crescent Street), Haberfield - traffic calming measures to slow traffic
- Church Street / Croydon Road intersection, Croydon – improve intersection safety for turning movements (roundabout supported in-principle but significant design challenges exist)

### A.2.2 Ashfield Bike Plan (in progress)

It is understood that the Ashfield Bike Plan is currently being updated, and that the ATMS is expected to form an input to this process. However, the current proposed facilities are shown in Figure A.4.

**Figure A.4: Ashfield Cycling Map**




The currently proposed network generally follows the collector road network so will likely mix with moderate to high traffic volumes, especially given the limited carriageway widths that exist

throughout the municipality. It is also noted that there are limited connections between the proposed facilities and connecting the Ashfield Town Centre.

As such, the key for Inner West Council to achieving a comprehensive bicycle network that supports the majority of user abilities and trips is overcoming the limited crossing points of the major barriers associated with the main arterial roads, such as Parramatta Road (Great Western Highway) and Liverpool Road (Hume Highway), and the railway line. Also, taking advantage of the low volume and speed local roads to achieve a more fine grain and interconnected network is recommended.

The ATMS does aim to integrate all the modes accommodated through the local road network. In terms of cycle facilities, this is considered to be suitably integrated where they are consistent with Figure 2.2 of the Cycling Aspects of Austroads Guides (2014). As such, there may be a need to lower speed limits or limit traffic volumes along a given route to suitably accommodate on-road bicycle facilities.

### A.2.3 Ashfield Pedestrian Access Mobility Plan

The Ashfield Pedestrian Access Mobility Plan (PAMP) was produced for the former Ashfield Local Government Area. The PAMP includes a Pedestrian Route Hierarchy, which was provided to inform the ATMS. A copy of the Pedestrian Route Hierarchy Plan is reproduced in Figure A.5.

The currently proposed network is generally reflective of the road network hierarchy, except within retail areas, which are appropriately indicated as high pedestrian activity routes.

It is expected that the indicated Pedestrian Route Hierarchy will be used to inform where increased priority and infrastructure for pedestrians will be provided. This approach has also been incorporated as part of the ATMS.

**Figure A.5: Pedestrian Route Hierarchy Plan**


Source: Ashfield Pedestrian Access Mobility Plan, as provided by Inner West Council

# Appendix B

## Road Network Hierarchy Plan

CITY OF CANADA BAY

MUNICIPALITY OF BURWOOD

MUNICIPALITY OF LEICHHARDT

MUNICIPALITY OF CANTERBURY

MUNICIPALITY OF MARRICKVILLE

PARRAMATTA ROAD

CITY WEST LINK ROAD

CROYDON STATION

ASHFIELD STATION

SUMMER HILL STATION

ASHFIELD CENTENARY SPORTS AREA

BOWLING CLUB

HAMMOND PARK

ROBSON PARK

REG CODY RESERVE

ALGIE PARK

ASHFIELD PARK

SWIMMING POOL

PRATTEN PARK

ALLMAN PARK

DJ GARDENS

YEO PARK

RICHARD MURDEN RESERVE

ASHFIELD TRAFFIC MANAGEMENT PLAN
ROAD HIERARCHY
GTA REFERENCE: 16S1135000
CLIENT: ASHFIELD COUNCIL

GTAconsultants

**LEGEND**

- State Road (Link)
- Regional Road (Link)
- Council Arterial Road (Link)
- Collector Road (Link)
- State Road (Place)
- Regional Road (Place)
- Council Arterial Road (Place)
- Collector Road (Place)

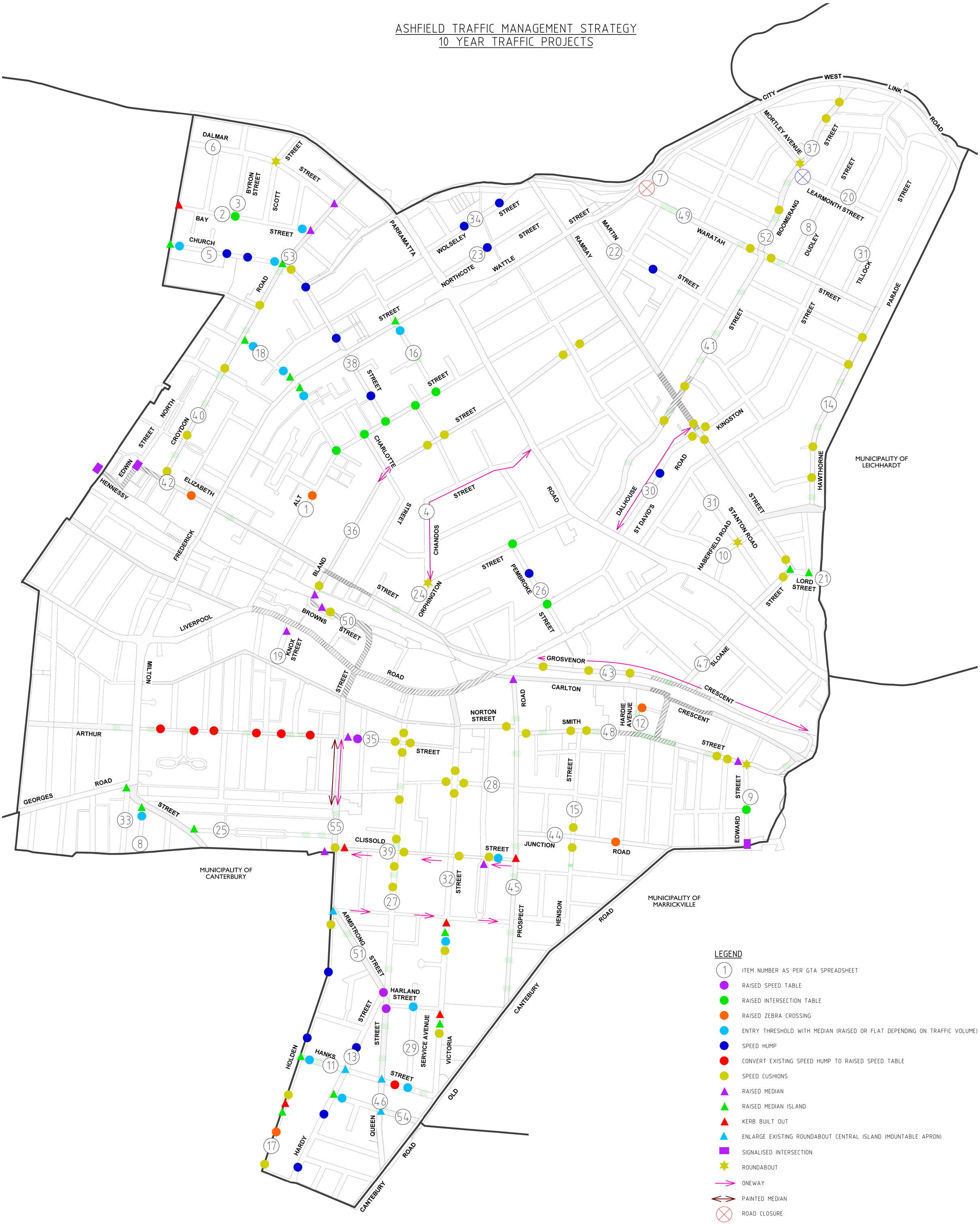
Other

- Rail Reserve

# Appendix C

## Local Road Network Projects Plan

# ASHFIELD TRAFFIC MANAGEMENT STRATEGY
## 10 YEAR TRAFFIC PROJECTS




## LEGEND

- (1) ITEM NUMBER AS PER GTA SPREADSHEET
- RAISED SPEED TABLE
- RAISED INTERSECTION TABLE
- RAISED ZEBRA CROSSING
- ENTRY THRESHOLD WITH MEDIAN (RAISED OR FLAT DEPENDING ON TRAFFIC VOLUME)
- SPEED HUMP
- CONVERT EXISTING SPEED HUMP TO RAISED SPEED TABLE
- SPEED CUSHIONS
- RAISED MEDIAN
- RAISED MEDIAN ISLAND
- KERB BUILT OUT
- ENLARGE EXISTING ROUNDABOUT CENTRAL ISLAND (MOUNTABLE APRON)
- SIGNALISED INTERSECTION
- ROUNDABOUT
- ONEWAY
- PAINTED MEDIAN
- ROAD CLOSURE
- BAN RIGHT OUT AND LEFT IN TO LEARNMONTH STREET
- EXISTING TRAFFIC MANAGEMENT


Melbourne 03 9851 9600
Sydney 02 8448 1800
Brisbane 07 3113 5000
Canberra 02 6243 9400
Adelaide 08 8334 3600
Gold Coast 07 5510 4814
Townsville 07 4722 2765
Perth 08 6316 4634

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PRELIMINARY PLAN
FOR DISCUSSION PURPOSES ONLY
SUBJECT TO CHANGE WITHOUT NOTIFICATION

ASHFIELD TRAFFIC MANAGEMENT STRATEGY
10 YEAR TRAFFIC PROJECTS

DATE: 12.04.16
SCALE: N.T.S.
APPROVED: B.M.
DRAWING NO. 16S1135000-01-01P3

# Appendix D

## Consultation Report

Reference: #16S1135000

20 June 2016

Ashfield Council
260 Liverpool Road
ASHFIELD NSW 2131

**Attention: Mr. James Brocklebank (Traffic Officer)**

Dear James

## RE: ASHFIELD TRAFFIC MANAGEMENT STRATEGY PUBLIC CONSULTATION SUMMARY

In October 2015, GTA Consultants was engaged by Ashfield Council to prepare the Ashfield Traffic Management Strategy (ATMS). The purpose of the ATMS is to develop a strategic framework and action plan for the safe and convenient movement of vehicular traffic across the Ashfield Local Government Area.

In preparing the ATMS, a community engagement process was undertaken, which included the following activities:

i Exhibition of a summary document of the preliminary draft version of the ATMS over the four week period ending 18 May 2016, which included:

- an overview of the project
- table summarising the proposed projects
- supporting concept level designs of the typical treatment types

A copy of the questions are provided in Attachment 1.

ii Online survey, hosted on Survey Monkey, which asked for feedback on the summary document and response to a number of questions over the four week period ending 18 May 2016. A copy of the questions are provided in Attachment 2.

iii Additional written responses by the community were received over the four week period ending 18 May 2016.

iv Council advertised, publicised and exhibited the summary document, online survey and opportunity to provide a written response over the four week period ending 18 May 2016 through the following Council channels:

- Council's website 'Have Your Say' page
- Ashfield Library, Haberfield Library and Civic Centre Building
- local newspapers

**melbourne**
sydney
brisbane
canberra
adelaide
gold coast
townsville
perth

Level 25, 55 Collins Street
MELBOURNE VIC 3000

PO Box 24055
MELBOURNE VIC 3000

**t**// +613 9851 9600

www.gta.com.au

A summary of the feedback received and proposed changes to the ATMS through the above public consultation activities are presented in this letter.

Naturally, should you have any questions or require any further information, please do not hesitate to contact me in our Sydney office on (02) 8448 1800.

Yours sincerely

**GTA CONSULTANTS**

**Alex Blackett**
**Senior Consultant**

encl.

# Online Survey Responses

There were a total of 27 people that completed at least part of the online survey. Details of the responses provided and any recommended changes to the ATMS are provided as follows.

## Question 1 – Personal Information (optional)

Of the 27 people that completed the online survey, 23 people provided the personal information presented in Table 1.

**Table 1: Personal Information**

| Name | Street Address | Suburb | Postcode |
|---|---|---|---|
| Suzanne Woodward | 18 Wetherill St | Croydon | 2132 |
| Grahame Alderton | 93 church street | CROYDON | 2132 |
| Paul Grech | | Ashfield | 2131 |
| Freya Hartley | 64 Morris St | Summer Hill | 2130 |
| Grahame Alderton | 93 Church Street | Croydon | 2132 |
| Colin Jones | 47 Sloane Street | SUMMER HILL | 2130 |
| Kate Finn | 4 Tawa St | Ashfield | 2131 |
| Thea Wilson | 25A Cromwell Street | Croydon | 2132 |
| Kyle Harvey | 4 Tawa St | Ashfield | 2131 |
| Robert Lewis | Park Avenue | Ashfield | 2131 |
| | Dalmar Street | Croydon | |
| Damien Haines | 1/8A Oak St | Ashfield | 2131 |
| Murray CLEAVER | PO Box 428 | SUMMER HILL | 2130 |
| | | | 2131 |
| Sara Arthur | Taringa St | Ashfield | 2131 |
| | | | 2132 |
| Robyn Retallick | 58-60 Chandos Street | Ashfield | 2131 |
| Steve Moraitakis | 83 Kingston St | Haberfield | 2045 |
| Johnny Khoury | 11 Teakle St | Summer Hill | 2130 |
| Paul Van de Ven | 11 John St | Ashfield | 2131 |
| Margaret Noonan | 6 Lion St | Croydon | 2132 |
| Philip Carrick | 40 William St | Ashfield | 2131 |
| Daniel Healey | 22 Robert St | Ashfield | 2131 |

## Question 2 – What do you consider to be the main issue with the local road network in Ashfield?

All of the 27 people that completed the online survey provided responses to this question. A summary of the responses is presented in Table 2.

**Table 2: Main Local Road Network Issue in Ashfield**

| Answer Options | Response % | Response # |
|---|---|---|
| Speeding | 7.4% | 2 |
| Cycling facilities | 7.4% | 2 |
| Traffic congestion | 22.2% | 6 |
| Heavy vehicles | 0% | 0 |
| Pedestrian Crossing Facilities | 22.2% | 6 |
| Intersection Layouts | 3.7% | 1 |
| Car Parking Availability | 14.8% | 4 |
| Other (please specify) | 22.2% | 6 |

Table 2 indicates that the main issues with the local road network in Ashfield relate to traffic congestion and pedestrian crossing facilities (or the lack thereof). The next most common issue raised relates to car parking availability.

The ATMS has defined a revised road network plan, the desired characteristics of the various road types (including what roads should be used to move traffic) and specific projects to try and achieve them. Such a network approach and coordination with RMS is required to try and address the congestion issues being experienced on the local road network in Ashfield.

In terms of pedestrian crossing facilities and car parking availability, they are generally outside the scope of the ATMS. Moreover, these issues should be considered as part of pedestrian and car parking specific strategies. It is noted that Council has recently prepared a Pedestrian Access and Management Plan (PAMP) that proposes many new pedestrian facilities and provides a framework against which additional pedestrian safety proposals can be ranked and prioritised. However, additional pedestrian facilities are proposed as part of the ATMS, and all proposed treatments have tried to minimise the impact on car parking numbers, especially within Activity Areas.

It is also noted in Table 2 that six people indicated that there were 'Other' issues with the local road network. The six other issues are listed as follows:

- All of the above (issues)
- Safety for pedestrians and cyclists
- Safety at Croydon Road and Church Street
- Speeding and traffic congestion
- Rat runs along Alt Street and John Street

With the above 'Other' issues, they are either outside the scope of the ATMS, or have been considered, i.e. speeding, intersection safety, congestion and rat-running.

## Question 3 – What type of Local Area Traffic Management Measure (LATM) would you like to see implemented in the street you live in?

Of the 27 people that completed the online survey, 24 provided responses to this question. A summary of the responses is presented in Table 3.

**Table 3: Main Local Road Network Issue in Ashfield**

| Answer Options | Response % | Response # |
|---|---|---|
| Speed humps or tables | 29.2% | 7 |
| Road Narrowings | 20.8% | 5 |
| Turn Bans | 12.5% | 3 |
| Road Closures | 25.0% | 6 |
| Roundabouts | 8.3% | 2 |
| Signalised Intersections | 4.2% | 1 |
| Pedestrian Crossing Facilities | 37.5% | 9 |
| Other (please specify) | 54.2% | 13 |

Table 3 indicates that the LATM treatment people wanted to see implemented on the street they live in was pedestrian crossing facilities, speed humps or tables, road closures and road narrowings. All of these treatments typically reduce traffic speeds and through volumes, which is generally consistent with the proposed treatments in the ATMS for local roads that are expected to move traffic.

It is also noted in Table 3 that 13 people indicated that there were 'Other' LATM treatments they would like to see implemented in their street. The 13 other treatments are listed as follows:

- Either or all of the above for Clissold Street only
- Bike paths
- Line markings along Croydon Road
- Better integration of cycling
- Resident parking in Park Avenue
- Remove trees on roads to improve parking
- Timed parking restrictions
- More safety for pedestrians
- Alter pedestrian signal phasing
- No speed humps or tabled
- Parking restrictions for non-residents
- One way systems
- Robert Street should be one way with speed controls

With the above 'Other' LATM treatments, they are either outside the scope of the ATMS, or have been considered, i.e. one-way systems and speed controls.

## Question 4 – Do you generally agree with the proposed local road network treatments?

All of the 27 people that completed the online survey provided a response to this question. A summary of the responses is presented in Table 4.

**Table 4: Level of Agreement with the Proposed Treatments**

| Strongly Disagree | Disagree | Neutral | Agree | Strongly Agree |
|---|---|---|---|---|
| 5 | 6 | 6 | 8 | 2 |
| 18.5% | 22.2% | 22.2% | 29.6% | 7.4% |

Table 4 indicates that there was a spread in the level of agreement by the respondents on the proposed local road network treatments developed through the ATMS.

## Question 5 – Are there any additional local road traffic considerations that the ATMS should investigate?

Of the 27 people that completed the online survey, 22 indicated additional local road traffic considerations that should be investigated. These are listed in Table 5, along with a response to the item and any proposed changes to the ATMS.

