LEGISLATIVE ASSEMBLY
FOR THE AUSTRALIAN CAPITAL TERRITORY

STANDING COMMITTEE ON ENVIRONMENT AND TRANSPORT AND CITY SERVICES
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Inquiry into planning, management and delivery of road maintenance in the ACT

Submission 3 - Yarralumla Residents Association

YRA YARRALUMLA RESIDENTS ASSOCIATION INC

Inquiry into the planning, management and delivery of road maintenance in the ACT

July 2017

Submission by the Yarralumla Residents Association

The Yarralumla Residents Association submission addresses the Inquiry's Terms of Reference: 2,3 (a); 3(c), 3(e),4, 5 and 8. Please note that this submission contains a large number of maps, diagrams, photographs and tables that need to be viewed in colour.

CONTENTS

This submission is informed by the *Yarralumla Strategic Traffic Assessment* April 2017 a comprehensive assessment of traffic volumes, traffic flow, parking and active travel, in the suburb of Yarralumla based on ACT Government traffic data.
http://www.yarralumlaresidents.org.au/wordpress/wp-content/uploads/2017/03/YRA-Yarralumla-Strategic-Traffic-Asessment-April-2017.pdf)

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SECTION 1 - Road Hierarchy, Use and Design Specifications in Older Suburbs

Road maintenance requirements determined by road design, technical specifications and level and type of road usage. The current standards for road design are set out in the Estate Development Code (2013).

For many of the older suburbs in Canberra, including Yarralumla, the roads are carrying traffic loads that would require a road three levels higher under the current standards.

The case below shows that these roads often carry six to ten times the number of vehicles that would be allowed for under the current Estate Development Code. This increased wear and tear on the roads in older suburbs should be taken into account in the identification, priority setting and scheduling of road maintenance.

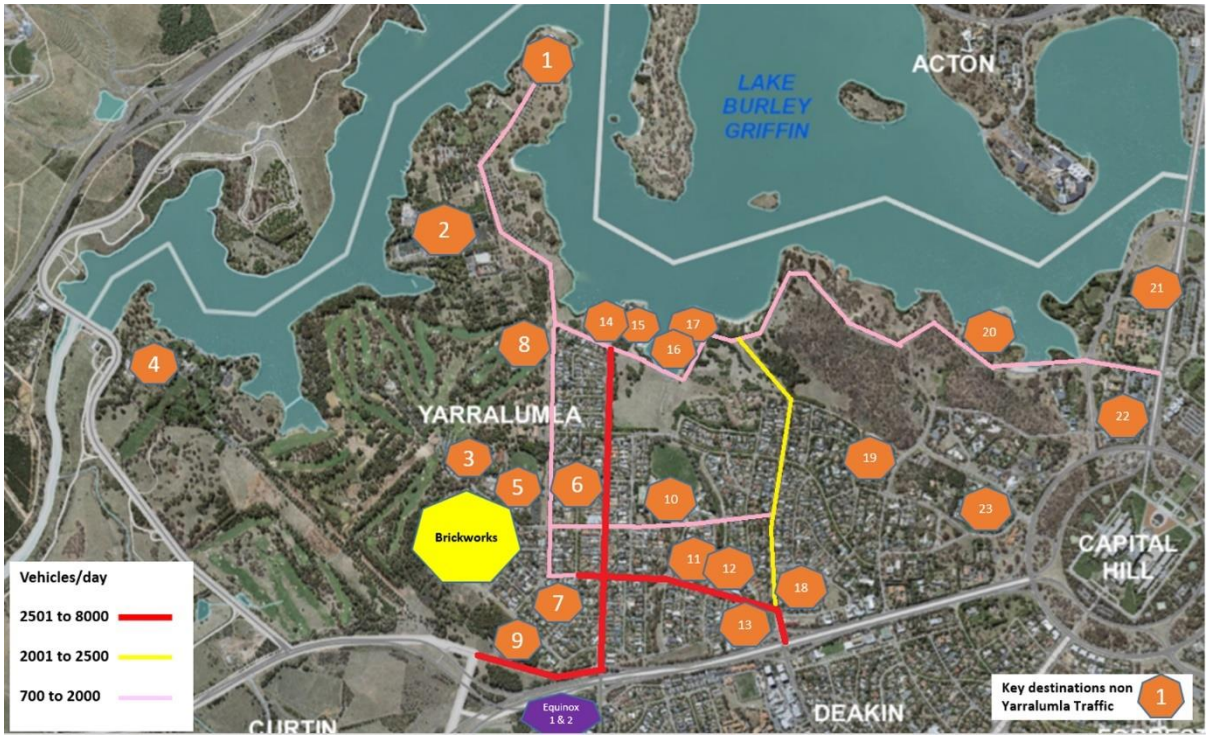
Road hierarchy and traffic volumes in Yarralumla compared to the Estate Development Code 2013

