



LEGISLATIVE ASSEMBLY FOR THE AUSTRALIAN CAPITAL TERRITORY
STANDING COMMITTEE ON URBAN SERVICES

Report No. 36, November 1999

WARRANTS FOR TRAFFIC CALMING MEASURES

SPECIAL NOTE

In this report, the term “warrant” is used to denote the result of an assessment of certain criteria to determine whether or not something is justified. If the criteria are met, there is said to be a “warrant”, or the provision of something is “warranted”

RECOMMENDATIONS

The Committee considers it is important to have a robust, well-founded and transparent system of evaluation and assessment used in conjunction with the application of experience and traffic engineering judgement. The Committee recommends as follows:

In respect of the use of a warrant system

1. It is recommended that the principle of the use of a warrant system be accepted.
2. It is recommended that the warrants be considered a tool to assist traffic engineers assess and prioritise requests for LATM and traffic calming device installations in residential areas.
3. It is recommended that the warrant system be used as a guide to the process of assessment of traffic problems in residential streets and local areas, with the understanding that there will be cases where a strict application of the warrants is not appropriate.

In respect of the warrants to be adopted

4. It is recommended that the warrants proposed by the Department of Urban Services and set out in the ACT Traffic Management Warrants report be endorsed, with the following modifications:
 - That they include consideration of road design and physical characteristics such as curves, crests and steep grades in any of the streets considered for treatment with traffic calming devices,
 - That they incorporate consideration of whether the street or streets considered for traffic calming treatments are used by buses,

- That groups of people regarded as being at risk, such as the elderly and school age, be identified and the impacts of the proposals on these groups be considered in the assessment, and
- That the Department of Urban Services reviews the warrants proposed in ACT Traffic Management Warrants against current codes and practices in the design and layout of subdivisions and residential areas (such as ACTCode), to identify and align the results obtained from each, making changes either to the warrants or the design guidelines as appropriate.

In respect of keeping the warrants up to date

5. It is recommended that the Department of Urban Services be instructed to regularly review and update the warrants in line with research and improved knowledge in the field.
6. It is recommended that changes to the warrants be at the discretion of the Department of Urban Services and dependent on practices in the traffic engineering field in respect of these matters.
7. It is recommended that all changes should be advised to the Minister and the Urban Services Committee.

In respect of outputs from use of the warrants

8. It is recommended that when a scheme is found to satisfy the problem warrant, and is investigated fully to determine proposals for implementation, that the report specifically considers the benefits of the proposals as well as the disbenefits.

In respect of consultation and involvement of elected members

9. It is recommended that the consultation model provided in Attachment 1 be used by the Department of Urban Services as the basis of consultation for traffic calming or Local Area Traffic Management projects in the ACT.
10. It is recommended that Local Area Traffic Management projects, or traffic calming projects, which have conducted consultation during their development based on the method outlined in Attachment 1 be exempted from the public notification requirement of the Development Approvals process so as to reduce the time involved in the development and implementation of these schemes.
11. It is recommended that where there is serious disagreement with a proposed LATM or traffic calming scheme that it be referred to the appropriate Government committee, in the case of the Fourth Assembly, this is the Urban Services Committee for resolution.

In respect of funding projects

12. It is recommended that consideration be given to a funding scheme in which a given amount is provided each year for LATM or traffic calming schemes which is quite separate from the normal minor traffic improvements and traffic safety improvements budgets. Where schemes are likely to require funding greater than the normal yearly provision, they should be pursued through the capital works process, either for funding as a whole or for additional funding.

In respect of Traffic Committees

13. It is recommended that a Traffic Committee be formed, chaired by the General Manager, Roads and Stormwater, and with the head of the ACT Traffic Branch of the AFP, and a community representative appointed by the NRMA, which would act as a review body for traffic matters affecting the Australian Capital Territory.

In respect of maintenance issues

14. It is recommended that the Department of Urban Services considers issues of noise generation due to road surfacing treatment when developing its resealing program or when reconstructing roads and streets in residential areas, and avoids the use of noisy, open-textured surfaces when noise generation is likely to be a nuisance.
15. It is recommended that the Department of Urban Services reviews the use of signage in traffic islands, especially narrow islands, with a view to reducing the incidence of signs being struck and the associated costs of replacement.

In respect of other matters

16. It is recommended that the Department of Urban Services examines and reports on the sites referred to in submissions from Mr A O'Neil (Springvale Drive, Weetangera) and Mr J and Ms J Toyer (Midge Street, Gordon).
17. It is recommended that Goyder Street Narrabundah be given priority for investigation and consultation to develop a suitable traffic calming scheme in the local area, noting that it meets the action warrant as detailed in the ACT Traffic Management Warrants, and that funding be sought for this project through the capital works program.

Further, the Committee notes the following:

18. That the proposal for implementation of a 50Km/h speed limit in residential areas was mentioned often in the context of traffic calming and dealing with traffic issues in residential areas. The Committee believes the issue, currently before it as a separate inquiry, should be considered in conjunction with the report flowing from this investigation into warrants for traffic calming devices in residential areas.

INTRODUCTION

BACKGROUND

1. On 7 May 1999, following a suggestion by the Minister for Urban Services, the Standing Committee for Urban Services resolved to inquire into and report on *The use of a warrant system to determine whether traffic calming measures are needed in suburban streets and, if so, what type of calming measure should be introduced.*
2. Whilst not setting a timetable for reporting, the Committee was conscious that the subject deserved priority. In light of its heavy workload, the Committee requested the Minister's assistance by way of a seconded officer from the Department. This request was agreed to by the Minister, and the Committee thanks him for that assistance which has proved invaluable.