**Table 5: Additional Local Road Traffic Considerations Requested to be Investigated**

| Request | Response | Change to ATMS |
|---|---|---|
| A right hand turn from Milton St into Norton St, Croydon | No right-turn provided at signalised intersection due to capacity constraints, at least during peak periods - request should be forwarded to RMS for their consideration | No change |
| No speed hump at 93 Church St, due to noise, air quality, sleep issues. Prefer road narrowing device at park entry instead | As there is a speed hump also proposed at 95 Church Street, the one proposed at 93 Church Street can be removed | Remove proposed speed hump at 93 Church Street |
| Make it safer for children to walk and ride to school. Increased traffic as rat runs down local roads from new flour mill apartment developments | Walking and cycling safety to be considered as part of mode related strategies and projects; not within the ATMS | No change |
| No speed humps at 93 Church St - noise & air pollution impact. Road narrowing and pedestrian crossing at field entry ramp, 25 metres west is better | As there is a speed hump also proposed at 95 Church Street, the one proposed at 93 Church Street can be removed | Remove proposed speed hump at 93 Church Street |
| More Pram ramps | More specific walking facilities have recently been considered as part of Council's PAMP and other pedestrian related projects; not within the ATMS | No change |
| Additional pedestrian crossings around Alt Street | More specific walking facilities have recently been considered as part of Council's PAMP and other pedestrian related projects; not within the ATMS | No change |
| I feel that with expected growth in high density housing, the need for safe pedestrian crossings will increase | More specific walking facilities have recently been considered as part of Council's PAMP and other pedestrian related projects; not within the ATMS | No change |
| More pedestrian crossings - slowing cars down with speed humps is great | More specific walking facilities have recently been considered as part of Council's PAMP and | No change |

| Request | Response | Change to ATMS |
|---|---|---|
| but there needs to be more places to cross | other pedestrian related projects; not within the ATMS | |
| The traffic lights on the corner of Liverpool Rd, Holden St and Brown St should have "arrows" to allow right turn from both Holden and Brown St | No right-turn provided at signalised intersections due to capacity constraints, at least during peak periods - request should be forwarded to RMS for their consideration | No change |
| Raised threshold: Smith St at Summer Hill Community Centre is treated as a pedestrian crossing - dangerous. It needs amendment. | No specific crash history identified, however more specific walking facilities to be considered as part of walking related strategies and projects | No change |
| Redo the ATMS to include pedestrians and cyclists | Walking and cycling to be considered as part of mode related strategies and projects; not within the ATMS | No change |
| The ATMS should look at how PEOPLE move around. - foot and cycle traffic not included | Walking and cycling to be considered as part of mode related strategies and projects; not within the ATMS | No change |
| Roundabout Croydon Rd and Church St - More dangerous than any of the other issues in this report | Insufficient space for a roundabout to be accommodated, however traffic calming and intersection treatments proposed along Croydon Street | No change |
| Closing Chandos St at Parramatta Rd to stop Westconnex rat run | Chandos Street is not expected to be used as a rat-run for Westconnex | No change |
| Four way intersection Stop signs on Kingston St and Learmonth St | Not a treatment able to used due to current road rules | No change |
| Speed cushions prior to the Kingston St and Learmonth St intersections | No speed of safety issues specifically identified at this location | No change |
| Speed humps on Learmonth St | No speed of safety issues specifically identified at this location | No change |
| My concern is the pedestrian lights at the intersection of Victoria/Liverpool Rds Ashfield - it creates a traffic jam every morning & should be removed | Removal of pedestrian crossing at signalised intersection is not expected to provide any significant network benefit, and would have a negative impact to pedestrian safety and amenity | No change |
| Rat run from Parramatta Rd to Frederick St along Alt/John Sts. If you can address rat run with road closures in leafy Dobroyd Pt why not Alt/John Sts? | No specific run-run route via Alt Street and John Street between Parramatta Road and Frederick Street identified, however traffic calming measures proposed along Alt Street which will make it less attractive | No change |
| Traffic turning signals on Elizabeth St Ashfield at Frederick St corner | There are currently no specific issues identified with the existing traffic signals | No change |
| Investigate Robert St as a one-way system, in line with Norton and Arthur Sts. | No specific need identified to make Robert Street a one-way road | No change |
| Heavy vehicles in William Street. Congestion in Robert St | Heavy vehicles to be considered as part of the Light Traffic Thoroughfare Scheme<br>Robert Street considered to operate reasonably appropriately | No change |

Based on Table 5 the only proposed change to the ATMS as a result of the comments provided by those that responded is the removal of the proposed speed hump outside 93 Church Street, as one is also proposed at 95 Church Street.

## Additional Written Responses

In addition to the 27 people that completed the online survey, there were a total of 16 additional written responses received. These are listed in Table 6, along with responses to the various items raised and any proposed changes to the ATMS.

**Table 6: Additional Written Responses to be Investiated**

| Request | Response | Change to ATMS |
|---|---|---|
| **Rene Holmes – 3 Church Street, Ashfield** | | |
| **2001 Ashfield Council Traffic Management Study:** outstanding projects to be completed, especially the proposed roundabout at the Croydon Rd / Church St intersection in Croydon, as getting out of Church St can take up to 10 mins (sometimes longer) in peak times | Outstanding projects have been reviewed and included where consistent with the ATMS. Specifically, with the proposed roundabout at Croydon Rd / Church St intersection, there is insufficient space, so traffic calming measures along each road have been proposed. | No change |
| **Alt Street, Ashfield:** Stop signs were to be erected in Alt Street at the intersection with Church St in 2014. But at the associated Traffic Committee Meeting Cr, Wangmann had this changed to stop signs in Church St. The intersection is more dangerous now than it was before. Raised speed tables will not stop the speeding. | Traffic calming along all of Alt Street have been proposed, not just a single intersection, to achieve slower vehicles speeds | No change |
| **Bay St, Croydon:** Central median island at the intersection with Croydon Rd will make it nearly impossible to make a left hand turn into Bay St from Croydon Rd as Bay St comes back at an angle of about 45degrees. Narrowing Bay Street was suggested by Council through the planting of trees down the centre of the road but realized that coming in from Croydon Rd the street is up hill and visibility will be compromised. A raised speed table won't work either. It will only make it a game for the hoons. | Bay Street is 10m, so sufficient width for a central raised island.<br>A series of traffic calming measures are proposed along Bay Street and Croydon Road, to achieve slower vehicles speeds along the entire length. | No change |
| **Byron St Croydon:** A raised speed table won't work either. It will only make it a game for the hoons. | 'Hoon' driving is best dealt with through police enforcement, not trying to control them through traffic calming measures | No change |
| **Church St Between Croydon Rd and Lang St:** These Speed humps outside #93 and #95 were also on the Agenda back in 2001/2002. Sydney busses (as they were then), NSW Police, the ambulance service and the Emergency Services all stated back then that this treatment should not happen here.<br>#93 and #95 would not be able to access their driveways should this treatment be put in place. These two houses are Individual Heritage Items within a Conservation Area and should not have anything built in front of them unless Council would remove their Heritage and Conservation listings. | Don't need speed humps so close, so one at 93 Church Street can be removed.<br>In terms of where the speed hump at 95 Church Street is located, it should not be located so it impacts access to the property. | Remove proposed speed hump at 93 Church Street |
| **Dalmar St at Scott St, Croydon:** About 30 years ago my mother was approached by many people living near this intersection. She attended Traffic Committee and Stop signs were erected. This has solved the problem and a roundabout is not necessary. The other problem is that too many car parking spaces will be lost if this goes ahead. There is already a problem here with the introduction of | Recent traffic data indicates an 85th percentile speed of 56km/h on Dalmar Street, so a roundabout at Scott Street has been provided to better manage speeds along Dalmar Street. | No change |

| Request | Response | Change to ATMS |
|---|---|---|
| restricted parking since the clearway was introduced on Parramatta Rd. | | |
| **Bland St, Ashfield:** This was also brought up in the 2001 study. You can't speed in Bland St as it is far too narrow. The top speed here is only 40kph. | Recent traffic data indicates an 85th percentile speed of 52km/h on Bland Street. Also, there have been a number of crashes recorded at various intersections, hence the proposal to installed raised speed tables at the intersections. | No change |
| **Bland St and Parramatta Rd, Ashfield:** At the intersection of Bland St and Parramatta Rd the lights need to have a right hand turn arrow to relieve the congestion of cars trying to turn towards the city. | No right-turn provided at signalised intersection due to capacity constraints, at least during peak periods - request should be forwarded to RMS for their consideration | No change |
| **Croydon Rd and Parramatta Rd, Ashfield:** At the intersection of Bland St and Parramatta Rd the lights need to have a right hand turn arrow to relieve the congestion of cars trying to turn towards the city. No standing signs between 7-10am and 3-7pm would also help here so two lanes of traffic can be formed for those travelling across Parramatta Rd towards Haberfield. | No right-turn provided at signalised intersection due to capacity constraints, at least during peak periods - request should be forwarded to RMS for their consideration.<br>In terms of 'No Stopping' parking restrictions, these already exist on Croydon Road as you approach Croydon Road. | No change |
| **Church St between Croydon Rd and Alt St, Croydon:** the reason that there are incidents here is that the Road bends at the Canal and that Cars are parked on the BRIDGE at the canal. A boat is parked just before the bridge on the approach to Croydon Rd and visibility is reduced here. | Church Street is a 10m wide local road, so kerbside parking is appropriate.<br>In terms of visibility, the road is relatively straight and not considered to be a major determinant in the types of crashes that have occurred. | No change |
| **Church St and Croydon Rd, Croydon:** At the intersection of Croydon Rd and Church there has never been any 10m NO STOPPING SIGNS erected. | 'No Stopping' parking restrictions on Church Street as you approach Croydon Road will be required with the installation of the prosed raised central island. | No change |
| **Croydon Rd between Queen St and Elizabeth St, Croydon:** There are already several different traffic calming devices on this stretch of road and other more critical items need to be addressed first. | Proposed treatments are based on available information. | No change |
| **Elizabeth St and Frederick St, Ashfield:** Speed humps and the crossing are not the problem here it is the lights at Frederick St, which should have right-turn arrows. | No right-turn provided at signalised intersection due to capacity constraints, at least during peak periods - request should be forwarded to RMS for their consideration | No change |
| **Croydon Rd between Queen St and Parramatta Rd, Croydon:** This treatment is miss named as you are looking at Dalmar St and Bay St not Croydon Rd. The Main problem here is at the intersection with Church St. Cars travelling along Croydon Rd wanting to turn into Church St create a stalemate when two cars travelling in opposite directions want to turn right into opposite sides of Church St causing delays because no one will give in. | Naming is correct. | No change |
| **Mankin Leung, 3 Carshalton Street, Croydon** | | |
| **Norton St, Wetherill St and Carshalton St, Croydon:** There are blind corners at this junction, so on-coming traffic from Wetherill St and Carshalton St are not clearly visible. There is a "No Through Road" sign and a "No Access to Liverpool Road" sign, but they are | Intersection layout results in low approach speeds, so no significant issues considered to be needed to be addressed. | No change |

| Request | Response | Change to ATMS |
|---|---|---|
| not effective because they face the wrong direction. Some form of "choking" arrangement is imperative at this junction to slow down cars (speed humps, road narrowing or the like), together with a "STOP" sign and road marks. | | |
| **Sara Arthur, 7 Taringa Street, Ashfield** | | |
| **The strategy's purpose:** The strategy's purpose "…is to develop a strategic framework and action plan for the safe and convenient movement of vehicular traffic across the Ashfield Local Government Area." I am concerned that the ATMS does not include pedestrian and cyclists in its deliberations. I would suggest that "…the safe and convenient movement of people…" would be a more inclusive purpose and would demonstrate a concern for the safety of the most vulnerable when moving around the LGA. | Walking and cycling to be considered as part of mode related strategies and projects; not within the ATMS | No change |
| **All Cycle Routes:** The ATMS does not show cycle routes at all. If the goal of the strategy is to remain limited to vehicular traffic then cycle routes should still be considered, as cyclists and vehicles are required to share infrastructure and if cyclists are encouraged to use particular roads then this should be considered when planning for vehicles using that road too. | Cycling to be considered as part of associated strategy and projects; not within the ATMS.<br>However, the prosed treatments are generally bicycle friendly. Where they do narrow the available traffic lane width, suitable signage and linemarking is expected to support cyclists to take the lane. Alternatively, the traffic lane width should be sufficient to accommodate a bicycle lane, or an alternative travel path around the device be provided. | No change |
| **Alt St between John St and Henry St, Ashfield:** I applaud the use of traffic calming measures along Alt St between John and Henry Sts. This part of Alt St is used by many pedestrians to access local schools and child care facilities, so frequently is crossed by people with children or pushing prams. In addition, it is on the route to the railway station and local shops for a significant number of residents. I would suggest that further measures be considered beyond raised intersection tables, such as raised zebra crossings. I would think that the intersection with Charlotte St would be the best place for this. | More specific walking facilities have recently been considered as part of Council's PAMP and other pedestrian related projects; not within the ATMS | No change |
| **Alt St, Ashfield:** I also recommend that Alt St become a 40 km/hr speed zone between John and Henry Sts, due to the high pedestrian activity on that street. I cross Alt St several times per day as a pedestrian and cyclist and it is by far one of the most dangerous places on my entire cycle commute to North Sydney or if I am walking to Haberfield Public School, Ashfield Park, Ashfield shops or Ashfield Station. | More specific walking facilities have recently been considered as part of Council's PAMP and other pedestrian related projects; not within the ATMS.<br>It is also noted that the current target speed for Alt Street is 40km/h through the ATMS and is likely to be achieve through the proposed traffic calming measures. | No change |
| **Church Stand Frederick St, Ashfield:** I have noticed that Council have recently altered the phasing of the lights at the intersection of Ramsay and Dalhousie Streets in Haberfield, so that pedestrians get a green signal several seconds prior to vehicles. This small change has made the intersection much safer. I request that Council investigate a similar change at the intersection of Church and Frederick Sts in Ashfield. A lot of pedestrians cross at the lights to access Hammond Park and I have personally | More specific walking facilities have recently been considered as part of Council's PAMP and other pedestrian related projects; not within the ATMS<br>It is also noted RMS will need to be involved to change the phasing. | No change |

| Request | Response | Change to ATMS |
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| witnessed a number of near misses between vehicles and pedestrians using the green signal as cars have been hurrying to turn right ahead of oncoming traffic. | | |
| **Croydon Road between Church St and John St, Croydon:** Croydon Road is very difficult for pedestrians or cyclists to cross between Church and John Sts. I routinely do this with my primary school age daughter as cyclists or as pedestrians to access Centenary Park, Burwood shops and Cintra Park. I have noted that people walking dogs to the reserve on the corner of Croydon Rd and Queen St sometimes struggle to cross Croydon Road, especially if trying to manage children as well. I applaud attempts to slow traffic down on approach to Croydon Rd, but would like to recommend a safe crossing place over Croydon Road for pedestrians is absolutely necessary as many parents with children use the facilities in Centenary Park. As this park has children's cycle paths, many people choose to ride bikes there and so a safe crossing point is imperative. | More specific walking facilities have recently been considered as part of Council's PAMP and other pedestrian related projects; not within the ATMS | No change |
| **Geoff Morschel, 4/22 Palace St, Ashfield** | | |
| **Place Street and Milton Street, Ashfield:** Traffic Management Strategy proposes placing a central median island in the centre of Place Street as it exits into Milton Street. Consideration and consultation should be undertaken with public bus operations. | It is expected that swept path assessments for bus and consultation with operators will be undertaken. | No change |
| **Colin Jones, PO Box 298, Summer Hill** | | |
| **Pram Ramps:** Traffic Management Strategy should be considering Pram ramps to better allow access across streets without tall gutters. | More specific walking facilities have recently been considered as part of Council's PAMP and other pedestrian related projects; not within the ATMS | No change |
| **Consideration of Cyclists:** It should also indicate cycling impediments cast by the various designs - Forcing cyclist into the traffic flow at devices is dangerous for cyclists and inconvenient for drivers. Many streets are used by occasional and recreational cyclist, often accompanied by children. Traffic devices which force these cyclists into traffic paths or door zones should be deprecated. None of the designs offered in the study seem to consider cyclists as road users. | Cycling to be considered as part of associated strategy and projects; not within the ATMS.<br>However, it is expected that cyclists will be considered as part of the development of any of the proposals. | No change |
| **Consider Implementing Shared Paths:** Consider provisioning more shared paths (footpaths) to off load cyclists from streets in dangerous areas e.g. Grosvenor Crescent between Carton Crescent and Dover Street and providing a safe access to Cadigal Reserve. | Cycling to be considered as part of associated strategy and projects; not within the ATMS. | No change |
| **Consider Implementing Contra-Flow Lanes:** Providing contra-flow lanes along certain streets e.g. Markham Place to allow eastbound cyclists a Liverpool Rd bypass. | Cycling to be considered as part of associated strategy and projects; not within the ATMS. | No change |
| **Rachel Davies, 78 Bland Street, Ashfield** | | |
| **Bland St between Julia St and Parramatta Rd, Ashfield:** Bland St between Julia St and Parramatta Rd has the major and constant problem of drivers speeding north towards Parramatta Rd to get through the intersection before the traffic lights change. This means they are often breaking the 50km/hr speed | If speeding an issue with drivers trying to catch the green, then consideration could be given to installing a speed and red light camera. However, this is outside the scope of the ATMS and | No change |