An assessment of the road hierarchy in Yarralumla against the Estate Development Code (2013) shows there are no roads at the standard of arterial, major collector or minor collector. The majority roads are equivalent to Access B standard which should carry up to 1000 vpd, but carry far greater traffic loads. This is shown clearly in the tables and diagrams below.

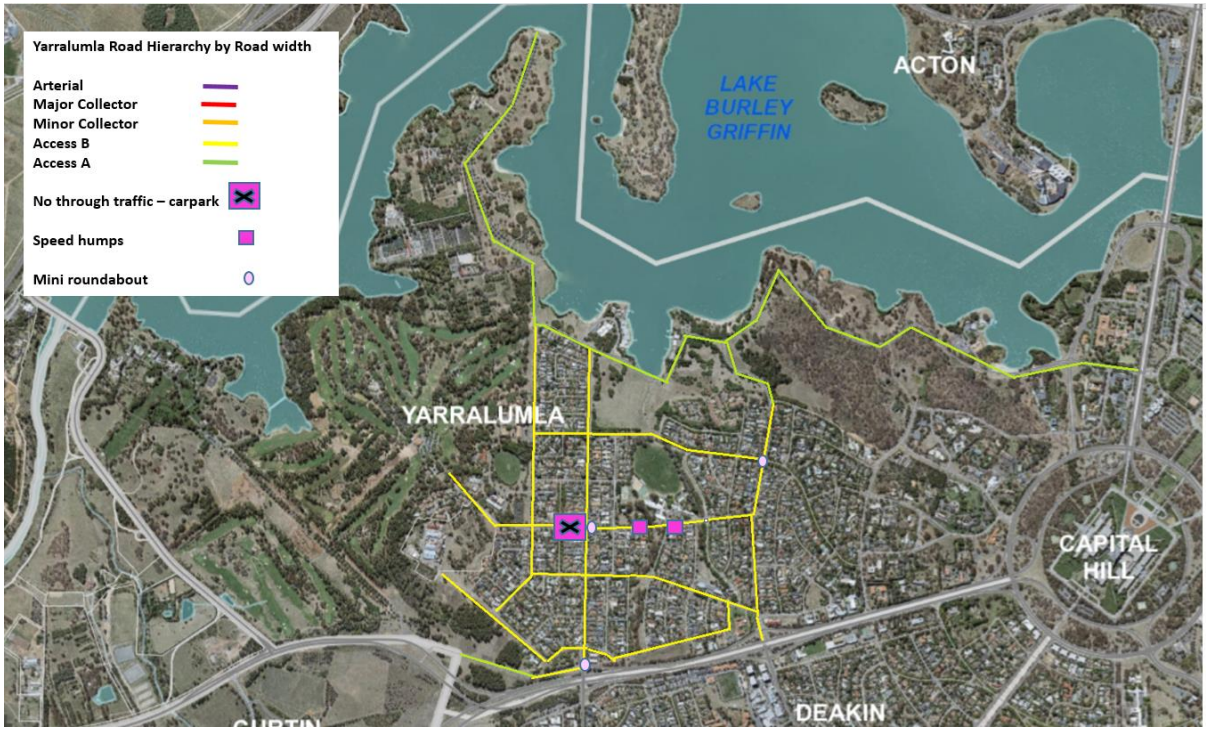
The primary access routes to Yarralumla of Novar Street, Dudley Street, and Hopetoun Circuit are Access level B standard (1000 vpd) but carry arterial road levels of traffic at 6000 to 10,000 vehicles per day. Thus, these roads carry six to ten times the number of vehicles that would be allowed for under the current Estate Development Code - a key factor for road maintenance.