ACTION BY THE COMMITTEE

3. The Committee invited public input by way of advertisements in the Public Notices section of the *Canberra Times* on Saturday 19 June 1999, and the *Chronicle* on 22 June 1999 and 29 June 1999. The Committee subsequently received 21 written submissions.
4. In July 1999, the Committee travelled to Newcastle for investigations related to another inquiry. The opportunity was taken to discuss traffic calming measures in the City of Newcastle local government area with Police and Council staff. The Committee later travelled to Gold Coast City Council and Brisbane City Council in Queensland on 4 October 1999, and the City of Boroondara and City of Monash in Melbourne on 5 October 1999.
5. In addition, on 6 October 1999, a visit was arranged with Mr Andrew O'Brien at which the committee was briefed on traffic calming issues, and an extensive inspection of traffic calming installations. Mr O'Brien, a traffic expert of national and international standing, has been engaged by the Department of Urban Services to prepare the report *Warrants for Traffic Calming Measures in Established Residential Areas of the ACT*. This report, together with a report containing appendices referred to in the main document, was provided by the Department as the main resource for the Committee.
6. A public hearing was held at Committee Room No 1 in the Legislative Assembly building commencing at 10.00am on Friday 8 October 1999. The following persons appeared before the Committee:
 - Mr Hamish McNulty and Mr Tony Gill representing the Department of Urban Services.
 - Mr Alan O'Neil and Ms Pamela O'Neil.
 - Mr Tom Brimson
 - Mr Chris Lim, Mr Michael Weaver and Mr Joel Pasternak.

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- Mr John Wurcker and Ms Donna Carapellotti of the Garran Community Council.
- Mr Dudley Horscroft representing the Conservation Council of the South Eastern Region and Canberra

KEY DOCUMENTS

7. The documents drawn to the Committee's attention during the inquiry include:
 - *Warrants for Traffic Calming Measures in Established Residential Areas of the ACT* a report prepared for the Department of Urban Services and provided as the main resource document for this inquiry. This is referred to in this report as "ACT Traffic Management Warrants".
 - *Warrants for Traffic Calming Measures in Established Residential Areas of the ACT Appendices*, a report accompanying the main report and containing appendices referred to in the main report.
 - *Guidelines for Engineering and Environmental Practices* NCDC 1988, a design guideline for streets and roads. This is referred to in this report as GEEP.
 - *ACTCode*, ACT City Services and Department of Environment, Land and Planning 1993. The guidelines set out the ACT recommended practice for subdivision design and layout
 - Australian Standard AS1742.13 – 1991 *Manual of Uniform Traffic Control Devices. Part 13. Local Area Traffic Management*. Standards Association of Australia.
 - *Guide to Traffic Engineering Practice. Part 10 Local Area Traffic Management* AUSTROADS 1998.
 - *Towards Traffic Calming* Federal Office of Road Safety 1993
8. Written submissions received from the following:
 - Michael Weaver
 - R A Moule and J L Glen
 - Simon and Laurel Giles
 - ACTION
 - Conservation Council of the South East Region and Canberra (Inc)
 - Christopher Lim
 - Beryl Thompson

- Jean and Jim Toyer
 - Weston Creek Community Council
 - Australian Federal Police, ACT Region
 - Allan O’Neil
 - Australian Transport Safety Bureau
 - Royal Australian Planning Institute , ACT Division
 - Audrey Guy
 - Tom Brimson
 - Jane Thompson
 - ACT Council for the Ageing
 - Garran Community Council and Denis, Neilson and Savery Streets Residents’ Committee
 - John Armstead
 - Tony and Kathie Carlyon
 - National Roads and Motorists Association (NRMA)
9. Of the submissions received, five focussed on Goyder Street Narrabundah, one on Springvale Drive Weetangera, and one on Midge Street Gordon. The remainder were general in comment.

DEFINITIONS AND CONCEPTS

Local Area

10. A local area is an area usually bounded by some form of communication barrier such as a major road, creek, terrain barrier, railway or the like¹. In the ACT it is often the roads on the boundaries of local areas which are the subjects of representations, for example Learmonth Drive, Springvale Drive, McCulloch Street and Goyder Street. Another term for local area is a neighbourhood.

Road Hierarchy

11. The term “road hierarchy” is used in traffic engineering to describe the system of roads and their relationships with each other. Roads are ranked from Local Streets through to Arterial Roads. As you progress up the hierarchy, the focus of the road’s function changes from being predominantly for access to abutting land uses (Local Streets), to being almost solely to move massive volumes of traffic

¹ Austroads 1988, Standards Association of Australia 1991.

between regions (Arterial Roads). Roads to which traffic calming might apply generally are those at the lower end of the Hierarchy, being Collector Streets and Local Streets.

Traffic Warrant.

12. Measurements are taken of agreed criteria, and when certain levels or thresholds are exceeded, there is considered to be a warrant, or justification, for intervention to occur.
13. A warrant is based on measurements of different empirical criteria which can be actual representations of a condition (eg speed) or a surrogate measure of a condition (eg levels of noise can be indicated by speed, volume and proportion of heavy vehicles). The levels at which intervention is considered appropriate are based on experience in many different places. A traffic warrant is then expressed in terms of the degree of a traffic condition (such as eg. speed, volume, accidents) at which intervention with appropriate countermeasures is considered to be required².
14. The warrant is often used as a mechanism by which objective measurements of agreed criteria are used to provide comparisons of conditions affecting a given site with those in other areas. This allows decisions for or against intervention to be made based on more than a subjective “feel” for a problem. Warrants also provide a means of prioritising the allocation of resources to implementing solutions to problems when they are identified.
15. The ACT Traffic Management Warrants report divides the assessment process into two parts³.
 - The first part is a *problem warrant* which indicates that there is an agreed problem which has been identified. This could be described as “Do we have a problem?”
 - The second part is an *action warrant* which essentially flags a site as being problematic to the extent that treatment is justified within the limits of available funding. This could be described as “What can we do about the problem?”