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| limit. This area is very busy with pedestrians as there are east and west going bus stops on Parramatta Rd at the top of Bland St. Bland St connects to the railway station with express trains to the city and West, the area is medium density so has a large population many of whom being elderly or new migrants have no or one car only and so shop with hand trollies at Ashfield shops, and Haberfield Public school is just to the north over Parramatta Rd. All this results in a large volume of pedestrians along Bland St, most particularly at commuter and school pick-up times, of course these are the times that are also busiest with vehicles. A neighbour and I recently undertook a cycle count at the intersection of Bland and Julia Sts and as we were there we counted pedestrians too; on a Tuesday in March between 7-9am about 250 pedestrians passed through this intersection, mainly going along Bland St. In the same period 30 cyclists came through the intersection. Traffic calming measures would make these journeys safer, particularly for the elderly and primary school age children who are crossing Bland St to access the footbridge over Parramatta Rd. Traffic slowing devices on this section of Bland St (in addition to those proposed for Bland St between Charlotte and Julia Sts would also help with the recreational speeding that occurs on Friday and Saturday nights and the early hours of Sunday when people come simply to speed along the local streets. | needs to be referred to RMS for their consideration.<br>More specific walking facilities have recently been considered as part of Council's PAMP and other pedestrian related projects; not within the ATMS | |
| **Julia St, Ashfield:** Julia St has a contra-flow bicycle lane and is a street used by drivers 'rat-running' between Liverpool Rd and Frederick St. Slowing the traffic here is important to keep cyclists in the bicycle lane safe and also those parents crossing Julia St pushing their young children in strollers to The Infants Home pre-school in Henry St. Traffic slowing devices on Julia St would also help with the recreational speeding that occurs on Friday and Saturday nights and the early hours of Sunday. | Traffic calming measures along this rat run are proposed as part of the ATMS. | No change |
| **Bland St between Julia St and Parramatta Rd, Ashfield:** Crossing Bland St is often unsafe due to the speed of the cars, especially in the section between Julia St and Parramatta Rd. The primary school age children who live to the west of Bland St need to cross Bland St to access the footbridge over Parramatta Rd. Currently they can stand and wait for ages, as many people with strollers do, waiting for a driver to stop for them. If they cross at the intersection of Bland and Julia Sts just south of Julia St then they end up being waved across by a driver stopped at the stop sign but then waiting in the middle of the road on a very narrow median strip. If they cross just north of this intersection they also need to wait for ages as the drivers are focussed on crossing Julia St; there is an additional danger crossing in this location from those many drivers who are turning right from Julia St to go north on Bland St, they take this corner very wide and don't tend to slow much at all. The creation of safe places pedestrians can cross are needed; perhaps using 'curb built out treatment with raised median and speed cushions'. Crossing at this spot is also dangerous as drivers heading north on Bland will rarely stop at the stop sign at Julia and if they do will | Traffic calming measures along Bland Street are proposed as part of the ATMS.<br>More specific walking facilities have recently been considered as part of Council's PAMP and other pedestrian related projects; not within the ATMS | No change |

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| simply hesitate for a moment and then accelerate quickly, children think the car has stopped for them but the driver may not even have seen them. | | |
| **Alt St and Church St, Ashfield:** I hope that the treatments proposed for Alt St are intended to slow traffic and not just direct it more centrally on the road as this is currently very difficult to cross due to the speed of the cars. Church St is used as a link for pedestrians, many of whom are children, to access Hammond Park and Centenary Park and crossing Alt St at the Church St intersection is very dangerous, especially for children as the visibility down the hill is poor and the traffic that turns right from Charlotte St to go north on Alt St appears very quickly. | Alt Street treatments are proposed to slow traffic in this area. | No change |
| **Croydon Rd and Church St, Croydon:** Croydon Rd also needs a treatment to allow pedestrians to cross safely, there are often groups including small children and cyclists of all ages who cross this street where Church St joins it. The cross here to get to Centenary Park. This is very difficult as there are only roundabouts on this road and the traffic is constantly flowing with few gaps. | More specific walking facilities have recently been considered as part of Council's PAMP and other pedestrian related projects; not within the ATMS | No change |
| **Chandos St and Orpington St, Ashfield:** A roundabout in this location will make it harder for pedestrians to cross Orpington St. The medium density housing in this area makes it very busy with pedestrians and cars, particularly in the morning and evening peak periods. While roundabouts can help cars to negotiate a junction well they do not serve pedestrians well; they encourage the driver to focus on picking their time to enter the roundabout and in most cases will not need to stop at all, this leaves pedestrians waiting, often too long, they lose patience and race across. A Give Way or Stop sign at least means that the driver will consider that they may need to stop and so will wave a pedestrian across if the street ahead is seen to be busy. | A roundabout at this location will slow vehicles on approach to the intersection, as well as reduce the crossing distance, compared with the existing give way controlled intersection layout. | No change |
| **Orpington St, Ashfield:** Orpington St is to be one of the access roads to the WestConnex tunnel (heading west) and so is to become a lot busier as people cross Ashfield from Liverpool Rd to reach the tunnel. I hope that any treatments put in place here will not result in pedestrians being put in danger or being unreasonably delayed in their journeys. | Comment noted. | No change |
| **Brown St, Ashfield:** The footpath on the western side of Brown St just under the north side of the bridge narrows dramatically and needs expansion to accommodate the pedestrians going to and from Ashfield shops. Two lanes of traffic could still be accommodated at the Bland and Elizabeth Sts intersection. It is good to see speed treatments on Brown and Bland Sts in the vicinity of the railway bridge but the traffic really speeds up on the corner just before going under the railway bridge. A treatment under the bridge or just before and after going under it would stop any danger to the pedestrians on this narrow and constrained footpath. I'm concerned that the 'raised medians' proposed for this area will narrow the road and make it more likely that a driver will lose control and crash into the safety barriers that protect pedestrians on the footpath | More specific walking facilities have recently been considered as part of Council's PAMP and other pedestrian related projects; not within the ATMS | No change |

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| under the railway bridge. The Town Centre rejuvenation plan for Ashfield is partly designed around the lanes between Brown St and Liverpool Rd which will draw a greater volume of pedestrians to the area around the Brown St carpark and the footpaths in the vicinity. Please consider this greater pedestrian use when managing the car traffic on Brown St. | | |
| **Chandos St and Dalhousie St, Ashfield:** I have some concern about any treatments that narrow the perceived road space for drivers; drivers are reluctant to drive onto these areas even when for safety's sake it would be sensible to do so. This makes streets that are wide and so safer for cyclists into less safe streets as drivers attempt to squeeze past cyclists rather than drive on the painted area of the road. I have noticed this effect myself in Bland St between Parramatta Rd and Denman Ave which fairly recently had centre double lines marked in for the first time (to sensibly address the dangerous three point turning of parents outside the school). On an unmarked street drivers will happily loop out into the centre of the road to pass cyclists at a safe distance, once the markings are in they attempt to edge past and create a dangerous situation. Dalhousie St is already unsafe for cyclists due to traffic speeds, visibility on the bends and narrowness caused by parked cars, but Chandos St is great for cyclists as it's wide and not too busy. It is part of the local cycle network to Summer Hill and Dulwich Hill as the section between Julia St and Loftus St leads to Loftus St and so to Ashfield Park. This area of Ashfield is to become a lot busier as Orpington and Ormond Sts are to be access roads to the WestConnex tunnel. I imagine this will increase traffic on Chandos St as those west of it access these two streets. I hope that any treatments put in place here will not result in cyclists being squeezed out of a great local connection to Ashfield Park, Summer Hill and Dulwich Hill shops and the Taverners Hill Light Rail stop. | Cycling to be considered as part of associated strategy and projects; not within the ATMS.<br>However, the prosed treatments are generally bicycle friendly. Where they do narrow the available traffic lane width, suitable signage and linemarking is expected to support cyclists to take the lane. Alternatively, the traffic lane width should be sufficient to accommodate a bicycle lane, or an alternative travel path around the device be provided. | No change |
| **Consideration of Cyclists:** In general, it has been a surprise to read a document that intends to manage traffic in the area but which doesn't mention cyclists, who are also users of the road and on the increase; or mention the need to create greater and safer connections in the area for pedestrians; both for accessing the railway station and bus stops, places of recreation, and for children a safe path to school. I understand that a lot of the treatments are for the purpose of slowing traffic and that will be much appreciated by me and my neighbours. I do hope though that soon we will be asked to comment on a 'strategic framework and action plan for the safe and convenient movement of pedestrian and cycle traffic across the Ashfield Local Government Area'. Really, when you think about it, pedestrians, cyclists and drivers are all sharing the same space to a greater or lesser degree and no plan can really be a plan without the requirements of all three groups being considered in concert. | Cycling to be considered as part of associated strategy and projects; not within the ATMS. | No change |
| **Toula Chrisafis, 6 Fleet Street, Summer Hill** | | |
| **Frederick St and Elizabeth St, Ashfield:** Come up with a proposal for the Frederick St and Elizabeth St | Impacts of the Ashfield Aquatic Centre refurbishment is expected to be | No change |

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| intersection given the refurbishment of the Ashfield Aquatic Centre, which is positioned at this intersection and expected to have a lot more traffic. Furthermore, this intersection will be directly affected by Westconnex. It is suggested that road markings on Elizabeth St from the Aquatic Centre entrance (near the pedestrian crossing), up to the Frederick St intersection, be changed to 3 lanes instead of 2 lanes. Specifically, the proposed additional lane on Elizabeth St to have right arrow markings turning onto Frederick St.<br>Similar successful changes to lanes and road markings were carried out at the corner of Parramatta and Liverpool Roads over a year ago, with little cost or disruption. | undertaken as part of the design and approval process | |
| **Suzanne Woodward, 18 Wetherill Street, Croydon** | | |
| **Norton St, Carshalton St and Wetherill St, Croydon:** These streets are not listed on the Ashfield Council TMS proposal but ask for these streets to be considered for the following reasons:<br>- Norton St is a one way street and is the route I use daily to access my home in Wetherill St. I have had incidents recently where drivers using Norton St against the one way system have put me in potential danger from accidents and street rage from travelling the wrong way. In one incident, the driver of the car going the wrong way refused to let me and another car drive correctly down Norton St. The driver was gesticulating to us that we should back to allow him pass and did so in a threatening way. I had to get my phone and told him that I would call the police. The driver did back down and parked to the side to just let us pass, but with an abusive tirade as we passed him. The driver continued to go the wrong way until Milton St.<br>- The junction joining Norton, Wetherill, and Carshalton Street in Croydon poses potential traffic hazards for cars coming along westwards on Norton Street because of the blind corners at this junction. Many cars come into Wetherill St, and when they came to the dead end, they become angry and frustrated and drive very fast back to the junction often without giving way to traffic at the Norton/Carshalton junctions.<br>What I would like the Council to consider is a more visible markings on the road similar to those on page and/or a physical barrier that alerts drivers to the following road conditions:<br>- no through road from Norton St /Wetherill St into Liverpool Road<br>- Give way at Norton St for Carshalton and Wetherill St traffic<br>- Better visibility of road signs and traffic mirrors<br>- Some kind of restriction at the mouth of Norton St that disallow or alerts drivers to the one way condition of Norton St.<br>- Suitable examples for traffic calming and better traffic management are found in the TMS attachments | Intersection layout results in low approach speeds, so no significant issues considered to be needed to be addressed. | No change |

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| **Norton St and Lion St, Ashfield:** I would like to comment on the Lion street entry into Norton street where cars parking close to the corner on Norton street block visibility to traffic coming westward down Norton St. A mirror installed at this junction would help visibility. | Approaching vehicles on Norton Street are not unduly difficult to see compared with other intersections. | No change |
| **Grahame Alderton, 93 Church Street, Croydon** | | |
| **Church Street, Croydon:** I wish to strongly object to the placement of speed humps immediately at the front of my house at 93 Church Street Croydon. Church Street is serviced by the 490 and 492 bus routes, the frequent braking and accelerating of passing traffic will not only cause increased noise and air pollution and interrupted sleep, but also impact on the heritage streetscape; mine is the only remaining original weatherboard cottage in Church Street. A better treatment would be a road narrowing device and pedestrian crossing / wheel chair access ramp at the entry point to the fenced eastern corner of the Centenary Sports field. The road narrowing device will mark the boundary of the Centenary Sports field, augment existing ramp access and mitigate adverse air quality, noise and amenity issues. If Ashfield Council wish to spend our limited money on changing traffic behaviour and reducing the potential for crash incidents in Church Street, they should prioritise funding for the installation of a roundabout or line markings at the offset intersection of Church Street and Croydon Roads to guide turning traffic through this notorious black spot. | As there is a speed hump also proposed at 95 Church Street, the one proposed at 93 Church Street can be removed | Remove proposed speed hump at 93 Church Street |
| **Paul Grech, 1 Victoria Square, Ashfield** | | |
| **Clissold St, Ashfield:** I support the traffic calming measures, in particular the kerb build outs, threshold treatments and speed cushions between Prospect Road and Victoria Street. I do not support the conversion of Clissold Street to a one way road and note:<br>- This will only encourage increased traffic usage and speeding. At present the need for vehicles to slow and stop in response to vehicles moving in an opposing direction has a natural traffic calming effect. Unfortunately this effect has been diluted in January 2016 with Council's removal of parking spaces and imposition of no stopping restrictions. I reiterate my complaints subsequently made to Council opposing these road restriction changes and noting that they were made without consultation with me or anyone else in our home (see attached correspondence).<br>- The creation of a one way route has the prospect of Clissold Street ending up like Norton Street which is one of Ashfield's planning disasters – a legacy of a past poor decision that should not be repeated.<br>- The proposal will require the reorganisation of parking in the street which is not recognised by the strategy. I do not oppose this provided additional street parking is provided. But I am annoyed that Council spent rate payers' money in January this year on implementing unwarranted parking restrictions. As per my previous complaints these works ahead of the | Clissold Street provides in part a through function, which not suitably managed under the existing arrangements. Moreover, the existing bus routes are not currently well supported. However, traffic calming measures are proposed along its length and with kerbside parking, speeds are impacted to be above the target speed of 50km/h.<br>In terms of the raised central median, this is proposed to be placed on Tintern Street at its intersection with Clissold Street. | No change |

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| outcome of the Traffic Management Strategy was nonsensical.<br>- I don't understand the recommendation to install a central median on the approach to the Tintern Road/Clissold St intersection. This is desirable but in conflict with the proposal to create a one-way road.<br>- The strategy should include the re-sign posting of Clissold Street as a light traffic thoroughfare. Council has confirmed that this status remains in place but are reluctant to sign post the restriction because it could generate complaints from residents if not enforced. This is an unsatisfactory reason and not at all sympathetic to the residents. At least a sign could dissuade situations such as double articulated vehicles inadvertently using Clissold Street with disastrous consequences as recently reported to Council.<br>- The strategy should include a review of parking and stopping restrictions in Clissold Street. A more strategic consideration of where parking is permitted is required. Council has over recent years approved developments that relied on on-street parking in Clissold Street but then turns around and removes some. At times when the Buddhist Temple in Victoria Square have major events their patrons park on the reserve – which damages this heritage item and is a safety issue. Council does not seem to have a way of reporting this out of business hours.<br>- Parking spaces in Clissold Street should, and can, be located on different sides of the street to respond to where residents have access to properties, to restore the natural traffic calming effect and to maximise spaces. Council's supposed justification for the changes in parking restrictions was "safety". I reviewed Council's files and found no justification. "No Parking" restrictions should be removed – these are too restrictive and unreasonably and unnecessarily prevent residents dropping off passengers or receiving deliveries conveniently. Indeed the changes have encouraged vehicles to speed more which is counter to safety. If the real reason for imposing these restrictions is the isolated times when a bus was constrained for moving in the street – this is not a safety issue but reflects that Council does not police parking regulations enough and the inadequacy of the road width to accommodate buses. Buses moving at speed through Clissold Street is an issue in itself – both because of significant noise impacts it generates and obvious safety issues.<br>- Consideration of pedestrians and cyclists is required. Victoria Square is on a pedestrian desire line but crossing Clissold Street is dangerous. Clissold Street would be an excellent cycle route but the speed of vehicles makes it dangerous. Pedestrians use and should be encouraged to use Clissold Street but the narrowness of the footpath and consequent proximity of pedestrians to vehicles (particularly heavy vehicles, buses, and passenger cars moving at speed) conflicts with this aim.<br>- Any works near Victoria Square should be considerate of its heritage significance. | | |

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| – Traffic calming is required in Clissold Street centered between Victoria Street and Queen Street, at the bottom of the hill. Vehicles speed in this section due to the lack of street parking and the favorable longitudinal road grade. | | |
| **Victoria St between Seaview St and Robert St, Ashfield:** More Traffic calming is required in Victoria Street between Seaview Street and Robert Street. Vehicles speed in this area. | Traffic calming measures have been proposed along the length of Victoria Street. | No change |
| **Concept Designs in Traffic Management Strategy Are Subject to Change:** It is worrisome to note that the concept designs illustrating the proposed measures included as Attachment 1 include the note "for discussion purposes only subject to change without notification." Such plans should not be changed or progressed without notification. | The concept designs are generic in nature, so until detailed design drawings are prepared for construction purposes they are subject to change. | No change |
| **Traffic Management Strategy Focuses on facilitating through traffic movements:** The strategy has an unbalanced focus on facilitating through traffic movement without consideration of the impact on local residents in terms of the environmental capacity of the road, associated amenity impacts (in particular noise) and pedestrian movements. | Disagree – almost all proposed treatments relate to slowing traffic in local residential road, and only better managing traffic on collector roads. Arterial roads are managed by RMS. | No change |
| **No Background Information for the Traffic Management Strategy:** Despite referring to speed and traffic accident data the strategy includes no background information. The document is scant of any analytical data or evaluation of options. This is concerning considering it has been I production for over 6 months (as noted in my discussions with council officers). | The consultation material was a summary of the overall ATMS at Councils direction. | No change |
| **Clissold St, Ashfield:** Clissold Street is effectively a laneway in width and its status as a "collector road (link)" as referred to in the strategy requires critical evaluation. | At a network level Clissold Street provides in part a link function, which is reflected with the current traffic volumes being in excess of 3,000 vehicles. Also, there is an existing discernible crash trend considered to be related to its current operation as a two-way road. As such, its classification and layout is proposed to be changed to better manage its operation within the road network. | No change |
| **John and Tricia Bowdler, 2 Seaview Street, Summer Hill** | | |
| **Traffic Management Strategy Generally:** The TMS is a list of projects rather than a strategy. The purpose of the TMS is stated as providing "a strategic framework and action plan for the safe and convenient movement of traffic across the Ashfield Local Government Area". However there are no more specific objectives – for example, to what degree is the focus on traffic generated within the Area (related to local businesses and residents) relative to traffic moving through the Area. It is apparent that there is degree of 'rat-running' through the Area, and extensive congestion getting out of the Area in the morning – such as along Queen Street linked to (Old) Canterbury Road intersections, from Victoria Street into Liverpool Road and from Summer Hill down both Carlton Crescent and Old Canterbury Road leading to the railway underpass on the boundary with | The consultation material was a summary of the overall ATMS at Councils direction. | No change |