Yarralumla Streets - width and traffic (Vehicles per Day)						
Street	Carriageway width m	VPD	VPD weekend	Traffic Count Year	Classification based on Estate Development Code road width	Classification based on Estate Development Code VPD
Dudley (E)	11.00	9626		2015	Access B	Arterial
Dudley (W)	6.00	9626		2015	Access A	Arterial
Hopetoun (S)	9.00	6910		2014	Access B	Arterial
Novar	9.20	5327	7260	2014	Access B	Major Collector/Arterial
Weston (E)	9.20	2526		2015	Access B	Minor Collector
Hopetoun (mid/lake)	6.40	2176		2006	Access A	Minor Collector
Alexandrina	5.80	1917		2012	Access A	Minor Collector
Weston (W)	7.40	1877	2486	2012	Access B	Minor Collector
Bentham (Shops)	7.40	1613		2015	Access B	Minor Collector
Schlich	8.80	1267		2006	Access B	Minor Collector
Loftus	7.20	1262		2015	Access B	Minor Collector
Banks	9.00	737	1153	2015	Access B	Access B
Kintore (E)	8.80	557		2015	Access B	Access B

Yarralumla– Primary Routes and Traffic Volumes



Yarralumla Road Hierarchy classified by Estate Development Code 2013 standard



SECTION 2 - Scheduling of Maintenance for Roads at End of Life

Flexible pavements are constructed with a 'design' life as part of the design process. For residential pavements, a typical design life in the order of 25-30 years.

The roads in the older suburbs, which were constructed between 1950 and 1980, are close to or have reached end of life.

A strategic approach and significant investment is needed to ensure the integrity of these roads is maintained

A patch and repair approach as individual faults occur is insufficient to address pavement failure at end of life.

Spray sealing a road, whilst less expensive up front than other options, generally has a life span of less than 5 years.

Maintenance residential roads in the older suburbs is generally by spray seal.

Basics of Pavement Maintenance

All flexible pavements are constructed with a 'design' life as part of the design process. For residential pavements, a typical design life in the order of 25-30 years. This design life is impacted by the number and type of traffic movements, impact from water ingress into the pavement, damage, such as that caused by tree roots, and grades. The signs that a pavement is approaching the end of its life includes oxidisation of the seal, opening of longitudinal and transverse cracks, fretting of the seal and seal shoving. As a pavement fails cracks open and water is allowed to ingress into the pavements gravel base and subbase layers. This process further weakens the pavement and accelerates the failure.

There are many pavement repair methodologies currently used but simply put the options for residential pavement are as follows;

- *Spray Seal (over the top of the existing pavement) – least cost with expected life less than 5 years*
- *Resurface (remove existing seal and replace, or retain and asphalt seal over the top) – lifespan several times longer than spray seal*
- *Pavement reconstruction – highest cost with life span equivalent to original construction.*

Whilst spray seal is the least cost and provides some waterproofing it does not address any of the underlying problems once cellular and longitudinal cracking have occurred and the sub base has started to fail. These problems are soon reflected in the spray seal surface and the failure of the pavement continues and resealing or other remediation is required. Spray seal is also subject to scrubbing if applied to roads of grade and tight bends.

In addition, spray seal does not provide a smooth driving surface and as a consequence the vehicular road noise is significantly louder than asphalt and this increased noise pollution can be heard inside houses.

Maintenance of Roads in Yarralumla

Construction of the suburb of Yarralumla commenced in the 1950's. The majority of roads have been spray sealed at some point since construction. However, the frequency of spray