Traffic Calming Devices.

16. Traffic calming devices (TCDs) are devices constructed in roads which aim to change road conditions and make the behaviour of traffic different in order to overcome an identified problem. Some typical devices include roundabouts, intersection treatments, kerb build-outs, slow points, humps and threshold treatments. Devices may be used individually or in a group, depending on the circumstances.

² ACT Traffic Management Warrants

³ ACT Traffic Management Warrants

Local Area Traffic Management

17. Local Area Traffic Management (LATM) is the branch of traffic engineering which specifically deals with traffic issues in local areas. Traffic calming schemes come under the banner of LATM.

Amenity.

18. Residential amenity or “amenity” as it is commonly known, is the sense of livability experienced in a residential neighbourhood. When traffic problems become a frequent occurrence, the quality of life in the affected area can be significantly reduced, and hence amenity may be lost.

Introduction of 50Km/h speed limit in residential areas.

19. The introduction of a 50Km/h speed limit to apply in residential areas is a significant issue in respect of traffic calming projects in those areas. The issue of the speed limit is before the Committee at the present time⁴. It was referred to by almost all persons contacted during the Committee’s inspection. The Committee proposes to give a high priority to its inquiry into the provision of a reduced speed limit in residential areas.
20. The Committee notes that consideration of the 50Km/h speed limit in residential streets may involve identifying the specific types of streets or roads as defined in the ACT road hierarchy to which the limit may not be applied. Practices in other jurisdictions will be used as a guide when considering this important issue.

INVESTIGATIONS AND INSPECTIONS

Importance of the Issue

21. The issue of traffic management in Canberra suburbs is becoming increasingly important. Groups involved often have diverging views as to the problem, and indeed, to the solution. Questions of suburban traffic management, especially in residential areas, are complex and require an agreed set of guidelines for investigation and assessment.
22. In addition, it is important that different projects are able to be compared with each other in order to establish priorities.

What the Committee Learned from Other Jurisdictions

23. The Committee consulted with other jurisdictions to determine how the issue is approached elsewhere.

⁴ Referred to the Urban Services Committee by the ACT Legislative Assembly in March 1999.

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24. As a result of the consultations, discussions and inspections, the Committee notes the following:

- Warrants provide a useful mechanism for assessing and prioritising requests for traffic calming.
- Some modifications and improvements had been made to the recommendations contained in the report prepared by Andrew O'Brien. Councils elsewhere have used similar approaches and included matters such as road conditions, public transport requirements and the like to improve the application of the warrants. These are seen as developments or evolution of the warrants.
- There are substantial variations in practices relating to the use of warrants, ranging from a low level of reliance on warrants as in Gold Coast City Council, through to a high level of reliance on them, as in City of Monash.
- Council ratification of schemes is required almost universally. In cases where notification of the Council is not routinely required, it is always involved in a project which is controversial or one in which there is community disagreement.
- Consultation is extensive and includes the involvement of the ward councillor.
- Councils indicated they do not allow traffic calming devices in Distributor Roads or above in the road hierarchy.
- Councils are required to obtain the approval of the state road authority in order to make changes in higher order roads.
- Construction of physical devices is not always the whole solution; increased police presence may also be required together with education and/or signage.
- There is no single method of allocating funds for these projects.
- Speed and volume are the most common issues complained of. People considered that amenity was adversely affected by excessive speeds and/or volumes. "Rat running" during peak periods was a common problem.
- Almost all requests have a strong safety element related to the behaviour and nature of the traffic.
- Extensive investigations are carried out by the Councils (usually using a Consultant) to properly assess the issues.
- The objectives of a scheme should be spelt out and agreed by all parties before it is implemented. Even where agreement has been reached and projects signed off by stakeholders, it should be clearly understood that

there will be groups disaffected by the introduction of the devices and that complaints may only surface once the devices have been constructed.

- Several schemes have been implemented only to be removed at a later date, sometimes almost immediately after construction, as a result of significant reactions against the devices following their installation.
 - Devices should not generally be installed as “one off” items, but be part of a scheme. For example, it might not be productive to install only one speed hump in a particular section of road which would require several devices to achieve the desired effect; in fact there may be safety issues if this is done.
 - The quoted costs of schemes do not always include components such as design fees, lighting, landscaping and consultation.
 - Proper guidelines with appropriate recognition (such as the nationally recognised authorities like Austroads or Standards Association of Australia) should be followed in the design.
 - Speed humps were effective but not always popular (often unpopular).
 - Many installations exhibited significant damage to signage, especially islands in the roadway which were difficult to perceive in the approach.
 - The needs of emergency services and public transport must be considered.
 - Landscape and lighting should be part of the project.
 - Temporary installations can be used to test reaction and effect.
 - An evaluation of the implemented scheme should be carried out to see whether it worked or not, what lessons could be learned, and whether the funds were spent well.
 - Proposals to reduce the general speed limit in residential areas to 50Km/h may have an impact on proposals for traffic calming.
25. Discussions with Andrew O’Brien included an extensive and informative inspection of a number of traffic calming schemes, including new subdivisions built using the principles of traffic calming in their design. A contrast of styles of subdivision was illustrated by an inspection of Endeavour Hills and Timbarra developments in the City of Casey, between Berwick and Dandenong in Victoria. Timbarra is an example of subdivision practice with traffic calming measures built into the original development, whilst Endeavour Hills has had traffic calming measures introduced almost immediately upon occupation.