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| Lewisham. These congestion points are very much influenced by through traffic issues, and raise the question of the relationship between RMS responsibilities and Council responsibilities – and, in turn, how much Council initiatives can work on their own. Desirable objectives for consideration in the TMS would to be to seek to reduce the extent of through traffic and to assist access to and from 'Ashfield Council' suburbs. It is appreciated that this would require enhancement of traffic flows major routes such as Parramatta Road, Liverpool Road and Old Canterbury Road. Congestion issues will only grow with the many high-rise developments along major routes in the Area. There is no clear focus in the TMS to plan ahead for these impacts. It would be highly desirable for the final TMS to at least broach these matters. | | |
| **Summer Hill Railway Station, Summer Hill:** a couple of months back, my wife and I witnessed a near horrific accident at the Station as we walked to the intersection of Lackey Street and Carlton Crescent around 7pm on a week night. A busy train had just stopped at the station, passengers were coming to the traffic lights to cross the Crescent and the lights had just turned red for cars on Carlton Crescent. People were about to cross the Crescent to Lackey Street when a souped-up vehicle came speeding along Carlton Crescent from the Ashfield direction. Rather than attempt to stop or slow, the driver actually accelerated through the intersection. Fortunately, no one was hit as otherwise the vehicle's speed would have likely resulted in fatalities. While nowhere as frightening as this near accident, we have seen many other instances of drivers 'running the reds' at this intersection. Having reviewed the intersection from each direction, the bends in Carlton Crescent obviously pose safety issues, especially for traffic coming from Ashfield. It is strongly suggested that additional traffic measures be considered to make drivers aware of the nearness of the Railway Station and the upcoming traffic lights, to ensure they slow down well before they come to the intersection. The traffic lights themselves do not provide sufficient security given the magnitude of injury risk from a significant accident. [It is noted that Grosvenor Crescent on the other side of the Station, while not having the volume of traffic as Carlton Crescent, has a number of islands and speed humps to slow traffic and protect pedestrians at the entrance/exit to the Station.] | More specific walking facilities have recently been considered as part of Council's PAMP and other pedestrian related projects; not within the ATMS | No change |
| **Henson Street, Summer Hill:** we note that the TMS does not address the issues of entry and exit from Summer Hill where Henson Street meets Old Canterbury Road. We have twice taken up with Ashfield Council our concern about vehicles entering Henson Street from Old Canterbury Road at speed and accelerating up Henson Street toward the Summer Hill Public school area, but without any apparent result in analysis let alone action. This is despite the speed limit in Old Canterbury Road being 50kmh and a sign advising the same speed limit for Henson Street. There are a number of traffic calming measures further down Henson Street starting at | No specific speeding issue was identified through the available traffic data. However, infrequent speeding drivers are best dealt with through police enforcement, not trying to control them through traffic calming measures | No change |

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| Herbert Street but none before that. We live on the corner of Henson and Seaview, and see numerous vehicles each day come into Henson too fast, not decelerating until they get to the Herbert Street intersection. This is an area near to a large Public School as well as Trinity Grammar (generating a high level of vehicle traffic as well as students/parents on foot), and a number of pedestrians moving through to or from the Railway or Light Rail Stations. Both Streets always have a large number of vehicles parked outside houses which limits space and visibility. We would like to see consideration of traffic calming measures commencing from the start of Henson Street rather than over 100 metres down. We also raise the issue of the intersection of Seaview and Henson, which has poor drainage resulting in deteriorating road surface and vehicles skidding in road debris and/or surface water. Consideration of a shallow concrete culvert (in consultation with water and drainage authorities) would seem worthwhile, to ensure that vehicles proceed across the intersection with safety. | | |
| **Ros Endicott, Summer Hill Resident** | | |
| **Old Flour Mill Development Impacts:** I think we are all shocked that the development of the Old Flour Mill continues at a supersonic pace without any change or proposed change to the already bottlenecked traffic flowing from Summer Hill toward Lewisham. I think all residents are concerned that the massive development will have a direct impact on this problem and the developers do not appear to have been asked to address this as part of the approval for the development. | There are a number of changes to the local road network proposed as part of the Old Flour Mill development, along with a number of other treatments through the ATMS, which are considered to be sufficient. | No change |
| **Smith Street and Prospect Road, Summer Hill:** the traffic at the top of Smith Street and Prospect Road continues to be a pain for nearby residents and it would be an idea to put in a small roundabout to elevate the problem of a) speeding and b) traffic flow. This issue will be further exacerbated by the proposed development on Prospect Road by the Council Waste Depot. | Traffic calming measures proposed along Smith Street as part of the ATMS. | No change |
| **Lilian** | | |
| **Church St and Alt St, Ashfield:** hard to turn L or R due to parked cars near intersection of Church St near St John's Church. Would be helpful if parking arrangements/road markings could be reviewed. | Enforcement of car parking restrictions around intersections not part of the ATMS. | No change |
| **St David's Rd, Haberfield:** traffic should not turn R out of McDonald's towards Parramatta Rd due to risk of hitting cars turning into St David's Rd from Parramatta Rd. | Vehicle crossover set back as far as possible and a distance that is considered acceptable. | No change |
| **Church St and Croydon Rd, Croydon:** requires crossing to assist school students at Church St and Croydon Rd intersection. | More specific walking facilities have recently been considered as part of Council's PAMP and other pedestrian related projects; not within the ATMS | No change |
| **Steven Moraitakis, 83 Kingston St, Haberfield** | | |
| **Learmonth St and Boomerang, Haberfield:** St I'd like to express my thanks for your attention to the "rat run" traffic which occurs on Learmonth St Haberfield with the changes to the intersection of Learmonth and | Comment noted. | No change |

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|---|---|---|
| Boomerang St. This measure should result in reduced traffic on this street for the drivers who comply with the no left turn sign from Boomerang into Learmonth and will eventually reduce the traffic once drivers get used to the no right turn sign onto Boomerang from Learmonth. The reduced traffic will hopefully also result in reduced speed through this area also. | | |
| **Kingston St and Learmonth St, Haberfield:** install four (4) Stop signs at the intersection of Kingston St and Learmonth St. There are a significant number of drivers who do not slow down or stop at the Give Way signs on Learmonth St and drive straight through the intersection at significant speed. On a recent weekend a driver went through this intersection at significant speed (what seemed to be greater than 100klm per hour) without even the hint of stopping. Last week another driver went through the intersection without slowing or stopping. Also drivers on Kingston St carry very high speeds through this intersection in both directions. Coming up the hill from Waratah St, as drivers have passed the final speed hump speed increases significantly. It is only a matter of time before a collision occurs and a car ends up in one of the 4 houses on this intersection. As such, the following is recommended:<br>- A further improvement would be speed calming just before the intersection Stop signs in all directions<br>- Speed humps or cushions on Learmonth St<br>- Reduce the speed to 40km through the area | Not a treatment able to used due to current road rules | No change |
| **Tony Xue, 2A Holden Street, Ashfield** | | |
| **Traffic Management Strategy Generally:** Will the TMS affect our church services because there are some services in our church during the week? | Not directly. | No change |
| **Holden Street, Ashfield:** Can we apply to have a "5 minutes pick up stand" in front of the building of our church at 2A Holden Street, Ashfield? | It is understood that Council has addressed this issue separate to the ATMS. | No change |
| **Jie Wu** | | |
| **Park Avenue and Milton St, Ashfield:** Install a roundabout at the cross point of Park Avenue with Milton St. With the potential roundabouts, the travellers intending to turn right could move into the land smoothly without stopping or reducing the traffic flows and mental stress. | Roundabout will likely see an increased flow of traffic in Park Street, which is not desirable. | No change |
| **Harland St and Queen St, Ashfield:** Install a roundabout at the cross point of Harland St with Queen St. With the potential roundabouts, the travellers intending to turn right could move into the land smoothly without stopping or reducing the traffic flows and mental stress. | Insufficient space to accommodate a roundabout at this location. | No change |

Based on Table 6 the only proposed change to the ATMS as a result of the comments provided by those that provided additional material is the removal of the proposed speed hump outside 93 Church Street, as one is also proposed at 95 Church Street.

# Appendix E

## Concept Designs

KEY

RAISED CONSTRASTING PAVERS OR SIMILAR AS APPROVED. (APPROX 100mm HIGH FOR NORMAL TRAFFIC AND 75mm FOR BUS ROUTE)

LOCAL ROAD

ROAD

RAMP UP APPROX 1:12 OR 1:15 FOR NORMAL TRAFFIC AND 1:20 FOR BUS ROUTE (TYPICAL ON ALL APPROACHES)

NO IMPACT ON DRAINAGE AND EXISTING KERBS (TYPICAL)

LOCAL

N

**PRELIMINARY PLAN**

FOR DISCUSSION PURPOSES ONLY SUBJECT TO CHANGE WITHOUT NOTIFICATION

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# ASHFIELD TRAFFIC MANAGEMENT STRATEGY
# STANDARD RAISED INTERSECTION SPEED TABLE TREATMENT

| DATE | SCALE | |
|---|---|---|
| 12 APRIL '16 | 1:250@ A3 | |
| DESIGNER | DRAWING NO. | |
| P.PHAM | 16S1135000-01-02P3 | |

KEY

RAISED CONSTRASTING PAVERS OR SIMILAR AS APPROVED. (APPROX 100mm HIGH FOR NORMAL TRAFFIC AND 75mm FOR BUS ROUTE)

LOCAL ROAD

ROAD

NO IMPACT ON DRAINAGE AND EXISTING KERBS (TYPICAL)

RAMP UP APPROX 1:12 OR 1:15 FOR NORMAL TRAFFIC AND 1:20 FOR BUS ROUTE (TYPICAL ON ALL APPROACHES). WIDTH OF RAISED AREA IS BETWEEN 2m-2.5m FOR NORMAL TRAFFIC AND 6m FOR BUS ROUTE

LOCAL ROAD

N

**PRELIMINARY PLAN**

FOR DISCUSSION PURPOSES ONLY SUBJECT TO CHANGE WITHOUT NOTIFICATION

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ASHFIELD TRAFFIC MANAGEMENT STRATEGY
STANDARD RAISED SPEED TABLE TREATMENT

| | | |
|---|---|---|
| DATE 12 APRIL '16 | SCALE 1:250@ A3 | |
| DESIGNER P.PHAM | DRAWING NO. 16S1135000-01-03P3 | |

PLOTTED BY : PhuPham ON 13/04/2016 AT 11:19:10 AM

KEY

FOOTPATH EXTENSION OVER EXISTING GUTTER. (APPROX 100mm HIGH FOR NORMAL TRAFFIC AND 75mm FOR BUS ROUTE)

LOCAL ROAD

ROAD

ZEBRA PAITNED MARKINGS

NO IMPACT ON DRAINAGE AND EXISTING KERBS (TYPICAL)

RAMP UP APPROX 1:12 OR 1:15 FOR NORMAL TRAFFIC AND 1:20 FOR BUS ROUTE (TYPICAL ON ALL APPROACHES). WIDTH OF RAISED AREA IS BETWEEN 2m-2.5m FOR NORMAL TRAFFIC AND 6m FOR BUS ROUTE

LOCAL

N

**PRELIMINARY PLAN**

FOR DISCUSSION PURPOSES
ONLY SUBJECT TO CHANGE
WITHOUT NOTIFICATION

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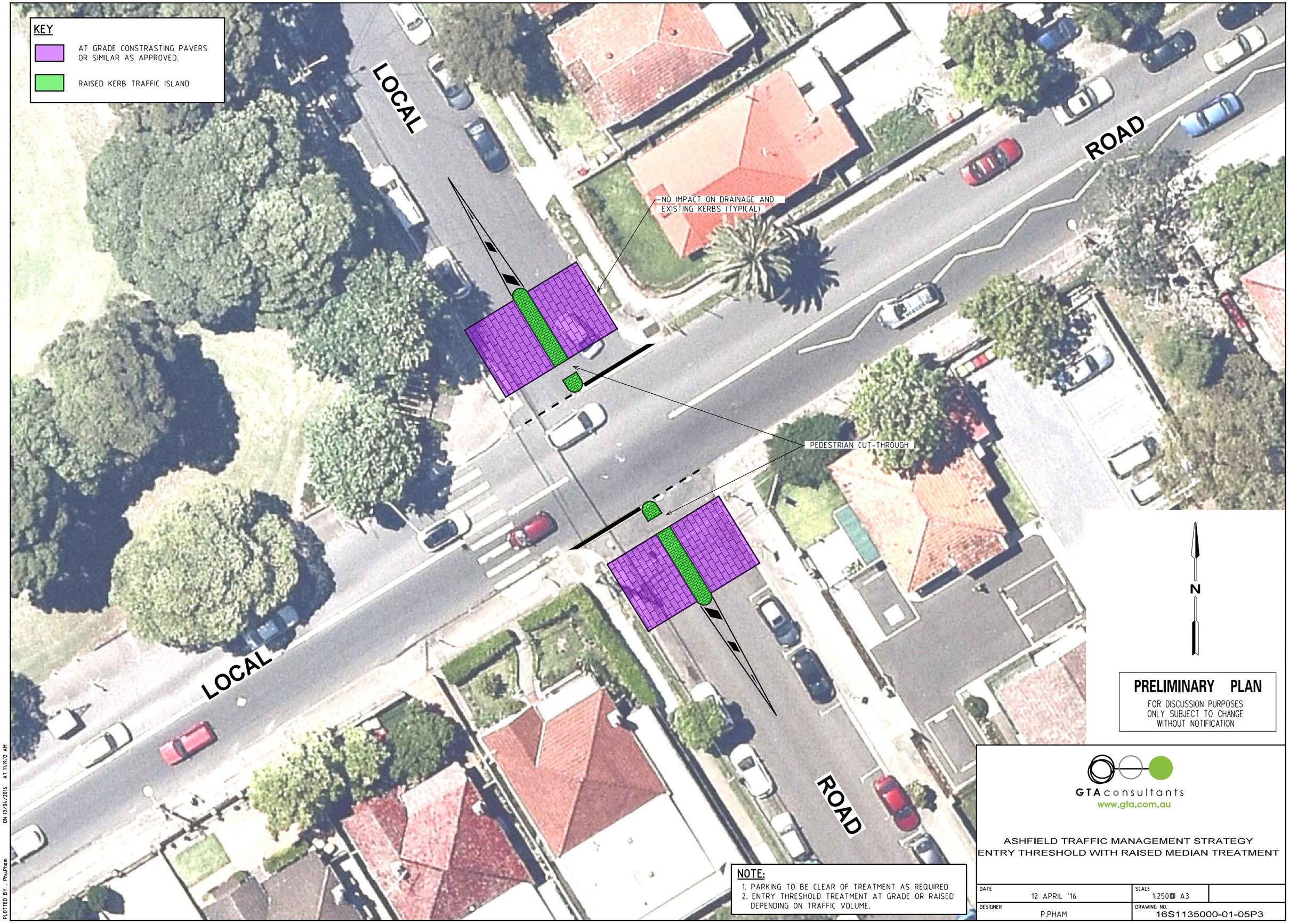
ASHFIELD TRAFFIC MANAGEMENT STRATEGY
RAISED ZEBRA CROSSING TREATMENT

| | | |
|---|---|---|
| DATE: 12 APRIL '16 | SCALE: 1:250@ A3 | |
| DESIGNER: P.PHAM | DRAWING NO.: 16S1135000-01-04P3 | |




**PRELIMINARY PLAN**

FOR DISCUSSION PURPOSES
ONLY SUBJECT TO CHANGE
WITHOUT NOTIFICATION

**NOTE:**

1. PARKING TO BE CLEAR OF TREATMENT AS REQUIRED
2. ENTRY THRESHOLD TREATMENT AT GRADE OR RAISED DEPENDING ON TRAFFIC VOLUME.

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# ASHFIELD TRAFFIC MANAGEMENT STRATEGY
# ENTRY THRESHOLD WITH RAISED MEDIAN TREATMENT

| | | |
|---|---|---|
| DATE: 12 APRIL '16 | SCALE: 1:250@ A3 | |
| DESIGNER: P.PHAM | DRAWING NO.: 16S1135000-01-05P3 | |

PLOTTED BY : PhuPham ON 13/04/2016 AT 11:19:12 AM


**PRELIMINARY PLAN**

FOR DISCUSSION PURPOSES ONLY SUBJECT TO CHANGE WITHOUT NOTIFICATION

**NOTE:**

1. PARKING TO BE CLEAR OF TREATMENT AS REQUIRED
2. ENTRY THRESHOLD TREATMENT AT GRADE OR RAISED DEPENDING ON TRAFFIC VOLUME.