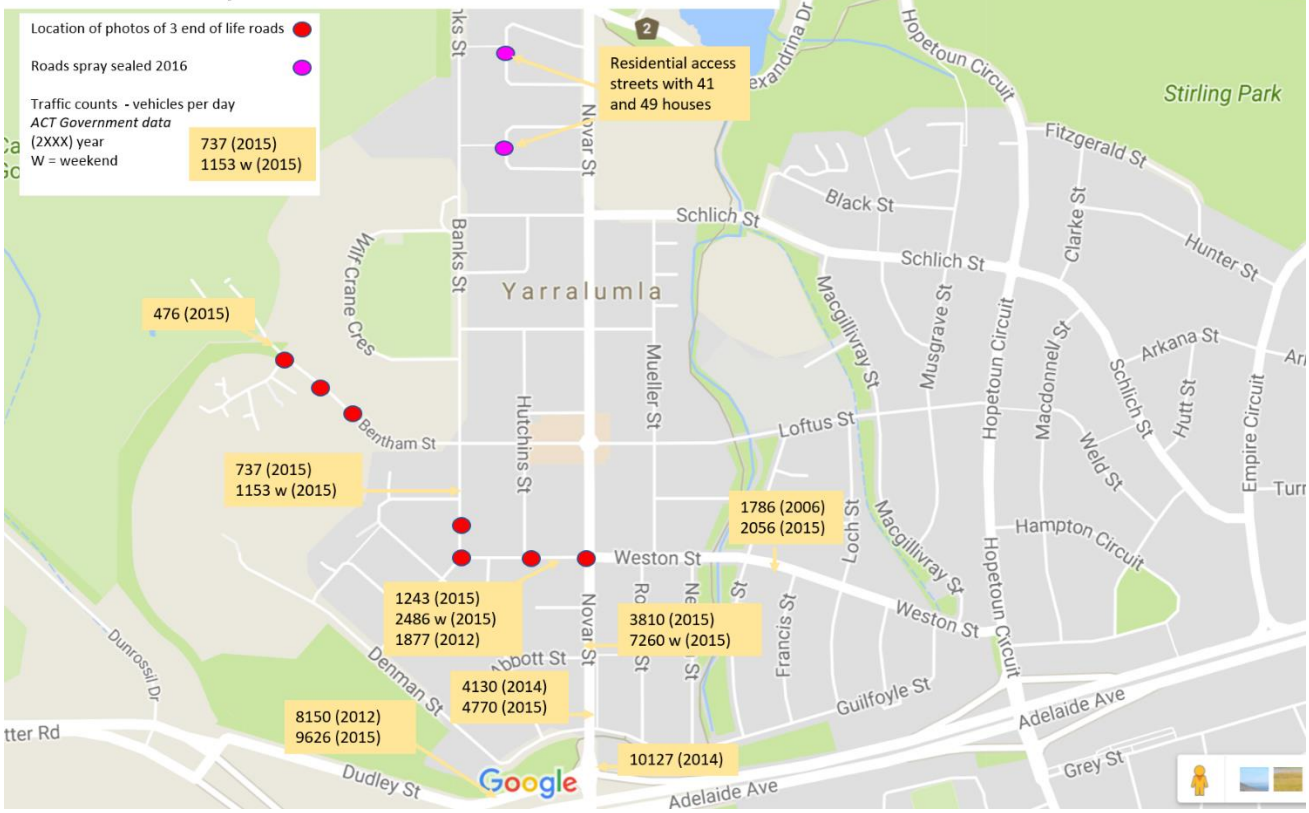
sealing has been decadal or longer. A number of roads are now at end of life and these are in a state of accelerating failure.

There is gap in direct engagement by government with the community, for example through residents' associations, on priorities and scheduling of road maintenance. Communication with the community on the timing and rationale for proposed works in a suburb would greatly assist.

At present signs "road resurfacing will commence in this suburb next week" appear in a suburb "out of the blue" and there is no notification as to which roads will be resurfaced and why. Residential (Access A and B) streets can then be resurfaced whilst minor collector roads, carrying ten times the traffic volume, and whose surface is oxidised, brittle, subject to cellular and longitudinal cracking, subsidence and sub base failure, are not remediated at the same time.

The case below shows that in late 2016 a number of roads in Yarralumla were spray sealed including Turner and Bailey Place which are residential access streets. A random survey of three other streets was undertaken in the suburb on 28 July 2017. These streets: Weston Street (West) 1877 vpd, Banks Street 757 to 1159 vpd, and Bentham Street (East) 476 vpd. The first two streets carrying at Minor Collector level traffic. As the photographs below show, each of these roads is in poor condition. These roads show signs of accelerating road failure through the previous spray seal, with extensive cellular cracking, subsidence and longitudinal cracks indicating sub base failure. The last spray seal maintenance of these roads was in the order of ten years ago.