THE ISSUES

The use of a warrant system

26. The Committee notes that all Councils visited and contacted during the investigation used some traffic assessment system similar to that proposed for adoption in the ACT for assessment and prioritising requests for traffic calming or local area traffic management. It is the Committee's view that this is a sensible practice. It is also of the view that there is sufficient experience in the application of the warrant systems for there to be an acceptable level of confidence in the results produced following assessment by an experienced traffic engineer.
27. The Committee notes advice received consistently during its investigations that there is a need to have a degree of flexibility and traffic engineering nous applied in developing recommendations using the warrants. For example, this flexibility was considered very important in Gold Coast City Council which actually has chosen not to adopt an official warrant scheme for that reason. While other Councils relied on warrants to different degrees, there was always implicit in the process the need for the overall assessment to be made based on sound judgement and traffic engineering experience.
28. There is an element of concern that warrants may be applied rigidly, and simply used as a means of avoiding the implementation of a scheme, which is often expressed when a request is turned down as not warranting attention following analysis. The Committee understands this view, and considers that there will always be situations where this may be the case. On balance, however, the Committee believes that the case for having a robust, well-founded and transparent system of evaluation and assessment used in conjunction with the application of experience and traffic engineering judgement produces the most consistent results.

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| <ol style="list-style-type: none">29. It is recommended that the principle of the use of a warrant system be accepted.30. It is recommended that the warrants be considered a tool to assist traffic engineers assess and prioritise requests for LATM and traffic calming device installations in residential areas.31. It is recommended that the warrant system be used as a guide to the process of assessment of traffic problems in residential streets and local areas, with the understanding that there will be cases where a strict application of the warrants is not appropriate. |
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The Department's Proposed Warrants

32. The Department's recommended warrants are supported by the Committee. There are reservations, however, that they should be updated to reflect advances in the field since the report was prepared. This was borne out by the Committee's experience on its investigations interstate, and the Department's agreement that some of the assessment criteria had been altered slightly since the report had been written.

Assessment Criteria for Multi-unit Dwellings and Shops

33. The assessment criteria in the warrants need to be re-examined in areas such as multi-unit developments, and shopping centres. There is an apparent anomaly where single residential blocks score differently from multi-unit developments which have a greater density of traffic generation and fewer access points ie they can cope better with higher traffic flows. Similarly, small neighbourhood shopping centres require a certain level of activity for their viability⁵. A traffic calming scheme could possibly have a significant impact on the ability of a local centre to trade successfully.

Assessment Criteria for Road Conditions

34. The Committee was also made aware of the need to account for and include road conditions such as sharp bends, adverse road camber, inadequate lighting, short crests, steep grades, insufficient width and the like. Existing road conditions such as potholes, although temporary, can also influence safety at a site.

Vulnerable Groups of Road User

35. Specific user groups may be more vulnerable than others. For example, elderly persons find it far more difficult to cross a road than more able-bodied and younger persons. Very young persons may not have sufficiently developed judgement and so are more at risk when crossing roads. Vulnerable groups should be identified and included in the score⁶. Relevant groups would include the elderly, school age children, parents with young children, users of neighbourhood parks, cyclists etc.
36. The Activity Generators section of the warrant assessment system included some reference to this concept by singling out developments likely to generate high volumes of traffic. However, the scores generated by large shopping centres are the same or more than the scores for primary schools on the same roads. Places of residence for the elderly are not mentioned, even though they represent a particularly vulnerable group of street users.
37. The Committee agrees that the identification and scoring of traffic generators to include an assessment of the more vulnerable groups is an area in which the warrants can be advanced.
38. As a result, the Committee is of the view that additional items should be considered as part of the rating process, including:
- The presence of land uses which generate pedestrian traffic of a particularly vulnerable group such as the elderly and the very young being given more emphasis
 - Road conditions and design features

⁵ Mr T Brimson transcript.

⁶ Mr C Lim and Others, transcript.

- Whether the street is a bus route

Differences with Existing Codes and Design Practices

39. The Committee received advice that there were some apparent anomalies between results of the proposed warrants and expectations of ACT codes such as ACTCode and GEEP⁷. Given that ACTCode is the current code of practice for the design and layout of subdivisions in the ACT, it is considered important that the proposed warrants produce results which are consistent with those from ACTCode. If the results from the warrants indicate improvements should be made to ACTCode, the Committee considers this should be done.
40. The warrants are an important working document for officers in the Department. Updating of warrants and/or criteria should be an on-going process within the Department. The current version of the warrants should always be readily accessible for anyone to peruse and discuss with those implementing the guidelines.
41. It is recommended that the warrants proposed in the Department of Urban Services' recommendations be endorsed, with the following modifications:
- That they include consideration of road design and physical characteristics such as curves, crests and steep grades in any of the streets considered for treatment with traffic calming devices,
 - That they incorporate consideration of whether the street or streets considered for traffic calming treatments are used by buses,
 - That groups of people regarded as being at risk such as the elderly and school age be identified and the impacts of the proposals on these groups be considered in the assessment, and
 - That the Department of Urban Services reviews the warrants proposed in ACT Traffic Management Warrants against current codes and practices in the design and layout of subdivisions and residential areas (such as ACTCode), to identify and align the results obtained from each, making changes either to the warrants or the design guidelines as appropriate.
42. It is recommended that the Department of Urban Services be instructed to regularly review and update the warrants in line with research and improved knowledge in the field.
43. It is recommended that changes to the warrants be at the discretion of the Department of Urban Services and dependent on practices in the traffic engineering field in respect of these matters.
44. It is recommended that all changes to the warrants should be advised to the Minister and the Urban Services Committee.

