

DEVELOPMENT OF RECOMMENDATIONS

- On site audit and analysis
- Intersection counts and analysis
- Performance of the existing LATM scheme

Improvements are proposed in order to comply with Standards and prevailing guidelines relating to:

- **existing traffic management devices**
- **signs and pavement markings**
- **active transport facilities**

Council would address these issues through their on-going maintenance programmes

New works relate to

- 1. the management of intersections where a crash record exists**
- 2. LATM treatments supporting the 50km/h speed limit**
- 3. LATM treatments to establish a 40km/h speed limit in the study area.**

INTERSECTIONS

L Hawley 22 August 2018

ANALYSIS AND RECOMMENDATIONS

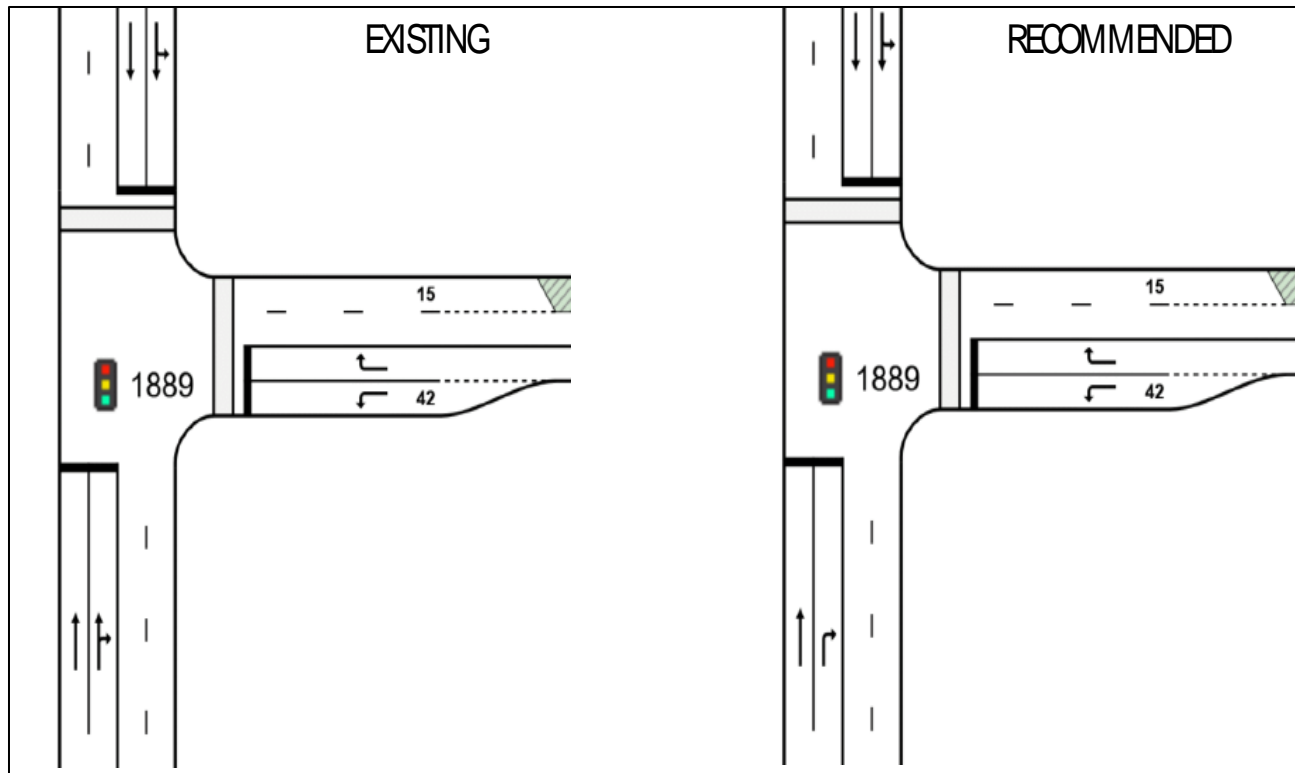
22 August 2018

ENMORE ROAD / LLEWELYN STREET INTERSECTION PROBLEM

This intersection has 7 crashes.

- Crash type “right through” occurred 3 times in this intersection.
- Occurs when a vehicle turning right (from Enmore Road into Llewellyn St) collides with an opposing vehicle traveling straight through the intersection.
- Vehicles turning right have to “filter” through the opposing straight movement (that is there is no green arrow phase to protect the right hand turn).