Yarralumla - examples of road maintenance and traffic volumes



Weston Street (West) (1877 vpd) - 28 July 2017

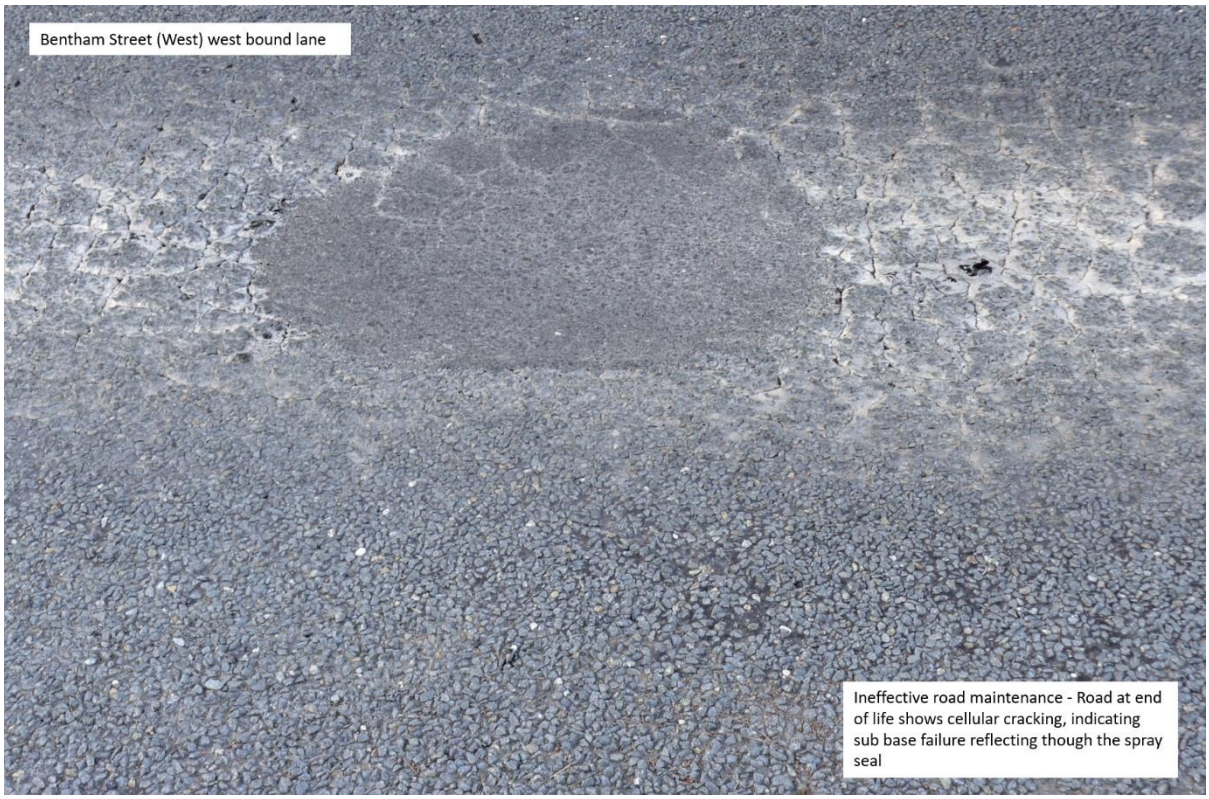

Weston Street (West) mid section
Road at end of life shows cellular cracking, subsidence and longitudinal cracks indicating sub base failure


Weston Street (West)mid section
Road at end of life shows cellular cracking, subsidence and longitudinal cracks indicating sub base failure

Banks Street (757 to 1159 vpd) at junction with Weston Street (West) - 28 July 2017

Bentham Street (West) (476 vpd) - 28 July 2017


Bentham Street (West) west bound lane
Ineffective road maintenance - Road at end of life shows cellular cracking, indicating sub base failure reflecting though the spray seal


Bentham Street (West) west bound lane
Ineffective road maintenance - Road at end of life shows cellular cracking, indicating sub base failure reflecting though the spray seal


Bentham Street (West) at junction with Lane Poole Place
Ineffective road maintenance – patching has moved and longitudinal cracks that indicate sub base failure remain


Bentham Street (West) at junction with Lane Poole Place
Ineffective road maintenance - Spray seal subject to severe scrubbing with underlying road failure issues of cellular cracking, and longitudinal cracks reflecting through indicating sub base failure and road at end of life

SECTION 3 - The Level of Responsiveness to Road Maintenance Issues

The main avenue for the public to report road problems and the need for repair is online through “Fix My Street” Access Canberra.