⁷ Mr T Brimson, transcript; ACT Traffic Management Warrants, page 19ff

The 50Km/h speed limit

45. The 50Km/h speed limit is obviously and strongly linked to control of traffic within residential areas. It is labour intensive in that it requires enforcement by Police but can be very effective if done obviously and regularly. With the introduction of cameras, enforcement can be carried out in many more locations than would be safe if every offending vehicle had to be stopped. There are issues relating to signposting of the speed limit which require consideration, however the Committee understands that a simple method of implementation could be to provide for the limit being 50Km/h if there were no centerline marking, or unless the road was signposted otherwise, or both⁸.
46. The Committee believes that, on the surface of it, the proposal for reduced speed limits in residential areas has significant merit, and that there should be a detailed analysis carried out into the benefits and costs of the reduction in the speed limit. There are some local government areas where the scheme has already been trialed, and it would be useful to contact them and draw on their experience. The use of a speed restriction could be one of the tools used in any traffic calming scheme and may have some bearing on the final design outcome of any given proposal.
47. The Committee notes that the proposal for implementation of a 50Km/h speed limit in residential areas was mentioned often in the context of traffic calming and dealing with traffic issues in residential areas. The Committee believes the issue, currently before it as a separate inquiry, should be considered in conjunction with the report flowing from this investigation into warrants for traffic calming devices in residential areas.

Residential amenity

48. Residential amenity was mentioned by most participants in the inquiry. Its protection and preservation is one of the issues at the root of most traffic calming requests. The annoyance, and sometimes helplessness felt by residents, and voiced at the Committee hearing, is particularly strong when the need for traffic to use a particular route is not apparent, or where there is a viable alternative. Often the intruding traffic is “rat running” or taking a short cut, and its behaviour in terms of speed, safety and volumes is incompatible with the residential environment.

Objectives of a Scheme to be clearly identified.

49. In the development of a scheme it is important to ensure that clear goals are established. Not only does this provide a direction for the development of solutions, it also provides a means of assessing the success or otherwise of the scheme post implementation.
50. Identification of a scheme’s objectives is also important in ensuring that both local interests and suburb-wide interests are considered. Evidence was given to

⁸ Discussions with Andrew O’Brien during visit to Melbourne.

the committee that schemes were actually removed following a strong reaction against them by others affected, but not consulted during formulation of the proposals. Councils consulted indicated that there was a substantial investigation process involved which brought out the issues related to the impacts of a particular proposal on surrounding areas.

Outputs from the use of warrants

51. In making an assessment of a particular request, it is important to note that a multiplicity of relationships occur within and adjacent to a local traffic area. Changes to traffic patterns will introduce alterations to traffic behaviour as a consequence, and it is essential that these relationships be understood and changes predicted for a scheme to be successful⁹. It is largely as a result of the significant impacts of these changes, causing other nearby streets to suffer, that the hard schemes such as road closures were abandoned very early in the development of LATM. Traffic calming today aims to manage traffic levels and behaviour while maintaining an acceptable level of accessibility for all who need to travel within the area.
52. As a result, it is critical that the stakeholders are identified and the process results in a report which examines the needs and wants of each group. The Committee was informed of many different groups of stakeholders such as the local residents, the travelling public, emergency services groups, public transport, police, school communities, older persons trying to cross a road to get to a shopping centre, hospitals with a need for peace and quiet, communities using recreational facilities, and so on. The list of stakeholders is diverse, and it is noted that the needs of some groups may run counter to those of other groups.
53. In addition, the Committee formed the view that it is important when examining a proposal to ensure that the benefits of a particular scheme are brought forward as well as the disbenefits. Doing this would ensure a balanced view is taken of the proposal, and ensure the final assessment included all aspects of the proposal.
54. It is recommended that when a scheme is found to satisfy a problem warrant, and is investigated fully to determine proposals for implementation, that the report specifically considers the benefits of the proposals as well as the disbenefits.

Consultation Process

55. In order to bring about a solution able to be accepted by all groups, a systematic and meaningful process of consultation is essential.. Advice provided to the Committee suggests that the processes used in the ACT and by local government bodies elsewhere achieve this need well. There were, however, some interesting variations, especially in the area of the weighting given to objections by property owners who, in some cases, were able to veto the construction of a particular traffic calming device outside their home. In some instances, a whole scheme was put at risk when no one would accept an installation at the front of their

⁹ Guide to Traffic Engineering Practice Pt 10 paraphrase §1.3

property.¹⁰ The more general approach by Councils is that no one person had a power of veto and that the issues were analysed at a broader level of interest.

56. The Committee has examined the process of consultation undertaken by the Department and agrees that it generally provides an appropriate mechanism for consulting with the public in these matters. Attachment 1 illustrates a consultation methodology based on that used by the Department of Urban Services and which the Committee considers is an appropriate model for the ACT.
57. While the Committee understands the need for a generalised consultation protocol, it accepts that there will be times when the process will be varied due to the circumstances of a particular case. The protocol is not intended as a rigid set of rules to be followed to the letter in every investigation. In fact, the Committee heard from many councils of the need to maintain flexibility in approach in order to achieve the best result in circumstances which are rarely the same.
58. Likewise, the Committee has included a notional timeline in the recommended protocol to give some guidance to stakeholders involved in a process rather than being some kind of legal document which must be followed to the letter. Some investigations may be achieved in a shorter time and others may take significantly longer.

Involving Elected Representatives

59. The Committee learned on its visits interstate that elected members in local government councils are highly involved in traffic matters. There was an obvious direct involvement with councillors at the “grass roots” level in committees assessing traffic calming schemes in the areas visited. There were demonstrated close relationships with staff in both Brisbane and Gold Coast, and staff reported similar relationships in other councils.
60. One result of this close working relationship is the development of schemes which have ownership of all participants, and the ability to avoid unexpected problem situations, or at least manage them. In multi-member electorates as exist in the ACT, there is the possibility that an unproductive split could develop between elected representatives. The Committee considers that better communication with elected representatives could assist in achieving an early resolution of these differences if they arise.
61. The Department’s current processes appear to accommodate the needs for elected representatives to be made aware of meetings and consultation processes held to consider local traffic, allowing them the opportunity of attending meetings. Departmental advice is that elected representatives do come to meetings concerning local traffic issues, and have participated in the processes of developing solutions. Suggested improvements in the consultation process aimed at keeping elected representatives advised of progress are set out in the consultation protocol at Attachment 1.