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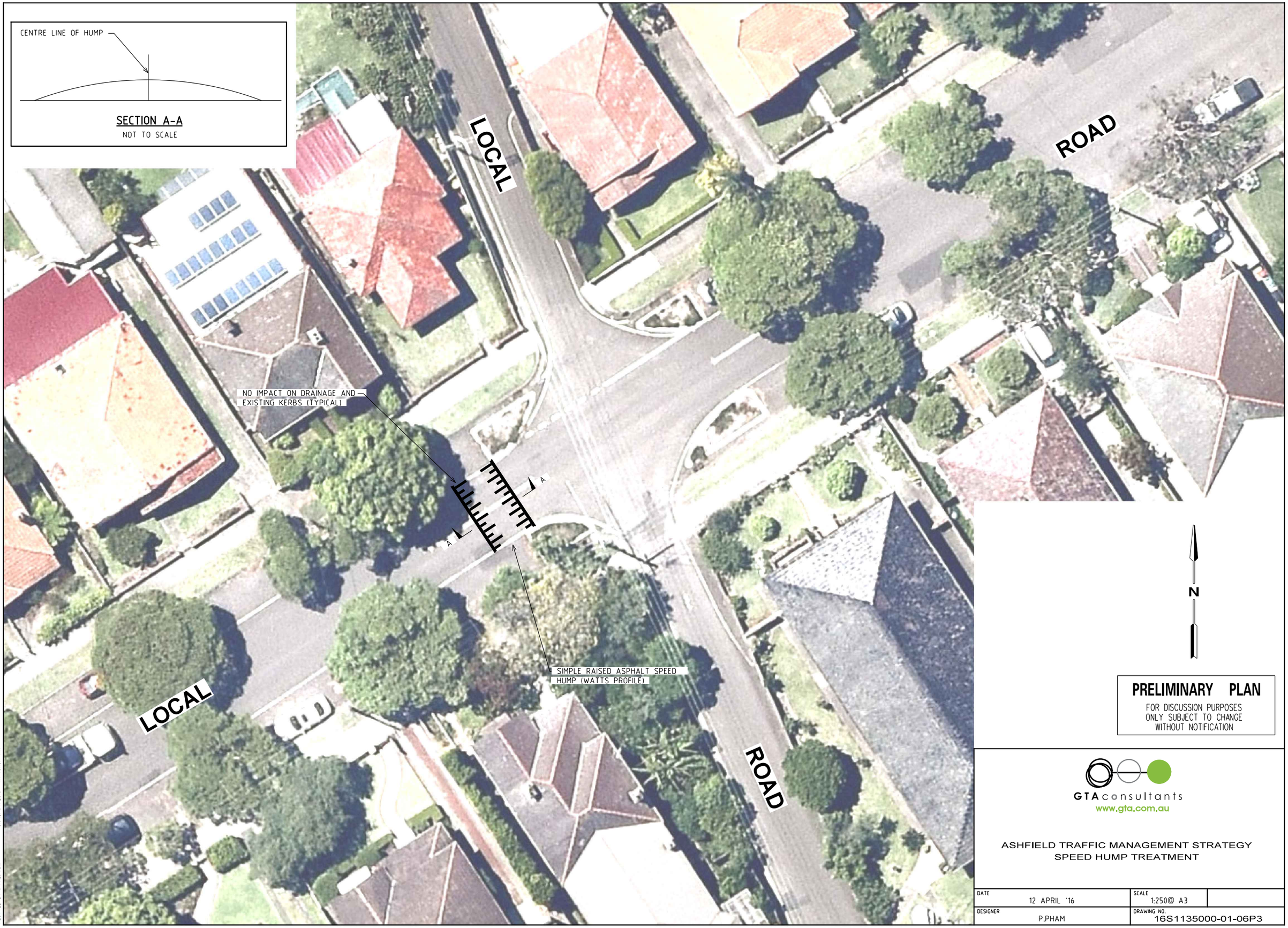
# ASHFIELD TRAFFIC MANAGEMENT STRATEGY
# RAISED ENTRY THRESHOLD WITH RAISED MEDIAN TREATMENT

| | | |
|---|---|---|
| DATE: 12 APRIL '16 | SCALE: 1:250@ A3 | |
| DESIGNER: P.PHAM | DRAWING NO.: 16S1135000-01-18P3 | |

PLOTTED BY : PhuPham ON 13/04/2016 AT 11:19:13 AM




**PRELIMINARY PLAN**

FOR DISCUSSION PURPOSES
ONLY SUBJECT TO CHANGE
WITHOUT NOTIFICATION

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ASHFIELD TRAFFIC MANAGEMENT STRATEGY
SPEED HUMP TREATMENT

| | | |
|---|---|---|
| DATE: 12 APRIL '16 | SCALE: 1:250@ A3 | |
| DESIGNER: P.PHAM | DRAWING NO.: 16S1135000-01-06P3 | |

PLOTTED BY : PhuPham ON 13/04/2016 AT 11:19:14 AM


**PRELIMINARY PLAN**

FOR DISCUSSION PURPOSES
ONLY SUBJECT TO CHANGE
WITHOUT NOTIFICATION

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ASHFIELD TRAFFIC MANAGEMENT STRATEGY
SPEED CUSHION TREATMENT

| | | |
|---|---|---|
| DATE: 12 APRIL '16 | SCALE: 1:250@ A3 | |
| DESIGNER: P.PHAM | DRAWING NO.: 16S1135000-01-07P3 | |

PLOTTED BY : PhuPham ON 13/04/2016 AT 11:19:16 AM


**NOTE:**
PARKING TO BE CLEAR OF TREATMENT AS REQUIRED

**PRELIMINARY PLAN**
FOR DISCUSSION PURPOSES
ONLY SUBJECT TO CHANGE
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ASHFIELD TRAFFIC MANAGEMENT STRATEGY
RAISED MEDIAN TREATMENT

| | |
|---|---|
| DATE: 12 APRIL '16 | SCALE: 1:250@ A3 |
| DESIGNER: P.PHAM | DRAWING NO.: 16S1135000-01-08P3 |

PLOTTED BY : PhuPham ON 13/04/2016 AT 11:19:17 AM

KEY

MOUNTABLE APRON

LOCAL

ROAD

ROUNABOUT CENTRAL ISLAND ENLARGED TO IMPROVE DEFLECTION USING MOUNTABLE APRON AS REQUIRED

NO IMPACT ON DRAINAGE AND EXISTING KERBS (TYPICAL)

ROAD

LOCAL

40

N

**PRELIMINARY PLAN**

FOR DISCUSSION PURPOSES
ONLY SUBJECT TO CHANGE
WITHOUT NOTIFICATION

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ASHFIELD TRAFFIC MANAGEMENT STRATEGY
ENLARGE EXISTING ROUNDABOUT
CENTRAL ISLAND TREATMENT

| | | |
|---|---|---|
| DATE 12 APRIL '16 | SCALE 1:250@ A3 | |
| DESIGNER P.PHAM | DRAWING NO. 16S1135000-01-09P3 | |

PLOTTED BY : PhuPham ON 13/04/2016 AT 11:19:18 AM

KEY

- BOLT DOWN TYPE SPEED CUSHION
- RAISED KERB TRAFFIC ISLAND
- FOOTPATH EXTENSION TO EXISTING FOOTPATH

LOCAL ROAD

ROAD

LOCAL

40

NO IMPACT ON DRAINAGE AND EXISTING KERBS (TYPICAL)

N

**PRELIMINARY PLAN**

FOR DISCUSSION PURPOSES
ONLY SUBJECT TO CHANGE
WITHOUT NOTIFICATION

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# ASHFIELD TRAFFIC MANAGEMENT STRATEGY
## KERB BUILT OUT TREATMENT
## WITH RAISED MEDIAN AND SPEED CUSHIONS

| | | |
|---|---|---|
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| DESIGNER: P.PHAM | DRAWING NO.: 16S1135000-01-11P3 | |

PLOTTED BY : PhuPham ON 13/04/2016 AT 11:19:19 AM

KEY

MOUNTABLE ISLAND TO FACILITATE LARGE VEHICLE TURNING MOVEMENT

KERB BUILT OUT TO CONTROL DEFLECTION AND PARKING (TYP.) LOW LEVEL LANSCAPING AS REQUIRED

DALMAR

STREET

KERB RAMPS TO BE PROVIDED ON ALL CORNERS IN ACCORDANCE WITH DDA REQUIREMENTS.

NO IMPACT ON DRAINAGE AND EXISTING KERBS (TYPICAL)

SCOTT

STREET

N

**PRELIMINARY PLAN**

FOR DISCUSSION PURPOSES ONLY SUBJECT TO CHANGE WITHOUT NOTIFICATION

**NOTE:**

PARKING TO BE CLEAR OF TREATMENT AS REQUIRED

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ASHFIELD TRAFFIC MANAGEMENT STRATEGY
PROPOSED ROUNDABOUT
DALMAR STREET / SCOTT STREET

| | | |
|---|---|---|
| DATE: 12 APRIL '16 | SCALE: 1:250@ A3 | |
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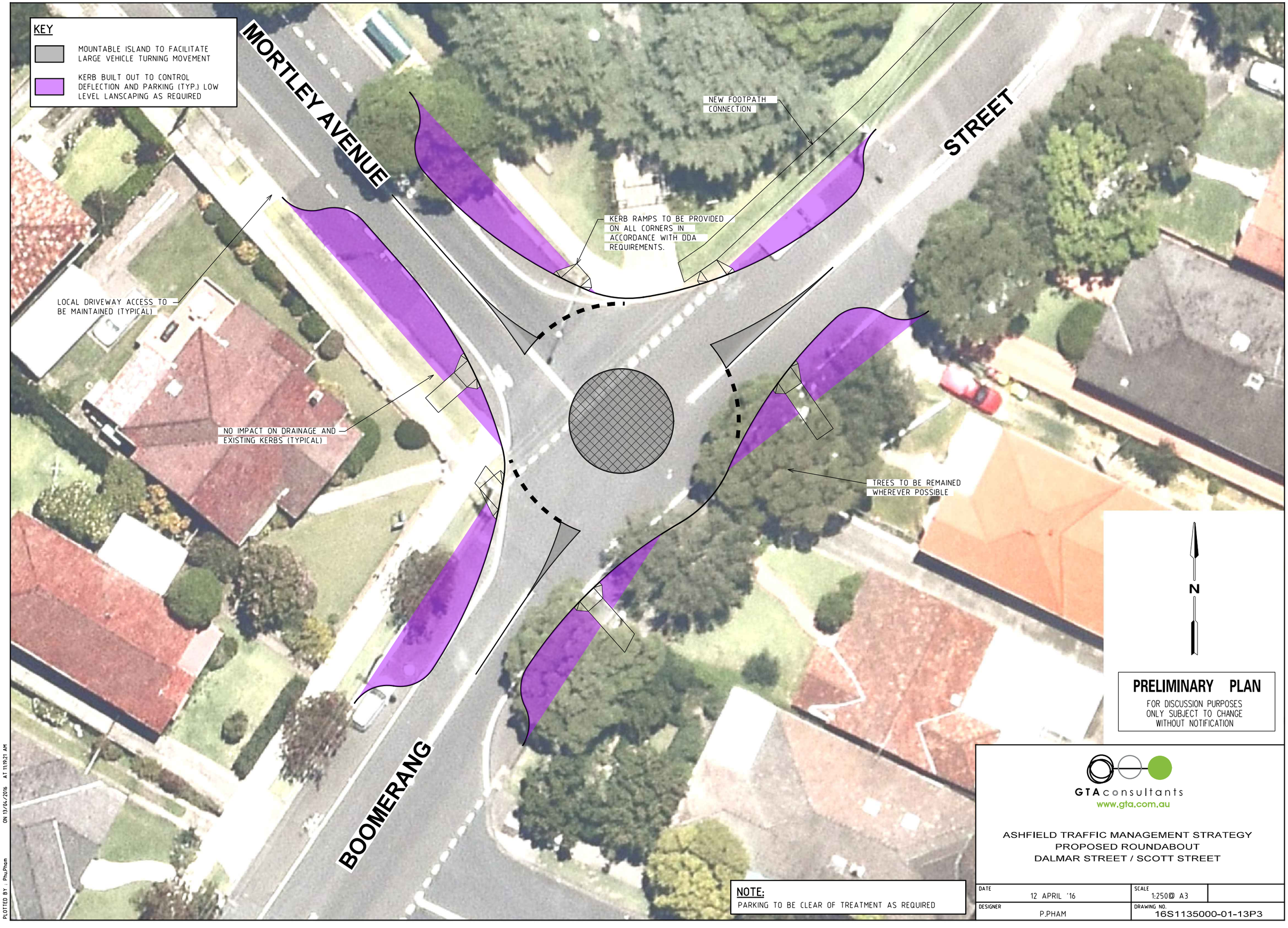
PLOTTED BY : PhuPham ON 13/04/2016 AT 11:19:20 AM




**NOTE:**
PARKING TO BE CLEAR OF TREATMENT AS REQUIRED

**PRELIMINARY PLAN**
FOR DISCUSSION PURPOSES ONLY SUBJECT TO CHANGE WITHOUT NOTIFICATION

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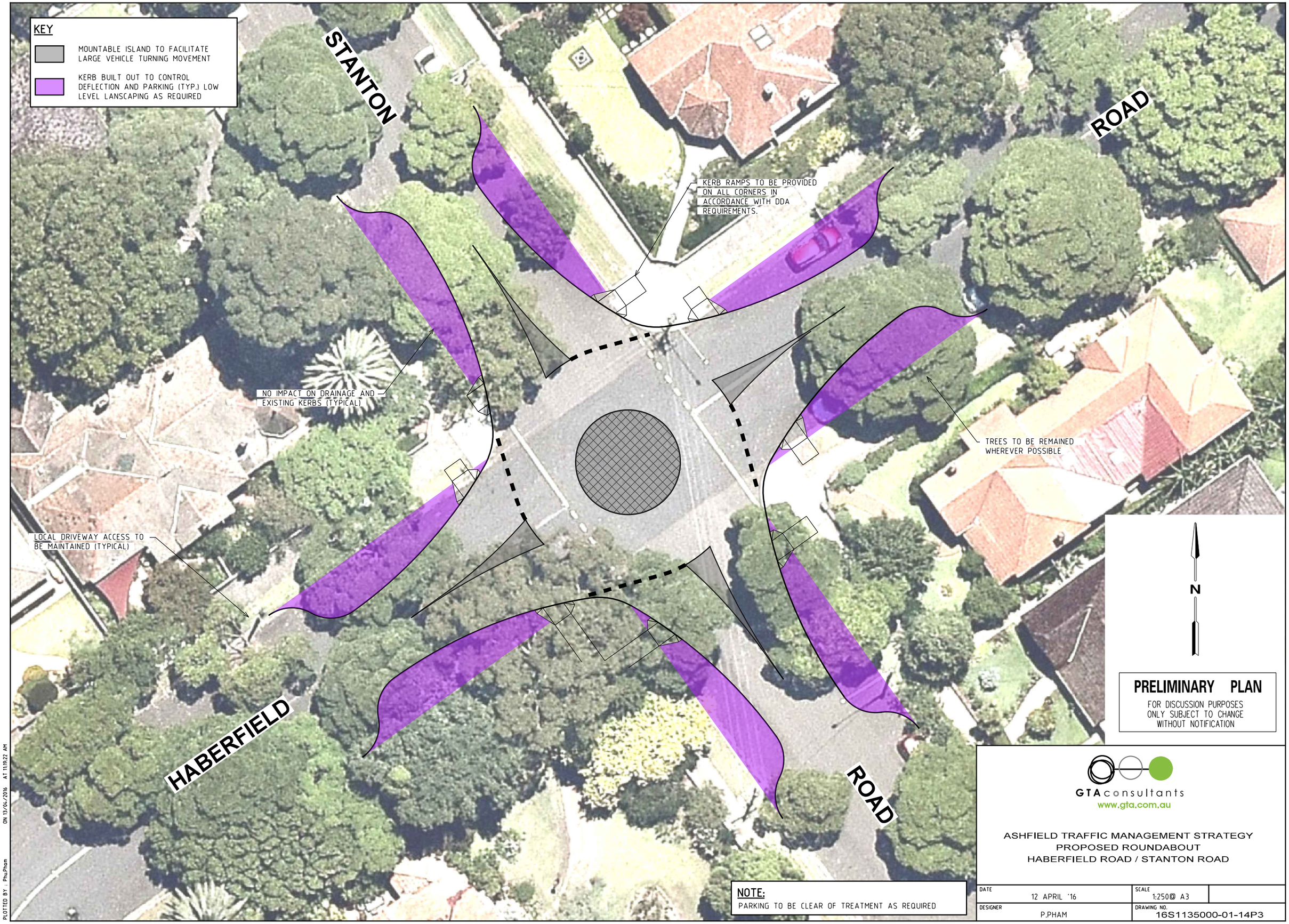
ASHFIELD TRAFFIC MANAGEMENT STRATEGY
PROPOSED ROUNDABOUT
DALMAR STREET / SCOTT STREET

| | | |
|---|---|---|
| DATE: 12 APRIL '16 | SCALE: 1:250@ A3 | |
| DESIGNER: P.PHAM | DRAWING NO.: 16S1135000-01-13P3 | |

PLOTTED BY : Phu.Pham ON 13/04/2016 AT 11:19:21 AM




**PRELIMINARY PLAN**

FOR DISCUSSION PURPOSES
ONLY SUBJECT TO CHANGE
WITHOUT NOTIFICATION

**NOTE:**
PARKING TO BE CLEAR OF TREATMENT AS REQUIRED

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ASHFIELD TRAFFIC MANAGEMENT STRATEGY
PROPOSED ROUNDABOUT
HABERFIELD ROAD / STANTON ROAD

| | | |
|---|---|---|
| DATE: 12 APRIL '16 | SCALE: 1:250@ A3 | |
| DESIGNER: P.PHAM | DRAWING NO.: 16S1135000-01-14P3 | |

PLOTTED BY : Phu.Pham ON 13/04/2016 AT 11:19:22 AM

KEY

MOUNTABLE ISLAND TO FACILITATE LARGE VEHICLE TURNING MOVEMENT

KERB BUILT OUT TO CONTROL DEFLECTION AND PARKING (TYP.) LOW LEVEL LANSCAPING AS REQUIRED

CHANDOS STREET

STREET

ORPINGTON

LOCAL DRIVEWAY ACCESS TO BE MAINTAINED (TYPICAL)

KERB RAMPS TO BE PROVIDED ON ALL CORNERS IN ACCORDANCE WITH DDA REQUIREMENTS.