The manner in which such requests for road repairs through “Fix My Street” are prioritised and scheduled is currently opaque to the community. There appears to be no ready means to obtain such information. It is appreciated that there can be long lead times to schedule road works. However, the absence of a window in to this world can be frustrating given the lead times can be weeks, months, or even years as indicated by the case below.

An example is afforded by a report of a channel that had formed, due to subsidence, across Novar Street at the junction with Weston Street in Yarralumla.

This repair was first requested on Fix My Street on 23 February 2015. The matter was followed up by phone on 18 May 2015; again, on 11 January 2016 and again on 6 December 2016. The only information provided was that “it was on the list”. On 31 March 2017, some 25 months after the original request, and four months after the last follow up, a repair crew arrived and fixed the road – see photo below- and did an excellent job.

31 March 2017 Novar Street and Weston Street junction – road repair

SECTION 4 - Traffic Speed and Road Maintenance

The need for road maintenance is increased with increasing traffic speeds.

The ACT has adopted a default 50kph speed limit in residential areas. Occasional speeding in residential streets is common occurrence. However, where the majority of vehicles that use a street speed, then it is considered dangerous and there is an expectation that compliance and/or traffic calming measures can be implemented.

The "Review of Road Safety Camera Siting Criteria and Locations" was completed in November 2015 and an updated strategy has been implemented. The purpose of the ACT's mobile camera program is to improve compliance with speed limits by conducting speed enforcement "anywhere, anytime". The ACT road safety camera program includes eight mobile cameras. The objective is to reduce speeds and crashes across the network through an "anywhere, anytime" enforcement approach. As at July 2017 there are 1144 mobile camera operation points in Canberra, that is an average of 143 sites per camera. A rough estimate is that each site would be visited between 2 and five times a year. The Fix My Street website now allows the community to nominate locations for mobile camera for possible inclusion in the program. There are currently 10 mobile camera location points in Yarralumla, five of these are on arterial roads (Cotter Road, State Circle. Lady Denman Drive, and Commonwealth Avenue), four on Novar Street and one on Alexandrina Drive. https://www.accesscanberra.act.gov.au/app/answers/detail/a_id/3010/~/act-road-safety-camera-program

Mobile speed cameras, operating on an anywhere any time basis, is clearly an important strategy in enforcing compliance with speed limits. The periodicity of camera operation on residential streets will clearly be a key parameter in its effectiveness in consistently reducing speeds on specific stretches of road.

For taking action to reduce consistent speeding on a residential street traffic calming measures may be more effective over time in reducing the average speed travelled, improving safety and limiting the wear and tear on the road surface. Engendering such actions can be a slow process, as shown in the example given below, and would be facilitated by a clear process for raising such matters with government.

Speeding - Weston Street (East) Yarralumla

Following serious concerns expressed by residents of the constant excessive speed of vehicles in Weston Street (east), Roads ACT undertook tube count measurements in February 2015 in Weston Street (east) between Novar Street and Hopetoun Circuit.

The analysis of the tube count below confirmed the high speeds and safety issues.

- Weston Street (east) between Novar Street and Hopetoun Circuit is a 50kph street and this segment is a long straight stretch of road approximately 1km in length.
- Weston Street intersects with Novar Street in the west and Hopetoun Circuit at the eastern end and both of these roads carry arterial road levels of traffic (6000+ vpd) and have 60kph speed limits.

- The mean speed of traffic is 56 kph as shown by the February 2015 tube counts. The mean speed for most 50kph streets is 38 to 45 kph - thus vehicles along Weston Street 9east) are travelling on average 10 to 18 kph above the speed limit
- Speeding has become an ongoing problem since the closure of the school at 49 Weston Street in 2007 and the removal of the 40kph school zone restriction.
- This Street is a primary route for children walking to Yarralumla Primary School in Loftus Street and the Grammar Schools in Grey Street (Deakin).
- The speed is dangerous for pedestrians and vehicles at the major intersections at Novar Street and Hopetoun Circuit.
- The need for compliance activities and other traffic calming measures has been discussed with Roads ACT

Roads ACT forwarded the tube count information matter to the Justice Department in 2015, however compliance activity has not occurred and the speed limit remains a key problem in this Street.