ENMORE ROAD / LLEWELYN STREET INTERSECTION SOLUTION

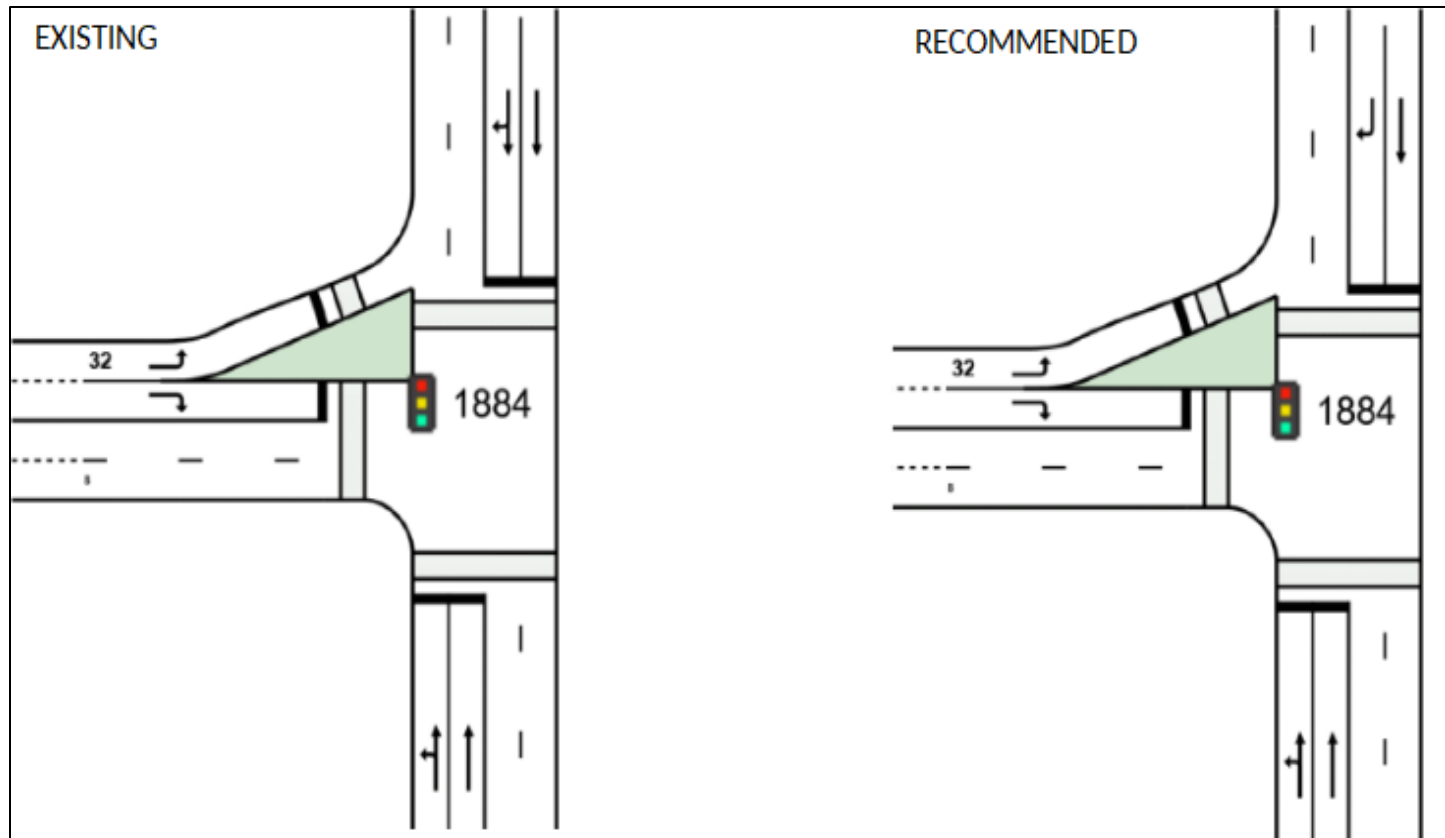


ENMORE ROAD/ ADDISON ROAD INTERSECTION PROBLEM

This intersection has five crashes.

- Crash type “right through” occurred 3 times in this intersection, of the 4 crashes involving a turning movement.
- Vehicles turning right have to “filter” through the opposing straight movement (that is there is no green arrow phase to protection the right hand turn).
- The intersection currently operates at a lower level of service in the morning - longer delays occur on the northern approach to the intersection (Enmore Road).
- Drivers choose inappropriate gaps for their right hand turns due to longer waiting times).