NO IMPACT ON DRAINAGE AND EXISTING KERBS (TYPICAL)

TREES TO BE REMAINED WHEREVER POSSIBLE

N

**PRELIMINARY PLAN**

FOR DISCUSSION PURPOSES ONLY SUBJECT TO CHANGE WITHOUT NOTIFICATION

**NOTE:**
PARKING TO BE CLEAR OF TREATMENT AS REQUIRED

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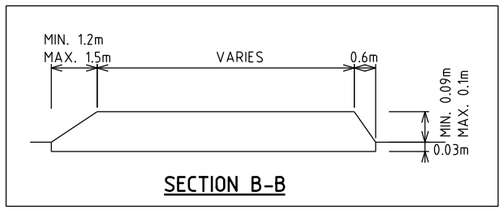
ASHFIELD TRAFFIC MANAGEMENT STRATEGY
PROPOSED ROUNDABOUT
ORPINGTON STREET / CHANDOS STREET

| | |
|---|---|
| DATE: 12 APRIL '16 | SCALE: 1:250@ A3 |
| DESIGNER: P.PHAM | DRAWING NO.: 16S1135000-01-15P3 |

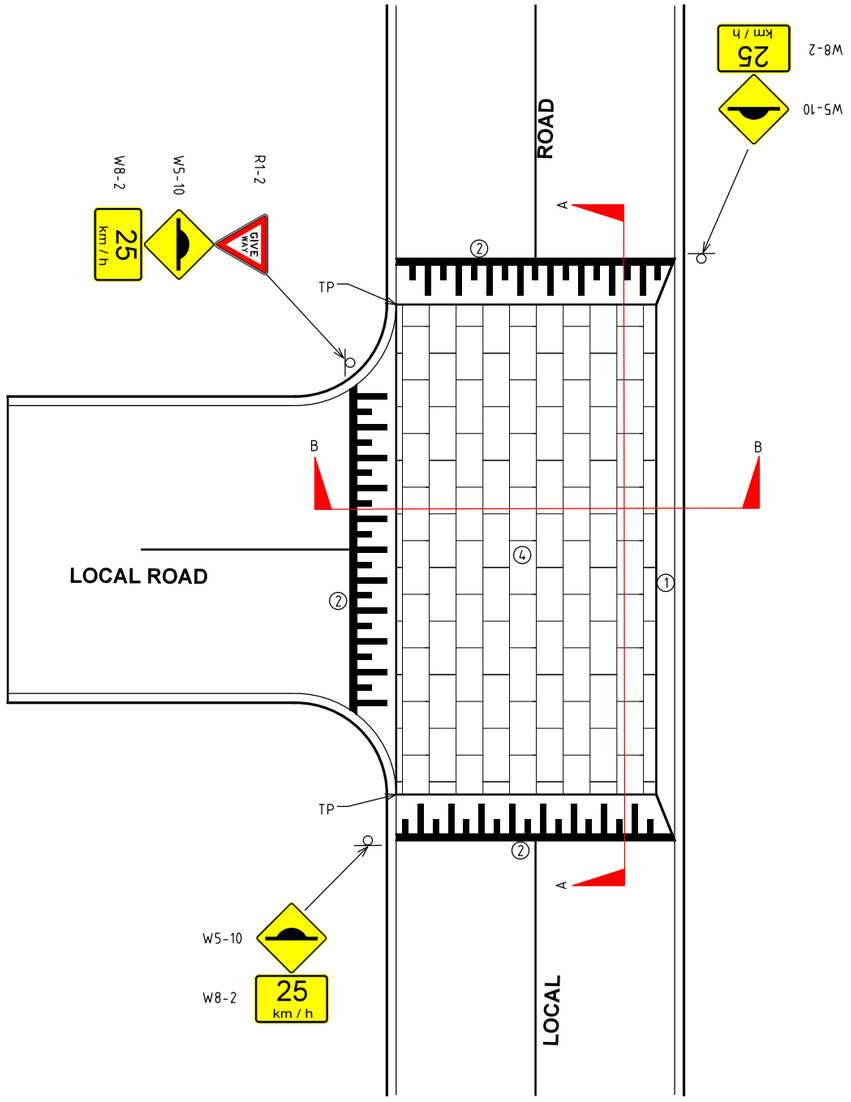
PLOTTED BY : PhuPham ON 13/04/2016 AT 11:19:23 AM

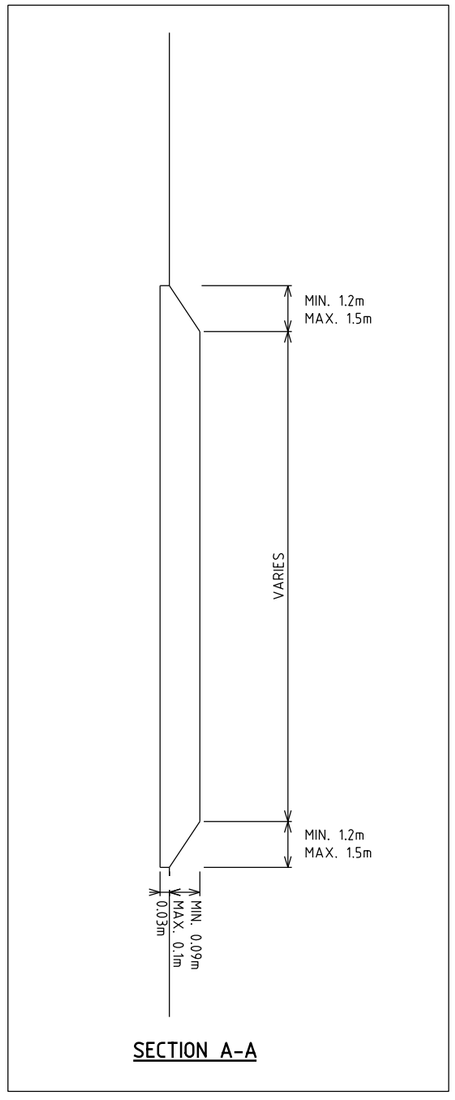
# Appendix F

## Detailed Design Templates




SECTION B-B




SECTION A-A

**PRELIMINARY PLAN**

FOR DISCUSSION PURPOSES
ONLY SUBJECT TO CHANGE
WITHOUT NOTIFICATION

## NOTES:

1. TAPER THE LAST 0.6m AT EACH END FLUSH TO THE EDGE OF THE GUTTER TO PROVIDE DRAINAGE.
2. MARK RAMP IN ACCORDANCE WITH AUSTRALIAN STANDARD AS 1742.13
3. INTERSECTION CONTROL CAN VARY DEPENDING ON LOCATION
4. COLOURED ASPHALT BRICK PATTERN IMPRINT, REMOVE 0.03m OF EXISTING SURFACE TO ALLOW FOR FEATHERING OF NEW ASPHALT RAISED SURFACE TO EXISTING ROAD SURFACE

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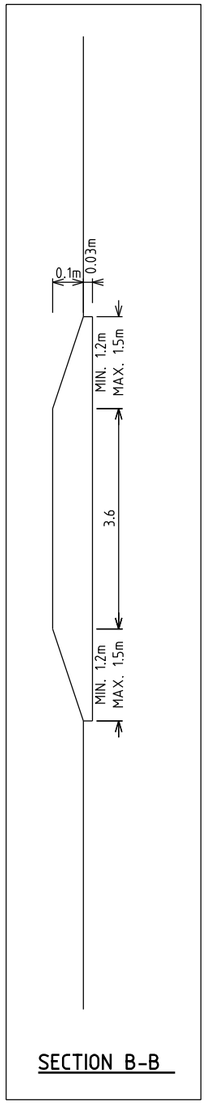
ASHFIELD TRAFFIC MANAGEMENT STRATEGY

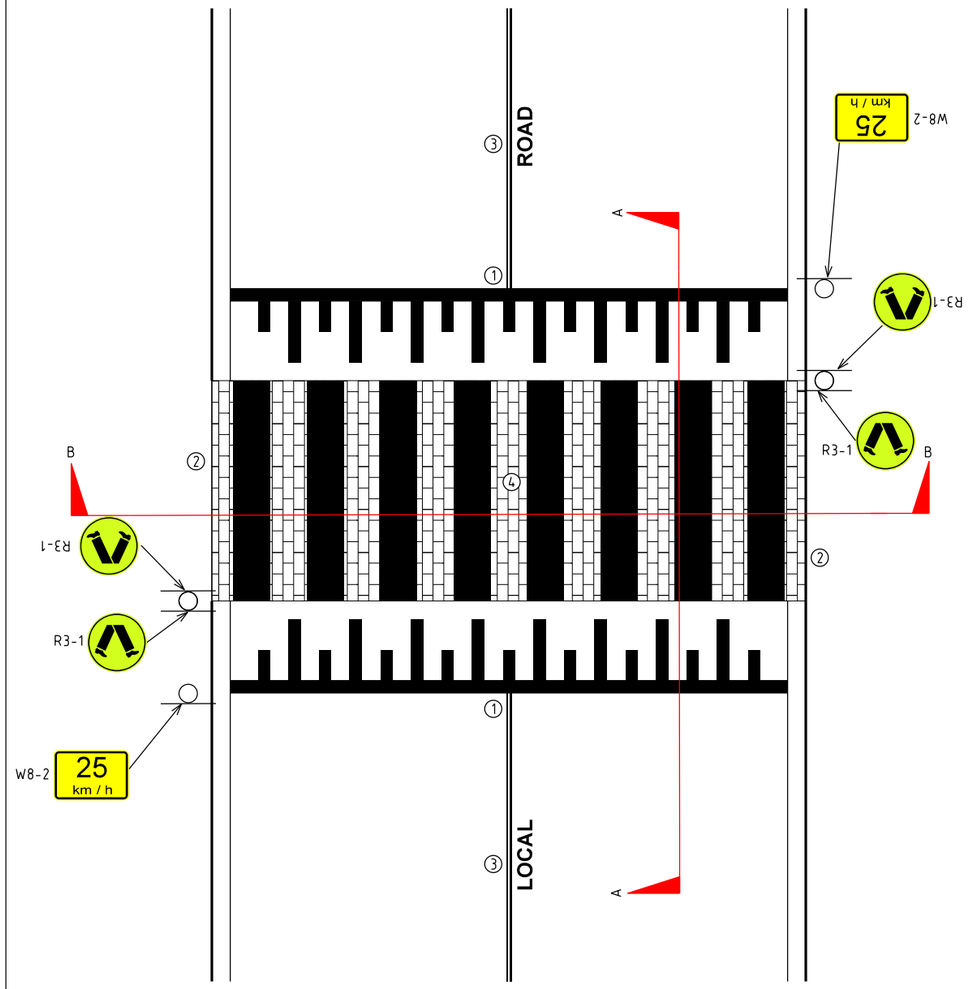
RAISED PAVEMENT AT INTERSECTION

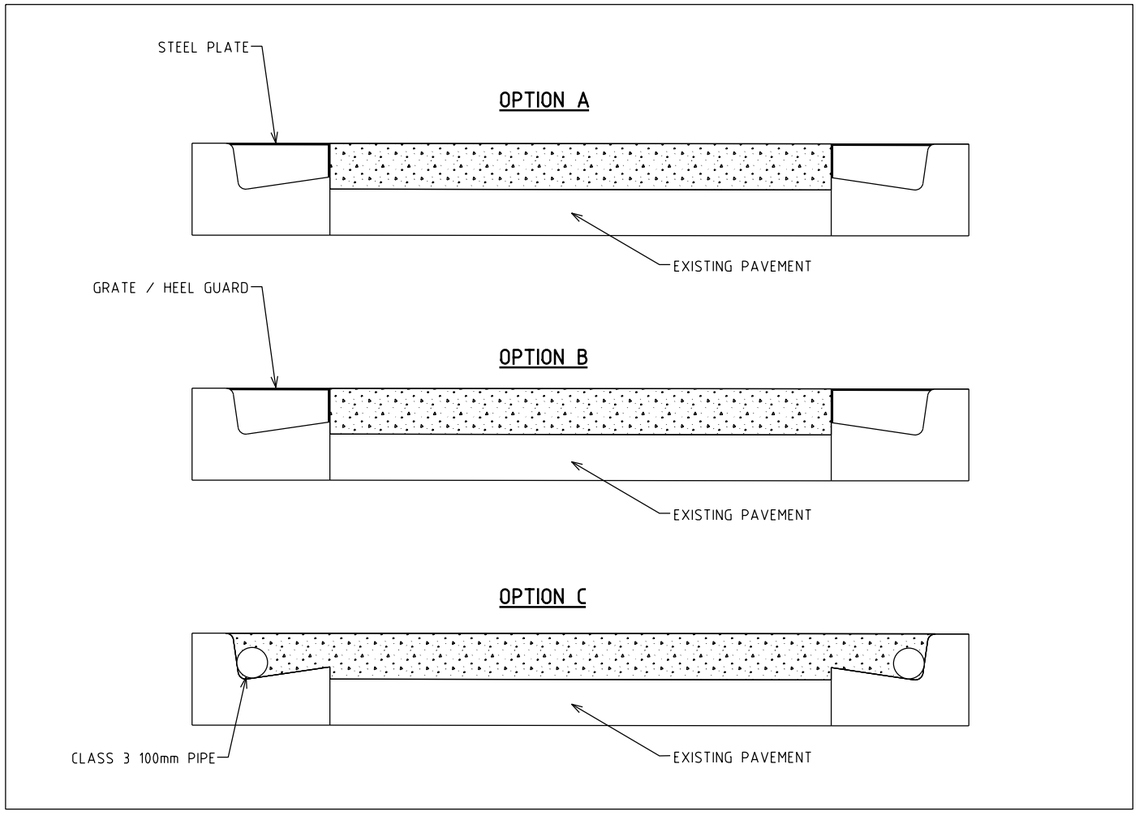
| DATE | SCALE | |
|---|---|---|
| 24 JUNE '16 | N.T.S | |
| DESIGNER | DRAWING NO. | |
| P.PHAM / B.JAYASINGHE | 16S1135000-02-01P1 | |

PLOTTED BY : Bumeke.Jayasinghe ON 27/06/2016 AT 7:21:36 PM




SECTION B-B




SECTION B-B
DRAINAGE OPTIONS

## NOTES:

1. MARK RAMP IN ACCORDANCE WITH AUSTRALIAN STANDARD AS 1742.13 (2009)
2. PEDESTRIAN CROSSING TO BE FLUSH WITH FOOTPATH WITH GUTTER DRAINAGE TO BE PROVIDED
3. A BARRIER LINE (BB) IS PROVIDED ON EACH APPROACH TO THE CROSSING, IF THE ROAD HAS A DIVIDING LINE, FOR 20m TO EXTEND FROM THE EDGE OF THE CROSSING WITH BI-DIRECTIONAL RRPM's AT 5.0m SPACING AND NO GAPS IN BB LINES
4. COLOURED ASPHALT BRICK PATTERN IMPRINT, REMOVE 0.03m OF EXISTING SURFACE TO ALLOW FOR FEATHERING OF NEW ASPHALT RAISED SURFACE TO EXISTING ROAD SURFACE

**PRELIMINARY PLAN**

FOR DISCUSSION PURPOSES
ONLY SUBJECT TO CHANGE
WITHOUT NOTIFICATION

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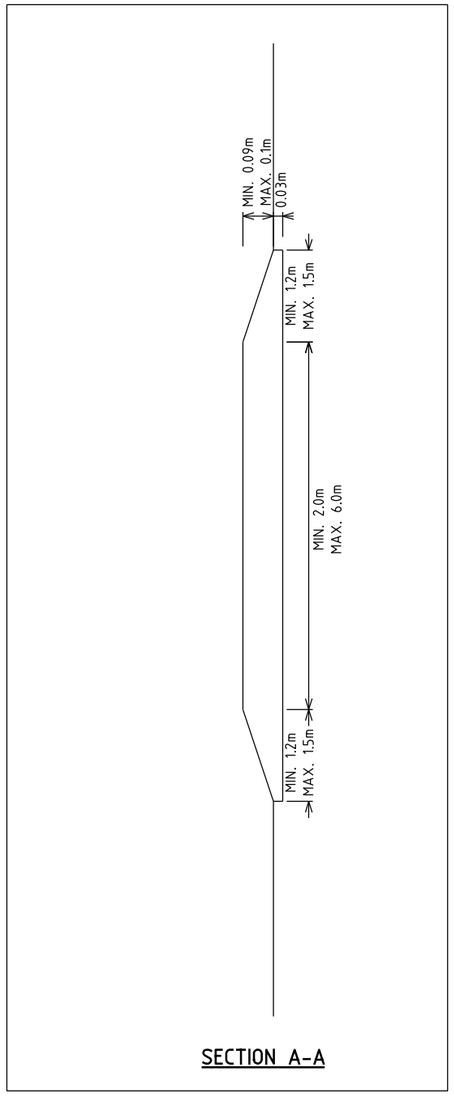
ASHFIELD TRAFFIC MANAGEMENT STRATEGY

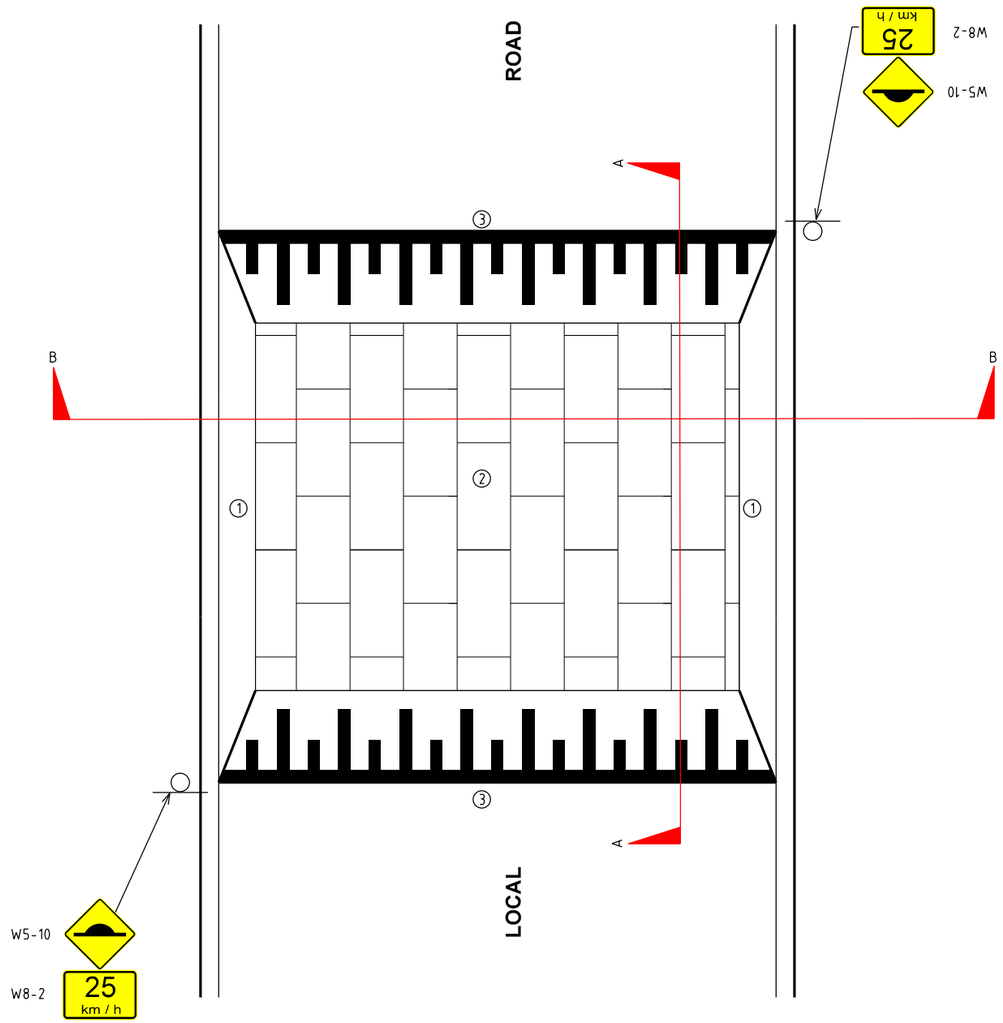
RAISED ZEBRA CROSSING TREATMENT

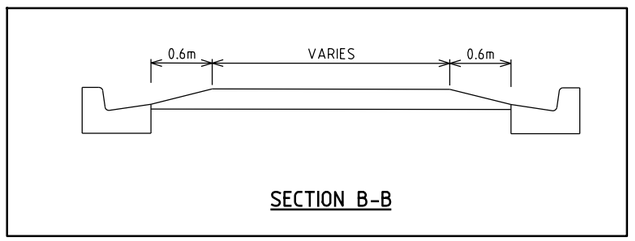
| | | |
|---|---|---|
| DATE: 24 JUNE '16 | SCALE: N.T.S | |
| DESIGNER: B.JAYASINGHE | DRAWING NO.: 16S1135000-02-02P1 | |