A formal request was made in July 2017 to Road's ACT for traffic calming measures.

Separately an online request has made to the ACT road camera safety program for consideration of a mobile speed camera operation point in Weston Street (East) Reference number #170704-000887 - 4 July 2017.

As at July 2017 consistent speeding in the Street remains a problem with ongoing impacts on the road surface and maintenance requirements.

SECTION 4 - Planning and priority setting and engagement with key stakeholders

A regular process for direct engagement by government with the community, for example through residents' associations, is currently lacking. There would be considerable benefit from such engagement on priorities and scheduling of road maintenance or the role and adequacy of traffic signals, signage and road markings, or pedestrian access and safety needs.

Similarly, there would be considerable benefit in having a publicly available information site for scheduled works, and for proposed projects or to elicit information on local issues and requirements.

The Roads ACT "warrant List," underpins the priority setting for roads. The tube counts that inform the warrant list are taken periodically on an individual street basis at fixed data collection points. A review of the selection of the warrant list data collection points is needed to ensure they continue to be representative and relevant. In some of the older suburbs these points were selected in previous decades and subsequent changes in traffic flows has impacted on their applicability.

Warrant list data points

The extent to which a warrant list data point is representative and useful can change over time. An example is afforded by the warrant list data point in Weston Street, Yarralumla, at the junction with Hutchins Street on a section of road is only 130 metres long that carries 1877 vpd. The other section of Weston Street between Novar Street and Hopetoun Circuit is 1km long, carries 2500 to 3000 vpd, joins two major collector roads that provide access to Adelaide Avenue and carry arterial levels of traffic. A tube count taken in 2015 at the request of residents showed that the vehicles on this eastern section of Weston Street travel consistently at speeds 10 to 18kph above the speed limit, which is not the case for the warrant list data section of the street. The previous tube count in the eastern section Weston Street was in 2006. In this case the warrant list data point for Weston Street does not provide a good overall indication of requirements.

Pedestrians as Road Users – Adequacy of signals, signage and road markings

Pedestrians cannot safely use footpaths if their ability to cross the road is severely constrained by high traffic volumes and high speeds, and the absence of traffic lights, refuge islands, traffic calming measures and pedestrian crossings.

At peak periods and when traffic volumes are at or near arterial road levels (6000 vpd) crossing the road is generally unsafe and waiting periods for a gap in the traffic in both directions can be up to 20 minutes. This prevents parents and children from being able to safely walk to school and is an impediment to the aged being able to access shops. Hence more people travel by car.

The government is seeking to increase active travel and there would be considerable benefit in direct engagement with communities on requirement for road markings, signage and traffic signals that would increase pedestrian travel.

In regard to pedestrian crossing Roads ACT has advised that the policy is that the existing pedestrian traffic needs to exceed a certain threshold before a pedestrian crossing can be installed. This approach does not necessarily facilitate active travel and people will not attempt to walk to their destination if they cannot safely cross the road. This presents a chicken and egg problem.

Pedestrian travel and safety in Yarralumla affords and example. There are no pedestrian crossings or traffic lights in Yarralumla, although there is shopping centre two pre-schools, a primary school, Child care centre, two churches and a mosque and aged units. The Primary School, in particular, has 70% out of area children, many from the adjacent suburb of Deakin. The feedback is that many children do not walk to school because of the extreme difficulty in crossing Hopetoun Circuit and the Adelaide Avenue on and off ramps.

Increasing traffic flows, intersection performance, planning and budgeting

There is no apparent link between the identification of an issue and the planning and approval and budget process to address the problem. There is also currently no clear path for such issues to be raised by communities and other stakeholders and communicated to government.

Unlike traffic tube counts, intersection performance is usually assessed when a major development is planned. The assessments tend to be on an individual intersection basis rather than traffic flows.