ENMORE ROAD/ ADDISON ROAD INTERSECTION SOLUTION



ADDISON ROAD/AGAR STREET/ILLAWARRA ROAD INTERSECTION - PROBLEM

This intersection has four crashes

- There are a variety of crash types – mainly “right through” including 3 prohibited right turns.
- Further investigation from the traffic counts revealed 3 occurrences of illegal right hand turns within 7 hours of surveys., indicating regular violation of the right turn ban.

ADDISON ROAD/AGAR STREET/ILLAWARRA ROAD INTERSECTION - SOLUTION

- To address the issue with illegal right hand turns, it is recommended that possibility of installation of a camera to capture violations be investigated with the Police.
- To address the issue of unsafe filtering right hand turns, it is recommended that traffic signal phasing be adjusted by introduction of a lagging right hand turn phase for the eastern approach to the intersection. Only minor increases of average delays would occur overall.

ENMORE ROAD / NEWINGTON ROAD INTERSECTION PROBLEM

The three crashes at this intersection involved three different types

- All involved a vehicle turning from Newington Road colliding with a vehicle travelling through the intersection. S
- Modelling indicated high delays for vehicles in Newington Road, which are likely to cause the drivers to choose shorter unsafe gaps in Enmore Road traffic.
- This is compounded by restricted visibility due to a bus stop with frequent services, located on Enmore Road immediately to the south of Newington Road.
- Newington Road is also flanked by two buildings which may be visual obstructions.

ENMORE ROAD / NEWINGTON ROAD INTERSECTION SOLUTION

Three options are proposed to address the safety of left and right hand turns from Newington Road.

- **Option 1:** replace the “Give Way” sign with a “Stop” sign. This measure is likely to provide only a slight improvement.
- **Option 2:** relocate the existing bus stop on the southern side of the intersection to the northern side. This will significantly improve driver visibility in Newington Road.
- **Option 3:** ban the right hand turn from Newington Road into Enmore Road. Drivers who have destination to the south will be able to turn right prior, into Philpott Street and then to Addison Road.

50KM/HR LATM ENVIRONMENT

22 August 2018

MAINTAIN 50KM/HR THROUGHOUT AREA

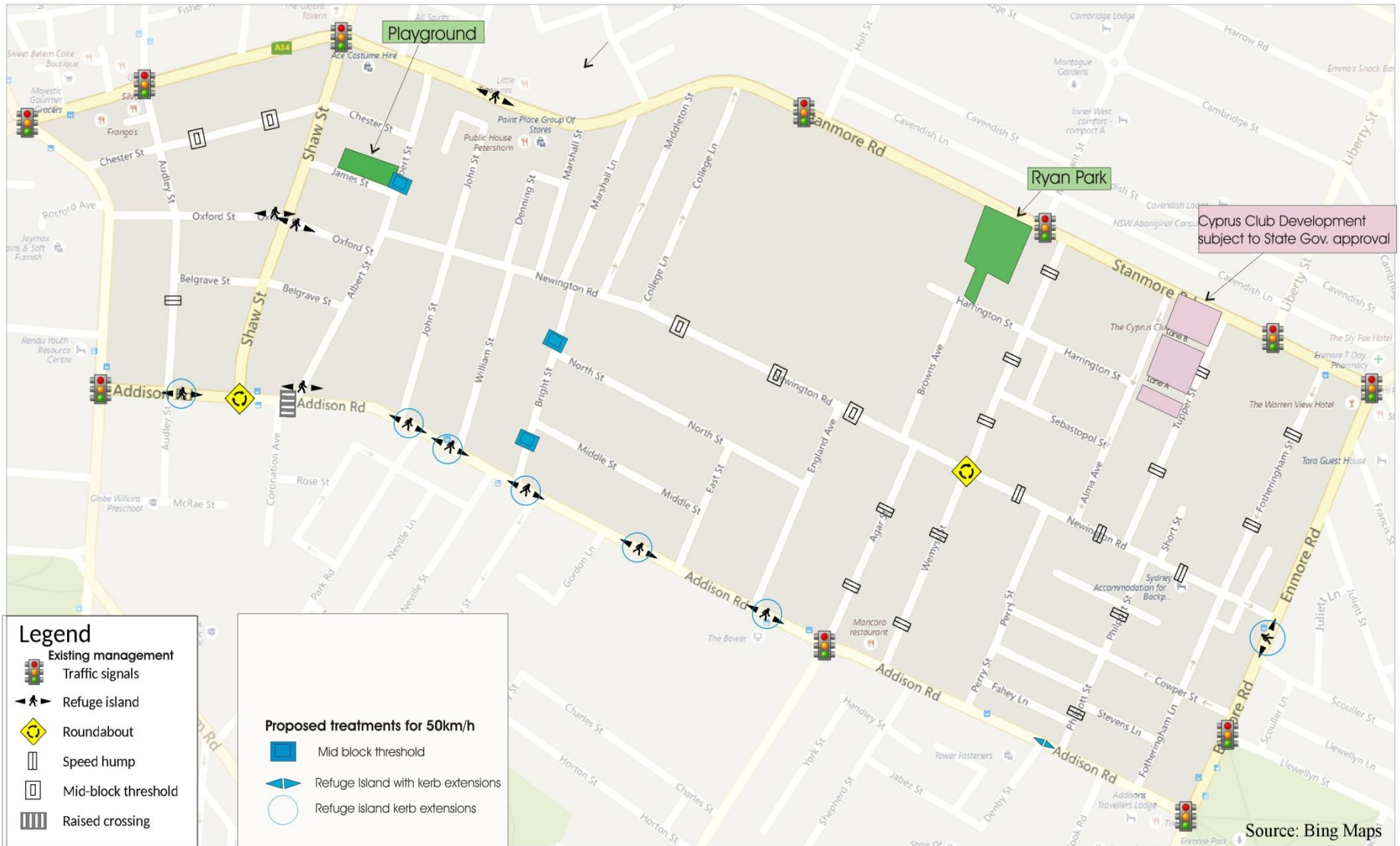
Three of the surveyed roads are non-compliant with the speed limit - these are Addison Road, Enmore Road and Bright Street.