¹⁰ Discussions with Gold Coast City Council

PALM Involvement

62. Planning and Land Management (PALM) is part of the Department of Urban Services. It was involved in the development of the recommendations in the ACT Traffic Management Guidelines as one of the parties circulated for comments on the proposals. While PALM administers the land development process, and uses ACTCode as a manual for subdivision design and layout, it has no direct involvement in the development of LATM or traffic calming schemes in existing residential areas.
63. When a scheme is ready for construction, there is currently the necessity to submit a development application (DA) to PALM before the works can proceed. The DA then triggers a separate public consultation process, on top of the lengthy and extensive process carried out during the development of the scheme to the stage where it has been signed off by all groups involved. Informal advice from the Department questions whether the DA consultation should be a requirement given the significant role consultation with stakeholders has in the whole process. This is especially so where there may be objections already dealt with in the consultation process undertaken by the Department's traffic section, which can cause significant unnecessary delays to the progress of the scheme.
64. The Committee considers that the consultation process outlined in Attachment 1 provides for sufficient consultation, noting that where there are serious unresolvable disagreements, the matter is to be referred to the Urban Services Committee for resolution.

Where there is disagreement

65. Sometimes a process can be carried out and significant disagreement remain as to the appropriate solution. For example, a street could be assessed under the warrants and a determination made that the issues raised are not of sufficient severity to justify the expenditure of funds. Another common example is that one group supports the introduction of a particular scheme whereas another group feels disaffected by that scheme. Experience shows that these scenarios are very difficult to resolve, and have the potential to split a community. These cases would be referred to the Council in a local government environment.
66. The Committee believes that, in such a situation, there should be a process whereby the matter is referred to the Urban Services Committee for consideration. This reflects the fact that the ACT Assembly has responsibility for both state and local government functions. The Committee would then make a decision as to the final course of action.
67. It is recommended that the consultation model provided in Attachment 1 be used by the Department of Urban Services as the basis of consultation for traffic calming or LATM projects in the ACT.

68. It is recommended that LATM or traffic calming projects which have had consultation during their development based on the method outlined in Attachment 1 be exempted from the public notification requirement of the Development Approvals process in order to reduce duplication and unnecessary consumption of time.
69. It is recommended that where there is serious unresolvable disagreement with a proposed LATM or traffic calming scheme that it be referred to the Urban Services Committee for resolution.

Issues of funding and budgets

70. Because the process of implementation and assessment of traffic calming schemes has been under review, none have been constructed in the ACT since 1996¹¹. Some funds have been spent on isolated improvements, but no funds have been spent on Local Area Traffic Management Schemes since the process of developing the warrants was commenced.
71. The Committee noted that funding currently provided for minor traffic improvements is limited, and would not be able to be the source of funds for traffic calming schemes. Advice was received that if a traffic calming scheme were to be progressed, it would need to be a capital works project funded separately¹².
72. It is of the nature of these projects that there is pressure for action to occur quickly. Therefore, it may be appropriate to devise a funding scheme in which there is a given amount provided each year for LATM or traffic calming which is quite separate from the normal minor traffic improvements budget. If there was the likelihood of a scheme which required more than the provided funds, an increase in the budget should be sought through the capital works process for that particular project. Such a mechanism would assist in overcoming the long lead time required for capital works funded projects.

73. It is recommended that consideration be given to a funding scheme in which a given amount is provided each year for LATM or traffic calming schemes which is quite separate from the normal minor traffic improvements and traffic safety improvements budgets. Where schemes are likely to require funding greater than the normal yearly provision, they should be pursued through the capital works process, either for funding as a whole or for additional funding.

Traffic Committees

74. The issue of traffic committees was raised during the inspection tour of local government councils. A traffic committee is a group of persons from the council, state traffic authority, police and elected members which meets regularly to discuss traffic matters and approve certain traffic measures for erection or

¹¹ Mr T Gill, transcript.

¹² Mr T Gill, transcript.

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construction. In the ACT this type of committee existed under the aegis of the Department of Urban Services, but it ceased functioning several years ago¹³.

75. The Committee considers that there is merit in re-establishing a traffic committee, not to deal with day-to-day issues, but to take a broad view of traffic issues within the ACT. Suggested membership would include the General Manager, Roads and Stormwater, the head of the AFP traffic branch, and a community representative appointed from or by the NRMA. The committee would meet two to three times a year and report to the Minister and the Urban Services Committee.
76. The Committee is of the opinion that the proposed group would be an appropriate body to consider any traffic calming schemes.
77. It is recommended that a Traffic Committee be formed, chaired by the General Manager, Roads and Stormwater, and with the head of the ACT Traffic Branch of the AFP, and a community representative appointed by the NRMA, which would act as a review body for traffic matters affecting the Australian Capital Territory.