The standard metric applied for growth in traffic volumes, in the absence of a known major development or redevelopment, is 2% per annum.

An integrated analysis of strategic developments, analysis of traffic flows across multiple intersections servicing an area, and engagement with the community demonstrates that the standard 2% per annum figure can be out by as great as nine-fold. This would make a significant difference to the assessment of intersection performance and planning and budgeting for signalisation, road markings and road maintenance.

Failure of primary access intersections to Yarralumla and need for signalisation

Intersection failure, that is when an intersection is at or over capacity at peak periods, has a major impact on road use, safety and wear of the road surface.

Planning and implementation of measures to improve traffic flow and safety should preferably be based on strategic assessments of increases in traffic. Addressing failure at individual intersections is less efficient and effective in terms of planning, budgeting and road use outcomes

The assessments by AECOM (2016) and Cardno (2016), for the Land Development Agency, of the three main intersections that provide access to Yarralumla placed their performance

at or close to failure. These intersections are (1) Novar, Dudley, Kent Street, (2) Kent Street and Adelaide Avenue Off Ramp and (3) Hopetoun Circuit, Adelaide Avenue, Weston Street. The traffic volumes at these intersections is between 6900 and 11000 vpd and there are no traffic lights. Thus, the main access points to Yarralumla, are bottlenecks with the intersections at or over capacity at AM and PM peak and dangerous for pedestrians. These are the only intersections on Adelaide Avenue and Yarra Glen that do not have traffic lights

These intersections are at failure due to carrying a very high proportion of traffic is not generated by residents but originates from outside the suburb and its destination is outside Yarralumla. Thus 40% of Cotter Road traffic travels along Dudley Street in Yarralumla to access the West Deakin Business Centre.

This traffic volume on Dudley and Novar Streets increased by 15% to 18% from 2014 to 2015. This increase is seven to nine times higher than the standard used to model growth in traffic volumes of 2% per annum. These increases have been in the absence of any increase in the number of dwellings or number of residents in the suburb. The increase does, however, coincide with the completion of the Stage 1 duplication of the Cotter Road and the Equinox Business Centre in West Deakin becoming fully operational.

There are known scheduled strategic developments that will significantly impact on these intersections and this needs to be factored in to the planning and budgeting. These developments include the completion of Cotter Road Stage 2 duplication in 2017; the completion of further suburbs in Molonglo (Wright, Coombs and Denman Prospect are projected to have over 7650 residents by 2019); the construction, at the junction of Kent Street and Strickland Crescent, of the second stage of the Equinox Business. There are also increasing number of visitor destinations in Yarralumla on the lake foreshore for example the zoo and maze in Weston Park and expansion of rowing facilities. Then there is the addition of the Canberra Brickworks Development.

Signalisation of these three intersections is urgently required. These are the only intersections on Adelaide Avenue and Yarra Glen that do not have traffic lights.

Engagement with Roads ACT in 2017 on these issues commenced in 2017. However as mentioned above there is, at present, no formal path through planning, priority setting and budgeting to progress such matters raised by the community.

Dudley Street/Novar Street Intersection AM and PM Peak (9696 vpd)

Adelaide Avenue Off Ramp/Kent Street Intersection after AM Peak (10127 vpd)

Hopetoun Circuit/Adelaide Avenue On and Off Ramp AM Peak (6910 vpd)

SECTION 5 - References

AECOM (2016) Canberra Brickworks Precinct ACT Site Investigation – Traffic, Transport and Carparking – for the Land Development Agency.

CARDNO (2016) Concept Design Report CBP Access Road and Dudley Street Upgrade for the Land Development Agency.

Yarralumla Residents Association (2017). Yarralumla Strategic Traffic Assessment. http://www.yarralumlaresidents.org.au/wordpress/wp-content/uploads/2017/03/YRA-Yarralumla-Strategic-Traffic-Asessment-April-2017.pdf

Yarralumla Residents Association (2017) Analysis of two reports published in 2016 by Land Development Agency (LDA) as part of the Canberra Brickworks Precinct Development (CBP) January 2017. http://www.yarralumlaresidents.org.au/wordpress/wp-content/uploads/2017/02/YRA-Analysis-AECOM-Feb-2016-CARDNO-Oct-2016.pdf