The following treatments are recommended:

- Bright Street – two thresholds to address the speed non-compliance;
- Addison Road –
 - kerb extensions at the six existing pedestrian refuges to increase pedestrian crossing safety by physically decreasing the travel lane for cars,
 - A new pedestrian refuge between Denby and Philpott Streets to address the free flow of vehicles between the two signals (this has been adopted by Council).
- Albert Street, near the intersection with James Street – a raised threshold to contain speed at a potential pedestrian crossing point to the children's playground – the only playground in the study area.
- Enmore Road, south of Newington Road - kerb extensions at the existing refuge island



22 August 2018



Map 8

ADDISON ROAD – A SPECIAL CASE

PROBLEMS

- In the community survey, this road had the greatest number of identified problems – specifically speed and road safety.
- The local bus route is located on this road
- An east-west bike route is presently marked out on this road.
- There are a large number of pedestrian crossing needs associated with the bus stops, schools, parks, Farmer's Market and shops.
- Cars travel over the 50km/h speed limit

ADDISON ROAD

SOLUTIONS

An upgrade of all the pedestrian refuges along the road is an important step to upgrade road safety particularly for pedestrians and cyclists by

- Forcing cars to travel slower through a tighter profile at pedestrian facilities
- Preventing obstructive car parking at the facilities
- Upgrading crossing facilities with correctly placed ramps
- Increasing pedestrian visibility to drivers and vice-versa

PROBLEM EXAMPLE: ADDISON ROAD AT AUDLEY STREET – SCHOOL CROSSING AREA



The existing situation has one ramp unaligned at the intersection of Audley Street channelling pedestrians into the intersection instead of servicing the footpath for crossing Audley Street, and another aligned with the gap in the refuge island.

Cars can park in the area where pedestrians need to cross, creating an unsafe situation particularly for children and elderly.

This is a crossing facility for school children.

SOLUTION EXAMPLE: ADDISON ROAD AT AUDLEY STREET – SCHOOL CROSSING AREA



Install kerb extensions to protect pedestrians and eliminate parking where pedestrians cross.

Align kerb extensions with the refuge gap/holding area for pedestrians.

PROBLEM: ADDISON ROAD OUTDATED INFRASTRUCTURE



This type of pedestrian refuge is no longer the standard in NSW. However should an updated version be installed it would have to comply with parking set-backs which may cause inconvenience to residents.

These refuges have no kerb extensions and rely on visibility maintenance to remain effective

SOLUTION:

ADDISON ROAD OUTDATED INFRASTRUCTURE



Install kerb extensions with reflectors. Paint posts in high definition paint – eg yellow with a regulatory sign.