Legal matters

78. Legal matters, especially related to their own liability, were raised by all Councils visited by the Committee. The question of potential for legal action also rates a mention in every manual and design guide. The Committee recognises that there is potential for serious consequences should legal action be successful. However, no Councils visited indicated that there was a problem with litigation concerning the use of traffic calming devices, and so the Committee is confident that, should proper design guidelines and standards continue to be followed, the potential for liability is very limited.
79. The issue of legal liability is a continuing one. Once constructed, any devices should be inspected regularly to ensure they remain safe. For example, landscaping grows every year and there could well be a need to trim shrubs and bushes to retain visibility. The continued destruction of warning signs may be a cue that there are problems with a particular device and steps should be taken to identify and remedy the cause. Lighting should also be checked regularly, and visibility in inclement weather conditions requires constant attention to maintenance of the facilities. Funding levels for inspection and maintenance need to be maintained so that areas receive appropriate routine inspections.

80. It is recommended that funding for maintenance of LATM and traffic calming installations be included in the maintenance or recurrent budget for the Department of Urban Services.

Types of nuisance

81. The submissions received and the evidence given at the public hearing suggested that there are many different issues which cause people to complain about traffic in their local area. Evidence from the Committee's interstate visits also suggested

¹³ Mr T Gill, transcript.

that there is a large number of issues which may trigger complaints related to traffic in residential areas. The most common complaints were speed, volume, level of outsider traffic (rat runners), safety concerns (potential for accidents or actual accident occurrence), and noise.

82. One submission received by the Committee raised the issue of noise as one of the main concerns.¹⁴ This witnesses stated that noise had increased noticeably following resealing of the road outside of their home due to the use of a rougher textures finish. Resealing in Canberra with chip seal is common practice, however there is potential for increased noise with the more coarsely textured surface. In local streets this may not be an issue, however in roads like Springvale Drive, Weetangera, the Committee considers that increased noise should be taken into account when the final surface treatment is selected, even though there may be a slight increase in expense over all to the resealing program.

83. It is recommended that the Department of Urban Services consider issues of noise generation due to road surfacing treatment when developing its resealing program or when reconstructing roads and streets in residential areas, and avoids the use of noisy, open-textured surfaces when noise generation is likely to be a nuisance.

Treatments available for use

84. There are a number of design guides and manuals of suggested practice available which detail many different treatments. As well as physical treatments, there are “softer” techniques available which should be considered either by themselves or in conjunction with physical devices. Techniques such as additional enforcement, altered speed limits, additional signage and the like come into this category.
85. The Committee noted that Brisbane City Council pays particular attention to the detail of the design, especially to aesthetics and landscape. Evidence before the Committee suggests that some improvement could be made in this area in the ACT¹⁵, however there would likely be a cost penalty, both in initial construction costs and on-going maintenance requirements. Notwithstanding this, the Committee is of the view that every effort should be made to ensure that the devices are well designed and add to the streetscape. In fact, it was noted by the Committee in Boroondarra, Victoria that some locations with landscaped treatments required less signage for them to be visible in the road approaches. Given the numbers of Keep Left and similar signs hit, the Committee believes that every opportunity to reduce signage and the attendant on-going maintenance costs should be explored.

86. It is recommended that the Department of Urban Services reviews the use of signage in traffic islands, especially narrow islands, with a view to reducing the incidence of signs being struck and the associated costs of replacement.

87. It is recommended that particular attention be paid in any LATM or traffic calming scheme to issues of streetscape and landscaping of the devices, noting

¹⁴ Submission from Mr A O’Neil and Ms P O’Neil, and transcript.

¹⁵ Mr T Gill, transcript.

that appropriate landscape treatments have the potential to reduce the need for signs and markings otherwise required for visibility.

Cooperation with Police

88. The Committee was most interested to note that Monash City Council in Victoria actually supplies vehicles for the local Police in return for the provision of resources as required for selective or targeted enforcement of speed limits in local streets, away from the areas normally patrolled by the Police. The vehicles provided by the Council are used by the Police as normal Police vehicles¹⁶.

The Downside

89. While there are many benefits arising from a well constructed and implemented traffic calming scheme, there are also downsides. Reports of noise from vehicles slowing down and speeding up at devices such as speed humps were brought to the Committee's attention during its interstate inspections.
90. Other disadvantages include noise from vehicles traversing slow points and humps, a reduction in parking in the street associated with some devices, increased time for emergency services to travel the routes, and some technical issues such as restrictions to drainage and difficulties in providing for cyclists. With good design, the impacts of many of these can be minimised or even removed, as was illustrated by Brisbane City Council's incorporation of parking into the design of the facilities.
91. Another difficulty faced in the lead up to the implementation of a scheme is the initial cost. This can have a particular influence should funding require a staged provision. Staging of a scheme which relies on its totality for its effectiveness may introduce significant, albeit temporary, difficulties. On-going upkeep is also a matter which must be considered and provided for in maintenance budgets.
92. The Committee noted with particular concern the level of maintenance required to ensure minor damage to devices and signs which had been struck were replaced. This issue was also raised in one of the submissions received by the Committee. The NRMA has conducted research which suggests that there are many accidents involving LATM devices or traffic calming devices which go unreported¹⁷. This represents a hidden cost to the community, and the NRMA is now discussing issues relating to minor crashes associated with traffic calming devices with local Councils in Sydney.

Some results of assessments

93. There have been a number of schemes developed in the past, before the development of the warrants proposed in ACT Traffic Management Warrants. The Committee considers that it is useful to consider the results of these

¹⁶ Discussions with Monash City Council staff, Victoria

¹⁷ NRMA. Submission No 21 to the Committee.

assessments, especially as some of the schemes would not have satisfied the criteria for a warrant.