PLOTTED BY : Bumeke.Jayasinghe ON 27/06/2016 AT 7:21:36 PM




SECTION A-A




SECTION B-B

## NOTES:

1. TAPER THE LAST 0.6m AT EACH END FLUSH TO THE EDGE OF THE GUTTER TO PROVIDE DRAINAGE.
2. COLOURED ASPHALT BRICK PATTERN IMPRINT. REMOVE 0.03m OF EXISTING SURFACE TO ALLOW FOR FEATHERING OF NEW ASPHALT RAISED SURFACE TO EXISTING ROAD SURFACE
3. MARK RAMP IN ACCORDANCE WITH AUSTRALIAN STANDARD AS 1742.13

**PRELIMINARY PLAN**

FOR DISCUSSION PURPOSES
ONLY SUBJECT TO CHANGE
WITHOUT NOTIFICATION

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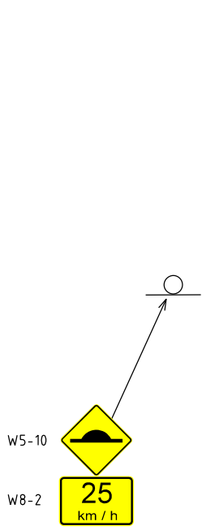
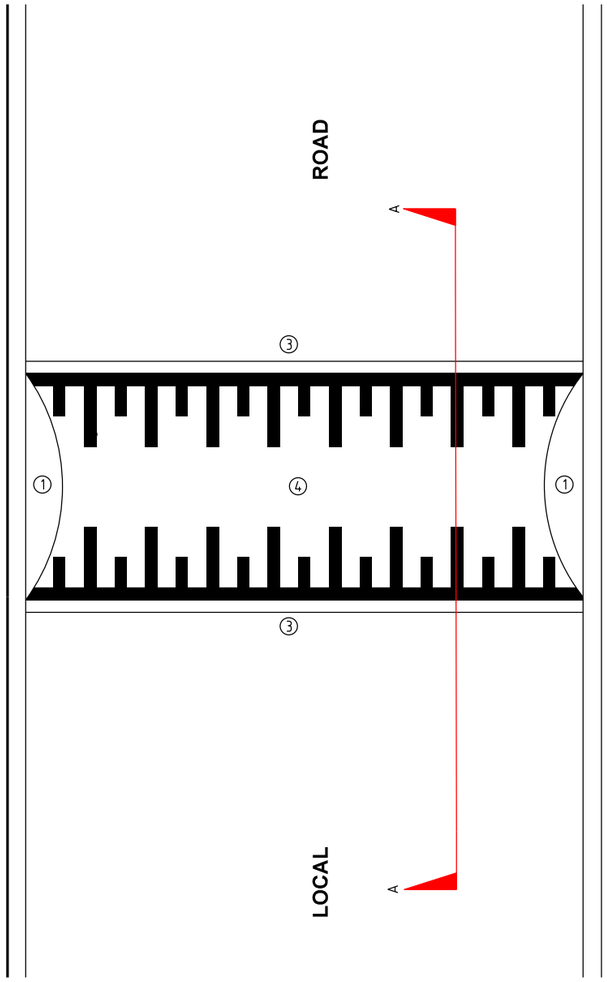
ASHFIELD TRAFFIC MANAGEMENT STRATEGY

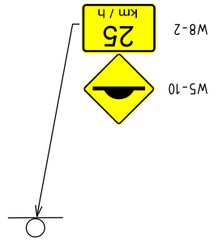
FLAT TOP ROAD HUMP

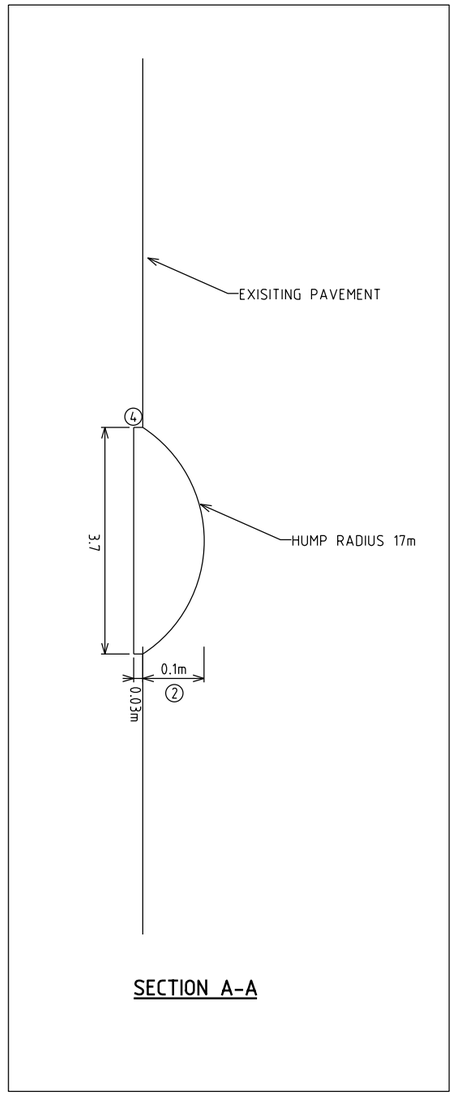
| DATE | SCALE | |
|---|---|---|
| 24 JUNE '16 | N.T.S | |
| DESIGNER | DRAWING NO. | |
| B.JAYASINGHE | 16S1135000-02-03P1 | |

PLOTTED BY : Bumeke.Jayasinghe ON 27/06/2016 AT 7:21:36 PM




## NOTES:

1. TAPER THE LAST 0.6m AT EACH END FLUSH TO THE EDGE OF THE GUTTER TO PROVIDE DRAINAGE.
2. MAX. 0.075m ON BUS ROUTES
3. MARK HUMP IN ACCORDANCE WITH AUSTRALIAN STANDARD AS1742.13
4. COLOURED ASPHALT BRICK PATTERN IMPRINT, REMOVE 0.03m OF EXISTING SURFACE TO ALLOW FOR FEATHERING OF NEW ASPHALT RAISED SURFACE TO EXISTING ROAD SURFACE

**PRELIMINARY PLAN**

FOR DISCUSSION PURPOSES
ONLY SUBJECT TO CHANGE
WITHOUT NOTIFICATION

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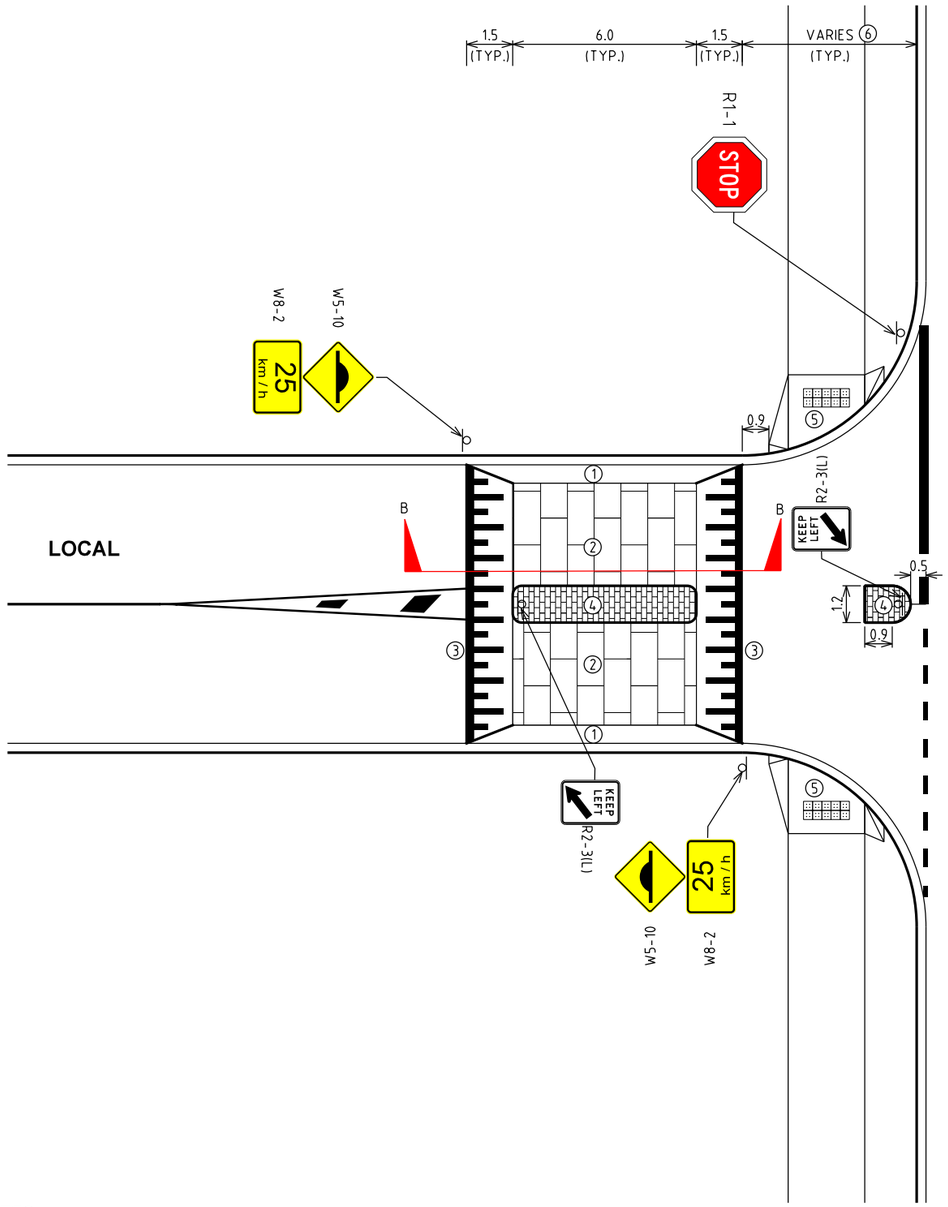
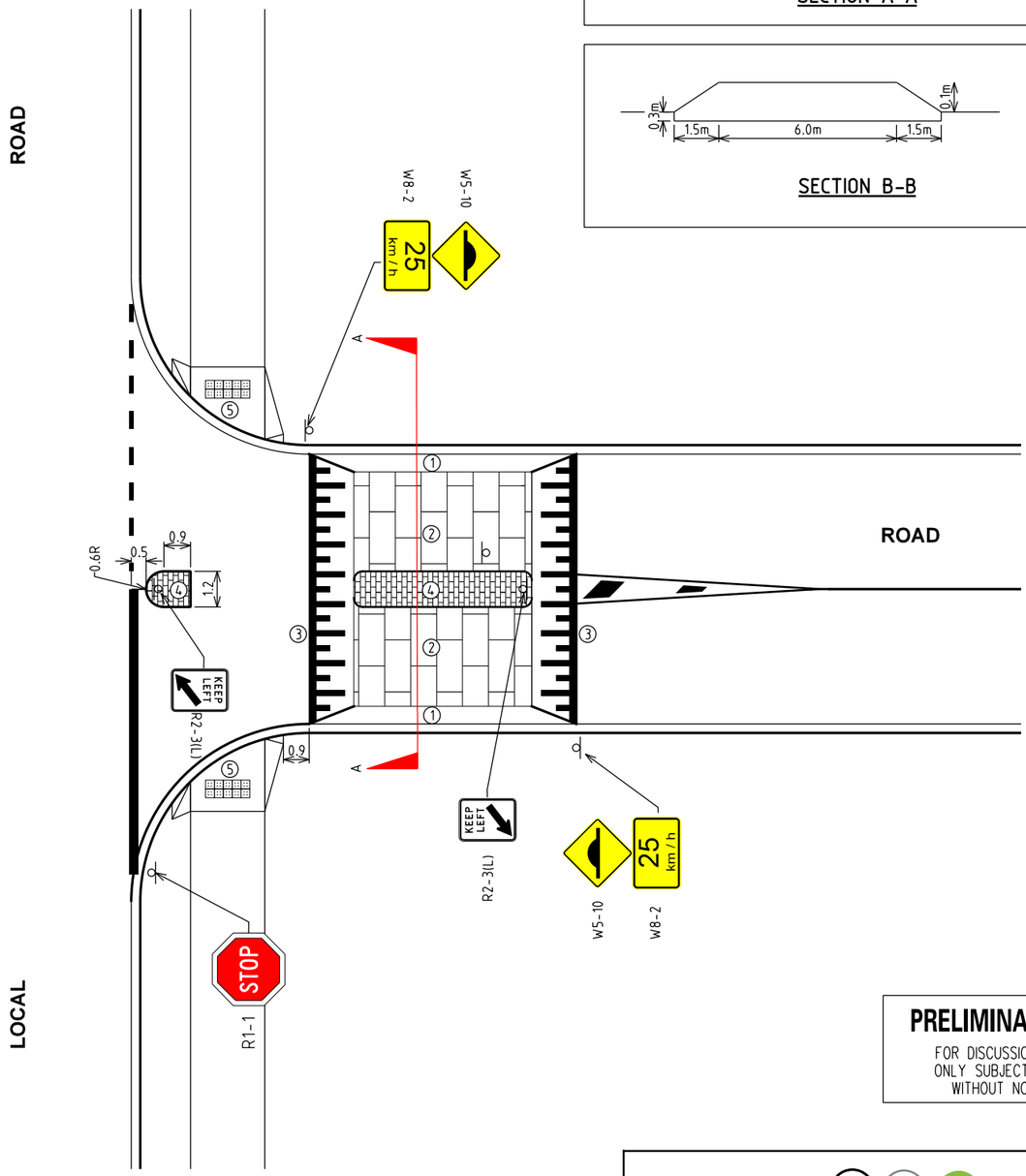
ASHFIELD TRAFFIC MANAGEMENT STRATEGY

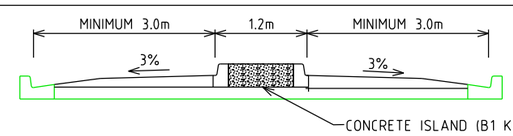
WATTS PROFILE ROAD HUMP

| DATE | SCALE | |
|---|---|---|
| 24 JUNE '16 | N.T.S | |
| DESIGNER | DRAWING NO. | |
| B.JAYASINGHE | 16S1135000-02-04P1 | |

PLOTTED BY : Bumeke.Jayasinghe ON 27/06/2016 AT 7:21:36 PM




SECTION A-A




SECTION B-B

**PRELIMINARY PLAN**

FOR DISCUSSION PURPOSES
ONLY SUBJECT TO CHANGE
WITHOUT NOTIFICATION

## NOTES:

① TAPER THE LAST 0.6m AT EACH END FLUSH TO THE EDGE OF THE GUTTER TO PROVIDE DRAINAGE.