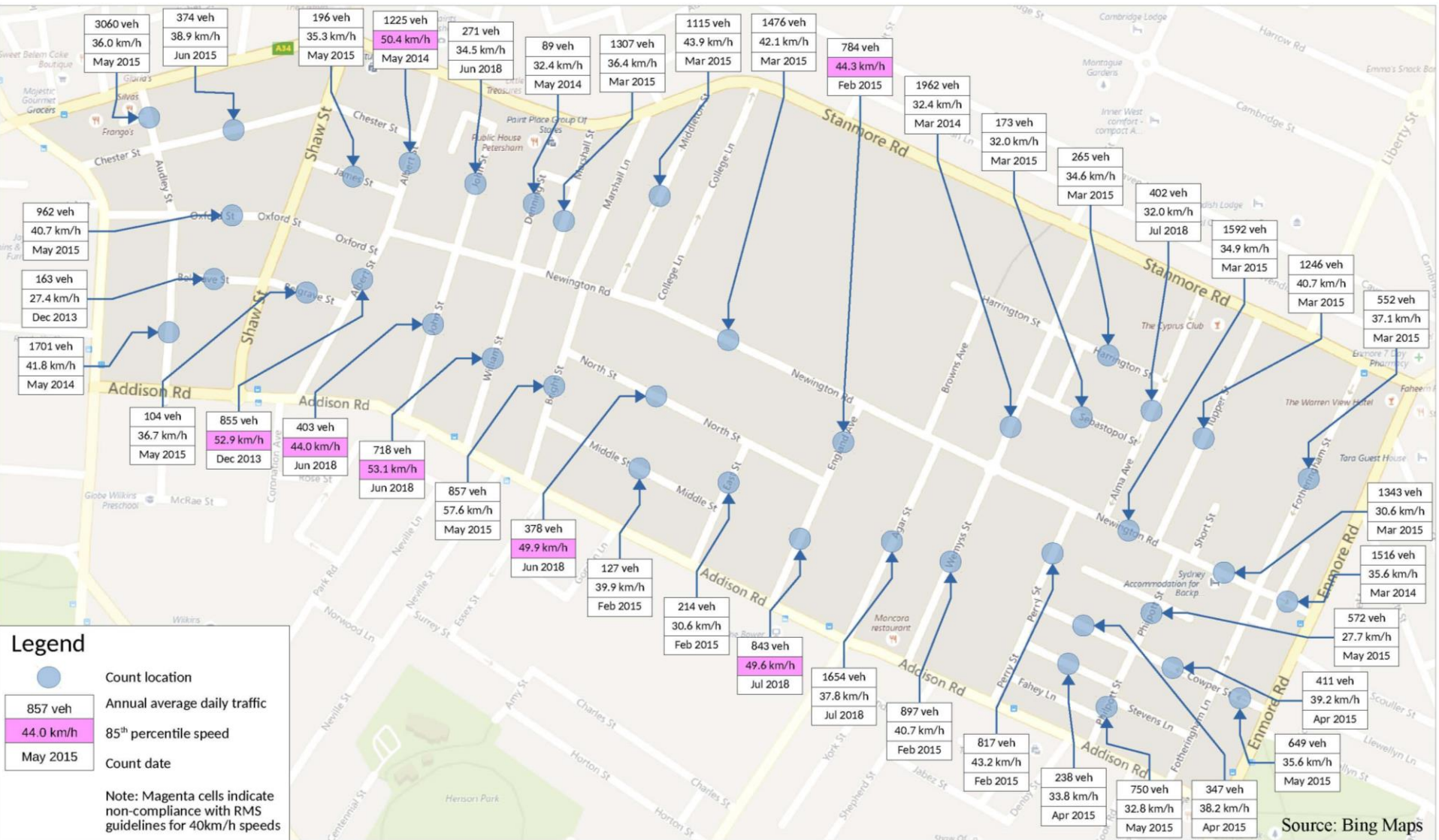
Upgrade visibility of centre medians with paint and reflectors.

**ESTABLISH 40KM/H
AREA**

22 August 2018

The brief for this study states that the LATM should consider:

Increasing the lengths (time and distance) of paths through the local street network, to reduce their connectivity between points on the arterial road network and direct local traffic onto those streets most able to accommodate it.



Source: Bing Maps

22 August 2018

These recommendations will increase active transport safety and amenity while constraining motor vehicle speeds. In order to uphold a 40km/h speed limit, the following are recommended in addition to the 50km/h treatments:

- Albert Street – 3 raised thresholds,
- Audley Street – one speed hump,
- England Avenue – 2 raised thresholds,
- John Street - 2 speed humps,
- Middleton Street - 2 speed humps,
- Newington Road – 3 speed humps,
- North Street - 2 raised thresholds,
- William Street - 2 raised thresholds,
- On entry from the Regional and State roads – thirty 40km/h speed signs



Map 8

Proposed 40km/h LATM Traffic Management Option

Thank you