94. Goyder Street, Narrabundah was the focus of many submissions to the Committee. An assessment of the situation in Goyder Street was carried out by the Department of Urban Services and forwarded to the Committee. The conclusions of that assessment are as follows:
 - On the basis of raw data, it did not rank highly, although the action warrant was met. This means that it would be some time before this site received attention due to limitations in available of funds.
 - Following consideration of other issues, such as the proportion of non-local traffic (rat runners) and the assessment of land use activity generators, the number of points achieved against the warrant criteria increased such that the priority was increased substantially. Given that the two sites in the ACT which have achieved a higher score than Goyder Street in the application of the warrants have both been treated, Goyder Street would become the next site to be considered for treatment.
95. This example illustrates the need for intelligent assessment and flexibility in assessing sites. It highlights that the warrant system is a good tool for use in assisting the decision making process when used by an experienced traffic engineer with appropriate supporting information. It also shows the sensitivity of the warrant system to issues of land use and non-local through traffic, which is the way the warrants were designed.
96. Results of the application of the warrant to other ACT sites treated in the recent past are as shown in Table 1.
97. The Committee notes that there are many more sites than those mentioned in Table 1 at which measurements have been taken. Advice from the Department of Urban Services indicates that there are about 75 sites at which measurements have been taken. About 50 meet the warrant.
98. Sites which were the subject of representations to the Committee and not yet measured include Springvale Drive, Weetangera and Midge Street Gordon. The Committee notes these sites and has referred them to the Department of Urban Services with the request that they be examined and advice forwarded to those raising the matters with the Committee.

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**Table 1: Results of application of warrant system to recently treated sites.
Goyder Street inserted for comparison**

Location	Speed	Volume	Points	Warrant
1. Theodore Street, Curtin	72	6547	107	Action
2. McCulloch Street, Curtin	76	7200	100	Action
3. Goyder Street, Narrabundah	73	4446	75	Action
4. Carruthers Street, Curtin	67	3200	65	Action
5. Owen Dixon Drive, Evatt	76	3133	45	Action
6. Bateman Street, Kambah	67	3894	43	Action
7. Chuculba Crescent, Giralang	72	2050	36	Problem
8. Vansittart Crescent	66	2561	34	Problem
9. Learmonth Drive, Kambah	58	3200	19	No

99. It is recommended that the Department of Urban Services examines the sites referred to in submissions from Mr A O'Neil (Springvale Drive, Weetangera) and Mr J and Ms J Toyer (Midge Street, Gordon), and advises them of the outcomes of its findings.

100. It is recommended that Goyder Street Narrabundah be given priority for investigation and consultation to develop a suitable traffic calming scheme in the local area, noting that it meets the action warrant as detailed in the ACT Traffic Management Warrants, and that funding be sought for this project through the capital works program.

ACKNOWLEDGEMENTS

101. The Committee notes the assistance provided in its investigations by Gold Coast City Council, Brisbane City Council, City of Boroondara and City of Monash in providing staff and councillors to discuss traffic calming with members of the Committee.
102. The time and effort taken by those who made submissions both in writing and by appearing at the Committee's public hearing is appreciated.
103. The assistance provided by the Minister for Urban Services, Mr Smyth, in providing a staff resource to assist the Committee in the preparation of this report was of great value and is highly appreciated.

HAROLD HIRD MLA
Chairman

November 1999.

PROPOSED CONSULTATION PROCESS IN OUTLINE

ACTIVITY	TIME	COMMENTS
Residents approach the Government concerning a traffic issue of concern to them.	Start	An approach is made by those who seek to have traffic calming devices installed
Investigation		The Department undertakes measurements to assess the issues complained about. The measurements are then used as part of the assessment to determine the score under the warrants. If problem warrant not met proponents advised no that further action is warranted.
Determine priority		Using the warrants, the issue has been identified as requiring action. The priority is assessed against other similar projects and an indication of the timeframe for implementation is obtained.
Commence consultation Street Representatives Committee	6 months	The process is widened to include the broader community. Stakeholders are identified and invited into the process. Elected representatives would be formally advised at this stage that the process is to commence, and invited to participate. A Street Representatives Committee is formed to provide a mechanism for on-going collaboration and consultation with the stakeholders and residential community.

Standing Committee on Urban Services

Proposals for treatment		The Street Representatives Committee considers the options available. The process of reaching agreement is pursued through this forum via a series of meetings and discussions. This stage of the project can take a significant amount of time to complete, especially in a controversial proposal.. Where an impasse is reached on gaining an agreed outcome, the proposal would be referred to the Urban Services Committee for resolution.
Agreed scheme Budget bids made	12 months	After the process of consultation, a series of proposed treatments is agreed and signed off by the Street Representatives Committee. Some wider method of publicity would take place, such as a display at the local shopping centre. In some circumstances budget bids may be able to be made earlier, and reduce lead time to the commencement of construction.
PALM for Development Approval		The proposal is submitted to PALM for Development Approval. This normally involves advertising and assessment separate from that undertaken earlier in the project. Significant delays can be imposed on a project if objections are received.
Complete documentation and call tenders	16 – 18 months	The implementation of this step is dependant on funding being available. In some circumstances, the lead time for funding may require delays in the implementation of a project.
Construction		The construction time would vary with the amount of work involved in the project.
Completion	24 months	It would be expected that, under favourable circumstances, a scheme could be complete about 24 months after the initial approach was made.

STANDING COMMITTEE ON URBAN SERVICES

The Committee was established on 28 April 1998 to inquire into and report on planning and lease management, road and transport services, housing and housing assistance, government purchasing and public utilities purchasing, electricity industry and regulation, construction industry policy, parks and forests, private sector employment inspectorate, building services, environment, heritage and municipal services and any other matter under the responsibility of the portfolio minister.

Committee Membership

The Committee comprises three of the seventeen members of the fourth Legislative Assembly of the Australian Capital Territory:

- Mr Harold Hird MLA (Chair)
- Mr Dave Rugendyke MLA (Deputy Chair)
- Mr Simon Corbell MLA

Inquiry Secretary Mr Mark Ransom ARMIT (Civil), Grad Dip. (Highway Eng),
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