② COLOURED ASPHALT BRICK PATTERN IMPRINT. REMOVE 0.03m OF EXISTING SURFACE TO ALLOW FOR FEATHERING OF NEW ASPHALT RAISED SURFACE TO EXISTING ROAD SURFACE

③ MARK HUMP IN ACCORDANCE WITH AUSTRALIAN STANDARD AS1742.13

④ CONSTRUCT CONCRETE ISLAND (OPTIONAL , BASED ON CROSSING PATH CONSTRAINTS AND SWEPT PATHS)

⑤ INSTALL TGSIs AS PER AUSTRALIAN STANDARD AS1428

⑥ DISTANCE DEPENDS ON PEDESTRIAN CROSSING POINT WIDTH

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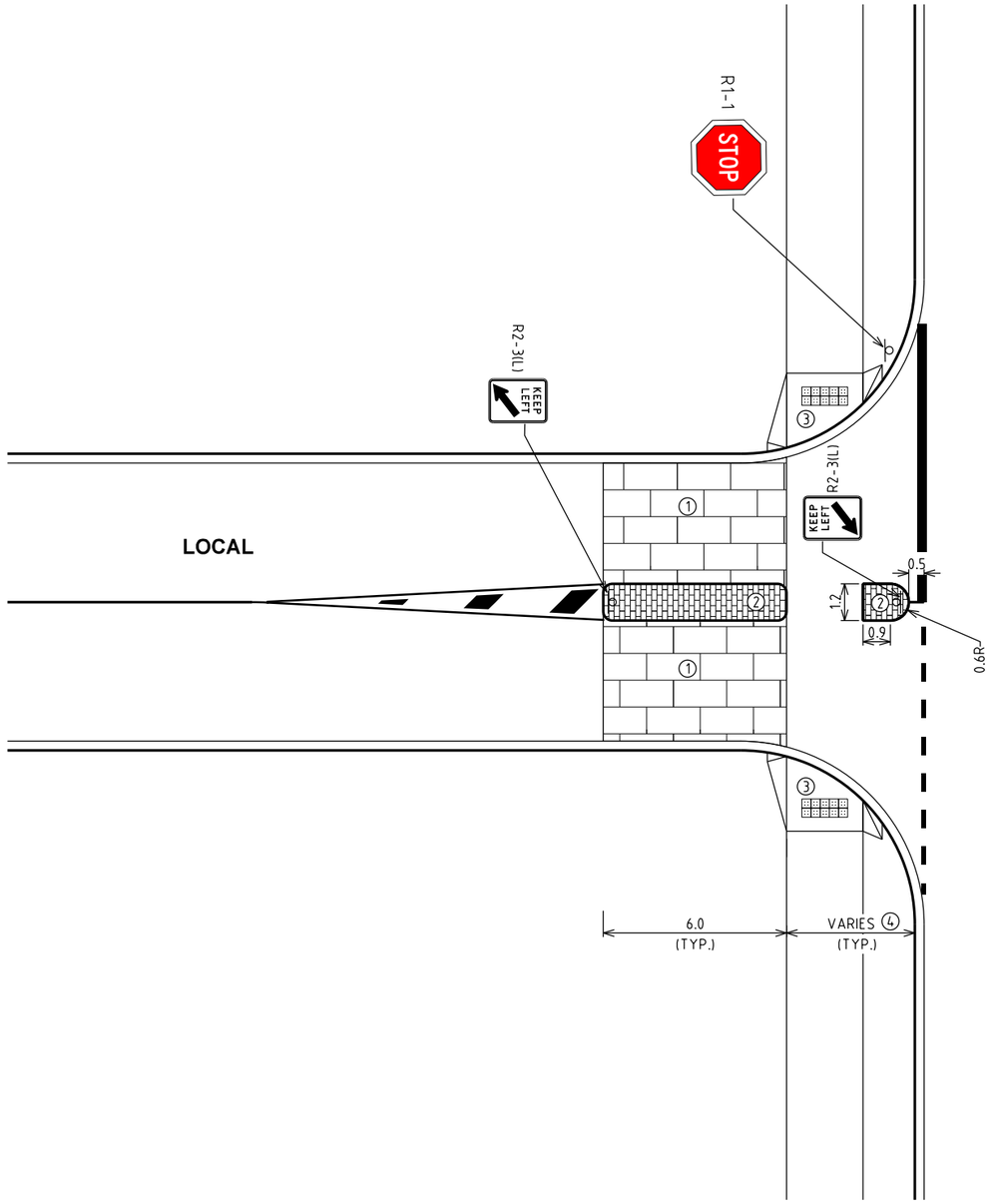
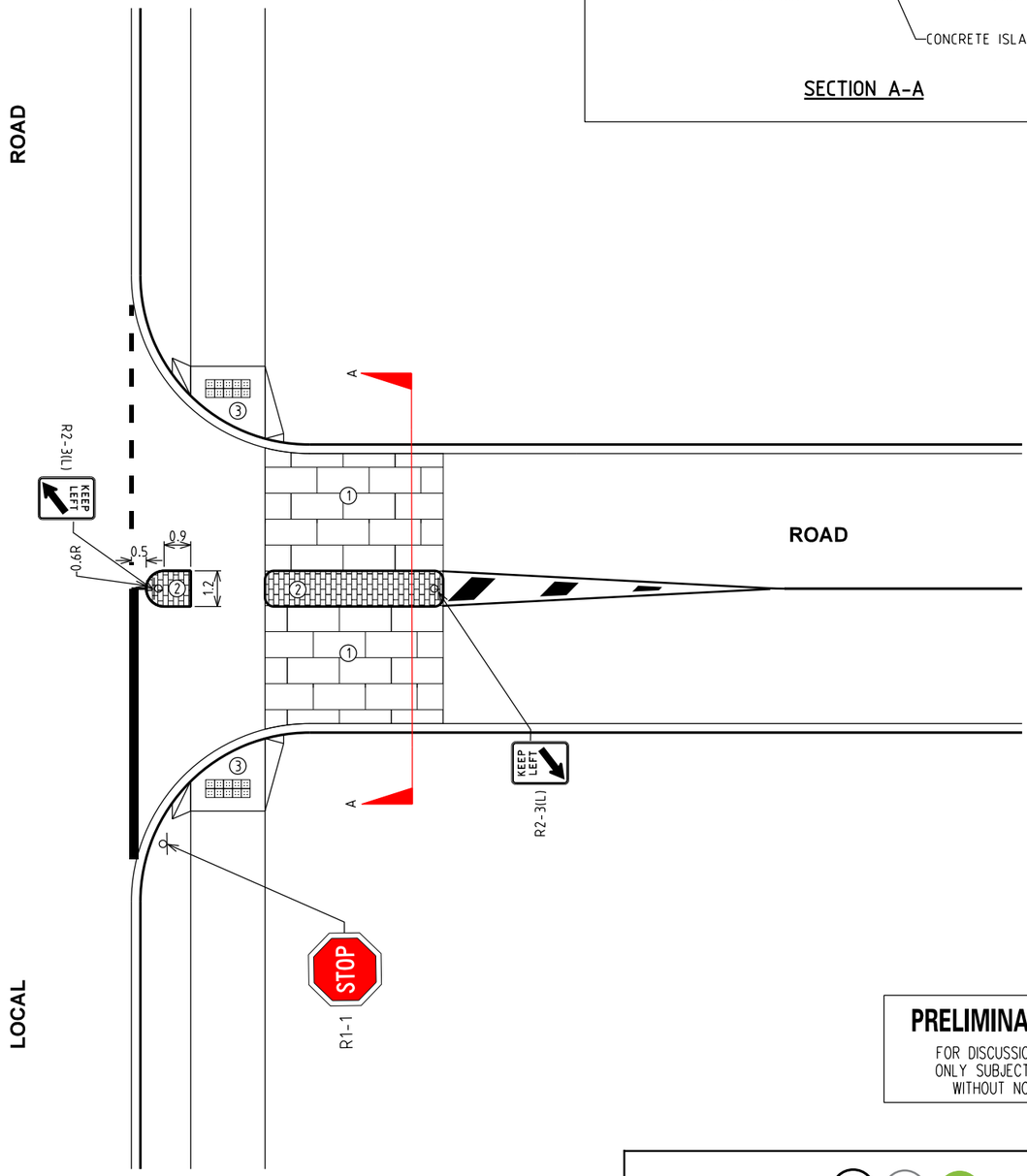
ASHFIELD TRAFFIC MANAGEMENT STRATEGY

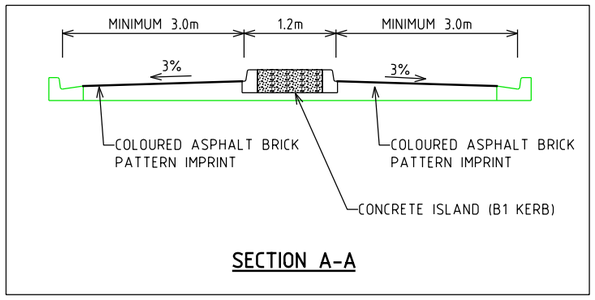
RAISED ENTRY THRESHOLD WITH
RAISED MEDIAN TREATMENT

| DATE | SCALE | |
|---|---|---|
| 24 JUNE '16 | N.T.S | |
| DESIGNER | DRAWING NO. | |
| B.JAYASINGHE | 16S1135000-02-05P1 | |

PLOTTED BY : Bumeke.Jayasinghe ON 27/06/2016 AT 7:21:36 PM




SECTION A-A

## NOTES:

① COLOURED ASPHALT BRICK PATTERN IMPRINT

② CONSTRUCT CONCRETE ISLAND (OPTIONAL , BASED ON CROSSING PATH CONSTRAINTS AND SWEPT PATHS)

③ INSTALL TGSIs AS PER AUSTRALIAN STANDARD AS1428

④ DISTANCE DEPENDS ON PEDESTRIAN CROSSING POINT WIDTH

**PRELIMINARY PLAN**

FOR DISCUSSION PURPOSES
ONLY SUBJECT TO CHANGE
WITHOUT NOTIFICATION

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# ASHFIELD TRAFFIC MANAGEMENT STRATEGY

## ENTRY THRESHOLD WITH RAISED MEDIAN TREATMENT

| DATE | SCALE | |
|---|---|---|
| 24 JUNE '16 | N.T.S | |
| DESIGNER | DRAWING NO. | |
| B.JAYASINGHE | 16S1135000-02-06P1 | |

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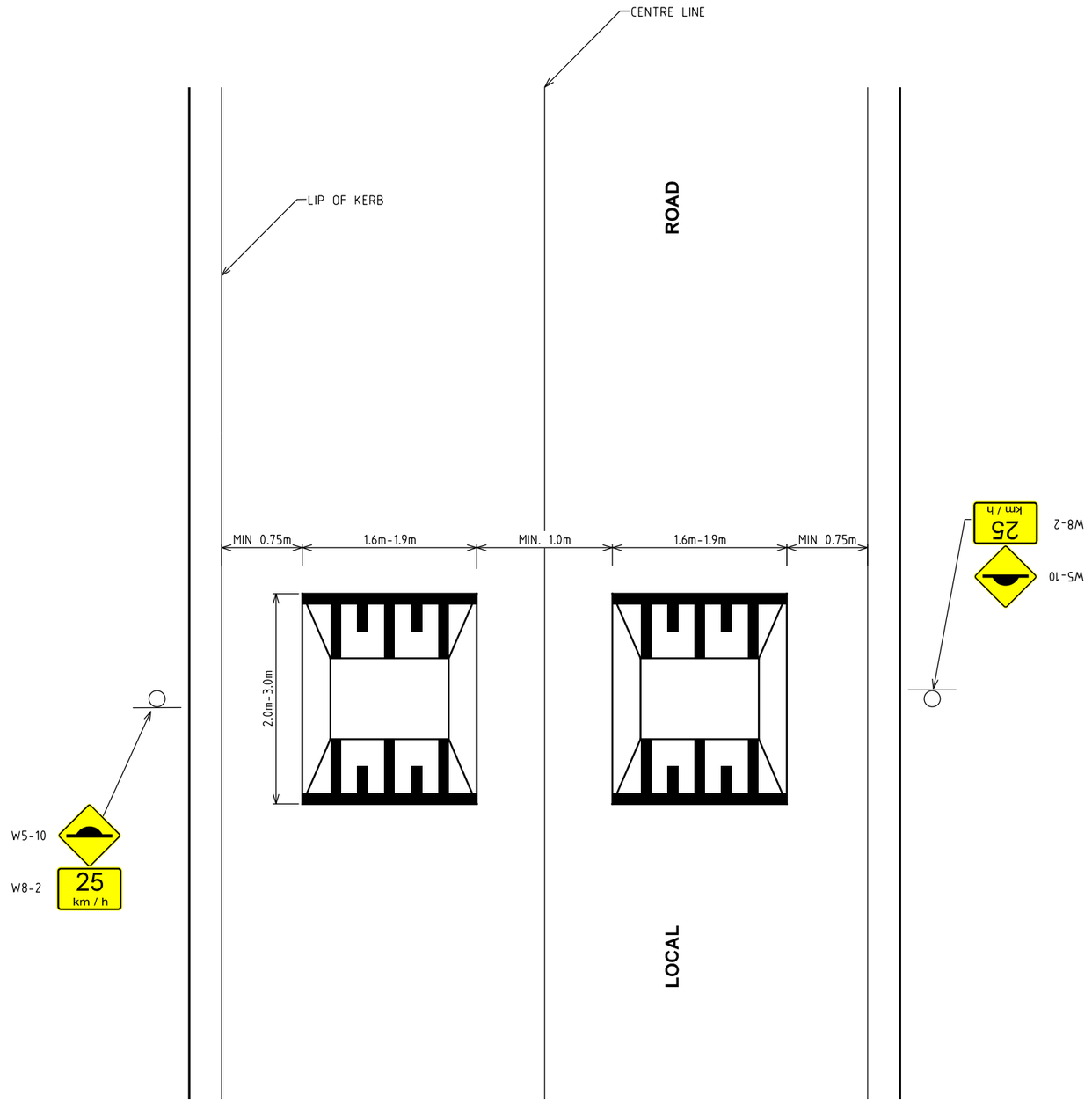


**PRELIMINARY PLAN**

FOR DISCUSSION PURPOSES
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WITHOUT NOTIFICATION

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ASHFIELD TRAFFIC MANAGEMENT STRATEGY

SPEED CUSHIONS

| | | |
|---|---|---|
| DATE: 24 JUNE '16 | SCALE: N.T.S | |
| DESIGNER: B.JAYASINGHE | DRAWING NO.: 16S1135000-02-07P1 | |

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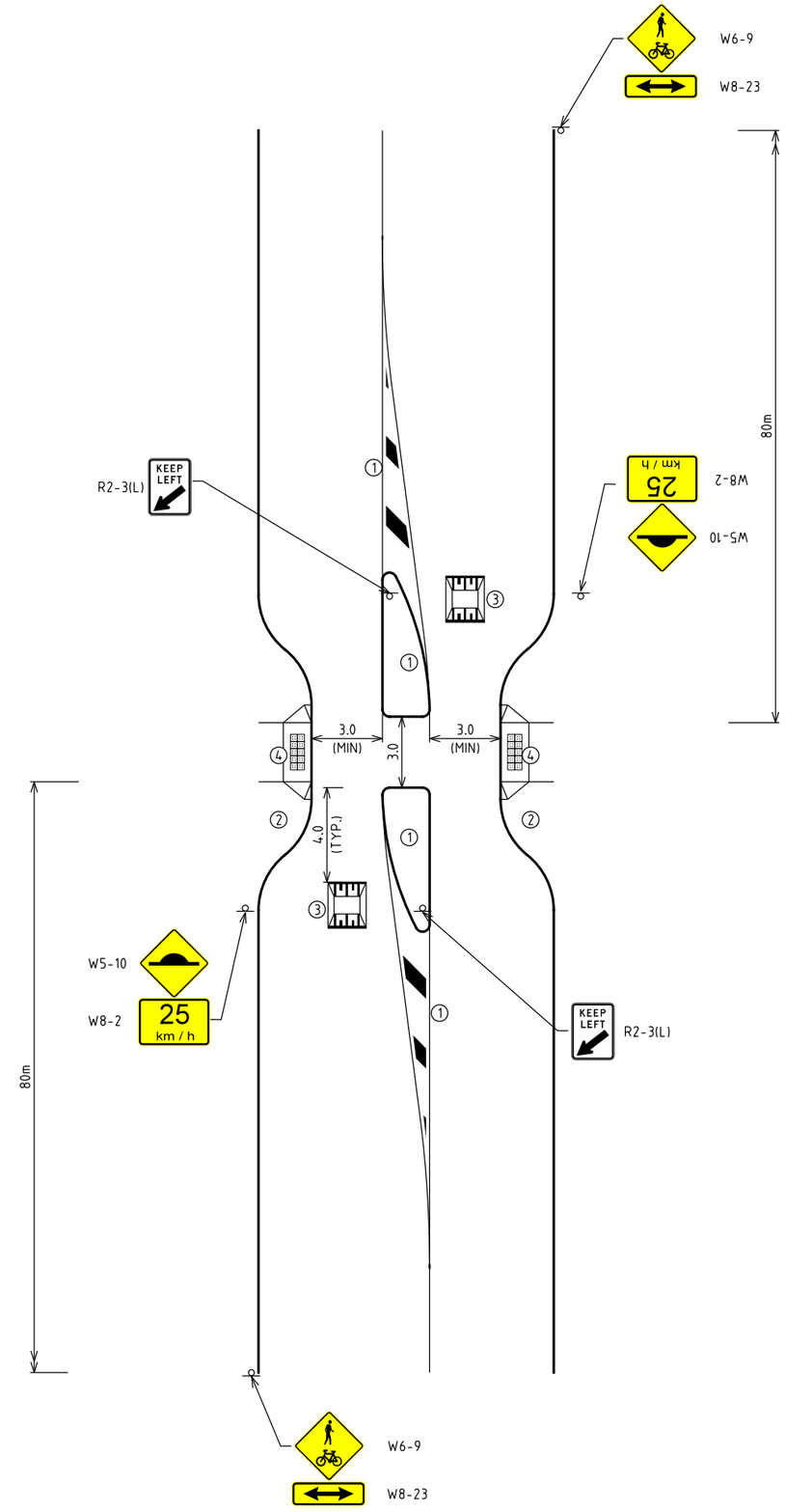
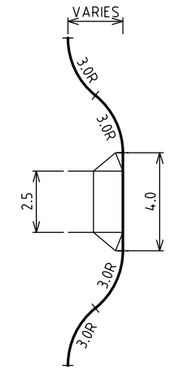
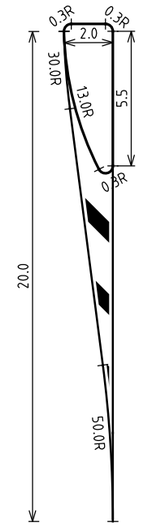



KERB BUILT OUT
SETOUT DETAIL




ISLAND AND LINEMARKING
SETOUT DETAIL

## NOTES:

1. REFER TO ISLAND AND LINEMARKING SETOUT DETAIL (TYP.)
2. REFER TO KERB BUILT OUT SETOUT DETAIL
3. SPEED CUSHIONS TO BE PLACED CENTRALLY TO LANE WIDTH BETWEEN ISLAND AND KERB BUILT OUT
4. INSTALL TGSIs AS PER AUSTRALIAN STANDARD AS1428

N

**PRELIMINARY PLAN**

FOR DISCUSSION PURPOSES
ONLY SUBJECT TO CHANGE
WITHOUT NOTIFICATION

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ASHFIELD TRAFFIC MANAGEMENT STRATEGY

KERB BUILT OUT TREATMENT WITH REFUGE AND SPEED CUSHIONS

| DATE | SCALE | |
|---|---|---|
| 24 JUNE '16 | N.T.S | |
| DESIGNER | DRAWING NO. | |
| B.JAYASINGHE | 16S1135000-02-08P1 | |

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